NASA DOEPOD NDE Capabilities Data Book

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Overview

This data book contains the Directed Design of Experiments for Validating Probability of Detection (POD) Capability of NDE Systems (DOEPOD) analyses of the nondestructive inspection data presented in the NTIAC, Nondestructive Evaluation (NDE) Capabilities Data Book [1]. DOEPOD is designed as a decision support system to validate inspection system, personnel, and protocol demonstrating 0.90 POD with 95% confidence at critical flaw sizes, a90/95. Although 0.90 POD with 95% confidence at critical flaw sizes is often stated as an inspection requirement in inspection documents, including NASA Standards [2], NASA critical aerospace applications have historically only accepted 0.978 POD or better with a 95% one-sided lower confidence bound exceeding 0.90 at critical flaw sizes, a90/95. (see Figure 11 of [3]).

The test methodology used in DOEPOD is based on the field of statistical sequential analysis founded by Abraham Wald,

"Sequential analysis is a method of statistical inference whose characteristic feature is that the number of observations required by the procedure is not determined in advance of the experiment. The decision to terminate the experiment depends, at each stage, on the results of the observations previously made. A merit of the sequential method, as applied to testing statistical hypotheses, is that test procedures can be constructed which require, on average, a substantially smaller number of observations than equally reliable test procedures based on a predetermined number of observations." A. Wald [4]


The critical importance of validating methodologies used for establishing POD have been highlighted [3] and this data book provides the DOEPOD validation of POD capabilities for NDE systems, materials, structures, and flaw types presented in the NTIAC, Nondestructive Evaluation (NDE) Capabilities Data Book [1].

The maximum likelihood estimation (MLE) method used in DOEPOD to estimate the probability of detection using a two parameter logit model (MLE-Logit) are identical to that used in NTIAC [1]. This MLE method was chosen as a verification of data integrity so that the MLE POD plots in NTIAC [1] and this data book are identical except where this data book provides a correction to NTIAC [1] analysis. Corrections to NTIAC [1] are indicated in the Errata listed at the end of this document. Other MLE-Logit methods may be used, and a simple grid search for maximizing parameters has been demonstrated [3] to be effective. The POD analysis methods of NTIAC [1] and a military handbook [8] use a predetermined number of observations.
It is noted here that the MLE-Logit POD curve fit plots shown in this data book and NTIAC [1] are not validated for implementation [3]. Internal and external validation of MLE-Logit POD estimates is required prior to implementation and initial guidance on validation procedures is provide elsewhere [3]. In contrast, if CASE 1, CASE 1+, CASE 1# identifications are identified by DOEPOD analyses of test data, then the system, personnel, and inspection protocol maybe considered for acceptance by engineering authority for implementation application on relevant systems.

437 NTIAC data sets are analyzed by DOEPOD to yield a CASE identification for each data set. Possible CASE identifications are listed in Table 1. The reader is referred to the DOEPOD manual [5] for definitions of the parameters in Table 1, and for design of experiment instructions on how to proceed to validate systems and personnel inspection capability. The DOEPOD analysis highlights 72 NTIAC data sets has CASE 1, CASE 1+, or CASE 1# data sets all exhibit 0.978 POD or better with a 95% one-sided lower confidence bound exceeding 0.90 at critical flaw sizes and meet the historical NASA acceptance criteria when actions in Table 1 are addressed.

DOEPOD acronyms are defined at the end of this overview.
<table>
<thead>
<tr>
<th>CASE</th>
<th>Is 90/95 POD at ( X_{excl} ) reached? (i.e., lower confidence bound, ( X_{excl, LCL} ) is equal to or greater than 0.9)</th>
<th>DOEPOD Analysis Summary and Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASE 1</td>
<td>90/95 POD at ( X_{excl} ) has been reached. Actions: Address any false call warnings.</td>
<td></td>
</tr>
<tr>
<td>CASE 1+</td>
<td>90/95 POD at ( X_{excl} ) has been reached. Actions: Misses above ( X_{pod} ) need to be explained and resolved. Address any false call warnings.</td>
<td></td>
</tr>
<tr>
<td>CASE 1#</td>
<td>90/95 POD at ( X_{excl} ) has been reached. Actions: Further validation at flaw sizes greater than ( X_{pod} ) is required. Add large flaws. Address any false call warnings.</td>
<td></td>
</tr>
<tr>
<td>CASE 1*</td>
<td>90/95 POD at ( X_{excl} ) has been reached. Actions: Further validation at flaw sizes greater than ( X_{pod} ) is required. Add large flaws. Misses above ( X_{pod} ) need to be explained and resolved. Address any false call warnings.</td>
<td></td>
</tr>
<tr>
<td>CASE 2</td>
<td>90/95 POD at ( X_{excl} ) has been reached, however, there are an excessive number Misses above ( X_{excl} ). Actions: Additional validation at identified flaw sizes is required. Add flaws per instructions.</td>
<td></td>
</tr>
<tr>
<td>CASE 4</td>
<td>90/95 POD at ( X_{excl} ) has not been reached. Actions: Increase number of flaws at ( X_{POH} ) or ( X_{excl, LCL} ).</td>
<td></td>
</tr>
<tr>
<td>CASE 5</td>
<td>90/95 POD at ( X_{excl} ) has not been reached and there are Misses above ( X_{excl, LCL} ). Actions: Increase the number of flaws at ( X_{POH} ).</td>
<td></td>
</tr>
<tr>
<td>CASE 6</td>
<td>90/95 POD at ( X_{excl} ) has not been reached. The POH is fluctuating above ( X_{excl, LCL} ) and ( X_{POH} ) is greater than ( X/3 ). The inspection system is unstable for the flaw size range analyzed. Actions: Increase the flaw size range by a factor of two.</td>
<td></td>
</tr>
<tr>
<td>CASE 7</td>
<td>90/95 POD at ( X_{excl} ) has not been reached. The inspection system is unstable for the entire flaw size range analyzed. Actions: The inspection system may not be appropriate or increase the flaw size range by a factor of two.</td>
<td></td>
</tr>
<tr>
<td>SURVEY CASES</td>
<td>The optimized class width exceeds 1/3 XL and ( X_{excl} ) has not been reached. The class width optimization has determined that there is a class width for which the smallest ( X_{class}=1 ) class length is identified. Actions: Add flaws at Survey/Minimum X_{class}</td>
<td></td>
</tr>
</tbody>
</table>

\( \bigcirc \) = YES  \( \bigcirc \) = NO
Figure 1. Logit-ML Estimated POD at critical flaw size, a90/95, from NTIAC (1997). Open diamonds refer to data sets each having 325 samples. The horizontal dashed line is the NASA minimum binomial estimated POD (0.978) accepted in practice at a flaw size, Xpod, for failure critical applications. DOEPOD analyses identified 72 (red disk) data NTIAC data sets that are classified as CASE 1+, or CASE 1# having estimated POD exceeding 0.978 at a flaw size, Xpod. Note that Xpod and a90/95 are flaw size inspection capability labelling designations for DOEPOD and NTIAC Data Books, respectively. Xpod and a90/95 do not necessarily refer to the same flaw size for the same data sets.

A top level summary of the DOEPOD analyses of the nondestructive inspection data presented in the NTIAC Data Book [1] is provide in Table 2. CASE 1+, CASE 1#, CASE 1*, and CASE 2 all exhibit at least one singular point where the one-sided lower 95% confidence bound on POD exceeds 0.90 at a critical flaw size and additional actions are needed per Table 2 instructions to complete the validation over a range of larger flaw sizes. CASE 4 data sets represent data sets that are similar to CASE 2 data sets, however additional data at selected flaws sizes is needed to move a CASE 4 data set to a CASE 2 data set. The CASE 5 data sets have excessive false negatives in the flaw size range tested, therefore data for larger flaw sizes is needed. CASE 6 data sets exhibit local instability over a portion of the flaw sizes tested, therefore, therefore data for larger flaw sizes is needed or the inspection system is inappropriate for the inspection required. CASE 7 data sets exhibit instability over the entire the flaw size range tested, therefore, therefore data for larger flaw sizes is needed or the inspection system is inappropriate for the
inspection required.

Table 2

<table>
<thead>
<tr>
<th>CASE ID</th>
<th>Number of Data Sets</th>
<th>Action Needed</th>
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<tbody>
<tr>
<td>CASE 1+</td>
<td>2</td>
<td>Explain of observed false negatives</td>
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<tr>
<td>CASE 1#</td>
<td>71</td>
<td>Further validation at larger flaws. Add test specimens with larger flaws.</td>
</tr>
<tr>
<td>CASE 1*</td>
<td>80</td>
<td>Further validation at large flaw. Add test specimens with larger flaws. Explain observed false negatives.</td>
</tr>
<tr>
<td>CASE 2</td>
<td>46</td>
<td>Add test specimens at identified flaw sizes to demonstrate POD to be monotonically increasing with flaw size</td>
</tr>
<tr>
<td>CASE 4</td>
<td>37</td>
<td>Increase amount of relevant data by adding test specimens at identified flaw sizes to establish acceptable POD</td>
</tr>
<tr>
<td>CASE 5</td>
<td>12</td>
<td>Add test specimens with increased flaw sizes to address excessive false negatives at smaller flaw sizes.</td>
</tr>
<tr>
<td>CASE 6</td>
<td>91</td>
<td>Add test specimens with flaw sizes at least twice as large to address local inspection system oscillation instability or utilize a different inspection system or method.</td>
</tr>
<tr>
<td>CASE 7</td>
<td>98</td>
<td>Add test specimens with flaw sizes at least twice as large to address global inspection system instability or utilize a different inspection system or method.</td>
</tr>
</tbody>
</table>

A summary of the output of parameter values from the DOEPOD analysis of nondestructive inspection data and methods presented in the NTIAC Data Book [1] is listed in Table 3. The descriptions of the parameters in Table 3 are detailed in reference [5]. The data file name is in column 3 of Table 3 and is used to identify the companion DOEPOD analysis output file. The printouts of the DOEPOD analysis output files follow in alphabetic order to facilitate location. The electronic DOEPOD analysis output files and a searchable summary of parameter values from the DOEPOD analysis (Table 3) are available in the companion CD-ROM entitled “NASA DOEPOD Nondestructive Evaluation (NDE) Capabilities Data Book” which may be obtained upon request from the publisher.

DOEPOD software is available from NASA by contacting Kathy A. Dezern, phone: 757.864.5704, email: kathy.a.dezern@nasa.gov
Example

As an illustrative example we examine the first data set A1001AL. The multi-parameter maximum likelihood analysis in the NTIAC NDE Capabilities Data Book indicates the inspection system to have a 0.94 POD with lower single-sided 95% confidence bound that exceeds 0.9 at 0.27" flaw size (column labeled "NTIAC 90/95 occurs at POD (inch)""). In contrast, the NASA DOEPOD point estimate based method (no curve fitting) indicates that the acceptable capability of this inspection system is at or above the 0.61" flaws size (column labeled Xpod CLASSLENGTH) where 1.0 POD is estimated (column labeled POH or POD @Xpod) with a single-sided lower 95% confidence bound that exceeds 0.9 at 0.61" flaw size.

Examining the data analyses for A1001AL (page 20). There are five Misses (Xs) for the 72 flaws larger than the 0.27" flaw size yielding a 0.93 point estimate of POD for these grouped larger flaws with a single-sided lower 95% confidence bound of 0.83. The multi-parameter POD curve fit does not highlight these Misses as important. DOEPOD indicates that the POD capability for this system and for fracture critical inspections is at or above the 0.61" flaw size. Even then, DOEPOD analysis indicates [RED notes in chart] that additional large flaw data is needed to complete the validation before accepting the 0.61" flaw size capability of this inspection system, and that false call analysis is also required.

Accepting the 0.27" flaw size identified by multi-parameter maximum likelihood method as the detection capability of this inspection system for fracture critical inspections adds known risk as highlighted by the 0.93 point estimate of POD with a single-sided lower bound of 0.83 for the largest flaws. DOEPOD analysis indicates that the POD capability for this system and for fracture critical inspections is at or above the 0.61" flaw size.
DOEPOD DEFINITIONS

C_L: Class length, e.g., inspection parameter (length, depth, area, etc.)

C_W: Class width (width of the moving class; all flaws within the range C_L to C_L - C_W, inclusively, are group together)

Hit: Flaw is detected

Miss: Flaw is not detected


Need: Add new samples to the existing specimen set in order to reach the number of samples required at the class length. Note that a single specimen may contain more than one flaw, so that “add samples” refers to “add flaws”.

LCL: Lower confidence bound (value) of POH @ 95% confidence

Opt. X_POH: Optimum X_POH is identified for non-survey data sets. Optimum X_POH is the smallest class length and largest class width at which the minimum X_POH = 1 occurs. Optimum X_POH may be more aggressive than optional, X_PODopt, or X_Best LCL, when the class width is constrained to the companion Optimum X_POH class width listed. DOEPOD does not force use of Optimum X_POH over X_PODopt or X_Best LCL. Stability has not been demonstrated at Optimum X_POH, therefore there is an additional risk that Optimum X_POH can not be satisfied to reach X_POD

POH: Estimate of Probability of Hit (Number of Hits in Class Length/Total Number of Trials in Class Length)

POD: Probability of Detection (the true POD obtained if an infinite number of samples are used)

Signal Amplitude: Scalar amplitude output of NDE inspection system
Survey Data Sets are data sets that have a sparse or disperse collection of samples. The moving class width optimization has identified this data set as having limited applications where the class width has exceeded $X_L/3$ and $X_{POD}$ has not been reached. An alternate optimization of $X_{POH}$ is used to provide guidance. The Survey Set is the recommended initial set for DOEPOD.

Survey $X_{POH}$ is only identified for data sets determined to be Survey Data Sets. Survey $X_{POH}$ is the smallest class length and largest class width at which the minimum $X_{POH} = 1$ class length occurs. Survey $X_{POH}$ is the minimum class length at which $X_{POD}$ may be achieved when the class width is constrained to the companion survey class width listed. Survey $X_{POH}$ is utilized in all cases in which a Survey Set is identified by DOEPOD.

$X_{Best\,LCL}$ is the class length exhibiting the maximum or “best” LCL. The best class length is determined by increasing the moving class width until a maximum LCL is obtained.

$X_i$ is the class length $X$ at point “i”.

$X_L$ is the largest class length in the entire data set.

$X_m$ is the class length near the mid-point between the largest and the smallest class lengths having no Misses.

$X_P$ is 90/95 POD or greater is achieved, by grouping numbers of specimens, for the range $X_P$ to $X_L$. $X_P$ is only provided when $X_{POD}$ has been identified.

For inspector qualification, $X_P$ cannot be less than the largest flaw Missed. The class width of flaw set used for inspector qualification is listed as Inspector Classwidth @ $X_P$ in the charts. The flaw sizes used for inspector qualification range from $X_P$ to ($X_P$ - Classwidth @ $X_P$).

$X_{POD}$ is the class length at which the lower confidence bound (value) is 0.90 (90/95 POD) @ 95% confidence.

$X_{POH=1}$, $X_{POH}$ is the class length where there are no Misses above this class length, and POH = 1 above this class length.

$X_{POD opt}$ is optional existing smaller class length where $X_{POD}$ may also be achieved if additional samples are added and Hits are identified.

$X_S$ is the smallest class length in the data set.

UCL is the upper confidence bound (value) of the false call rate @ 95% confidence.
**Validated** 90/95 POD has been reached at a classlength, $X_{\text{POD}}$. In order to achieve 90/95 POD for the class length range between $X_{\text{POD}}$ and the largest class length in the data set, $X_L$, inclusively, validation at a classlength near the mid-point and largest classlength is required. If, in addition, there exists a class length, $X_P$, where 90/95 POD or greater exits for all class lengths in the range $X_P$ to $X_L$, and $X_P = X_{\text{POD}}$, and there is a sufficient number and adequate range and distribution of classlengths greater than $X_{\text{POD}}$, then the validation extends from $X_{\text{POD}}$ to $X_L$. When this occurs, validation at a classlength near the mid-point and largest classlength is satisfied.

**WARNING:** There are inspection systems that exhibit an oscillating or non-uniform POD. For example when the flaws are greater than the eddy current footprint, when large flaws are loaded to closure, or when the physics of the inspection processes changes modes over the flaw size range of interest. If flaws in these ranges or conditions are to be detected with a 90/95 POD, then samples in these ranges need to be included. When multiple base parameters are combined, e.g., (length)$ \times $ (width) = area, and the combine parameter (e.g., area) is used as the class length, then 90/95 POD is only valid if the inspection technology has been validated to quantitatively measure each of the base parameters, or if the inspection technology is validated to quantitatively measure the new combine parameter. When all CASE 1 or CASE 1+ requirements are met, and the above warnings have been evaluated and the upper confidence bound of the false call rate is not excessive, then the inspection system is validated between $X_{\text{POD}}$ and the largest class length $X_L$ for the flaw types, materials, and structure of the test specimen set. Validated is defined here to be: “This confidence bound procedure has a probability of at least 0.95 to give a lower bound for the 90% POD point that exceeds true (unknown) 90% POD point. This is referred to as 90/95 POD, and for larger flaws in the evaluation range 90/95 POD is met or exceeded. DOEPOD SOFTWARE AND ANY ACCOMPANYING DOCUMENTATION IS RELEASED "AS IS". THE U.S. GOVERNMENT MAKES NO WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL THE U.S. GOVERNMENT BE LIABLE FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE, OR INABILITY TO USE THIS SOFTWARE OR ANY ACCOMPANYING DOCUMENTATION, EVEN IF INFORMED IN ADVANCE OF THE POSSIBILITY OF SUCH DAMAGES. THIS SOFTWARE MAY NOT BE MODIFIED, DISTRIBUTED, OR REPRODUCED.
Bibliography


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<th>MATERIAL</th>
<th>STRUCTURE</th>
<th>FILE NAME</th>
<th>DATE/TIME</th>
<th>CASE ID</th>
<th>Xpod CLASS-WIDTH</th>
<th>LCL</th>
<th>ET</th>
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*All lengths are in inches
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| MATERIAL    | STYLES (X) | FILE NAME           | CASE ID         | CASE KEEP | DATE/TIME | CASE # | Case Id | Test | Target | Max. Test | Min. Test | Result | Set | Dev | R: Dev | Set R: Dev | Target | Result | Dev | R: Dev | Set R: Dev | Target | Result | Dev | R: Dev | Set R: Dev | Target | Result | Dev | R: Dev | Set R: Dev |
|-------------|------------|---------------------|-----------------|-----------|-----------|--------|--------|------|--------|-----------|-----------|--------|-----|-----|--------|------------|--------|--------|-----|--------|------------|--------|--------|-----|--------|------------|--------|--------|-----|--------|------------|--------|--------|-----|--------|------------|--------|--------|
| PART #1     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
|             |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
| PART #2     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
|             |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
| PART #3     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
|             |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
| PART #4     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
|             |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
| PART #5     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
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| PART #6     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
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| PART #7     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
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| PART #8     |            |                     |                 |           |           |        |        |      |        |           |           |        |     |     |        |             |        |        |     |        |             |        |        |     |        |             |        |        |
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*All lengths are in inches
| MATERIAL | STRUCTURE | FILE NAME                      | Sample | Test Type | Test No. | Date/Time | CASE ID | 1# | 1# | 2# | 3# | 4# | 5# | 6# | 7# | 8# | 9# | 10# | Notes                  |
|----------|-----------|--------------------------------|--------|-----------|----------|-----------|---------|---|---|---|---|---|---|---|---|---|----|------------------------|
| 2219 Al  | T-87 plate| D1003AD.XLS                    | 6/4/15 | 11:57 PM  | CASE 1   | 0.0380    | 0.0040  | 0.9050 | 0.1780 | 0.1110 | 0.0375 | 29 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| Ti 6Al4V | plate     | D3001CL.XLS                    | 6/5/15 | 12:20 AM  | CASE 1   | 0.2500    | 0.0450  | 0.9001 | 0.4070 | 0.3550 | 0.2485 | 29 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| Ti 6Al4V | plate     | D3003AL.XLS                    | 6/5/15 | 12:21 AM  | CASE 7   | 0.8444    | 0.0250  | 0.2350 | 0.8140 |               |                  | 29 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| Ti 6Al4V | plate     | D3003BL.XLS                    | 6/5/15 | 12:22 AM  | CASE 1   | 0.2160    | 0.0340  | 0.9001 | 0.4070 | 0.2650 | 0.1760 | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| Ti 6Al4V | plate     | D3003CL.XLS                    | 6/5/15 | 12:23 AM  | CASE 1*  | 0.2160    | 0.0340  | 0.9001 | 0.4070 | 0.2650 |               | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| 2219 Al  | T-87 stringer panel | D8002(3)D.xls | 6/5/15 | 12:46 AM  | CASE 1*  | 0.0440    | 0.0030  | 0.9050 | 0.0950 | 0.0570 |               | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| 2219 Al  | T-87/weld LOP | D9001(3)D.xls | 6/5/15 | 1:36 AM   | CASE 7   | 0.6070    | 0.0010  | 0.1030 | 0.3200 |               | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| 2219 Al  | T-87/weld LOP | D9002(3)D.xls | 6/5/15 | 1:36 AM   | CASE 7   | 0.6070    | 0.0010  | 0.1030 | 0.3200 |               | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| 2219 Al  | T-87/weld LOP | D9005(3)D.xls | 6/5/15 | 1:36 AM   | CASE 7   | 0.8153    | 0.0030  | 0.1050 | 0.3200 |               | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| 2219 Al  | T-87/weld LOP | D9006(3)L.xls | 6/5/15 | 1:58 AM   | CASE 1*  | 0.5180    | 0.0140  | 0.9050 | 0.8890 | 0.7420 |               | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
| 2219 Al  | T-87/weld LOP | D9003(3)D.xls | 6/5/15 | 2:17 AM   | CASE 2   | 0.0870    | 0.0220  | 0.9129 | 0.2150 |               | 15 |                  |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
|          |           |                                |        |           |          |           |         |    |    |    |    |    |    |    |    |    |    |               |
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*All lengths are in inches

MLE Divergence Warning: Initial results listed.
**DOEPOD CAPABILITIES DATA BOOK - SUMMARY**

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*All lengths are in inches*
**DOEP CAPABILITIES DATA BOOK - SUMMARY**

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<td>2219 Al T-87 plate G10003AL.XLS</td>
<td>6/5/15 6:26 AM CASE 1*</td>
<td>0.3220</td>
<td>0.0750</td>
<td>0.9001</td>
<td>0.6100</td>
<td>0.5350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*All lengths are in inches.*
Large flaw validation failure. Extend flaw size range to 1.83.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.4590 inch 28 Samples
NTIAC 90% POD = 0.901 @ 0.200 inch
NTIAC 90/95 POD = 0.901 @ 0.170 inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.979 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.710 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.589 inch
Samples Needed @Xpodopt = 29
Xp = 0.6100 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.979</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.710</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpodopt = 0.589</td>
<td>29</td>
</tr>
</tbody>
</table>

**FILE NAME** = A1001AL.xls
**DATA SET NAME** = A1001AL(CRACK #)
CASE 2: 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.

Large flaw validation failure. Need 12 more large flaws.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Class Length

<table>
<thead>
<tr>
<th>POD</th>
<th>MLE(Mean) POD</th>
<th>MLE(95%) LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xp</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### POD @ Xp

<table>
<thead>
<tr>
<th>6/4/15 5:19 PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACHED</td>
</tr>
</tbody>
</table>

### POD @ Xpod

<table>
<thead>
<tr>
<th>Xpod Reached Anywhere?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classwidth @ 90/95 Xpod</td>
</tr>
<tr>
<td>Classlength @ 90/95 Xpod</td>
</tr>
<tr>
<td>Lower Confidence Bound @ 95%</td>
</tr>
<tr>
<td>Best LCL</td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
</tr>
<tr>
<td>User Provided a 90/95 POD @</td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
</tr>
<tr>
<td>Inspector Classwidth @ Xo</td>
</tr>
<tr>
<td>POD @ Xp</td>
</tr>
</tbody>
</table>

### Best LCL Classlength, Xlcl

<table>
<thead>
<tr>
<th>Samples Needed @ Xlcl</th>
</tr>
</thead>
</table>

### POH Classlength, Xpoh

<table>
<thead>
<tr>
<th>Samples Needed @ Xpoh</th>
</tr>
</thead>
</table>

### New Largest Classlength, 2XL

<table>
<thead>
<tr>
<th>Xm is Near Verification Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
</tr>
</tbody>
</table>

### False Call Rate = with UCL @ 95%

| Samples Needed @ Xpodopt |

### NTIAC 90% POD =

<table>
<thead>
<tr>
<th>0.900 @ 0.300 inch</th>
</tr>
</thead>
</table>

### NTIAC 90/95 POD =

| 0.902 @ 0.410 inch |

### Warning: No false call analysis.

### CASE 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

### False Call Rate Applied

| 0.4960 inch |

### False Call Rate Applied with UCL @ 95%

| 0.4960 inch |

### Large flaw validation failure. Extend flaw size range to 1.008.

### Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation failure. Need 13 more large flaws.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

### TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.979</td>
</tr>
<tr>
<td>Xm</td>
<td>0.489</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Case 1: - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 18: 90/95 Xp0d may be VALIDATED from Xp0d to XL. Xp0d used to satisfy XL and Xm requirements. An alternate 90/95 Xp0d is available if Xpodopt or Optimum Xp0h (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Table C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.979</td>
</tr>
<tr>
<td>Xm</td>
<td>0.523</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =** 0.152

**Xpodopt =** 29

---

**Table A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**Table B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

**Notes:**
- Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.
- The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.
- The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.
- Follow sample selection priority in the DOEPOD Manual.
- Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.
- **Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 4 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Case 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Directed DOE Options**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.610</td>
</tr>
<tr>
<td>Xm</td>
<td>0.262</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE A**

**TABLE B**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

*Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.*

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.*
Large flaw validation failure. Need 4 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

Xp, 90/95 Reached Anywhere?
Class Length @ 90/95 Xp = 0.610 inch
Lower Confidence Bound @ 95% = 0.262 inch
Best LCL = 0.262 inch
Class Length @ Best LCL = Xs
Smallest Class Length, Xs = 0.040 inch
New Smaller Class Length, Xss = 0.0860 inch
Best LCL Class Length, Xlcl = 0.0860 inch
POH Class Length, Xpoh = Xp = 0.0860 inch
New Largest Class Length, 2XL = 1.0000 inch
Xn is Near Verification Point = 0.0860 inch
Opt. POD classlength, Xpodopt = 0.000

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Warning: No false call analysis.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resloved first.

---

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 4 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet
Warning: No false call analysis.

File Name = A1003CL.XLS
Data Set Name = A1003CL(Crack #)

Date & Time = 6/4/15 5:34 PM

Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0080 inch
Classlength @ 90/95 Xpod = 0.0830 inch
Lower Confidence Bound @ 95% = 0.9001 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
unter Provided a 90/95 POD = inch
User’s Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000 inch

Survey/Optimum Xpoh = 0.000 inch
False Call Rate = with UCL @ 95% =
NTIAC 90% POD = 0.906 @ 0.090 inch
NTIAC 90/95 POD = 0.906 @ 0.115 inch
Largest Classlength , XL = 0.610 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.262 inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xicl = inch
Samples Needed @ Xicl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Prob of Hit (POH) in Class Range
- Probability of Hit (POH) in Class Range
- Lower Confidence Bound @ 95%
- Hit/Miss
- Xp, 90/95 POD
- MLE(Mean) POD
- MLE(95%) LCL

36
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory.** This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

### TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.610</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.262</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

### Directed DOE Options

![Directed DOE Options Diagram]

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

* The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

* The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

* Follow sample selection priority in the DOEPOD Manual.

* Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

* Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

* The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Detection Probability

Utilization of DOEPOD results requires approval of Engineering Authority

- **Probability of Hit (POH), Lower Confidence Limit, LCL**

<table>
<thead>
<tr>
<th>Class Range</th>
<th>Xp, 90/95 POD</th>
<th>MLE(Mean) POD</th>
<th>MLE(95%) LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**File Name:** A2002AL.XLS

**Data Set Name:** A2002AL(CRACK #)

**Date & Time:** 6/4/15 5:36 PM

**Xpod 90/95 Reached Anywhere?**

- **NOT REACHED**

**Classwidth @ 90/95 Xpod:**

- **0.8853 inch**

**Classlength @ 90/95 Xpod:**

- **0.5100 inch**

**Lower Confidence Bound @ 95%**

- **0.8853 inch**

**Best LCL @ 95%**

- **0.2000 inch**

**Classlength @ Best LCL:**

- **0.5100 inch**

**User Provided a 90/95 POD @:**

- **inch**

**User’s Maximum Allowed Classlength:**

- **inch**

**Inspector Classwidth @ Xp:**

- **inch**

**POD @ Xpod:**

- **inch**

**Warning:** No false call analysis.

### CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

- **Survey/Optimum Xpoh:**
  - **0.5200 inch**
  - **0.007 inch**
  - **27 Samples**

- **False Call Rate**
  - with UCL @ 95% =

- **Largest Classlength, XL:**
  - **inch**

- **Samples Needed @ XL:**
  - **inch**

- **Classlength Mid-point, Xm:**
  - **inch**

- **Samples Needed @ Xm:**
  - **inch**

- **Smallest Classlength, Xs:**
  - **inch**

- **Samples Needed @ Xs:**
  - **inch**

- **New Smaller Classlength, Xss:**
  - **inch**

- **Best LCL Classlength, Xlcl:**
  - **inch**

- **Samples Needed @ Xlcl:**
  - **inch**

- **POH Classlength, Xpoh:**
  - **inch**

- **Samples Needed @ Xpoh:**
  - **inch**

- **New Largest Classlength, 2XL:**
  - **inch**

- **Xn is Near Verification Point:**
  - **inch**

- **Opt. POD classlength, Xpodopt:**
  - **inch**

- **Samples Needed @ Xpodopt:**
  - **inch**

**Xp =**

- **inch**

Analysis file name: DOEPOD_v.1.2.01.PC.Office2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

<table>
<thead>
<tr>
<th>TABLE C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Length</td>
</tr>
<tr>
<td>XL</td>
</tr>
<tr>
<td>Xm</td>
</tr>
<tr>
<td>Xs</td>
</tr>
<tr>
<td>Xss</td>
</tr>
<tr>
<td>Xlcl</td>
</tr>
</tbody>
</table>

**Alternate Xm** is the alternate Xm requirement.

```
2XL = Xpod
```

<table>
<thead>
<tr>
<th>TABLE A*</th>
</tr>
</thead>
</table>
| Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>TABLE B*</th>
</tr>
</thead>
</table>
| Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

No Misses Observed  At Least One Miss Occurred

0.00 0.200 0.400 0.600 0.800 1.000 1.200 inch

Selected class lengths with existing misses.

Each point requires additional samples in or to achieve the Xpod listed.

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.5300 - 0.003 inch 27 Samples
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)  
Large flaw validation failure. Extend flaw size range to 1.422.  
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy alternate Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
**Detection Probability**

Utilization of DOEPOD results requires approval of Engineering Authority. Large flaw validation failure. Extend flaw size range to 0.675.

**Note:** Xpodopt is within one class width of Xpod.

**Warning:** No false call analysis.

### File Name

A3001AL.XLS

### Data Set Name

A3001AL(CRK #)

### Date & Time

6/4/15 5:40 PM

**Xpod 90/95 Reached Anywhere?**

REACHED

**Classwidth @ 90/95 Xpod**

0.0400 inch

**Classlength @ 90/95 Xpod**

0.2250 inch

**Lower Confidence Bound @ 95%**

0.9001 inch

**Best LCL**

0.9001 inch

**Classwidth @ Best LCL**

0.9001 inch

**Classlength @ Best LCL**

0.9001 inch

**User Provided a 90/95 POD @ Xp**

1.0000

**User's Maximum Allowed Classlength**

0.407 inch

**Inspector Classwidth @ Xp**

0.275 inch

**POD @ Xpod**

0.1850 inch

**False Call Rate with UCL @ 95%**

0.1750 - 0.002

**Warning:** No false call analysis.

### CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

**Survey/Optimum Xpoh**

0.1850

**False Call Rate with UCL @ 95%**

0.1750 - 0.002

**Warning:** No false call analysis.

### Analysis File Name

DOEPOD_v.1.2.01_PC_C68a2010_Win7.xlsm

### Samples Needed

28

### Class Length, inch

- **Largest Classlength, XL =** 0.407 inch
- **Samples Needed @ XL =** 28
- **Classlength Mid-point, Xm =** 0.275 inch
- **Samples Needed @ Xm =** 28
- **Smallest Classlength, Xs =** 0.175 inch
- **Samples Needed @ Xs =** 28
- **New Smaller Classlength, Xss =** 0.210 inch
- **Best LCL Classlength, Xlcl =** 0.175 inch
- **Samples Needed @ Xlcl =** 28
- **POH Classlength, Xpoh =** 0.407 inch
- **Samples Needed @ Xpoh =** 28
- **Opt. POD classlength, Xpodopt =** 0.233 inch
- **New Largest Classlength, 2XL =** 0.407 inch
- **Xm is Near Verification Point =** False Call Rate with UCL @ 95% = 0.1750 - 0.002

### False Call Rate

0.1750 - 0.002

### Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart***
CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.795.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Table A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.407</td>
<td>57</td>
</tr>
<tr>
<td>0.315</td>
<td>9</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

### Table B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.407</td>
<td>57</td>
</tr>
<tr>
<td>0.3550</td>
<td>63</td>
</tr>
<tr>
<td>0.3520</td>
<td>49</td>
</tr>
<tr>
<td>0.3450</td>
<td>49</td>
</tr>
</tbody>
</table>

### Table C

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Number of Additional Samples Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.407</td>
<td>57</td>
</tr>
<tr>
<td>0.315</td>
<td>9</td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation failure. Extend flaw size range to 0.726.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

### Directed DOE Options

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.407</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.355</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = 0.235**

Xpodopt = 1

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

---

A3001CL.CRK #

**A3001CL.XLS**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.905 inch @ 0.275 inch
False Call Rate = 0.000

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.814</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

File Name = A3003CL.XLS
Data Set Name = A3003CL(CRK #)
Date & Time = 6/4/15 5:46 PM

Xpod 90/95 Reached Anywhere?
- NOT REACHED

Classwidth @ 90/95 Xpod = 0.0310 inch
Classwidth @ Best LCL = 0.2470 inch
Classwidth @ Xp = 0.901 inch

Classlength @ 90/95 Xpod = 0.585 inch
Classlength @ Best LCL = 0.7942 inch
Classlength @ Xp = 0.814 inch

Lower Confidence Bound = 0.000 inch
Best LCL = 0.0310 inch
Largest Classlength , XL = 0.814 inch

User Provided a 90/95 POD @ = 0.901
User's Maximum Allowed Classlength = 0.585 inch

Inspector Classwidth @ Xp = 0.0310 inch
POD @ Xpod = 0.901

Best LCL Classlength, Xlcl = 0.0310 inch
New Smaller Classlength, Xss = 0.2470 inch
POH Classlength, Xpoh = 0.585 inch

Classwidth @ Best LCL = 0.2470 inch
Classwidth @ Xp = 0.901 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

#### TABLE A*

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>0.814</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

### Additional Samples Needed

<table>
<thead>
<tr>
<th>Number of Additional Samples Needed</th>
<th>File Name</th>
<th>Data Set Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>A3003CL.xls</td>
<td>A3003CL(CRK #)</td>
</tr>
</tbody>
</table>

### Data Set Name

- **Table A**
  - Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.
  - Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td></td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>0.10</td>
<td></td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>0.20</td>
<td></td>
<td>0.20</td>
<td></td>
</tr>
<tr>
<td>0.30</td>
<td></td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>0.40</td>
<td></td>
<td>0.40</td>
<td></td>
</tr>
<tr>
<td>0.50</td>
<td></td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>0.60</td>
<td></td>
<td>0.60</td>
<td></td>
</tr>
<tr>
<td>0.70</td>
<td></td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>0.80</td>
<td></td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>0.90</td>
<td></td>
<td>0.90</td>
<td></td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

Case 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

**FILE NAME = A400013.XLS**
**DATA SET NAME = A400013(HOLE #)**

---

**Directed DOE Options**

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.257</td>
</tr>
<tr>
<td>Xm</td>
<td>0.193</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.100**

2

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
## Detection Probability

(Use of DOEPOD results requires approval of Engineering Authority)

### Warning: No false call analysis.

### CASE 5 - This is a survey data set. 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Survey Xpoh (if listed)

### Analysis File Name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

### System Set

- **Class Length**: 0.0030 inch
- **Class Length @ 90/95 Xpod**: 0.5493 inch
- **Lower Confidence Bound**: 0.035 inch
- **Best LCL**: 0.0579 inch
- **User Provided 90/95 POD**:
  - **User's Maximum Allowed Classlength**:
  - **Inspector Classwidth @ Xp**:
  - **POD @ Xpod**:

### User Data

- **POH Classlength, Xpoh**: 0.066 inch
- **New Largest Classlength, 2XL**:
- **Xm is Near Verification Point**:
- **Opt. POD classlength, Xpodopt**:
- **Samples Needed @ Xpodopt**: 28

### POD at Xpod

- **POD @ Xpod**:
  - **False Call Rate**: 0.0663 with UCL @ 95%
  - **Warning: No false call analysis.**

### Survey/Optimum Xpoh

- **Survey/Optimum Xpoh**: 0.063 inch
- **Samples Needed @ XL**: 28
- **Samples Needed @ Xlcl**: 28

### System POD

- **NTIAC 90% POD**: 0.910 inch
- **NTIAC 90/95 POD**: 0.903 inch

### Class Range Analysis

- **Class Length, inch**: 0.000 to 0.300
- **Probability of Hit (POH), Lower Confidence Limit, LCL**:

### Graph

- **Survey Data Set; System Set Class Width**

<table>
<thead>
<tr>
<th>File Name</th>
<th>A400015.XLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Set Name</td>
<td>A400015(HOLE #)</td>
</tr>
<tr>
<td>Date &amp; Time</td>
<td>6/4/15 5:51 PM</td>
</tr>
<tr>
<td>Xpod 90/95 Reached Anywhere?</td>
<td>NOT REACHED</td>
</tr>
<tr>
<td>Classwidth @ 90/95 Xpod</td>
<td>inch</td>
</tr>
<tr>
<td>Classlength @ 90/95 Xpod</td>
<td>inch</td>
</tr>
<tr>
<td>Lower Confidence Bound</td>
<td>0.3493 inch</td>
</tr>
<tr>
<td>Best LCL</td>
<td>0.035 inch</td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
<td>0.0579 inch</td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
<td>inch</td>
</tr>
<tr>
<td>User Provided a 90/95 POD</td>
<td>inch</td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
<td>inch</td>
</tr>
<tr>
<td>Inspector Classwidth @ Xp</td>
<td>inch</td>
</tr>
<tr>
<td>POD @ Xpod</td>
<td>inch</td>
</tr>
</tbody>
</table>

### Table

- **Best LCL Classlength, Xlcl**: 0.066 inch
- **Largest Classlength, XL**: 0.0257 inch
- **Samples Needed @ XL**: 28
- **Samples Needed @ Xlcl**: 28
- **Smallest Classlength, Xs**: inch
- **New Smaller Classlength, Xss**: inch
- **Opt. POD classlength, Xpodopt**: inch
- **Samples Needed @ Xpodopt**: 28

### Notes

- **A400015.XLS**
- **A400015(HOLE #)**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.30942.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

File Name = A400016.XLS
Data Set Name = A400016(HOLE #)

Date & Time = 6/4/15 5:52 PM

REACHED
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Lower Confidence Bound @ 95%

Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD @
User's Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xpod

Best LCL Classlength, Xlcl
POH Classlength, Xpoh
New Larger Classlength, 2XL

CTM MCL

Survey/Optimum Xpoh = 0.0492 @ 0.025 inch 28 Samples
NTIAC 90% POD = 0.937 @ 0.025 inch
NTIAC 90/95 POD = 0.932 @ 0.045 inch
False Call Rate = with UCL @ 95%
Largest Classlength , XL = 0.257 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.193 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpoh = 0.100 inch
Samples Needed @Xpoh =

Xp = 0.1031 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.17715.

Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.

CASE 18: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

File Name = AS00014.XLS
Data Set Name = AS00014(HOLE #)
Date & Time = 6/4/15 5:56 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0180 inch
Classlength @ 90/95 Xpod = 0.0591 inch
Lower Confidence Bound = 0.9001 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = POD @ Xpod = 1.0000 inch
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp = Xp = 0.090 inch
POD @ Xpod = 0.078 inch

NTIAC 90% POD = 0.932 @ 0.030 inch
NTIAC 90/95 POD = 0.921 @ 0.035 inch
False Call Rate = 0.0413 -0.002 inch with UCL @ 95% = 70 Samples
Largest Classlength , XL = 0.090 inch
Samples Needed @ XL = 28
Classlength Mid-point , Xm = 0.078 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.058 inch
Samples Needed @Xpodopt = 2
Xp = 0.0591 inch

Survey/Optimum Xpoh = 0.0413 -0.002 inch

CASE 19 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses, and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 5 - This is a survey data set. 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Survey Xpoh (if listed)

File Name = AS00015.XLS
Data Set Name = AS00015(HOLE #)
Date & Time = 6/4/15 5:57 PM

Xpod 90/95 Reached Anywhere?
Class width @ 90/95 Xpod = inch
Class length @ 90/95 Xpod = inch
Lower Confidence Bound = 0.003 inch
Best LCL = 0.0579 inch
Class length @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Class length = inch
POD @ Xpod = Not Reached

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Largest Class length , XL = 0.307 inch
Samples Needed @ XL = 28
Opt. POD class length, Xpodopt = inch
Samples Needed @ Xpodopt =

Survey/Optimum Xpoh = 0.0663 inch
False Call Rate = 0.003 inch

Class length Mid-point , Xm =
Samples Needed @ Xm =
Smallest Class length, Xs =
New Smaller Class length, Xss =
Best LCL Class length, Xlcl =
Samples Needed @ Xlcl =
POH Class length, Xpoh =
Samples Needed @ Xpoh =
New Largest Class length , 2XL =
Xm is Near Verification Point =
Opt. POD class length, Xpodopt =
Samples Needed @ Xpodopt =

NTIAC 90% POD = 0.910 @ 0.035 inch
NTIAC 90/95 POD = 0.903 @ 0.065 inch

Analysis File name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
Analysis File name: DOEPOD.x.1.2.01.PC.Office2010.Win7.xlsm

CASE 5 - This is a survey data set. 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Survey Xpoh (if listed)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 1: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

Table C:

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.081</td>
</tr>
<tr>
<td>Xm</td>
<td>0.068</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = 0.059

Xpodopt = 3

Table A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Table B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

TABLE C

No. Misses Observed   No. At Least One Miss Occurred   XL   Xm   Xs   Xss   Xlcl   Xpoh   2XL   Xpod   Xpodopt

0.059

TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

0.081

0.068

0.059

3
CASE 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

---

**Directed DOE Options**

**Table C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.812</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.291</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpod =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =**

---

**Table A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**Table B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

*No Misses Observed* □ At Least One Miss Occurred △ XL ○ Xm □ Xs □ Xss □ Xlcl □ Xpod □ 2XL □ Xpod

---

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POM function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xl</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
<th>Xpod</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xl</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
<th>Xpod</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

Note: Xpodopt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

### Table: DOEPOD Analysis Results

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Name</td>
<td>A6001B.XLS</td>
</tr>
<tr>
<td>Data Set Name</td>
<td>A6001B(SITE CODE)</td>
</tr>
<tr>
<td>Date &amp; Time</td>
<td>6/4/15 6:01 PM</td>
</tr>
<tr>
<td>Xpod 90/95 Reached Anywhere?</td>
<td>REACHED</td>
</tr>
<tr>
<td>Classwidth @ 90/95 Xpod</td>
<td>0.0140 inch</td>
</tr>
<tr>
<td>Lower Confidence Bound</td>
<td>0.0940 inch</td>
</tr>
<tr>
<td>Best LCL</td>
<td>0.9001 inch</td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
<td>inch</td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
<td>inch</td>
</tr>
<tr>
<td>User Provided a 90/95 POD @</td>
<td></td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
<td>inch</td>
</tr>
<tr>
<td>Inspector Classwidth @ Xp</td>
<td></td>
</tr>
<tr>
<td>POD @ Xpod</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

### Diagram: Probability of Hit (POH) and Lower Confidence Bound

- **Class Length, inch:** 0.000 to 0.900
- **Probability of Hit (POH):** 0.000 to 1.000

### Notes:
- **CASE 1:** 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
- **Survey/Optimum Xpoh:** 0.0780 -0.002 inch 28 Samples
- **False Call Rate =** with UCL @ 95%:
  - Largest Classlength, XL = 0.812 inch
  - Samples Needed @ XL =
  - Classlength Mid-point, Xm = 0.276 inch
  - Samples Needed @ Xm =
  - Smallest Classlength, Xs =
  - Samples Needed @ Xs =
  - New Smaller Classlength, Xss =
  - BestLCL Classlength, Xcl =
  - Samples Needed @ Xcl =
  - POD Classlength, Xpoh =
  - Samples Needed @ Xpoh =
  - New Largest Classlength, 2XL =
  - Xn is Near Verification Point =
  - Opt. POD classlength, Xpodopt = 0.093 inch
  - Samples Needed @Xpodopt = 1
  - Xp = 0.0940 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 16 more large flaws.
Note: Xpodopt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

<table>
<thead>
<tr>
<th>Class Length, inch</th>
<th>Probability of Hit (POH), Lower Confidence Limit, LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xp, 90/95 POD</td>
<td>MLE(95%) LCL</td>
</tr>
<tr>
<td></td>
<td>Xp, 90/95 POD</td>
</tr>
</tbody>
</table>

**File Name:** A6001C.XLS
**Data Set Name:** A6001C(SITE CODE)
**Date & Time:** 6/4/15 6:03 PM
**Xpod 90/95 Reached Anywhere?**
**Classwidth @ 90/95 Xpod:** 0.0180 inch
**Classlength @ 90/95 Xpod:** 0.1140 inch
**Lower Confidence Bound @ Best LCL:** 0.9001 inch
**Classwidth @ Best LCL:** inch
**Classlength @ Best LCL:** inch
**User Provided a 90/95 POD @ POD @ Xpod:** 1.0000
**User's Maximum Allowed Classlength:** inch
**Inspector Classwidth @ Xp:** inch
**POD @ Xpod:** inch

**Survey/Optimum Xpoh:** 0.0890 -0.001 Inch 27 Samples
**False Call Rate:** with UCL @ 95%
**Largest Classlength, XL:** 0.812 inch
**Samples Needed @ XL:** 82
**Classlength Mid-point, Xm:** 0.291 inch
**Samples Needed @ Xm:** 27
**Smallest Classlength, Xs:** inch
**Samples Needed @ Xs:** 3
**New Smaller Classlength, Xss:** inch
**BestLCL Classlength, Xcl:** inch
**Samples Needed @ Xcl:** 27
**POH Classlength, Xpoh:** inch
**Samples Needed @ Xpoh:** 3
**New Largest Classlength, 2XL:** inch
**Xm is Near Verification Point:** 0.1140 inch
**Opt. POD classlength, Xpodopt:** 0.106 inch
**Samples Needed @Xpodopt:** 3

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

NTIAC 90% POD = 0.938 @ 0.085 inch
NTIAC 90/95 POD = 0.900 @ 0.090 inch

**Largest Classlength, XL:** 0.812 inch
**Samples Needed @ XL:** 82
**Classlength Mid-point, Xm:** 0.291 inch
**Samples Needed @ Xm:** 27
**Smallest Classlength, Xs:** inch
**Samples Needed @ Xs:** 3
**New Smaller Classlength, Xss:** inch
**BestLCL Classlength, Xcl:** inch
**Samples Needed @ Xcl:** 27
**POH Classlength, Xpoh:** inch
**Samples Needed @ Xpoh:** 3
**New Largest Classlength, 2XL:** inch
**Xm is Near Verification Point:** 0.1140 inch
**Opt. POD classlength, Xpodopt:** 0.106 inch
**Samples Needed @Xpodopt:** 3

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart."
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp is used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

File Name = A6001D.XLS
Data Set Name = A6001D(SITE CODE)
Date & Time = 6/4/15 6:04 PM
REACHED
Xpod 90/95 Reached Anywhere?
Class width @ 90/95 Xpod = 0.0240 inch
Lower Confidence Bound = 0.9050 inch
Xp = 0.812 inch

Class length @ 90/95 Xpod = 0.372 inch
Best LCL = 0.1280 inch
Xs = 0.000 inch
Best LCL = 0.105 inch
New Smaller Xs = 0.115 inch

User Provided a 90/95 POD @ POHCLASS =
User’s Maximum Allowed Class length = 1.0000 inch

POH Class length, Xpoh =
New Larger Class length, 2XL = 0.127 inch
Xm is Near Verification Point =
Opt. POD class length, Xpodopt = 1.0000 inch
POH Class length, Xpoh = 0.1040 inch
Survey/Optimum Xpoh = 0.1040 inch

False Call Rate = 0.1040 - 0.1040
with UCL @ 95% = 0.0000 inch

Largest Class length, XL = 0.812 inch
Samples Needed @ XL = 84
Class length Mid-point, Xm = 0.372 inch
Samples Needed @ Xm = 26
Smallest Class length, Xs =
Samples Needed @ Xs =
New Smaller Class length, Xss =
Best LCL Class length, Xlcl =
Samples Needed @ Xlcl =
POH Class length, Xpoh =
Samples Needed @ Xpoh =
New Larger Class length, 2XL =
Xm is Near Verification Point =
Opt. POD class length, Xpodopt =
Samples Needed @ Xpodopt =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.

Large flaw validation failure. Need 16 more large flaws.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### Directed DOE Options

#### TABLE A*

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
</tr>
<tr>
<td>Xm</td>
<td>0.372</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = 0.127

### TABLE B*

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod</td>
<td>1</td>
</tr>
</tbody>
</table>

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: False call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Case 1: 90/95 Xpad is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpad and XL when causes of highlighted Misses are understood and corrected.

File Name = A6001F.XLS
Data Set Name = A6001F(SITE CODE)
Date & Time = 6/4/15 6:06 PM
Xpad 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpad = 0.0230 inch
Classlength @ 90/95 Xpad = 0.1200 inch
Lower Confidence Bound = 0.9050 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User’s Maximum Allowed Classlength = inch
POD @ Xpad = 1.0000

XL is Near Verification Point = Opt. POD classlength, Xpodopt =

Survey/Optimum Xpoh = 0.000 Inch
Samples Needed @ Xpoh =

NTIAC 90% POD = 0.963 @ 0.075 inch
NTIAC 90/95 POD = 0.901 @ 0.090 inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.812 Inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.372 Inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Class length, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Xp = 0.1200 Inch

A6001F.XLS
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

- File Name = A6001F.XLS
- Data Set Name = A6001F(SITE CODE)

### Directed DOE Options

#### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>X pod, Class Length</th>
<th>No. Need</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>X lcl</th>
<th>X pod</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.812</td>
<td>0.372</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>X pod, Class Length</th>
<th>No. Need</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>X lcl</th>
<th>X pod</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.812</td>
<td>0.372</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TABLE C

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>X pod, Class Length</th>
<th>No. Need</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>X lcl</th>
<th>X pod</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.812</td>
<td>0.372</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTIAC 90% POD</td>
<td>0.914 @ 0.160 inch</td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
<td>0.908 @ 0.185 inch</td>
</tr>
<tr>
<td>False Call Rate</td>
<td></td>
</tr>
<tr>
<td>Largest Classlength, XL</td>
<td>0.812 inch</td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td>27</td>
</tr>
<tr>
<td>Classlength Mid-point, Xm</td>
<td>0.322 inch</td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
<td>24</td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
<td>0.322 inch</td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td>24</td>
</tr>
<tr>
<td>New Smaller Classlength, Xss</td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

Analysis File Name: DOEPOD_v.1.2.01_PC.08052010.Win7.xlsx

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = A6001GR.XLS
Data Set Name = A6001GR(SITE CODE)

Date & Time = 6/4/15 6:09 PM

Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch

Lower Confidence Bound = 0.8707 inch
Best LCL = 0.9540 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Best LCL Classlength, Xlcl =

POH Classlength, Xpoh =

New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =

POH Class Range, LCL =

Probability of Hit (POH) in Class Range

File Name = A6001GR.XLS
Data Set Name = A6001GR(SITE CODE)

Date & Time = 6/4/15 6:09 PM

Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch

Lower Confidence Bound = 0.8707 inch
Best LCL = 0.9540 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

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**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first. **Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.** **The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 1* - 90/95 Xp is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh = 0.903 @ 0.105 inch
NTIAC 90% POD = 0.902 @ 0.120 inch
False Call Rate = with UCL @ 95%

Largest Classlength, XL = 0.812 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.372 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

XL = 0.0250 inch
Mx = 0.1310 inch
Mx = 0.9001 inch

XL = 0.903 inch
Xm = 0.902 inch
Xs = 0.105 inch
Xss = 0.120 inch
Xlcl = 0.812 inch
Xpoh = 0.372 inch
Xpodopt = 0.2270 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.

Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL Xp Used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.1070 -0.001 Inch 26 Samples

NTIAC 90% POD = 0.932 @ 0.105 Inch

NTIAC 90% POD = 0.921 @ 0.115 Inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.812 Inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.372 Inch
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.131 Inch
Samples Needed @Xpodopt = 29

Xp = 0.1210 Inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.
Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.
Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.
Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 1A - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpod opt or Optimum Xpoh (if listed) is also satisfied.

File Name = A6002A.XLS
Data Set Name = A6002A(SITE CODE)
Date & Time = 6/4/15 6:14 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod 0.0140 inch
Lower Confidence Bound @ 95% 0.0940 inch
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD @ 0.9001 inch
User’s Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xp = 1.0000

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length, inch
Probability of Hit (POH) in Class Range
Lower Confidence Bound @ 95%
Hit/Miss
Xp, 90/95 POD
MLE(Mean) POD
MLE(95%) LCL

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.812 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.276 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point
Opt. POD classlength, Xpod = 0.093 inch
Samples Needed @ Xpod = 1
Xp = 0.0940 inch

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Data Set Name = A6002A(SITE CODE)
Date & Time = 6/4/15 6:14 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod 0.0140 inch
Lower Confidence Bound @ 95% 0.0940 inch
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD @ 0.9001 inch
User’s Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xp = 1.0000

NTIAC 90% POD = 0.936 @ 0.075 inch
NTIAC 90/95 POD = 0.923 @ 0.085 inch

Survey/Optimum Xpoh = 0.0800 -0.001 Inch 26 Samples

Largest Classlength, XL = 0.812 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.276 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point
Opt. POD classlength, Xpod = 0.093 inch
Samples Needed @ Xpod = 1
Xp = 0.0940 inch

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Note: Xpod opt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

**Follow sample selection priority in the DOEPOD Manual.**

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Large flaw validation failure. Need 15 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Case 1: Xp is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xp and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh = 0.936 @ 0.070 inch
NTIAC 90% POD = 0.907 @ 0.080 inch
False Call Rate = with UCL @ 95%=
- Largest Classlength, XL = 0.812 inch
- Samples Needed @ XL =
- Classlength Mid-point, Xm = 0.291 inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =
- Xp = 0.105 inch

File Name = A6002C.XLS
Data Set Name = A6002C(SITE CODE)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

**CASE 1**: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

**Warning**: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 17 more large flaws.

**Note:** Xpodopt is within one class width of Xpod.

**Warning:** No false call analysis.

**CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Data Set Name = A6002E(SITE CODE)
### Date & Time = 6/4/15 6:20 PM
### Data File Name = A6002E.XLS

- **Xp =** 0.812 inch
- **POD @ Xp =** 0.905
- **Best LCL Classlength, Xlcl =** 0.911 inch
- **Largest Classlength, XL =** 0.905 inch
- **Smallest Classlength, Xs =** 0.372 inch
- **New Smaller Classlength, Xss =** 0.227 inch
- **Opt. POD classlength, Xpodopt =** 0.000 inch
- **Class Length, inch**

**False Call Rate =** 0.000

#### Warning: No false call analysis.

**Xp 90/95 Reached Anywhere?**
- **Classwidth @ 90/95 Xpod =** 0.812 inch
- **Classlength @ 90/95 Xpod =** 0.911 inch
- **Lower Confidence Bound =** 0.372 inch
- **Best LCL =** 0.227 inch
- **Classwidth @ Best LCL =** 0.372 inch
- **Classlength @ Best LCL =** 0.812 inch
- **User Provided a 90/95 POD @**
- **User's Maximum Allowed Classlength =**
- **Inspector Classwidth @ Xp =** 0.812 inch
- **POD @ Xp =** 0.905

### CASE 1*
- **90/95 Xpod is reached.**
- **Xp used to satisfy XL and Xm requirements.**
- **VALIDATION GAP exists.**
- **Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.**

### Large Flaw Validation Failure
- **Need 16 more large flaws.**
- **Any highlighted Misses are RED and shown in Column A of this data sheet.**

### Detection Probability
- **(Utilization of DOEPOD results requires approval of Engineering Authority)\
Large flaw validation failure. Need 16 more large flaws.\
Any highlighted Misses are RED and shown in Column A of this data sheet.**

**MLE Divergence Warning:**
- Initial results listed.
- **Warning: No false call analysis.**

**Survey/Optimum Xpoh:**
- **NTIAC 90% POD =** 0.905 @ 0.110 inch
- **NTIAC 90/95 POD =** 0.911 @ 0.130 inch

**False Call Rate =** 0 with UCL @ 95%
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Note: Xpod opt is within one class width of Xpod.

Warning: No false call analysis.

CASE 1 - 90/95 Xpod may be VALIDATED from Xpod to XL Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpod opt or Optimum Xpoh (if listed) is also satisfied.

Large flaw validation failure. Need 18 more large flaws.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 18 more large flaws.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xl</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2xl</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

Xpodopt =

1.624 29

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

No Misses Observed

At Least One Miss Occured

XL ○ Xm ○ Xs ○ Xss \( \times \) Xlcl \( \times \) Xpoh \( \times \) 2XL \( \times \) Xpod \( \times \) Xpodopt

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 19 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet
Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

CASE 1* - 90/95 Xpod is reached. Xp is used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh = 0.1760 - 0.001 Inch 27 Samples
NTIAC 90% POD = 0.912 @ 0.120 Inch
NTIAC 90/95 POD = 0.904 @ 0.135 Inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.812 Inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.372 Inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp = 0.2220 Inch

File Name = A6002H.XLS
Data Set Name = A6002H(SITE CODE)
Date & Time = 6/4/15 6:25 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
POD @ Xpod = 0.9783
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

### Directed DOE Options

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
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<tr>
<td>Xm</td>
<td>0.372</td>
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<tr>
<td>Xs</td>
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<td>Xss</td>
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<tr>
<td>Xlcl</td>
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</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

**CASE 1**: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

**False Call Rate**: 0.000 with UCL @ 95%

**Survey/Optimum Xpoh**: 0.909 @ 0.105 inch
**NTIAC 90% POD**: 0.904 @ 0.120 inch

**Large flaw validation failure. Need 16 more large flaws.**

Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.

**Warning:** No false call analysis.

#### Class Length,

- **POH (Probability of Hit)** in Class Range
- **Lower Confidence Bound @ 95%**
- **Hit/Miss**
- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**

### Data Sheet

<table>
<thead>
<tr>
<th>File Name</th>
<th>A6003A.XLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Set Name</td>
<td>A6003A(SITE CODE)</td>
</tr>
<tr>
<td>Date &amp; Time</td>
<td>6/4/15 6:30 PM</td>
</tr>
<tr>
<td>Xp 90/95 Reached Anywhere?</td>
<td>REACHED</td>
</tr>
<tr>
<td>Classwidth @ 90/95 Xp</td>
<td>0.0190 inch</td>
</tr>
<tr>
<td>Classlength @ 90/95 Xp</td>
<td>0.1054 inch</td>
</tr>
<tr>
<td>Lower Confidence Bound</td>
<td>0.9001 inch</td>
</tr>
<tr>
<td>Best LCL</td>
<td></td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
<td></td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
<td></td>
</tr>
<tr>
<td>User Provided a 90/95 POD @</td>
<td></td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
<td></td>
</tr>
<tr>
<td>Inspector Classwidth @ Xp</td>
<td></td>
</tr>
<tr>
<td>POD @ Xp</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

### Survey/Optimum Xpoh

- **NTIAC 90% POD** = 0.936 inch
- **NTIAC 90/95 POD** = 0.930 inch

### False Call Rate

- **with UCL @ 95%**
  - **Largest Classlength, XL** = 0.812 inch
  - **Samples Needed @ XL** = |
  - **Classlength Mid-point, Xm** = 0.291 inch
  - **Samples Needed @ Xm** = |
  - **Smallest Classlength, Xs** = |
  - **Samples Needed @ Xs** = |
  - **New Smaller Classlength, Xss** = |
  - **Best LCL Classlength, Xlcl** = |
  - **Samples Needed @ Xlcl** = |
  - **POH Classlength, Xpoh** = |
  - **Samples Needed @ Xpoh** = |
  - **New Largest Classlength, 2XL** = |
  - **Xm is Near Verification Point** = |
  - **Opt. POD classlength, Xpodopt** = |
  - **Samples Needed @ Xpodopt** = |

### Analysis File Name

- **DOEPOD v.1.2.01 PC.06a2010.Win7.xls**
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XLP</th>
<th>XMP</th>
<th>XSP</th>
<th>XSSP</th>
<th>XLPCL</th>
<th>XDPH</th>
<th>2XL</th>
<th>XPODOPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.812</td>
<td>0.291</td>
<td>0.812</td>
<td>0.291</td>
<td>0.812</td>
<td>0.291</td>
<td>0.812</td>
<td>0.291</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XPOD</th>
<th>CLSS</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.812</td>
<td>0.291</td>
</tr>
</tbody>
</table>

---

**Directed DOE Options**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
</tr>
<tr>
<td>Xm</td>
<td>0.291</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**No Misses Observed**

**At Least One Miss Occurred**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

Any highlighted Misses are RED and shown in Column A of this data sheet

Large flaw validation failure. Need 15 more large flaws.

嗓子1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm
requirements. VALIDATION GAP exists. Xp may VALIDATE
between Xp and XL when causes of Misses are understood and
corrected.

Case 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm
requirements. VALIDATION GAP exists. Xp may VALIDATE
between Xp and XL when causes of Misses are understood and
corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
<table>
<thead>
<tr>
<th>Probability of Hit (POH), Lower Confidence Limit, LCL</th>
</tr>
</thead>
</table>

**Class Length, inch**  
**POH Classlength, Xpoh**  
**New Largest Classlength, 2XL**  
**Opt. POD classlength, Xpodopt**  
**False Call Rate**  
**with UCL @ 95%**  

**File Name:** A6003D.XLS  
**Data Set Name:** A6003D(SITE CODE)  
**Date & Time:** 6/4/15 6:34 PM  
**Xpod 90/95 Reached Anywhere?**  
**Classwidth @ 90/95 Xpod**  
**Lower Confidence Bound @ 95%**  
**Hit/Miss**  

**Warning:** No false call analysis.

**CASE 18 -** 90/95 Xpod may be VALIDATED from Xpod to XL Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

**Survey/Optimum Xpoh =** 0.0844 0.001 Inch  
**Samples =** 27

**False Call Rate =** 0.0844 with UCL @ 95%  
**Largest Classlength, XL =** 0.812 Inch  
**Samples Needed @ XL =** 0.291 Inch  
**Smallest Classlength, Xs =** 0.103 Inch  
**New Smaller Classlength, Xss =** 1 Inch  
**Best LCL Classlength, Xlcl =** 0.1054 Inch  
**Samples Needed @ Xlcl =** 1 Inch  
**Xp =** 0.190 Inch  
**POH @ Xp =** 0.9001  
**Best LCL =** 0.901

**NTIAC 90% POD =** 0.934 @ 0.090 Inch  
**NTIAC 90/95 POD =** 0.932 @ 0.100 Inch

**Note:** Xpodopt is within one class width of Xpod.

**Warning:** Large flaw validation failure. Need 15 more large flaws.

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.*
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh = 0.000 Inch Samples

NTIAC 90% POD = 0.929 @ 0.105 Inch

NTIAC 90/95 POD = 0.937 @ 0.115 Inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.812 Inch

Samples Needed @ XL =

Classlength Mid-point, Xm = 0.322 Inch

Samples Needed @ Xm =

Smallest Classlength, Xs =

Samples Needed @ Xs =

New Smaller Classlength, Xss =

BestLCL Classlength, Xcl =

Samples Needed @ Xcl =

POH Classlength, Xpoh =

Samples Needed @ Xpoh =

New Largest Classlength, 2XL =

Xm is Near Verification Point =

Opt. POD classlength, Xpodopt =

Samples Needed @Xpodopt =

Xp = 0.1453 Inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet. Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

File Name = A6003F.XLS
Data Set Name = A6003F(SITE CODE)
Date & Time = 6/4/15 6:37 PM
Xpod 90/95 Reached Anywhere?  REACHED
Classwidth @ 90/95 Xpod = 0.019 inch
Classlength @ 90/95 Xpod = 0.1054 inch
Lower Confidence Bound = 0.0901 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod = 1.0000

NTIAC 90% POD @ = 0.938 inch
NTIAC 90/95 POD = 0.925 inch
False Call Rate =

Largest Classlength, XL = 0.812 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.291 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

XL = 0.938 inch
Xm = 0.812 inch
Xs = 0.291 inch
Xss = 0.1054 inch
Xlcl = 0.812 inch
Xpoh = 0.938 inch
Xpodopt = 0.938 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

Large flaw validation failure. Need 19 more large flaws.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

CASE 2: 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.000 inch Samples

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.812 inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm = 0.511 inch
Samples Needed @ Xm = 29
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch

User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
 Inspector Classwidth @ Xp =
Xpod 90/95 Reached Anywhere? =
Classwidth @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =

Class Length, inch
Probability of Hit (POH) in Class Range
Lowest Confidence Bound @ 95%
Hit/Miss
Xp, 90/95 POD
MLE(Mean) POD
MLE(95%) LCL

- NTIAC 90% POD = 0.908 @ 0.190 inch
- NTIAC 90/95 POD = 0.902 @ 0.225 inch

File Name = A6003G.XLS
Data Set Name = A6003G(SITE CODE)
Date & Time = 6/4/15 6:38 PM
6/4/15 6:38 PM REACHED
Xpod 90/95 Reached Anywhere? =
Classwidth @ 90/95 Xpod = 0.0580 inch
Classlength @ 90/95 Xpod = 0.2100 inch
Lower Confidence Bound = 0.9001 inch
Best LCL =
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ 1.0000 inch
POD @ Xpod =

- Largest Classlength , XL = 0.812 inch
- Samples Needed @ XL = 26
- Classlength Mid-point , Xm = 0.511 inch
- Samples Needed @ Xm = 29
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs =
- New Smaller Classlength, Xss = inch
- BestLCL Classlength, Xcl = inch
- Samples Needed @ Xcl =
- POH Classlength, Xpoh = inch
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL = inch
- Xm is Near Verification Point =
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt =
- Xp = inch

- NTIAC 90% POD = 0.908 @ 0.190 inch
- NTIAC 90/95 POD = 0.902 @ 0.225 inch

Warning: No false call analysis.

Large flaw validation failure. Need 19 more large flaws.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.000 Inch Samples

NTIAC 90% POD = 0.912 @ 0.140 Inch
NTIAC 90/95 POD = 0.908 @ 0.165 Inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.812 Inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm = 0.372 Inch
Samples Needed @ Xm = 28
Smallest Classlength, Xs = Inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = Inch
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp = Inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Note: Xpodopt is within one class width of Xpod.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 1#: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

#### TABLE A*
- Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
</tr>
<tr>
<td>Xm</td>
<td>0.291</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.098  29

#### TABLE B*
- Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
</tr>
<tr>
<td>Xm</td>
<td>0.291</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.098  29

#### TABLE C
- Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.400</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.400</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.400</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.400</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.400</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.400</td>
<td>0.500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 15 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

**Warning:** No false call analysis.

**Xp, 90/95 POD**
- MLE Divergence Warning: Initial results listed.
- **Warning:** No false call analysis.

**Data Set Name =** A6004A(SITE CODE)
**File Name =** A6004A.XLS
**Date & Time =** 6/4/15 6:42 PM
**Xpod 90/95 Reached Anywhere?** REACHED
- **Class Length @ 90/95 Xpod =** 0.014 inch
- **Lower Confidence Bound =** 0.094 inch
- **Best LCL =** 0.9001 inch
- **Class Length @ Best LCL =** 0.9001 inch
- **User Provided a 90/95 POD =** 1.0000 inch
- **User's Maximum Allowed Classlength =** 1.0000 inch

**Survey/Optimum Xpoh =** 0.000 inch
- **Samples Needed @ Xpoh =** 142

**Case 1** - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

**False Call Rate =** with UCL @ 95% =
- **Largest Classlength , XL =** 0.812 inch
- **Samples Needed @ XL =** 0.276 inch
- **Classlength Mid-point , Xm =** 0.276 inch
- **Samples Needed @ Xm =** 0.276 inch
- **Smallest Classlength , Xs =** 0.276 inch
- **Smallest Classlength , Xs =** 0.276 inch
- **New Smaller Classlength, Xs =** 0.276 inch
- **BestLCL Classlength, Xscl =** 0.276 inch
- **Samples Needed @ Xscl =** 0.276 inch
- **POH Classlength, Xpoh =** 0.276 inch
- **Samples Needed @ Xpoh =** 0.276 inch
- **New Largest Classlength, 2XL =** 0.276 inch
- **Xm is Near Verification Point =** 0.276 inch
- **Opt. POD classlength, Xpodopt =** 0.276 inch
- **Samples Needed @Xpodopt =** 0.276 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 16 more large flaws.

Note: Xpbdopt is within one class width of Xpbd.

Warning: No false call analysis.

CASE 1# - 90/95 Xpbd may be VALIDATED from Xpbd to XL. Xpbd used to satisfy XL and Xm requirements. An alternate 90/95 Xpbd is available if Xpbdopt or Optimum Xpbd (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 15 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet
MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 1 - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.
Although \( X_{pod} \) appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target \( X_{pod} \) points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Alternate \( X_{m} = \) \( X_{podopt} \)**

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the \( X_{pod} \) listed.

| \( X_{L} \) | 0.812 |
| \( X_{M} \) | 0.291 |
| \( X_{S} \) |   |
| \( X_{SS} \) |   |
| \( X_{POH} \) |   |
| \( 2XL \) |   |

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the \( X_{pod} \) listed.

| \( X_{POD} \) | \( X_{POD} \) |
| \( X_{SS} \) | \( X_{SS} \) |
| \( X_{POH} \) | \( X_{POH} \) |
| \( 2XL \) | \( 2XL \) |

---

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the \( X_{pod} \) listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>0.100</td>
</tr>
<tr>
<td>0.200</td>
<td>0.300</td>
</tr>
<tr>
<td>0.400</td>
<td>0.600</td>
</tr>
<tr>
<td>0.800</td>
<td>0.900</td>
</tr>
</tbody>
</table>

**FILE NAME = A6004BR.XLS**

**DATA SET NAME = A6004BR(SITE CODE)**

---

* Although \( X_{pod} \) appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target \( X_{pod} \) points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satifying the Alternate \( X_{m} \) requirement removes the need to meet the adjacent \( X_{m} \) requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

- Optimum Xpoh Available; Using Best LCL
- Probability of Hit (POH) in Class Range
- Lower Confidence Bound @ 95%
- Hit/Miss
- Xp, 90/95 POD
- MLE(Mean) POD
- MLE(95%) LCL

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

File Name = A6004C.XLS
Data Set Name = A6004C(SITE CODE)
Date & Time = 6/4/15 6:46 PM
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Classlength @ 90/95 Xpod
Lower Confidence Bound
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD
User's Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xpod

Survey/Optimum Xpoh = 0.1760 - 0.001 Inch 27 Samples

False Call Rate = with UCL @ 95% =

- Largest Classlength, XL = 0.812 Inch
- Samples Needed @ XL = 27
- Classlength Mid-point, Xm =
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- BestLCL Classlength, Xcl =
- Samples Needed @ Xcl =
- POH Classlength, Xpoh = 0.176 Inch 27 Samples
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL =
- Xn is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @Xpodopt =
- Xp =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 5 - This is a survey data set. 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Survey Xpoh (if listed)

Survey/Optimum Xpoh = 0.1760 -0.001 Inch 27 Samples

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.812 Inch 27
Samples Needed @ XL =
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh = 0.1760 27
Samples Needed @ Xpoh =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

- File Name = A6004CRL.XLS
- Data Set Name = A6004C(SITE CODE)
- Date & Time = 6/4/15 6:48 PM
- Xpod 90/95 Reached Anywhere? = NOT REACHED
- Classwidth @ 90/95 Xpod = inch
- Classlength @ 90/95 Xpod = inch
- Lower Confidence Bound = 0.0960 inch
- Best LCL = 0.0960 inch
- Classlength @ Best LCL =
- User Provided a 90/95 POD @ = inch
- User's Maximum Allowed Classlength =
- Inspector Classwidth @ Xp = inch
- POD @ Xpod =

- NTIAC 90% POD = 0.917 @ 0.130 inch
- NTIAC 90/95 POD = 0.907 @ 0.145 inch

- MLE Divergence Warning: Initial results listed.
- Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.
Although the XPod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target XPod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

### Directed DOE Options

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
</tr>
<tr>
<td>Xm</td>
<td>0.291</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.104 3**

---

* Although XPod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target XPod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.1070 -0.001 Inch 26 Samples

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.812 Inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.372 Inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.131 Inch
Samples Needed @Xpodopt = 29

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.812 Inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.372 Inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.131 Inch
Samples Needed @Xpodopt = 29
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, indicating that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate targets for Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

File Name = A6004E.XLS
Data Set Name = A6004E(SITE CODE)

**Alternate Xm = Xpodopt = 0.131 29**

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

* Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

** The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

### TABLE A*

- Selected class lengths with existing misses.
- Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.812</td>
<td></td>
<td>0.372</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE B*

- Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.131</td>
<td>29</td>
<td>0.131</td>
<td>29</td>
</tr>
</tbody>
</table>
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 15 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet
Warning: No false call analysis.

Case 1 - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

File Name = A6004F.XLS
Data Set Name = A6004(SITE CODE)
Date & Time = 6/4/15 6:52 PM
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.812 inch
Classlength @ 90/95 Xpod = 0.291 inch
Lower Confidence Bound = 0.926 inch
Best LCL = 0.907 inch
Classwidth @ Best LCL = 0.9001 inch
Classlength @ Best LCL = 0.0180 inch
User Provided a 90/95 POD @ = 1.0000
POD @ Xpod = 0.1050 inch
User's Maximum Allowed Classlength = 0.075 inch
Inspector Classwidth @ Xp = 1.0000 inch
POH Classlength, Xpoh = 0.000 inch
New Largest Classlength, 2XL = 0.1050 inch
Xm is Near Verification Point = 0.000 inch
Opt. POD classlength, Xpodopt = 0.000 inch
Samples Needed @ Xp = 156

Survey/Optimum Xpoh = 0.936 @ 0.065 inch
NTIAC 90% POD = 0.907 @ 0.070 inch
NTIAC 90/95 POD = 0.936 @ 0.065 inch
False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.812 inch
Classlength Mid-point, Xm = 0.291 inch
Samples Needed @ XL =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Directed DOE Options**

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
</tr>
<tr>
<td>Xm</td>
<td>0.291</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

**TABLE A**

Selected class lengths with existing misses.
Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

### Directed DOE Options

- File Name = A6004F.XLS
- Data Set Name = A6004F(SITE CODE)

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.812</td>
</tr>
<tr>
<td>Xm</td>
<td>0.291</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)  
Large flaw validation failure. Need 15 more large flaws.  
Note: Xpodopt is within one class width of Xpod.  
Warning: No false call analysis.

Case 18: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

File Name = A6004FR.XLS  
Data Set Name = A6004(RSITE CODE)  
Date & Time = 6/4/15 6:53 PM 
Xpod 90/95 Reached Anywhere? Xpod 90/95 Reached Anywhere?  
Classwidth @ 90/95 Xpod = 0.070 inch 
Classlength @ 90/95 Xpod = 0.080 inch 
Lower Confidence Bound = 0.070 inch 
Best LCL = 0.0180 inch 
Classwidth @ Best LCL = 0.291 inch 
Classlength @ Best LCL = 0.1050 inch 
User Provided a 90/95 POD = POD @ Xp = 0.936 0.080 inch 
User's Maximum Allowed Classlength = 
 Inspector Classwidth @ Xp = 0.812 inch 
POD @ Xp = 0.1050 inch 

NTIAC 90% POD = 0.931 @ 0.070 inch 
NTIAC 90/95 POD = 0.936 @ 0.080 inch 
False Call Rate = with UCL @ 95% = 
Largest Classlength , XL = 0.812 inch 
Samples Needed @ XL = 
Classlength Mid-point , Xm = 0.291 inch 
Samples Needed @ Xm = 
Smallest Classlength, Xs = 
Samples Needed @ Xs = 
New Smaller Classlength, Xss = 
BestLCL Classlength, Xcl = 
Samples Needed @ Xcl = 
POH Classlength, Xpoh = 
Samples Needed @ Xpoh = 
New Largest Classlength , 2XL = 
Xm is Near Verification Point = 
Opt. POD classlength, Xpodopt = 0.102 inch 
Samples Needed @Xpodopt = 2 
Xp = 0.1050 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Table A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Xlcl</th>
<th>Xs</th>
<th>Xss</th>
<th>Xl</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.812</td>
<td></td>
<td></td>
<td></td>
<td>0.291</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.102**

### Table B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.102</td>
<td></td>
<td><strong>Alternate Xm</strong> =</td>
<td><strong>0.102</strong></td>
</tr>
</tbody>
</table>
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 18 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.812 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.372 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.1890 inch

Survey/Optimum Xpoh = 0.1600 -0.001 Inch 26 Samples
NTIAC 90% POD = 0.907 @ 0.150 inch
NTIAC 90/95 POD = 0.904 @ 0.185 inch

Warning:  No false call analysis.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 18 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

File Name: A6004H.XLS
Data Set Name: A6004H(SITE CODE)
Date & Time: 6/4/15 6:56 PM

REACHED
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.0640 inch
Classlength @ 90/95 Xpod = 0.1890 inch
Lower Confidence Bound @ Best LCL = 0.9011 inch
Classwidth @ Best LCL = 0.903 inch
Classlength @ Best LCL = 0.905 inch
User Provided a 90/95 POD @ = 0.725
User's Maximum Allowed Classlength = 0.135 inch
POD @ Xpod = 0.9787

NTIAC 90% POD = 0.903 @ 0.135 inch
NTIAC 90/95 POD = 0.905 @ 0.165 inch
False Call Rate = 0.000 with UCL @ 95% =
Largest Classlength, XL = 0.812 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.372 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

Xp = 0.1890 inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

Survey/Optimum Xpoh =

0.000 Inch
0.000 0.100 0.200 0.300 0.400 0.500 0.600 0.700 0.800 0.900
Class Length, inch
0.000 0.100 0.200 0.300 0.400 0.500 0.600 0.700 0.800 0.900
0.000 0.100 0.200 0.300 0.400 0.500 0.600 0.700 0.800 0.900
Probability of Hit (POH), Lower Confidence Limit, LCL
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 17 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although $X_{pod}$ appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 4.806 inch
Samples Needed @ Xpoh = 166

False Call Rate = 0.000
with UCL @ 95% =

Largest Classlength , XL = 0.5493 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.0400 inch
Samples Needed @ Xm =
Smallest Classlength, Xs = 0.0933 inch
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Xp =

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**Alternate Xm =**

Xpodopt =

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

| File Name = | Data Set Name = | A7001AL.XLS | A7001AL(CRK #) |

### TABLE A*

Selected class lengths with existing misses.
Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod Length</th>
<th>No. Need</th>
<th>Xpod Opt</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.806</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

Xpodopt =

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod Length</th>
<th>No. Need</th>
<th>Xpod Opt</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.806</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

Xpodopt =

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart***

**Directed DOE Options**

### TABLE A*

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 4.806 29**

### TABLE B*

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

Additional samples at these class lengths will achieve the Xpod listed.

### TABLE C

- **Xpod, Class Length**
- **No. Need**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first. Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpoh, Class Length</th>
<th>No. Need</th>
<th>Xpoh, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
<td>XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Xm</td>
<td>1.603</td>
<td>Xm</td>
<td>1.603</td>
</tr>
<tr>
<td>Xs</td>
<td>4.806</td>
<td>Xs</td>
<td>4.806</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm</strong></td>
<td></td>
<td><strong>Xpodopt</strong></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpoh, Class Length</th>
<th>No. Need</th>
<th>Xpoh, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
<td>XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Xm</td>
<td>1.603</td>
<td>Xm</td>
<td>1.603</td>
</tr>
<tr>
<td>Xs</td>
<td>4.806</td>
<td>Xs</td>
<td>4.806</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm</strong></td>
<td></td>
<td><strong>Xpodopt</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

#### Table C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td>1.603</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td>4.806</td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =**

### Table A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Table B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 7 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>POD @ Xp 90/95 Reached Anywhere?</td>
<td>REACHED</td>
</tr>
<tr>
<td>Classwidth @ 90/95 Xp</td>
<td></td>
</tr>
<tr>
<td>Lower Confidence Bound</td>
<td></td>
</tr>
<tr>
<td>Best LCL</td>
<td></td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
<td></td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
<td></td>
</tr>
<tr>
<td>User Provided a 90/95 POD @</td>
<td></td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
<td></td>
</tr>
<tr>
<td>POD @ Xp</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

CASE 1* - 90/95 Xp is reached, Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

**False Call Rate**

- NTIAC 90% POD = 0.936 @ 0.025 inch
- NTIAC 90/95 POD = 0.937 @ 0.030 inch
- False Call Rate = with UCL @ 95% =

- Largest Classlength, XL = 0.342 inch
- Samples Needed @ XL =
- Classlength Mid-point, Xm = 0.161 inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xcl =
- Samples Needed @ Xcl =
- POH Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL =
- Xn is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =

**Survey/Optimum Xpoh**

- NTIAC 90% POD = 0.936 @ 0.025 inch
- NTIAC 90/95 POD = 0.937 @ 0.030 inch

**Class Length, inch**

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xp</td>
<td>0.342</td>
</tr>
<tr>
<td>XL</td>
<td>0.342</td>
</tr>
<tr>
<td>Xm</td>
<td>0.161</td>
</tr>
<tr>
<td>Xs</td>
<td>0.161</td>
</tr>
<tr>
<td>Xcl</td>
<td>0.342</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.936</td>
</tr>
<tr>
<td>Xpodopt</td>
<td>0.937</td>
</tr>
</tbody>
</table>

**Analysis file name**: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

**Warning**: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the PoH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.342</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.161</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm = Xpodopt =</strong></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the PoH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 8 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 9 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Classwidth @ Best LCL
Best LCL
Classlength @ Best LCL
Inspector Classwidth @ Xp
Lower Confidence Bound
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD @
User's Maximum Allowed Classlength
Inspected POD @ Xp

File Name = A8004L.XLS
Data Set Name = A8004L(Eci-a-p)

Date & Time = 6/4/15 7:22 PM
REACHED
Xpod 90/95 Reached Anywhere

Warning: No false call analysis.

Survey/Optimum Xpoh = 0.0409 @ 0.001 Inch 25 Samples

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.342 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.169 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Opt.POD Classlength, Xpoh =
 POSN samples Needed @ Xpoh =
Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD Classlength, Xpoh =
Samples Needed @ Xpoh =

Note: Xpodopt is within one class width of Xpod.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 1: 90/95 Xp may be VALIDATED from Xp to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xp is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Note: Xpodopt is within one class width of Xp.

Warning: No false call analysis.

- **File Name:** A8005L.XLS
- **Data Set Name:** A8005L(Eci-m-a)
- **Date & Time:** 6/4/15 7:23 PM
- **Xpod 90/95 Reached Anywhere?** REACHED
- **Classwidh @ 90/95 Xp** = 0.0180 inch
- **Classlength @ 90/95 Xp** = 0.0575 inch
- **Lower Confidence Bound** = 0.9104 inch
- **Best LCL** = 0.9904 inch
- **Classwidth @ Best LCL** = 29 inches
- **Classlength @ Best LCL** = 0.030 inch
- **User Provided a 90/95 POD @** = 0.035 inch
- **User's Maximum Allowed Classlength** = 0.030 inch
- **Xpod Reached @ Xp** = 0.0409 inch
- **POD @ Xp** = 0.001 inch
- **Best LCL Classlength, Xlcl** = 0.169 inch
- **Samples Needed @ Xlcl** = 25 samples
- **POH Classlength, Xpoh** = 0.342 inch
- **Samples Needed @ Xpoh** = 186 samples
- **New Smaller Classlength, Xss** = 0.030 inch
- **Opt. POD classlength, Xpodopt** = 0.057 inch
- **New Largest Classlength, 2XL** = 0.169 inch
- **Xm is Near Verification Point** = False
- **Case coaxial pitch, Xpm** = 0.0575 inch

**Warning:** No false call analysis.

**Note:** Xpodopt is within one class width of Xp.

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.057</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.057</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.057 29**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 9 more large flaws.

File Name = AB006L.XLS
Data Set Name = AB006L(Eci-m-c)
Date & Time = 6/4/15 7:24 PM

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.0409 -0.001 Inch 25 Samples

Large flaw validation failure. Need 9 more large flaws.

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.342 Inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.169 Inch
Samples Needed @ Xm =
Smallest Classlength , Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.058 Inch
Samples Needed @Xpodopt =

XL is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.058 Inch
Samples Needed @Xpodopt =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resloved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Alternate Xm = Xpodopt =

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.095</td>
<td>26</td>
</tr>
<tr>
<td>0.080</td>
<td>26</td>
</tr>
<tr>
<td>0.190</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.095</td>
<td>26</td>
</tr>
<tr>
<td>0.080</td>
<td>26</td>
</tr>
<tr>
<td>0.190</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE C**

Additional Samples

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.095</td>
<td>26</td>
</tr>
<tr>
<td>0.080</td>
<td>26</td>
</tr>
<tr>
<td>0.190</td>
<td>29</td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
<table>
<thead>
<tr>
<th>Class Length, inch</th>
<th>Probability of Hit (POH)</th>
<th>Lower Confidence Bound @ 95%</th>
<th>Hit/Miss</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>0.100</td>
<td>0.100</td>
<td>0.100</td>
<td>0.100</td>
</tr>
<tr>
<td>0.200</td>
<td>0.200</td>
<td>0.200</td>
<td>0.200</td>
</tr>
<tr>
<td>0.300</td>
<td>0.300</td>
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<tr>
<td>0.400</td>
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<td>0.400</td>
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<tr>
<td>0.500</td>
<td>0.500</td>
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</tr>
<tr>
<td>0.600</td>
<td>0.600</td>
<td>0.600</td>
<td>0.600</td>
</tr>
<tr>
<td>0.700</td>
<td>0.700</td>
<td>0.700</td>
<td>0.700</td>
</tr>
<tr>
<td>0.800</td>
<td>0.800</td>
<td>0.800</td>
<td>0.800</td>
</tr>
</tbody>
</table>

Warning: No false call analysis.

Case 6: 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpod = 0.6840 - 0.071 Inch
26 Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

False Call Rate = with UCL @ 95% =

- Largest Classlength, XL = 0.684 inch
- Samples Needed @ XL = 26
- Classlength Mid-point, Xm = inch
- Samples Needed @ Xm = inch
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs = inch
- New Smaller Classlength, Xss = inch
- BestLCL Classlength, Xlcl = inch
- Samples Needed @ Xlcl = inch
- POH Classlength, Xpoh = 0.684 inch
- Samples Needed @ Xpoh = 26
- New Largest Classlength, 2XL = 1.368 inch
- Xn is Near Verification Point = inch
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt = inch

XL = 0.684 Inch
Xp = 0.684 Inch
XL = 0.684 Inch
Xp = 0.684 Inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = \(0.0950 \pm 0.014\) inch Samples = 26

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

<table>
<thead>
<tr>
<th>TABLE C</th>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>1.368</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

### Table A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

### Table B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

**File Name = A9002(3)l.xls**
**Data Set Name = A9002(3)l(CK. NO.)**
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

### CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xp</td>
<td>0.095 inch</td>
</tr>
<tr>
<td>NTIAC 90% POD</td>
<td>0.909 @ 0.105 inch</td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
<td>0.904 @ 0.140 inch</td>
</tr>
<tr>
<td>False Call Rate</td>
<td>with UCL @ 95%</td>
</tr>
<tr>
<td>Largest Classlength, XL</td>
<td>0.095 inch</td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td>26</td>
</tr>
<tr>
<td>Classlength Mid-point, Xm</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
<td>inch</td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td>inch</td>
</tr>
<tr>
<td>New Smaller Classlength, Xs</td>
<td>inch</td>
</tr>
<tr>
<td>BestLCL Classlength, Xcl</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xcl</td>
<td>26</td>
</tr>
<tr>
<td>PH Classlength, Xpoh</td>
<td>0.076 inch</td>
</tr>
<tr>
<td>Samples Needed @ Xpoh</td>
<td>26</td>
</tr>
<tr>
<td>New Largest Classlength, 2XL</td>
<td>0.130 inch</td>
</tr>
<tr>
<td>Xn is Near Verification Point</td>
<td>inch</td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td>inch</td>
</tr>
</tbody>
</table>

### Graph Details
- **Analysis File Name:** DOEPOD_v.1.2.01.DC.08a20110.Wt7.xlam
- **Date & Time:** 6/4/15 7:32 PM
- **Data Set Name:** DOEPOD_v.1.2.01.DC.08a20110.Wt7.xlam

### Table Details
- **Probability of Hit (POH) in Class Range**
- **Lower Confidence Bound @ 95%**
- **Hit/Miss**
- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**

### Additional Notes
- **Xpod 90/95 Reached Anywhere?** NOT REACHED
- **Classwidth @ 90/95 Xpod** inch
- **Classlength @ 90/95 Xpod** inch
- **Lower Confidence Bound**
  - Best LCL = 0.7933 inch
  - Classlength @ Best LCL = 0.0570 inch
- **User Provided a 90/95 POD @**
- **User's Maximum Allowed Classlength @ Xp** inch
- **POD @ Xpod**

### File Details
- **File Name:** A9003(3)D.xls
- **Data Set Name:** A9003(3)D(CK. No.)
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

### Directed DOE Options

<table>
<thead>
<tr>
<th>Table C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class Length</strong></td>
</tr>
<tr>
<td>XL</td>
</tr>
<tr>
<td>Xm</td>
</tr>
<tr>
<td>Xs</td>
</tr>
<tr>
<td>Xss</td>
</tr>
<tr>
<td>Xlcl</td>
</tr>
<tr>
<td>Xpod</td>
</tr>
<tr>
<td><strong>2XL</strong></td>
</tr>
<tr>
<td><strong>Alternate Xm =</strong></td>
</tr>
</tbody>
</table>

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

### TABLE C

Selected class lengths with existing misses.

### Additional Samples

File Name = A9003(3)D.xls

Data Set Name = A9003(3)D(Ck. No.)

**No Misses Observed**

**At Least One Miss Occurred**

XL  △ XL

Xm  ○ Xm

Xs  ○ Xs

Xss □ Xss

Xlcl △ Xlcl

Xpod △ Xpod

Xpodopt △ Xpodopt

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
 CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.2710 -0.025 inch
Samples Needed @ Xpoh = 26

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 1.271 inch
Samples Needed @ XL = 26
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss  =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

<table>
<thead>
<tr>
<th>TABLE A*</th>
<th>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>Xs</td>
</tr>
<tr>
<td>2.542</td>
<td>29</td>
</tr>
</tbody>
</table>

### TABLE B* | Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed. |

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

**File Name = AA002[3]L.xls**

**Data Set Name = AA002[3]L(CK. NO.)**

### TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

### Directed DOE Options

![Directed DOE Options Chart]

The chart illustrates the Directed DOE Options with Xpod, class length, and additional samples needed for different conditions.

- **No Misses Observed**
- **At Least One Miss Occurred**
- XL
- Xm
- Xs
- Xss
- Xlcl
- Xpoh
- 2XL
- Xpod
- Xpodopt

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart."
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 2.835.

**Warning:** No false call analysis.

File Name = AA003(3)L.xls
Data Set Name = AA003(3)L(CK. NO.)
Date & Time = 6/4/15 7:40 PM

**Xpod 90/95 Reached Anywhere?**
Classwidth @ 90/95 Xpod = 0.0560 inch
Lower Confidence Bound @ 95% = 0.9450 inch
Best LCL = 0.9050 inch
Classwidth @ Best LCL = 1.0000 inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =

**Xp, 90/95 POD**
MLE(Mean) POD =
MLE(95%) LCL =

**Xp** = 1.271 inch
Samples Needed @ Xp = 155

**Largest Classlength , XL** = 1.271 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 1.156 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
New Largest Classlength , 2XL =
Samples Needed @ 2XL =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

**False Call Rate =**
with UCL @ 95% =
Largest Classlength , XL =
Samples Needed @ XL =
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

CASE 2 - 90/95 Xpod is reached at a class length. Further validation is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 2.376 inch
False Call Rate = 0.000 with UCL @ 95%

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xicl = inch
Samples Needed @ Xicl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Directed DOE Options**


**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.1880 -0.100 inch

26 Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.188 inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh = 1.188 inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = 2.376 inch
Xm is Near Verification Point =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at longer class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses, and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

*The added class lengths are to be at the class length indicated or smaller in the class width indicated in the companion chart.*

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

*Although Xpod appears to have been reached at a point, there are Misses at longer class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

*The added class lengths are to be at the class length indicated or smaller in the class width indicated in the companion chart.*
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning: No false call analysis.**

<table>
<thead>
<tr>
<th>Class Length, inch</th>
<th>Probability of Hit (POH) in Class Range</th>
<th>Lower Confidence Limit, LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>1.000</td>
<td>0.000</td>
</tr>
<tr>
<td>0.10</td>
<td>0.900</td>
<td>0.100</td>
</tr>
<tr>
<td>0.20</td>
<td>0.800</td>
<td>0.200</td>
</tr>
<tr>
<td>0.30</td>
<td>0.700</td>
<td>0.300</td>
</tr>
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<td>0.40</td>
<td>0.600</td>
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<td>0.50</td>
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<td>0.400</td>
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<td>0.70</td>
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<td>0.90</td>
<td>0.100</td>
<td>0.900</td>
</tr>
<tr>
<td>1.00</td>
<td>0.000</td>
<td>1.000</td>
</tr>
</tbody>
</table>

**CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.**

- **Survey/Optimum Xpod** = 1.0850 inch
- **False Call Rate** = 0.008 inch
- **Samples** = 26

**Confidence Limits:**
- **Best LCL** = 0.8477 inch
- **Largest Classlength, XL** = 2.870 inch
- **Samples Needed @ XL** = 26
- **New Largest Classlength, 2XL** = 2.870 inch
- **Samples Needed @ 2XL** = 26
- **User's Maximum Allowed Classlength** = 0.9850 inch
- **New Smaller Classlength, Xss** = 0.901 inch
- **Largest Classlength, Xlcl** = 2.870 inch
- **Samples Needed @ Xlcl** = 26
- **Opt. POD classlength, Xpodopt** = 0.900 inch
- **Samples Needed @ Xpodopt** = 26
- **Classwidth @ Xp** = 0.900 inch
- **Classlength @ Xp** = 0.9850 inch

**File Name** = AC001(3)L.xls
**Data Set Name** = AC001(3)(CK. NO.)
**Date & Time** = 6/4/15 7:48 PM

**NOT REACHED**

- **Classwidth @ 90/95 Xpod** = inch
- **Classlength @ 90/95 Xpod** = inch
- **Lower Confidence Bound @ Best LCL** = inch
- **Best LCL** = 0.8477 inch
- **Classwidth @ Best LCL** = inch
- **Classlength @ Best LCL** = inch
- **Not Provided a 90/95 POD @ Xp** = inch
- **User's Maximum Allowed Classlength** = inch
- **New Smaller Classlength, Xss** = inch
- **POH Classlength, Xpoh** = inch
- **Xm is Near Verification Point** = inch
- **Opt. POD classlength, Xpodopt** = inch
- **XL** = inch
- **Samples Needed @ XL** = inch
- **Smallest Classlength, Xs** = inch
- **Classlength @ Xs** = inch
- **Smallest_classlength, Xs** = inch
- **New Smaller Classlength, Xss** = inch
- **POH Classlength, Xpoh** = inch
- **Best LCL Classlength, XLcl** = inch
- **Samples Needed @ XLcl** = inch
- **New Largest Classlength, 2XL** = inch
- **Xm is Near Verification Point** = inch
- **Opt. POD classlength, Xpodopt** = inch
- **XL** = inch

**NTIAC 90% POD** = 0.901 inch @ 0.445 inch
**NTIAC 90/95 POD** = 0.900 inch @ 0.670 inch

**Bottom Warning:**

- **Optimal POD classlength** = 0.900 inch
- **POH Classlength** = 0.900 inch
- **XL** = 2.870 inch
- **XL** = 2.870 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow the sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow the sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first. **Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement. **The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xp = 0.4980
False Call Rate = -0.004 inch
Samples = 23

NTIAC 90% POD = 0.900 @ 0.465 inch
NTIAC 90/95 POD = 0.901 @ 0.740 inch

Largest Classlength, XL = 1.435 inch
Samples Needed @ XL = 26
Classlength Midpoint, Xm = 0.740 inch
Samples Needed @ Xm = 23
Smallest Classlength, Xs = 0.465 inch
Samples Needed @ Xs = 23
New Smaller Classlength, Xss = 0.465 inch
Best LCL Classlength, Xlcl = 0.465 inch
Samples Needed @ Xlcl = 23
POH Classlength, Xpoh = 0.4980
Samples Needed @ Xpoh = 23
New Largest Classlength, 2XL = 2.870 inch
Xm is Near Verification Point = 0.465 inch
Opt. POD classlength, Xpodopt = 0.4980
Samples Needed @ Xpodopt = 23

File Name = AC002(3)L.xls
Data Set Name = AC002(3)(CK. NO.)
Date & Time = 6/4/15 7:49 PM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.7169
Best LCL = 0.0040
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Class Length Additional Samples

| XL | 1.435 | 26 |
| Xm | 0.498 | 23 |
| Xs | 2.870 | 29 |

**Alternate Xm**

**Alternate Xpoh**

**Alternate Xpod**

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Alternate Xm = Xpodopt =**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length,

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

Large flaw validation failure. Need 7 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

FILE NAME = AD001(3)L.xls
DATA SET NAME = AD001(3)(CK. NO.)
DATE & TIME = 6/4/15 7:52 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0290 inch
Classlength @ 90/95 Xpod = 0.3480 inch
Lower Confidence Bound = 0.9050 inch
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
POD @ Xpod = 1.0000
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xo =
Classwidth @ Xp = 1.562 inch
Classlength @ Xp = 1.119 inch

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh =
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.562 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 1.119 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.3480 inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.562 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 1.119 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.3480 inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.562 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 1.119 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.3480 inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.562 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 1.119 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.3480 inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.562 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 1.119 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.3480 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 7 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1 - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh = 0.000  inch  Samples

NTIAC  90%  POD  = 0.901  @ 0.185  inch
NTIAC  90/95  POD = 0.902  @ 0.240  inch

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 1.562  inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 1.119  inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

Warning:  No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in \( LCL < 0.90 \). Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 7 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.1610 - 0.003 inch
26 Samples

False Call Rate = with UCL @ 95%

Largest Classlength, XL = 1.562 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 1.119 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.190 inch
Samples Needed @Xpodopt = 23
Xp = 0.3480 inch

FILE NAME = AD003(3)L.xls
Data Set Name = AD003(3)L(CK. NO.)
Date & Time = 6/4/15 8:06 PM
REACHED
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod = 1.0000

4/2/15 8:06 PM
Active menu = 4/2/15 8:06 PM
Last menu = 4/2/15 8:06 PM
Active menu = 4/2/15 8:06 PM
Last menu = 4/2/15 8:06 PM
Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.705.

Note: Xpodopt is within one class width of Xpod.
Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL Xp
used to satisfy XL and Xm requirements. An alternate 90/95 Xpod
is available if Xpodopt or Optimum Xpoh (if listed) is also
satisfied.

Survey/Optimum Xpoh = 0.1780 -0.017 Inch 23 Samples
NTIAC 90% POD = 0.907 @ 0.185 Inch
NTIAC 90/95 POD = 0.907 @ 0.230 Inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.495 Inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.308 Inch
Samples Needed @ Xm =
Smallest Classlength , Xs =
New Smaller Classlength , Xss =
Best LCL Classlength , Xcl =
Samples Needed @ Xcl =
POH Classlength , Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.224 Inch
Samples Needed @ Xpodopt = 8
Xp = 0.2350 Inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Extend flaw size range to 0.801.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL when XM is satisfied. Xp used to satisfy XL requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.1820 -0.003 inch 26 Samples
NTIAC 90% POD = 0.943 @ 0.200 inch
NTIAC 90/95 POD = 0.932 @ 0.230 inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.495 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.381 inch
Samples Needed @ Xm = 29
Smallest Classlength , Xs =
Samples Needed @ Xs =
New Smaller Classlength , Xss =
BestLCL Classlength , Xlcl =
Samples Needed @ Xlcl =
POH Classlength , Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.253 inch
Samples Needed @ Xpodopt = 29
XL = 0.2670 inch
Xp = 0.495 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.705.
MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

Case 1: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh \( = 0.138 \) inch with UCL \( @ 95\% \) \( = 0.057 \) inch

False Call Rate = 0.1380 - 0.057

Opt. POD classlength, Xpodopt = 0.1380 inch

Analysis File name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xls
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ XP =
POD @ Xpod =

Largest Classlength , XL =
Samples Needed @ XL =
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Survey/Optimum Xpoh = 0.2100 -0.041 inch
False Call Rate = with UCL @ 95% =

False Call Rate = with UCL @ 95% =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternative target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

File Name = B1001BD.XLS
Data Set Name = B1001BD(CRK #)

Warning: No false call analysis.

NOT REACHED

Xpod 90/95 Reached Anywhere?
Class Length, @ 90/95 Xpod = inch
Classwidth, @ 90/95 Xpod = inch
Lower Confidence Bound = 0.0380 inch
Best LCL = 0.0630 inch
Classwidth, @ Best LCL = inch
Classlength, @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
POD @ Xpod =

Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

POD @ Xp =

 Compared with UCL @ 95% =
Largest Classlength, XL = 0.210 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = 0.420 inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Practical Information:
- File Name: B1001BD.XLS
- Data Set Name: B1001BD(CRK #)
- Date & Time: 6/4/15 8:15 PM
- POD of 90/95 Xpod reached anywhere?
- Class Length, @ 90/95 Xpod = inch
- Classwidth, @ 90/95 Xpod = inch
- Lower Confidence Bound = 0.0380 inch
- Best LCL = 0.0630 inch
- Classwidth, @ Best LCL = inch
- Classlength, @ Best LCL = inch
- User Provided a 90/95 POD @ = inch
- User's Maximum Allowed Classlength = inch
- POD @ Xpod =

- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- POH Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL = 0.420 inch

- Compared with UCL @ 95% =
- Largest Classlength, XL = 0.210 inch
- Samples Needed @ XL = 28
- Classlength Mid-point, Xm =
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- POH Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL = 0.420 inch
- Xm is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

<table>
<thead>
<tr>
<th>Table C</th>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.210</td>
<td>28</td>
</tr>
<tr>
<td>Xm</td>
<td>0.210</td>
<td>28</td>
</tr>
<tr>
<td>Xs</td>
<td>0.420</td>
<td>29</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed:

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.210</td>
<td>28</td>
</tr>
<tr>
<td>0.420</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed:

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.210</td>
<td>28</td>
</tr>
<tr>
<td>0.420</td>
<td>29</td>
</tr>
</tbody>
</table>
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

#### Case 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

<table>
<thead>
<tr>
<th>Survey/Optimum Xpoh</th>
<th>0.3700 inch</th>
<th>28 Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTIAC 90% POD</td>
<td>0.900 inch</td>
<td>@</td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
<td>@ 0.400 inch</td>
<td></td>
</tr>
<tr>
<td>False Call Rate</td>
<td>with UCL @ 95%</td>
<td></td>
</tr>
<tr>
<td>Largest Classlength, XL</td>
<td>2.403 inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Classlength Mid-point, Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best LCL Classlength, Xlcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xlcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POD Classlength, Xpoh</td>
<td>1.277 inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpoh</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>New Largest Classlength, 2XL</td>
<td>4.806 inch</td>
<td></td>
</tr>
<tr>
<td>Xn is Near Verification Point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xp</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| File Name | B1001BL.XLS |
| Data Set Name | B1001BL(CRK #) |
| Date & Time | 6/4/15 8:17 PM |
| Xpod 90/95 Reached Anywhere? | NOT REACHED |
| Classwidth @ 90/95 Xpod | inch |
| Classwidth @ Best LCL | 0.8719 inch |
| Classlength @ Best LCL | 0.0530 inch |
| Classlength @ 90/95 Xpod | 0.2340 inch |
| User Provided a 90/95 POD @ | |
| User's Maximum Allowed Classlength | |
| Inspector Classwidth @ Xp | |
| POD @ Xp | |

#### Diagram

![Diagram showing probability of hit (POH), lower confidence limit (LCL), and class length](image-url)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 6 more large flaws.

Warning: No false call analysis.

Probability of Hit (POH), Lower Confidence Limit, LCL

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Classlength @ 90/95 Xpod
Lower Confidence Bound
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD @
User's Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xpod

Best LCL Classlength, Xlcl

Largest Classlength, XL = 0.210 inch
New Smaller Classlength, Xss = inch
Small Smaller Classlength, Xs = inch
Old Smaller Classlength, Xss = inch
Sampling at New Smaller Classlength, Xs =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
New Largest Classlength, 2XL = inch
Classwidth Mid-point, Xm = 0.117 inch
Smallest Classlength, Xs = inch
Samples Needed @ Xm = 14
Xm is Near Verification Point
Classwidth @ Best LCL =
Classwidth @ Best LCL =

Classwidth @ Xp = 0.9783

NTIAC 90% POD @
NTIAC 90/95 POD =
False Call Rate = with UCL @ 95% =
Largest classlength, XL = 0.210 inch
Samples Needed @ XL = 23
Classlength Mid-point, Xm = 0.117 inch
Samples Needed @ Xm = 14
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =

Survey/Optimum Xpoh = 0.000 Inch Samples
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Alternate Xm = Xpodopt**

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in order to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in order to achieve the Xpod listed.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

Large flaw validation failure. Need 20 more large flaws.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 2.403 inch
Samples Needed @ Xpoh = 28

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 2.403 inch
Samples Needed @ XL = 24
Classlength Mid-point , Xm = 1.603 inch
Samples Needed @ Xm = 28
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength , Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

File Name = B1001CL.XLS
Data Set Name = B1001CL(CRK #)

Classwidth @ 90/95 Xpod = 0.370 inch
Classwidth @ 90/95 Xpod = 0.900 inch
Classlength @ 90/95 Xpod = 0.240 inch
Classlength @ 90/95 Xpod = 0.900 inch
Lower Confidence Bound = 0.0630 inch
Lower Confidence Bound = 0.900 inch
Best LCL =
Best LCL =
Classwidth @ Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User Provided a 90/95 POD =
POD @ Xp = 1.0000
POD @ Xp =

Xp = 2.403 inch
XL = 2.403 inch
Xm = 1.603 inch
Xs = inch
Xss = inch
Xpoh =
Xlcl =
POH =
XL =
Xpodopt =
X =

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod Class Length</td>
<td>No. Need</td>
</tr>
</tbody>
</table>

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

| XL | 0.210 | 28 |
| Xm | 0.156 | 26 |
| Xs | 0.420 | 29 |

**Alternate Xm = Xpodopt =**

---

**Directed DOE Options**

File Name = B1003AD.xls
Data Set Name = B1003AD(CRK #)

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

File Name = B1003AL.XLS
Data Set Name = B1003AL(CRK #)

Date & Time = 6/4/15 8:22 PM

REACHED

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.0590 inch
Classlength @ 90/95 Xpod = 0.2340 inch
Lower Confidence Bound = 0.9001 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = inch
User’s Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

- **TABLE A**
  - Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.
  - Xpod, Class Length, No. Need

- **TABLE B**
  - Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.
  - Xpod, Class Length, No. Need

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.210</td>
</tr>
<tr>
<td>Xm</td>
<td>0.420</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

Xpodopt =

**File Name =** B1003BD.XLS

**Data Set Name =** B1003BD(CRK # )
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTIAC 90% POD</td>
<td>0.911</td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
<td>0.908</td>
</tr>
<tr>
<td>False Call Rate</td>
<td>0.000</td>
</tr>
<tr>
<td>Xpod 90/95 Reached Anywhere?</td>
<td>REACHED</td>
</tr>
<tr>
<td>Classwidth @ 90/95 Xpod</td>
<td>0.0590 inch</td>
</tr>
<tr>
<td>Classlength @ 90/95 Xpod</td>
<td>0.2340 inch</td>
</tr>
<tr>
<td>Lower Confidence Bound @ 95%</td>
<td>0.9001 inch</td>
</tr>
<tr>
<td>Best LCL</td>
<td>inch</td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
<td>inch</td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
<td>inch</td>
</tr>
<tr>
<td>User Provided a 90/95 POD</td>
<td>inch</td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
<td>inch</td>
</tr>
<tr>
<td>Inspector Classwidth @ Xp</td>
<td>1.0000 inch</td>
</tr>
<tr>
<td>POD @ Xp</td>
<td>0.000 inch</td>
</tr>
<tr>
<td>POD @ Xpoh</td>
<td>0.000 inch</td>
</tr>
<tr>
<td>POD @ Xpodopt</td>
<td>0.000 inch</td>
</tr>
<tr>
<td>False Call Rate @ with UCL @ 95%</td>
<td>inch</td>
</tr>
<tr>
<td>Largest Classlength , XL</td>
<td>2.403 inch</td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td>27</td>
</tr>
<tr>
<td>Classlength Mid-point , Xm</td>
<td>1.603 inch</td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
<td>28</td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xss</td>
<td>inch</td>
</tr>
<tr>
<td>Best LCL Classlength, Xcl</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xcl</td>
<td></td>
</tr>
<tr>
<td>POH Classlength, Xpoh</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xpoh</td>
<td></td>
</tr>
<tr>
<td>New Largest Classlength, 2XL</td>
<td>inch</td>
</tr>
<tr>
<td>Xn is Near Verification Point</td>
<td>inch</td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td>inch</td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td></td>
</tr>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm is Near Verification Point</td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory.  This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90.  Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points.  Only largest 4 class lengths are shown 

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.1443 inch
False Call Rate = 0.002 inch

Analysis File Name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 19 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

File Name = B1003CL.XLS
Data Set Name = B1003CL(CRK #)
Date & Time = 6/4/15 8:27 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0590 inch
Classlength @ 90/95 Xpod = 0.901
Lower Confidence Bound = 0.9001 inch
Best LCL = 0.2340 inch
Classwidth @ Best LCL = 0.9001 inch
Classlength @ Best LCL = 0.9001 inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod = 1.0000

NTIAC 90% POD =
NTIAC 90/95 POD =
False Call Rate = with UCL @ 95%
Largest Classlength, XL =
Samples Needed @ XL =
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Survey/Optimum Xpoh = 0.000 Inch Samples
Samples Needed @ Xpoh =

| Analysis file name: DOEPOD v.1.2.01.PC.Office2010.Wi7.xlsm | 254 |
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

#### TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Xm</td>
<td>1.603</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.*

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.*

---

File Name = B1003CL.XLS
Data Set Name = B1003CL(CRK # )

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**Alternate Xm = Xpodopt**
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.1898 inch
Samples Needed = 28

False Call Rate = with UCL @ 95% =

- Largest Classlength, XL = 0.257 inch
- Samples Needed @ XL = 24
- Classlength Mid-point, Xm = inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs =
- New Smaller Classlength, Xss = inch
- BestLCL Classlength, Xlcl = inch
- Samples Needed @ Xlcl =
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt =
- POH Classlength, Xpoh = 0.257 inch
- Samples Needed @ Xpoh = 24
- New Largest Classlength, 2XL = 0.515 inch
- Xn is Near Verification Point =
- POD @ Xn = inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.30942.

Warning: No false call analysis.

**CASE 1**: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

Survey/Optimum Xpoh = 0.0634 - 0.001 inch
Samples = 27

NTIAC 90% POD = 0.900 @ 0.045 inch
NTIAC 90/95 POD = 0.903 @ 0.070 inch

False Call Rate = with UCL @ 95%

Largest Classlength, XL = 0.257 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
Samples Needed @ Xboh = 0.063 inch
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

File Name = B2003.XLS
Data Set Name = B2003(HOLE #)
Date & Time = 6/4/15 8:31 PM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp =
POD @ Xp =

User Provided a 90/95 POD @ =
Xp, 90/95 POD =
MLE(Mean) POD =
MLE(95%) LCL =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

<table>
<thead>
<tr>
<th>Table A*</th>
<th>Table B*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</td>
<td>Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Xl</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpod</th>
<th>2XL</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.257</td>
<td>28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.063</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

**Survey/Optimum Xpoh =**

- **NTIAC 90% POD =** 0.903 @ 0.240 inch
- **NTIAC 90/95 POD =**

**False Call Rate =**

- **Largest Classlength , XL =** inch
- **Samples Needed @ XL =** inch
- **Classlength Mid-point , Xm =** inch
- **Samples Needed @ Xm =** inch
- **Smallest Classlength , Xs =** inch
- **Samples Needed @ Xs =** inch
- **New Smaller Classlength , Xss =** inch
- **BestLCL Classlength, Xcl =** inch
- **Samples Needed @ Xcl =** inch
- **POH Classlength, Xpoh =** inch
- **Samples Needed @ Xpoh =** inch
- **New Largest Classlength , 2XL =** inch
- **Xm is Near Verification Point =** inch
- **Opt. POD classlength, Xpodopt =** inch
- **Samples Needed @Xpodopt =** inch
- **Xp =** inch

**MLE Divergence Warning: Initial results listed.**

**Warning: No false call analysis.**
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* **Alternate Xm = Xpodopt

**TABLE A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xl</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>0.180</td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td>Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No Misses Observed □ At Least One Miss Occurred ▲ XL ○ Xm ◇ Xs □ Xss ▲ Xlcl ▲ Xpoh ▲ 2XL ▲ Xpod ▲ Xpodopt
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

File Name = B30012.XLS
Data Set Name = B30012(HOLE #)
Date & Time = 6/4/15 8:34 PM
Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod inch
Classlength @ 90/95 Xpod inch
Lower Confidence Bound @ 95%
Best LCL = 0.0855 inch
Classwidth @ Best LCL = 0.0230 inch
Classlength @ Best LCL = 0.0902 inch
User Provided a 90/95 POD @ inch
User’s Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Warning: No false call analysis.

Largest Classlength , XL = 0.090 inch
Samples Needed @ XL = 4
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = 0.090 inch
Samples Needed @ Xlcl = 4
POH Classlength, Xpoh = 0.090 inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = 0.180 inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =
Xp = inch

Survey/Optimum Xpoh = 0.0681 inch with UCL @ 95%
28 Samples

NTIAC 90% POD = 0.908 @ 0.075 inch
NTIAC 90/95 POD = 0.905 @ 0.095 inch

False Call Rate =

Probability of Hit (POH) in Class Range
Lower Confidence Bound @ 95%
Hit/Miss
Xp, 90/95 POD
MLE(Mean) POD
MLE(95%) LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

### File Name
84001L.XLS

### Data Set Name
84001L(Mpi-d)

### Date & Time
6/4/15 8:36 PM

### Xpod 90/95 Reached Anywhere?
NOT REACHED

<table>
<thead>
<tr>
<th>POD @ Xpod</th>
<th>inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>mLE(95%) LCL</td>
<td>0.0623</td>
</tr>
<tr>
<td>Best LCL</td>
<td>0.0010</td>
</tr>
</tbody>
</table>

### Class Range

<table>
<thead>
<tr>
<th>Class Length @ 90/95 Xpod</th>
<th>inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best LCL</td>
<td>0.4729</td>
</tr>
</tbody>
</table>

### POD @ Xpod

<table>
<thead>
<tr>
<th>POD @ Xpod</th>
<th>inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLE(95%) LCL</td>
<td>0.082</td>
</tr>
</tbody>
</table>

### Warning: No false call analysis.

### Survey/Optimum Xpod

<table>
<thead>
<tr>
<th>Optimum Xpoh Available; Using Best LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTIAC 90% POD</td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
</tr>
<tr>
<td>False Call Rate</td>
</tr>
<tr>
<td>with UCL @ 95%</td>
</tr>
<tr>
<td>Largest Classlength, XL</td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
</tr>
<tr>
<td>Classlength Mid-point, Xm</td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
</tr>
<tr>
<td>New Smaller Classlength, Xss</td>
</tr>
<tr>
<td>BestLCL Classlength, Xlcl</td>
</tr>
<tr>
<td>Samples Needed @ Xlcl</td>
</tr>
<tr>
<td>Samples Needed @ Xpoh</td>
</tr>
<tr>
<td>Opt, POD classlength, Xpodopt</td>
</tr>
<tr>
<td>New Largest Classlength, 2XL</td>
</tr>
<tr>
<td>Xn is Near Verification Point</td>
</tr>
<tr>
<td>Xp =</td>
</tr>
</tbody>
</table>
Although $X_{pod}$ appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the $X_{pod}$ listed.

<table>
<thead>
<tr>
<th>$X_{l}$</th>
<th>$X_{m}$</th>
<th>$X_{s}$</th>
<th>$X_{ss}$</th>
<th>$X_{poh}$</th>
<th>2$X_{L}$</th>
<th>$X_{poh}$</th>
<th>$X_{poh opt}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.342</td>
<td>0.082</td>
<td>28</td>
<td>26</td>
<td>0.342</td>
<td>0.082</td>
<td>28</td>
<td>26</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the $X_{pod}$ listed.

<table>
<thead>
<tr>
<th>$X_{l}$</th>
<th>$X_{m}$</th>
<th>$X_{s}$</th>
<th>$X_{ss}$</th>
<th>$X_{poh}$</th>
<th>2$X_{L}$</th>
<th>$X_{poh}$</th>
<th>$X_{poh opt}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.342</td>
<td>0.082</td>
<td>28</td>
<td>26</td>
<td>0.342</td>
<td>0.082</td>
<td>28</td>
<td>26</td>
</tr>
</tbody>
</table>
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternative target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL 0.979</td>
<td></td>
</tr>
<tr>
<td>Xm 0.710</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

| Xpodopt | 0.537 | 29 |

---

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE A**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE B**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

- Xpod, Class Length, No. Need
- Xpod, Class Length, No. Need

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

File Name = C1001CL.XLS

Data Set Name = C1001CL(CRACK #)
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 13 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh =

\[ \text{False Call Rate } = \frac{\text{NTIAC 90% POD} \times \text{UCL @ 95%}}{\text{Samples}} \]

\[ \text{NTIAC 90% POD} = 0.904 \times 0.080 \text{ inch} \]
\[ \text{NTIAC 90/95 POD} = 0.903 \times 0.105 \text{ inch} \]

\[ \text{False Call Rate } = \frac{0.979 \text{ inch}}{0.342 \text{ inch}} \]

\[ \frac{\text{Largest Classlength, XL}}{\text{Samples Needed @ XL}} = 0.979 \text{ inch} \]
\[ \frac{\text{Classlength Mid-point, Xm}}{\text{Samples Needed @ Xm}} = 0.342 \text{ inch} \]
\[ \frac{\text{Smallest Classlength, Xs}}{\text{Samples Needed @ Xs}} = \text{inch} \]
\[ \frac{\text{New Smaller Classlength, Xss}}{\text{Samples Needed @ Xss}} = \text{inch} \]
\[ \frac{\text{Best LCL Classlength, Xlcl}}{\text{Samples Needed @ Xlcl}} = \text{inch} \]
\[ \frac{\text{POH Classlength, Xpoh}}{\text{Samples Needed @ Xpoh}} = \text{inch} \]
\[ \frac{\text{Opt. POD classlength, Xpodopt}}{\text{Samples Needed @ Xpodopt}} = \text{inch} \]
\[ \frac{\text{New Largest Classlength, 2XL}}{\text{Xm is Near Verification Point}} = \text{inch} \]
\[ \frac{\text{Xn is Near Verification Point}}{\text{Opt. POD classlength, Xpodopt}} = \text{inch} \]
\[ \frac{\text{Xp}}{\text{2.610 inch}} = \text{inch} \]
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 13 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Case 1: 90/95 Xp is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh = 0.000 Inch with UCL @ 95% = 0.110 Inch

False Call Rate =

- Largest Classlength, XL = 0.979 Inch
- Samples Needed @ XL = 543
- Classlength Mid-point, Xm = 0.543 Inch
- Samples Needed @ Xm = 17
- Smallest Classlength, Xs = 0.000 Inch
- Samples Needed @ Xs = 2
- New Smaller Classlength, Xss = 0.000 Inch
- Best LCL Classlength, Xlcl = 0.508 Inch
- Samples Needed @ Xlcl = 2
- POH Classlength, Xpoh = 0.901 Inch
- Samples Needed @ Xpoh = 2
- New Largest Classlength, 2Xl = 0.901 Inch
- Xm is Near Verification Point = 0.051 Inch
- Opt. POD classlength, Xpodopt = 0.543 Inch
- Samples Needed @ Xpodopt = 13

POH Classlength, Xpoh = 0.901 Inch

XL is Near Verification Point = 0.051 Inch

XL is Near Verification Point = 0.051 Inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

TABLE A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xlcl = 0.979</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.543</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

TABLE B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xlcl = 0.979</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.543</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 4 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Xpod 90/95 Reached Anywhere?</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/4/15 8:51 PM</td>
<td>REACHED</td>
</tr>
</tbody>
</table>

Classwidth @ 90/95 Xpod = 0.0860 inch
Lower Confidence Bound = 0.0800 inch
Hit/Miss

Survey/Optimum Xpoh = 0.913 @ 0.020 inch
False Call Rate = with UCL @ 95% =

- Largest Classlength , XL = 0.610 inch
- Samples Needed @ XL =
- Classlength Midpoint , Xm = 0.262 inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xcl =
- Samples Needed @ Xcl =
- POH Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL =
- Xm is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @Xpodopt =

Opt. POD classlength, Xpodopt = 0.0860 inch

Best LCL =

MLE Divergence Warning: initial results listed.

Warning: No false call analysis.

280
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses, and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to satisfy XL requirements. Further VALIDATION is required.
Recommend satisfying Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in T.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Detection Probability

(Utilization of DOEPOD results requires approval of Engineering Authority)

**Large flaw validation failure. Need 5 more large flaws.**

**Any highlighted Misses are RED and shown in Column A of this data sheet**


---

### File Name

| C1003CL.XLS |

### Data Set Name

| C1003CL (CRACK #) |

### Date & Time

6/4/15 8:57 PM

### Xpod 90/95 Reached Anywhere?

REACHED

### Classwidth @ 90/95 Xpod

0.0130

### Classlength @ 90/95 Xpod

0.0800

### Lower Confidence Bound @ 95%

0.9001

### Classlength @ 95% LCL

0.9001

### Classwidth @ Best LCL

0.9001

### Classlength @ Best LCL

0.9001

### User Provided a 90/95 POD @

POD @ Xp = 0.9783

### User's Maximum Allowed Classlength

inch

### Inspector Classwidth @ Xo =

inch

### Best LCL Classlength, Xlcl =

inch

### POH Classlength, Xpoh =

inch

### Largest Classlength , XL =

inch

### New Larger Classlength , 2XL =

inch

### Smallest Classlength, Xs =

inch

### New Smaller Classlength, Xss =

inch

### Smallest Classlength, Xs =

inch

### Samples Needed @ Xs =

inch

### Samples Needed @ Xs =

inch

### Opt. POD classlength, Xpodopt =

inch

### Samples Needed @Xpodopt =

inch

### Xp =

0.0860

### Xm is Near Verification Point =

### NTIAC 90% POD =

0.918

### NTIAC 90/95 POD =

0.908

### False Call Rate =

0.000 with UCL @ 95% =

False Call Rate =

0.000

### Survey/Optimum Xpoh =

0.000

### Error Call Rate:

0.000

### Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached, Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists, Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

### Analysis file name:

DOEPOD_v1.2.01_PC.Office2010.Win7.xlsm

---

**Probable of Hit (POH) in Class Range**

- Probability of Hit (POH) in Class Range
- Lower Confidence Bound @ 95%
- Hit/Miss
- Xp, 90/95 POD
- MLE(Mean) POD
- MLE(95%) LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 1.602.

Warning: No false call analysis.

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpod = 0.1570 -0.007 Inch 28 Samples
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.550 Inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.538 Inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.288 Inch
Samples Needed @Xpodopt = 28
Xp = 0.5380 Inch

File Name = C2002BL.XLS
Data Set Name = C2002BL(CRACK #)
Date & Time = 6/4/15 9:02 PM
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod = 1.0000
Hit/Miss =

Probability of Hit (POH), Lower Confidence Limit, LCL
Class Length,
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Large flaw validation failure. Extend flaw size range to 1.422.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

<table>
<thead>
<tr>
<th>Survey/Optimum Xpod =</th>
<th>0.000 inch</th>
<th>0.000 inch</th>
<th>Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTIAC 90% POD =</td>
<td>0.902</td>
<td>0.220 inch</td>
<td></td>
</tr>
<tr>
<td>NTIAC 90/95 POD =</td>
<td>0.901</td>
<td>0.385 inch</td>
<td></td>
</tr>
<tr>
<td>False Call Rate =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with UCL @ 95% =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Largest Classlength , XL =</td>
<td>0.550 inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ XL =</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Classlength Mid-point , Xm =</td>
<td>0.496 inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xm =</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Smallest Classlength , Xs =</td>
<td>0.474 inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xs =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength , Xss =</td>
<td>0.220 inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best LCL Classlength , Xlcl =</td>
<td>0.900 inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xlcl =</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POD Classlength , Xpoh =</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength , Xpodopt =</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt =</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the P0H function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although $X_{pod}$ appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in $LCL$ below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_{m}$ requirement removes the need to meet the adjacent $X_{m}$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Extend flaw size range to 0.585.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to satisfy XL requirements. Further VALIDATION is required. Recommend satisfying Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in T.

Survey/Optimum Xpoh = 0.000 / 0.000 Inch
False Call Rate = 0.000

No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**Alternate Xm = Xpodopt**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Survey/Optimum Xpoh = 0.2400 ± 0.004 inch
26 Samples

NTIAC 90% POD = 0.901 @ 0.140 inch
NTIAC 90/95 POD = 0.901 @ 0.325 inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.407 inch
Samples Needed @ XL = 23

Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =

Best LCL Classlength, Xlcl = 0.325 inch
Samples Needed @ Xlcl = 6
POH Classlength, Xpoh = 0.324 inch
Samples Needed @ Xpoh = 7

New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

0.901
0.901
0.140
0.325
0.325
26

Warning: No false call analysis.
Although $X_{pod}$ appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to satisfy XL requirements. Further VALIDATION is required. Recommend satisfying Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in T.

Survey/Optimum Xpoh = 0.000 Inch Samples

<table>
<thead>
<tr>
<th>NTIAC 90% POD</th>
<th>NTIAC 90/95 POD</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.907 @ 0.120 Inch</td>
<td>0.901 @ 0.165 Inch</td>
</tr>
</tbody>
</table>

False Call Rate = 0.000 with UCL @ 95% =

- Largest Classlength, XL = 0.407 Inch
- Samples Needed @ XL =
- Classlength Mid-point, Xm = 0.300 Inch
- Smallest Classlength, Xs = 17 Inch
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- Opt. POD classlength, Xpodopt =
- New Largest Classlength, 2XL =
- Xm is Near Verification Point =
- Samples Needed @ Xpodopt =

Xp = 0.3150 Inch

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 0.37. Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Large flaw validation failure. Extend flaw size range to 0.648.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.0970 inch
False Call Rate = 0.0970 - 0.001 inch

NTIAC 90% POD = 0.916 @ 0.080 inch
NTIAC 90/95 POD = 0.905 @ 0.100 inch

File Name = C3002CL.XLS
Data Set Name = C3002CL(CRK #)
Date & Time = 6/4/15 9:11 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0340 inch
Classlength @ 90/95 Xpod = 0.2160 inch
Lower Confidence Bound = 0.9001
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

Largest Classlength, XL = 0.407 inch
Samples Needed @ XL = 302
Classlength Mid-point, Xm = 0.265 inch
Samples Needed @ Xm = 28
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.130 inch
New Smaller Classlength, Xss = 0.407 inch
Samples Needed @ Xpodopt = 15
Classwidth @ 90/95 Xpod = 0.0340 inch
Classlength @ 90/95 Xpod = 0.2160 inch
Lower Confidence Bound = 0.9001
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Extend flaw size range to 0.786.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 0.786.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Large flaw validation failure. Extend flaw size range to 0.786.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.000 inch Samples
NTIAC 90% POD = 0.902 @ 0.155 inch
NTIAC 90/95 POD = 0.900 @ 0.305 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.407 inch
Samples Needed @ XL = 58
Classlength Mid-point , Xm = 0.300 inch
Samples Needed @ Xm = 18
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch

Class Length, inch
Probability of Hit (POH), Lower Confidence Bound at 95%
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

Survey/Optimum Xpoh = 0.0858 - 0.007 Inch

28 Samples

False Call Rate = 0.0858 with UCL @ 95% = 0.085

Optimum Xpoh Available; Using Best LCL

Opt: POD classlength, Xpodopt

With POD @ Xpod =

XL = 0.257 inch

Samples Needed @ XL = 28

Xm is Near Verification Point = 0.085 inch

Opt: POD classlength, Xpodopt

Samples Needed @ Xpodopt =

Xp = 0.007 inch

- Warning: No false call analysis.

CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

Survey/Optimum Xpoh = 0.0858 - 0.007 Inch

28 Samples

False Call Rate = 0.0858 with UCL @ 95% = 0.085

Optimum Xpoh Available; Using Best LCL

Opt: POD classlength, Xpodopt

With POD @ Xpod =

XL = 0.257 inch

Samples Needed @ XL = 28

Xm is Near Verification Point = 0.085 inch

Opt: POD classlength, Xpodopt

Samples Needed @ Xpodopt =

Xp = 0.007 inch

- Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.257</td>
<td>28</td>
</tr>
<tr>
<td>0.086</td>
<td>27</td>
</tr>
</tbody>
</table>

**Alternate Xm = |

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

- **No Misses Observed**
- **At Least One Miss Occurred**

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. The needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

---

### Table A: Selected class lengths with existing misses.
- Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>24</td>
</tr>
<tr>
<td>0.05</td>
<td>27</td>
</tr>
<tr>
<td>0.10</td>
<td>28</td>
</tr>
<tr>
<td>0.15</td>
<td>29</td>
</tr>
<tr>
<td>0.20</td>
<td>30</td>
</tr>
<tr>
<td>0.25</td>
<td>31</td>
</tr>
<tr>
<td>0.30</td>
<td>32</td>
</tr>
</tbody>
</table>

### Table B: Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>24</td>
</tr>
<tr>
<td>0.05</td>
<td>27</td>
</tr>
<tr>
<td>0.10</td>
<td>28</td>
</tr>
<tr>
<td>0.15</td>
<td>29</td>
</tr>
<tr>
<td>0.20</td>
<td>30</td>
</tr>
<tr>
<td>0.25</td>
<td>31</td>
</tr>
<tr>
<td>0.30</td>
<td>32</td>
</tr>
</tbody>
</table>

### Directed DOE Options
- No Misses Observed
- At Least One Miss Occurred
- XL
- Xm
- Xs
- Xss
- Xlcl
- Xpod
- 2XL
- Xpodopt

---

**Alternate Xm** = Xpodopt
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Alternate Xm = Xpodopt

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

File Name = C400014.XLS
Data Set Name = C400014(Hole #)
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = best LCL = 0.8855 inch
Classwidth @ best LCL = inch
Classlength @ best LCL = inch
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Classwidth @ 90/95 Xpod = 0.8855 inch
Classlength @ 90/95 Xpod = 0.0230 inch
User Provided a 90/95 POD = 0.0902 inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = 0.090 inch
POD @ Xpod =

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Survey/Optimum Xpoh = 0.081 inch
Samples Needed @ Xpoh = 28

NTIAC 90% POD = 0.900 @ 0.085 inch
NTIAC 90/95 POD = 0.932 @ 0.110 inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.090 inch
Samples Needed @ XL = 4
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = 0.090 inch
Samples Needed @ Xlcl = 4
POH Classlength, Xpoh = 0.090 inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = 0.180 inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

Analysis File name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited miss and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>0.131</td>
<td>29</td>
</tr>
</tbody>
</table>

****Alternate Xm = Xpodopt = 0.131

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Number of Additional Samples Needed**

- No Misses Observed
- At Least One Miss Occurred
- XL
- Xm
- Xs
- Xss
- Xlcl
- Xpoh
- 2XL
- Xpod
- Xpodopt

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

**Warning:** No false call analysis.

- **NTIAC 90% POD** = @ inch
- **NTIAC 90/95 POD** = @ inch
- **False Call Rate** = with UCL @ 95% =
  - Largest Classlength, XL = 2.403 inch
  - Samples Needed @ XL = 28
  - Classlength Mid-point, Xm = inch
  - Samples Needed @ Xm = inch
  - Smallest Classlength, Xs = inch
  - Samples Needed @ Xs = inch
  - New Smaller Classlength, Xss = inch
  - BestLCL Classlength, Xlcl = inch
  - Samples Needed @ Xlcl = inch
  - POD Classlength, Xpoh = 1.603 inch
  - Samples Needed @ Xpoh = 28
  - New Largest Classlength, 2XL = 4.806 inch
  - Xm is Near Verification Point = inch
  - Opt. POD classlength, Xpodopt = inch
  - Samples Needed @ Xpodopt = inch

**Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)**

- **POH in Class Range**
- **Lower Confidence Limit, LCL**
- **Probability of Hit (POH)**

**Survey/Optimum Xpoh** = 1.6030 -0.300 inch 28 Samples
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Xm</td>
<td>1.603</td>
</tr>
<tr>
<td>Xs</td>
<td>4.806</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod</td>
<td>28</td>
</tr>
</tbody>
</table>

---

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length, Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.603</td>
</tr>
</tbody>
</table>

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.*
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

<table>
<thead>
<tr>
<th>TABLE C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Length</td>
</tr>
<tr>
<td>XL =</td>
</tr>
<tr>
<td>Xm =</td>
</tr>
<tr>
<td>Xs =</td>
</tr>
<tr>
<td>Xss =</td>
</tr>
<tr>
<td>Xlcl =</td>
</tr>
<tr>
<td>Xpoh =</td>
</tr>
<tr>
<td>2XL =</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

<table>
<thead>
<tr>
<th>TABLE A*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE B*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.</td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 2: 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.

Large flaw validation failure. Need 20 more large flaws.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses, and resulted in LCL below 0.90. Only largest four class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest four class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the missingness be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 19 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.
MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

File Name = C6002BL.XLS
Data Set Name = C6002BL(CRK #)
Date & Time = 6/4/15 9:35 PM

- Xp, 90/95 Reached Anywhere?
- Class Length @ 90/95 Xp
- Lower Confidence Bound
- Class Width @ 90/95 Xp
- Class Length @ Best LCL
- Class Width @ Best LCL
- User Provided a 90/95 POD @
- User's Maximum Allowed Class Length
- Inspector Class Width @ Xp
- POD @ Xp
- Probability of Hit (POH)
- Lower Confidence Limit, LCL
- Probability of Hit (POH) in Class Range
- Lower Confidence Bound @ 95%
- Hit/Miss
- Xp, 90/95 POD
- MLE(Mean) POD
- MLE(95%) LCL

CASE 1: 90/95 Xp is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh =

- NTIAC 90% POD = 0.907 @ 0.060 inch
- NTIAC 90/95 POD = 0.902 @ 0.080 inch

False Call Rate =

- with UCL @ 95% =
  - Largest Class Length, XL = 2.403 inch
  - Samples Needed @ XL =
  - Class Length Mid-point, Xm = 1.603 inch
  - Samples Needed @ Xm =
  - Smallest Class Length, Xs =
  - Samples Needed @ Xs =
  - New Smaller Class Length, Xss =
  - BestLCL Class Length, Xcl =
  - Samples Needed @ Xcl =
  - POH Class Length, Xpoh =
  - Samples Needed @ Xpoh =
  - New Largest Class Length, 2XL =
  - Xn is Near Verification Point =
  - Opt. POD class length, Xpodopt =
  - Samples Needed @Xpodopt =
  - Xp = 0.1800 inch

Large flaw validation failure. Need 19 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.403</td>
<td>1.603</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod</th>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.403</td>
<td>C6002BL(CRK #)</td>
<td>C6002BL.XLS</td>
</tr>
</tbody>
</table>

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Number of Additional Samples Needed</th>
<th>XL =</th>
<th>Xm =</th>
<th>Xs =</th>
<th>Xss =</th>
<th>Xlcl =</th>
<th>Xpoh =</th>
<th>2XL =</th>
<th>Xpod =</th>
<th>Xpodopt =</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>2.403</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.000</td>
<td></td>
<td>1.603</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Large flaw validation failure. Need 20 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 19 more large flaws.

Warning: No false call analysis.

CASE 2: 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 2 - 90/95 Xpod is reached at a class length, Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.

Large flaw validation failure. Need 19 more large flaws.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

---

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

---

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Detection Probability
(Utilization of DOPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

Large flaw validation failure. Need 19 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

<table>
<thead>
<tr>
<th>Xp, 90/95 POD</th>
<th>MLE(Mean) POD</th>
<th>MLE(95%) LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.403 inch</td>
<td>1.603 inch</td>
<td>1.0000 inch</td>
</tr>
</tbody>
</table>

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

### Graphical Representation
- **Class Length, inch** vs **Probability of Hit (POH) in Class Range**
- **Probability of Hit (POH) in Class Range**
- **Lower Confidence Bound @ 95%**
- **Hit/Miss**
- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

Survey/Optimum Xp = 0.0881 ± 0.004 inch  28 Samples

NTIAC 90% POD = 0.963 ± 0.215 inch
NTIAC 90/95 POD = 0.901 ± 0.360 inch

False Call Rate = 0.081 - 0.004 with UCL @ 95% = 0.888 inch

Largest Classlength , XL = 0.342 inch  28 Samples
Opt. POD classlength, Xpodopt = 0.342 inch

User Provided a 90/95 POD @ Xp = 0.5493 inch
POD @ Xp = 0.0881 ± 0.004 inch

Classwidth Mid-point , Xm = 0.215 inch  28 Samples
New Smaller Classlength, Xss = 0.0040 inch
New Largest Classlength , 2XL = 0.215 inch

Classwidth @ 90/95 Xpod = 0.360 inch
Lower Confidence Boundary @ 95% = 0.0738 inch

Classlength @ 90/95 Xpod = 0.0449 inch
Best LCL = 0.0345 inch

Classlength @ Best LCL = 0.0738 inch
Classlength @ Best LCL = 0.0449 inch

User Provided a 90/95 POD @ Xp = 0.5493 inch
POD @ Xp = 0.0881 ± 0.004 inch

User's Maximum Allowed Classlength = 0.903 inch
Inspector Classwidth @ Xp = 0.360 inch

Classlength @ 90/95 Xpod = 0.0449 inch
Best LCL = 0.0345 inch

Classlength @ Best LCL = 0.0738 inch
Classlength @ Best LCL = 0.0449 inch

User Provided a 90/95 POD @ Xp = 0.5493 inch
POD @ Xp = 0.0881 ± 0.004 inch

Classwidth Mid-point , Xm = 0.215 inch  28 Samples
New Smaller Classlength, Xss = 0.0040 inch
New Largest Classlength , 2XL = 0.215 inch

Classwidth 90/95 Reached Anywhere? = NOT REACHED

FILE NAME = C7001.L.XLS
DATA SET NAME = C7001(Lpi-a)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**TABLE A**
Selected class lengths with existing Misses. Each point requires additional samples in order to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no Misses. Additional samples at these class lengths will achieve the Xpod listed.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.***

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)  

**MLE Divergence Warning:** Initial results listed.  
**Warning:** No false call analysis.

### Survey/Optimum Xpoh
- **NTIAC 90% POD** = 0.901
- **NTIAC 90/95 POD** = 0.901

### False Call Rate with UCL @ 95%
- **False Call Rate**
- **Largest Classlength, XL** = 0.342 inch
- **Samples Needed @ XL** = 27
- **Classlength Mid-point, Xm** = inch
- **Samples Needed @ Xm** = inch
- **Smallest Classlength, Xs** = inch
- **New Smaller Classlength, Xss** = inch
- **Best LCL Classlength, Xlcl** = 0.213 inch
- **Samples Needed @ Xlcl** = 13
- **POH Classlength, Xpoh** = 0.199 inch
- **Samples Needed @ Xpoh** = inch
- **New Largest Classlength, 2XL** = inch
- **Xn is Near Verification Point**
- **Opt. POD classlength, Xpodopt** = inch
- **Samples Needed @ Xpodopt** = inch

### Other Calculations
- **Classwidth @ 90/95 Xpod**
- **Classlength @ 90/95 Xpod**
- **Lower Confidence Bound @ 95% Best LCL**
- **Classlength @ Best LCL**
- **User Provided a 90/95 POD at**
- **POD @ Xpod**

### CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
**Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)**

- **File Name** = C7003L.XLS
- **Data Set Name** = C7003L(Lpi-d)
- **Date & Time** = 6/4/15 9:45 PM
- **Xpod 90/95 Reached Anywhere?** = NOT REACHED
- **Classwidth @ 90/95 Xpod** = inch
- **Classlength @ 90/95 Xpod** = inch
- **Lower Confidence Bound** = 0.7791 inch
- **Best LCL** = 0.0930 inch
- **Classlength @ Best LCL** = inch
- **User Provided a 90/95 POD @** = inch
- **User's Maximum Allowed Classlength** = inch
- **POD @ Xpod** =

<table>
<thead>
<tr>
<th>POD Type</th>
<th>MLE (Mean) POD</th>
<th>MLE(95%) LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xp, 90/95 POD</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Warning:** No false call analysis.

**MLE Divergence Warning:** Initial results listed.

**Survey/Optimum Xpod** = 0.1587 inch, 28 Samples

**False Call Rate** = 0.006 inch

<table>
<thead>
<tr>
<th>POD Type</th>
<th>POD Value</th>
<th>UCL @ 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Largest Classlength, 2Xl</td>
<td>0.251 inch</td>
<td></td>
</tr>
<tr>
<td>Xl is Near Verification Point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td>17</td>
<td></td>
</tr>
</tbody>
</table>

**CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Alternate Xm = Xpodopt**

---

TABLE A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5930</td>
<td>73</td>
</tr>
<tr>
<td>0.5780</td>
<td>34</td>
</tr>
<tr>
<td>0.5760</td>
<td>31</td>
</tr>
<tr>
<td>0.5730</td>
<td>46</td>
</tr>
</tbody>
</table>

---

TABLE B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6120</td>
<td>26</td>
</tr>
<tr>
<td>0.5790</td>
<td>17</td>
</tr>
</tbody>
</table>

---

TABLE C
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.684</td>
<td>23</td>
</tr>
<tr>
<td>0.579</td>
<td>17</td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning: No false call analysis.**

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Case Diagram: [Graph showing probability of hit (POH) and lower confidence limit (LCL)]

- **Class Length**, inch
- **Probability of Hit (POH)**
- **Lower Confidence Bound @ 95%**
- **Best LCL**
- **User Provided a 90/95 POD @**
- **User’s Maximum Allowed Classlength**
- **Inspector Classwidth @ Xp**
- **POD @ Xpod**
- **NTIAC 90% POD**
- **NTIAC 90/95 POD**
- **False Call Rate**
- **Survey/Optimum Xpoh**
- **New Smaller Classlength, Xss**
- **BestLCL Classlength, Xcl**
- **Opt. POD classlength, Xpodopt**
- **New Largest Classlength, 2XL**
- **Xm is Near Verification Point**
- **Xp**

File Name = C8002(3)D.xls
Data Set Name = C8002(3)(CK. NO.)
Date & Time = 6/4/15 9:50 PM

- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**

- **Classwidth @ 90/95 Xpod**
- **Classlength @ 90/95 Xpod**
- **Lower Confidence Limit, LCL**
- **MLE(Mean) POD**
- **MLE(95%) LCL**

- **Classwidth @ Best LCL**
- **Classlength @ Best LCL**
- **Lower Confidence Bound @ 95%**

- **File Name = C8002(3)D.xls Data Set Name = C8002(3)(CK. NO.)**

**File Name = C8002(3)D.xls Data Set Name = C8002(3)(CK. NO.)**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### Directed DOE Options

**TABLE A**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm** = Xpodopt

**TABLE B**

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.190</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm** = Xpodopt

---

No Misses Observed

At Least One Miss Occurred

XL

Xm

Xs

Xss

Xlcl

Xpoh

**2XL**

Xpod

Xpodopt
CASE 2 - 90/95 Xpod is reached at a class length. Further
VALIDATION is required. Recommend satisfying XL and the
smallest Xpod in TABLE B that is greater than the largest Xpod in
TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.204.

Note: Xpodopt is within one class width of Xpod.
Warning: No false call analysis.

CASE 18: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 18: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses, and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 inch

False Call Rate = with UCL @ 95% =

Xp = inch

Class Length, inch

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

File Name = C9003(3)L.xls
Data Set Name = C9003(3)L(CK. NO.)

Date & Time = 6/4/15 10:00 PM
Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod =
Lower Confidence Bound = 0.0040 inch
Best LCL = 0.3450 inch
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

**Warning:** No false call analysis.

Case 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

File Name = CA001(3)L.xls
Data Set Name = CA001(3)(CRACK)

Date & Time = 6/4/15 10:04 PM
REACHED
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.0210 inch
Classlength @ 90/95 Xpod = 0.1200 inch
Lower Confidence Bound = 0.9050 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ =
User’s Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

Survey/Optimum Xpoh = 1.188 inch
Samples Needed @ XL = 43
Largest Classlength , XL = 1.188 inch
Classlength Mid-point , Xm = 0.493 inch
Samples Needed @ Xm = 23
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

False Call Rate =
with UCL @ 95% =
Largest Classlength , XL = 1.188 inch
Samples Needed @ XL = 43
Classlength Mid-point , Xm = 0.493 inch
Samples Needed @ Xm = 23
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

<table>
<thead>
<tr>
<th>POD @ Xpod</th>
<th>Samples Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0000</td>
<td>43</td>
</tr>
</tbody>
</table>

**NTIAC 90% POD @**
**@** inch

**NTIAC 90/95 POD @**
**@** inch

**False Call Rate @**
with UCL @ 95% =

CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

**Warning:** No false call analysis.

Large flaw validation failure. Need 15 more large flaws.

Analysis file name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

### Directed DOE Options

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1880</td>
<td>43</td>
</tr>
<tr>
<td>0.9950</td>
<td>34</td>
</tr>
<tr>
<td>0.9900</td>
<td>37</td>
</tr>
<tr>
<td>0.5400</td>
<td>70</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1880</td>
<td>43</td>
</tr>
<tr>
<td>0.9950</td>
<td>34</td>
</tr>
<tr>
<td>0.9900</td>
<td>37</td>
</tr>
<tr>
<td>0.5400</td>
<td>70</td>
</tr>
</tbody>
</table>

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1880</td>
<td>43</td>
</tr>
<tr>
<td>0.493</td>
<td>23</td>
</tr>
</tbody>
</table>

**Alternate Xm =**

Xpodopt =
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability of Hit (POH)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Confidence Limit, LCL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Class Length, inch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Detection Probability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Utilization of DOEPOD results</td>
<td>requires approval of Engineering Authority</td>
<td></td>
</tr>
</tbody>
</table>

**CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.**

**Warning:** No false call analysis.

**Survey/Optimum Xpoh:**
- 0.9950 inch
- 0.004 inch

**False Call Rate**
- 0.9950 - 0.004 inch

**Samples Needed**
- 26

**Analysis File Name:** DOEPOD.v.1.2.01.PC.Office2010.Win7.png
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation failure. Need 20 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1 - 90/95 Xpod is reached. Xp used to satisfy XL and alternate Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

**Directed DOE Options**

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>1.188</td>
</tr>
<tr>
<td>Xm</td>
<td>0.540</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

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Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

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Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although XPod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target XPod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Large flaw validation failure. Need 16 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

File Name = CB002[3L].xls
Data Set Name = CB002[3L(CK, NO.)]
Date & Time = 6/4/15 10:08 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0330 inch
Lower Confidence Bound = 0.9050 inch
Best LCL = 0.9050 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ 0.3060 inch
User’s Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

Survey/Optimum Xpoh = 0.2730 inch
False Call Rate = with UCL @ 95% = 0.2730 - 0.012 inch 26 Samples

NTIAC 90% POD = 0.906 @ 0.150 inch
NTIAC 90/95 POD = 0.904 @ 0.195 inch

Largest Classlength, XL = 1.435 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.992 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL, Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.295 inch
Samples Needed @ Xpodopt = 2
Xp = 0.3060 inch

Large flaw validation failure. Need 16 more large flaws.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### Directed DOE Options

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>1.435</td>
</tr>
<tr>
<td>Xm</td>
<td>0.992</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.295 2**

### TABLE C

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.295</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 16 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

File Name = CC001(3)l.xls
Data Set Name = CC001(3)l(CK. NO.)
Date & Time = 6/4/15 10:10 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0230 inch
Classlength @ 90/95 Xpod = 0.9050 inch
Lower Confidence Bound = 0.0050 inch
Best LCL = 0.0750 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

**False Call Rate**

Survey/Optimum Xpoh = 1.0000 inch @ 0.0050 inch
NTIAC 90% POD @ =
NTIAC 90/95 POD @ =

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.562 inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm = 0.616 inch
Samples Needed @ Xm = 20
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
Opt. POD classlength, Xpodopt = inch
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength = inch
POD @ Xpod = inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 5 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 5 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

CASE 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

### Directed DOE Options

| File Name = | CC002(3)L.xls |
| Data Set Name = | CC002(3)L(CK. NO.) |

#### TABLE A
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>1.562</td>
<td>Xs</td>
<td>1.119</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td>Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

#### TABLE B
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>1.562</td>
<td>Xs</td>
<td>1.119</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xpod</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td>Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Although $X_{pod}$ appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although $X_{pod}$ appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.1380

\[ \begin{align*}
\text{NTIAC 90% POD} &= 1.0000 @ 0.0050 \\
\text{NTIAC 90/95 POD} &= \text{with UCL @ 95%} = 0.1380 - 0.0570
\end{align*} \]

False Call Rate = \[ \text{Samples Needed @ Xpoh} = 26 \]

\[ \begin{align*}
\text{Largest Classlength, XL} &= 0.4950 \text{ inch} \\
\text{Samples Needed @ XL} &= \text{Larger than XL} \\
\text{Classlength Mid-point, Xm} &= 0.3080 \text{ inch} \\
\text{Samples Needed @ Xm} &= \text{Mid-range} \\
\text{Smallest Classlength, Xs} &= \text{Smaller than Xs} \\
\text{Samples Needed @ Xs} &= \text{Smaller than Xs} \\
\text{New Smaller Classlength, Xss} &= \text{New Smaller than Xss} \\
\text{BestLCL Classlength, Xcl} &= \text{Closest to BestLCL} \\
\text{Samples Needed @ Xcl} &= \text{Closest to Xcl} \\
\text{POH Classlength, Xpoh} &= \text{POH close to Xpoh} \\
\text{Samples Needed @ Xpoh} &= \text{POH close to Xpoh} \\
\text{New Largest Classlength, 2XL} &= \text{New larger than 2XL} \\
\text{Xm is Near Verification Point} &= \text{Xm is near verification point} \\
\text{Opt. POD classlength, Xpodo} &= 0.1380 \text{ inch} \\
\text{Samples Needed @ Xpodo} &= 26 \\
\text{Xp} &= 0.2350 \text{ inch}
\end{align*} \]
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

File Name = CD0023J.L.xls
Data Set Name = CD0023J[CK. NO. ]
Date & Time = 6/4/15 10:29 PM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = Best LCL = 0.8813 inch
Classwidth @ Best LCL = 0.0840 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength @ Xp = inch

Best LCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = 8
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.495 inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = 0.308 inch
Samples Needed @ Xlcl = 5
POH Classlength, Xpoh = 0.297 inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt = inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**Alternate Xm =**

Xpodopt =

---

**Direct DOE Options**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.495</td>
</tr>
<tr>
<td>Xm</td>
<td>0.308</td>
</tr>
<tr>
<td>Xs</td>
<td>0.297</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
### Detection Probability

(Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority))

**Warning:** No false call analysis.

<table>
<thead>
<tr>
<th>Probability of Hit (POH)</th>
<th>Lower Confidence Limit, LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xp, 90/95 POD</td>
<td>MLE(Mean) POD</td>
</tr>
<tr>
<td>MLE(95%) LCL</td>
<td></td>
</tr>
<tr>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td>0.100</td>
<td></td>
</tr>
<tr>
<td>0.200</td>
<td></td>
</tr>
<tr>
<td>0.300</td>
<td></td>
</tr>
<tr>
<td>0.400</td>
<td></td>
</tr>
<tr>
<td>0.500</td>
<td></td>
</tr>
<tr>
<td>0.600</td>
<td></td>
</tr>
</tbody>
</table>

### Case 4 - 90/95 Xpod is not reached anywhere.

Recommend satisfying XL and the greater of Xpoh or Xlcl.

- **Survey/Optimum Xpod:** 0.2350
- **False Call Rate with UCL @ 95%:**
  - NTIAC 90% POD = 0.906 @ 0.220 inch
  - NTIAC 90/95 POD = 0.902 @ 0.310 inch

### Table Data

<table>
<thead>
<tr>
<th>Xpod Reached Anywhere?</th>
<th>Class Length, inch</th>
<th>Lower Confidence Bound, inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Reached</td>
<td>0.308</td>
<td>0.308</td>
</tr>
</tbody>
</table>

**User**

- **Classwidth @ 90/95 Xpod:** inch
- **Classlength @ 90/95 Xpod:** inch
- **Lower Confidence Bound:** Best LCL = 0.3080 inch
  - Best LCL = 0.3080 inch
  - Classlength @ Best LCL = inch
  - Classwidth @ Best LCL = inch
- **User Provided a 90/95 POD @:** inch
- **User's Maximum Allowed Classlength:** inch
- **POD @ Xp:** inch

**Inspector**

- **Classwidth @ Xp:** inch
- **Classlength @ Xp:** inch
- **Best LCL:** inch
- **Largest Classlength, XL:** inch
- **Samples Needed @ XL:** 26
- **Classlength Mid-point, Xm:** inch
- **Samples Needed @ Xm:** inch
- **Smallest Classlength, Xs:** inch
- **Samples Needed @ Xs:** inch
- **New Smaller Classlength, Xss:** inch
- **BestLCL Classlength, Xicl:** inch
- **Samples Needed @ Xicl:** 8
- **POH Classlength, Xpoh:** inch
- **Samples Needed @ Xpoh:** inch
- **New Largest Classlength, 2XL:** inch
- **Xm is Near Verification Point:** inch
- **Opt. POD classlength, Xpodopt:** inch
- **Samples Needed @ Xpodopt:** inch

**Analysis File Name:** DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

**Data Name:** CD003(3)L.xls

**Date & Time:** 6/4/15 10:30 PM

**File Name:** CD003(3)L.xls

**Data Set Name:** CD003(3)L(CK. NO. )
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

![Directed DOE Options Diagram](image-url)

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td><strong>Alternate Xm</strong></td>
<td></td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
<td>Xpod opt</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td><strong>Alternate Xm</strong></td>
<td></td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
<td>Xpod opt</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.495</td>
</tr>
<tr>
<td>Xm</td>
<td>0.308</td>
</tr>
<tr>
<td>Xs</td>
<td>0.308</td>
</tr>
<tr>
<td>Xss</td>
<td>0.308</td>
</tr>
<tr>
<td>Xlcl</td>
<td>0.308</td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm</strong></td>
<td></td>
</tr>
<tr>
<td>Xpod opt</td>
<td></td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

TABLE A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0690</td>
<td>43</td>
<td>0.0590</td>
<td>43</td>
</tr>
<tr>
<td>0.0670</td>
<td>38</td>
<td>0.0660</td>
<td>39</td>
</tr>
<tr>
<td>0.0650</td>
<td>38</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

TABLE B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0690</td>
<td>43</td>
</tr>
<tr>
<td>0.0590</td>
<td>43</td>
</tr>
<tr>
<td>0.0660</td>
<td>39</td>
</tr>
<tr>
<td>0.0650</td>
<td>38</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation failure. Extend flaw size range to 0.39.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.000 Inch Samples

False Call Rate = with UCL @ 95%=

| LTIC 90% POD | 0.905 @ 0.115 Inch |
| NTIC 90/95 POD | 0.903 @ 0.115 Inch |

Xp is Near Verification Point =

Opt. POD classlength, Xpopt =

New Largest Classlength , 2XL =

Large flaw validation failure. Extend flaw size range to 0.39.

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Alternate Xm = Xpodopt =
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation successful.

Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

Case 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp VALIDATES between Xpod and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh = 0.000 inch Samples

NTIAC 90% POD = 0.917 @ 0.005 inch

NTIAC 90/95 POD = 0.949 @ 0.010 inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.069 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.028 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

XP = 0.010 inch

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

Data Sheet Results:

File Name = CE012(6).xls
Data Set Name = CE012(6)(OCR #)
Date & Time = 6/4/15 10:33 PM
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

Classlength  Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss  =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Largest Classlength , XL =
Samples Needed @ XL =
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss  =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses, and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.069</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xm = 0.028</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### TABLE C

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.069</td>
<td>0.010</td>
</tr>
<tr>
<td>Xm = 0.028</td>
<td>0.040</td>
</tr>
<tr>
<td>Xs =</td>
<td>0.070</td>
</tr>
<tr>
<td>Xss =</td>
<td>0.100</td>
</tr>
<tr>
<td>Xpoh =</td>
<td>0.160</td>
</tr>
<tr>
<td>2XL =</td>
<td>0.200</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 1 more large flaw.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

File Name = CE012(6).xls
Data Set Name = CE012(6)L(CRK #)

Date & Time = 6/4/15 10:41 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0100 inch
Classlength @ 90/95 Xpod = 0.0480 inch
Lower Confidence Bound = 0.9001 inch
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod = 1.0000

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh =
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.350 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.137 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.1070 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

**No Misses Observed**

**At Least One Miss Occurred**

$\text{XL} = 0.350$

$\text{Xm} = 0.137$

$\text{Xs} = Xss$

$\text{Xlcl} = Xpoh$

$2XL = Xpod$

**Alternate Xm =**

$Xpodopt = $
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 0.000 Inch Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch
False Call Rate = with UCL @ 95% =

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch

Classlength, inch

Analysis file name: DOEPOD.x1.2.01.PC.Office2010.Wi7.xlsm

Probability of Hit (POH) in Class Range
Lower Confidence Bound @ 95%
Hit/Miss
Xp, 90/95 POD
MLE(Mean) POD
MLE(95%) LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

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***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

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The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

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The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

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Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

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The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

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The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

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The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

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The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Table C - Directed DOE Options

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

0.700  29

No Misses Observed  At Least One Miss Occurred  △XL  ○Xm  ○Xs  ○Xss  △Xlcl  Xpoh  △2XL  Xpod  △Xpodopt

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 1 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh =

<table>
<thead>
<tr>
<th>0.000</th>
<th>0.015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inch</td>
<td>Inch</td>
</tr>
</tbody>
</table>

False Call Rate =

with UCL @ 95% =

<table>
<thead>
<tr>
<th>0.000</th>
<th>0.015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inch</td>
<td>Inch</td>
</tr>
</tbody>
</table>

Largest Classlength, XL =

| 0.069 |
| Inch  |

Samples Needed @ XL =

| 0.035 |
| Inch  |

Classlength Mid-point, Xm =

| 0.035 |
| Inch  |

Smallest Classlength, xs =

| 0.015 |
| Inch  |

New Smaller Classlength, Xss =

| 0.015 |
| Inch  |

BestLCL Classlength, Xlcl =

| 1.0000 |
| Inch   |

Samples Needed @ Xlcl =

| 406    |
| Inch   |

Opt. POD classlength, Xpodopt =

| 0.0200 |
| Inch   |

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**FILE NAME** = CE022(SD.xls)
**DATA SET NAME** = CE022(SD(CRK #)

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.069</td>
</tr>
<tr>
<td>Xm</td>
<td>0.035</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpod**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

---

* No Misses Observed  □ At Least One Miss Occurred  ▲ XL  ○ Xm  ○ Xs  ○ Xss  □ XLcl  ▲ Xpoh  ▲ 2XL  ▲ Xpod  ◆ Xpodopt

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.423.

Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1: 90/95 Xpod reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

### Diagram

- **X pod 90/95 Reached Anywhere?**
- **Classwidth @ 90/95 Xpod**
- **Lower Confidence Bound**
- **Best LCL**
- **Classwidth @ Best LCL**
- **Classlength @ Best LCL**
- **User Provided a 90/95 POD**
- **User’s Maximum Allowed Classlength**
- **Inspector Classwidth @ Xp**
- **POD @ Xpod**
- **MLE(Mean) POD**
- **MLE(95%) LCL**
- **NTIAC 90% POD**
- **NTIAC 90/95 POD**
- **False Call Rate with UCL @ 95%**

### Table

<table>
<thead>
<tr>
<th>Analysis File Name</th>
<th>Data Set Name</th>
<th>Date &amp; Time</th>
<th>Xpod 90/95 Reached Anywhere?</th>
<th>Classwidth @ 90/95 Xpod</th>
<th>Lower Confidence Bound</th>
<th>Best LCL</th>
<th>Classwidth @ Best LCL</th>
<th>Classlength @ Best LCL</th>
<th>User Provided a 90/95 POD</th>
<th>User’s Maximum Allowed Classlength</th>
<th>Inspector Classwidth @ Xp</th>
<th>POD @ Xpod</th>
<th>MLE(Mean) POD</th>
<th>MLE(95%) LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsx</td>
<td>CE022(6)LCR #</td>
<td>6/4/15 10:51 PM</td>
<td>REACHED</td>
<td>0.0110 inch</td>
<td>0.1410 inch</td>
<td>0.0905 inch</td>
<td>inch</td>
<td>inch</td>
<td>inch</td>
<td>inch</td>
<td>inch</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Warning:** No false call analysis.

NTIAC 90% POD = 0.930 @ 0.065 inch
NTIAC 90/95 POD = 0.906 @ 0.075 inch

False Call Rate with UCL @ 95%:
- Largest Classlength, XL = 0.350 inch
- Samples Needed @ XL = 1.0000
- Classlength Mid-point, Xm = 0.250 inch
- Samples Needed @ Xm = 1.0000
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs = inch
- New Smaller Classlength, Xss = inch
- BestLCL Classlength, Xlcl = inch
- Samples Needed @ Xlcl = inch
- Opt. POD classlength, Xpodopt = inch
- New Largest Classlength, 2XL = 0.1410 inch
- Xm is Near Verification Point = inch
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt = inch
- Xp = 0.350 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
**Warning:** No false call analysis.

**CASE 2 -** 90/95 Xpod is reached at a class length. Xp used to satisfy XL requirements. Further VALIDATION is required. Recommend satisfying Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in T.

### Detection Probability

Utilization of DOEPOD results requires approval of Engineering Authority.

### Large flaw validation failure.

Extend flaw size range to 0.165.

Any highlighted Misses are RED and shown in Column A of this data sheet.

### Probability of Hit (POH), Lower Confidence Limit, LCL

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Probability of Hit (POH)</th>
<th>Lower Confidence Bound @ 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Xp, 90/95 POD

<table>
<thead>
<tr>
<th>POD @ Xpod</th>
<th>0.069 inch</th>
</tr>
</thead>
</table>

### MLE(Mean) POD

<table>
<thead>
<tr>
<th>POD @ Xpod</th>
<th>0.062 inch</th>
</tr>
</thead>
</table>

### MLE(95%) LCL

<table>
<thead>
<tr>
<th>POD @ Xpod</th>
<th>1.000 inch</th>
</tr>
</thead>
</table>

### Survey/Optimum Xpoh

<table>
<thead>
<tr>
<th>NTIAC 90% POD</th>
<th>@ 0.025 inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTIAC 90/95 POD</td>
<td>@ 0.035 inch</td>
</tr>
</tbody>
</table>

### False Call Rate with UCL @ 95%

| Largest Classlength, XL | 0.069 inch |
| Sample Needed @ XL | 414 |
| Classlength Mid-point, Xm | 0.062 inch |
| Sample Needed @ Xm | 29 |
| Smallest Classlength, Xs | 0.025 inch |
| Samples Needed @ Xs | 0.035 inch |
| New Smaller Classlength, Xss | 0.035 inch |
| BestLCL Classlength, Xcl | 0.035 inch |
| Samples Needed @ Xcl | 0.035 inch |
| POD Classlength, Xpoh | 0.035 inch |
| Samples Needed @ Xpoh | 0.035 inch |
| Opt. POD classlength, Xpodopt | 0.035 inch |
| Samples Needed @ Xpodopt | 0.035 inch |

### Optimal POD classlength, Xpodopt

| Xp | 0.065 inch |

### File Name

CE032(6)D.xls

### Data Set Name

CE032(6)DI(CRK #)

### Date & Time

6/4/15 10:58 PM

Xpod 90/95 Reached Anywhere?

| Xp, 90/95 Xpod Reached Anywhere? | Yes |

Classwidth @ 90/95 Xpod

| Classwidth @ 90/95 Xpod | 0.0100 inch |

Lower Confidence Bound

| Lower Confidence Bound | 0.9050 inch |

Best LCL

| Best LCL | 0.9050 inch |

Classlength @ Best LCL

| Classlength @ Best LCL | 0.0550 inch |

User Provided a 90/95 POD

| User Provided a 90/95 POD | Yes |

User's Maximum Allowed Classlength

| User's Maximum Allowed Classlength | 1.0000 inch |

Inspector Classwidth @ Xp

| Inspector Classwidth @ Xp | 0.069 inch |

POD @ Xpod

| POD @ Xpod | 1.0000 inch |

### Classwidth @ 90/95 Xpod

| Classwidth @ 90/95 Xpod | 0.0100 inch |

### Classlength @ 90/95 Xpod

| Classlength @ 90/95 Xpod | 0.0550 inch |

### Lower Confidence Bound @ 95%

| Lower Confidence Bound @ 95% | 0.9050 inch |

### Best LCL

| Best LCL | 0.9050 inch |

### Classlength @ Best LCL

| Classlength @ Best LCL | 0.0550 inch |

### User Provided a 90/95 POD

| User Provided a 90/95 POD | Yes |

### User's Maximum Allowed Classlength

| User's Maximum Allowed Classlength | 1.0000 inch |

### Inspector Classwidth @ Xp

| Inspector Classwidth @ Xp | 0.069 inch |

### POD @ Xpod

| POD @ Xpod | 1.0000 inch |
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.78.

Note: Xpodopt is within one class width of Xpod.

Warning: False call analysis.

File Name = CE032[6].xls
Data Set Name = CE032[6](CRK #)

Date & Time = 6/4/15 10:59 PM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =

Largest Classlength, XL =
Samples Needed @ XL =
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh =
NTIAC 90% POD = 0.905 @ 0.120 inch
NTIAC 90/95 POD = 0.903 @ 0.150 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.350 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.285 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.258 inch
Samples Needed @ Xpodopt = 29

Analysis file name: DOEPOD v.1.2.01.PC.Office2010.Win7.png

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 0.78.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 Inch Samples

CTAIC 90% POD = @ inch
NTIC 90/95 POD = @ inch

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

Probability of Hit (POH) in Class Range

Lower Confidence Bound @ 95%
Hit/Miss
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Class Length | Additional Samples
---|---
XL | 0.138
Xm | 29
Xs |
Xss |
Xlcl |
Xpoh |
2XL |
**Alternate Xm** |
Xpodopt |
**CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 0.162.

Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

<table>
<thead>
<tr>
<th>TABLE C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Length</td>
</tr>
<tr>
<td>XL =</td>
</tr>
<tr>
<td>Xm =</td>
</tr>
<tr>
<td>Xs =</td>
</tr>
<tr>
<td>Xss =</td>
</tr>
<tr>
<td>Xlcl =</td>
</tr>
<tr>
<td>Xpoh =</td>
</tr>
<tr>
<td>2XL =</td>
</tr>
<tr>
<td><strong>Alternate Xm =</strong></td>
</tr>
</tbody>
</table>

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.*
*The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.*
The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

**Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = CE051(6).xls
Data Set Name = CE051(6)(C)RK.No...

Date & Time = 6/4/15 11:07 PM
Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.8768 inch
Best LCL = 0.0909 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Probability of Hit (POH), Lower Confidence Limit, LCL
MLE(Mean) POD
MLE(95%) LCL

Class Length, inch

WARNING: No false call analysis.

Detection Probability

Probability of Hit (POH) in Class Range
Lower Confidence Bound @ 95%
Hit/Miss
MLE(95%) LCL

Classwidth @ 90/95 Xpod = 0.350 inch
Classlength @ 90/95 Xpod = 0.268 inch
Samples Needed @ Xpoh = 27
Samples Needed @ Xlcl = 27
Samples Needed @ Xs = 22
Samples Needed @ 2XL = 27
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Opt. POD classlength, Xpodopt = inch

Survey/Optimum Xpoh = 0.2600 inch
Expected POD @ Xpoh = 0.9000 inch
NTIAC 90% POD = 0.900 inch
NTIAC 90/95 POD = 0.900 inch
False Call Rate = 0.350 inch
Samples Needed @ Xpoh = 27
Classlength @ Xpoh = 0.350 inch
New Largest Classlength = 0.315 inch
Smallest Classlength, Xs = 0.0090 inch
Smallest Classlength = Xs = 0.0090 inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Opt. POD classlength, Xpodopt = inch

Analysis file name: DOEPOD.v.1.2.01.11.06.2010 Win7.xlsx
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

![Directed DOE Options Chart]

#### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.350</td>
<td>27</td>
</tr>
<tr>
<td>Xm = 0.268</td>
<td>22</td>
</tr>
<tr>
<td>Xs = 0.700</td>
<td>29</td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm =</strong></td>
<td>Xpodopt =</td>
</tr>
</tbody>
</table>

#### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod, Class Length</td>
<td>Xpod, Class Length</td>
</tr>
</tbody>
</table>

#### TABLE C

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod, Class Length</td>
<td>Xpod, Class Length</td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation successful.

Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1+ - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp VALIDATES between Xpod and XL when causes of highlighted Misses are understood and corrected.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Probabilty of Hit (POH), Lower Confidence Limit, LCL

Class Length,

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Large flaw validation failure. Extend flaw size range to 0.738 inch.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh = 0.912 inch
False Call Rate = 0.000 inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length,

File Name = CED52[6].xls
Data Set Name = CED52[6](CRK NO. )
Date & Time = 6/4/15 11:12 PM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Classlength @ 90/95 Xpod
Lower Confidence Bound
Hit/Miss
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD @
User’s Maximum Allowed Classlength
Inspection Classwidth @ Xp
POD @ Xpod

Largest Classlength, XL = 0.912 inch
User Provided a 90/95 POD @ = 0.912 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

- XL = 0.350
- Xm = 0.283
- Xs = 
- Xss = 
- Xpoh = 
- 2XL = 

**Alternate Xm = Xpodopt**

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

- Xpod, Class Length
- No. Need

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

- Xpod, Class Length
- No. Need

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.189.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

File Name = CED61[6].xls
Data Set Name = CED61[6](CRK NO.)
Date & Time = 6/4/15 11:14 PM
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.0090 inch
Classlength @ 90/95 Xpod = 0.0630 inch
Lower Confidence Bound = 0.9104 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD =
User’s Maximum Allowed Classlength =
POD @ Xpod = 1.0000 inch

File Name = CED61[6].xls
Data Set Name = CED61[6](CRK NO.)
Date & Time = 6/4/15 11:14 PM
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.0090 inch
Classlength @ 90/95 Xpod = 0.0630 inch
Lower Confidence Bound = 0.9104 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD =
User’s Maximum Allowed Classlength =
POD @ Xpod = 1.0000 inch

Survey/Optimum Xpoh = 0.000 inch Samples

NTIAC 90% POD = 0.912 @ 0.040 inch
NTIAC 90/95 POD = 0.903 @ 0.055 inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.069 inch
Samples Needed @ XL = 33
Classlength Mid-point, Xm = 0.066 inch
Samples Needed @ Xm = 29
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp =

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 0.189.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 1 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscilatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 2 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 0.0690 - 0.001 Inch
False Call Rate = with UCL @ 95% =

N1AC 90% POD = 0.906 @ 0.070 inch
NTIA 90/95 POD = 0.902 @ 0.105 inch

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch

Xp, 90/95 POD =
MLE(Mean) POD =
MLE(95%) LCL =

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resloved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Large flaw validation failure. Need 1 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.423.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

NTIAC 90% POD = 0.907 @ 0.075 inch
NTIAC 90/95 POD = 0.903 @ 0.090 inch
False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.350 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.250 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = 0.1410 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

### File Name =  D1001AD.XLS
### Data Set Name =  D1001AD(CRACK #)
### Date & Time =  6/4/15 11:36 PM

<table>
<thead>
<tr>
<th>Xp, 90/95 POD</th>
<th>MLE(Mean) POD</th>
<th>MLE(95%) LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td>0.111</td>
<td>0.035 inch</td>
</tr>
</tbody>
</table>

### Case 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

- **Survey/Optimum Xpoh**: 0.000 inch
- **Samples Needed @ Xpoh**: 0.000 samples

- **False Call Rate = with UCL @ 95% =**
  - **Largest Classlength, XL =** 0.178 inch
  - **Samples Needed @ XL =**
  - **Classlength Mid-point, Xm =** 0.111 inch
  - **Samples Needed @ Xm =**
  - **Smallest Classlength, Xs =**
  - **Samples Needed @ Xs =**
  - **New Smaller Classlength, Xss =**
  - **BestLCL Classlength, Xlcl =**
  - **Samples Needed @ Xlcl =**
  - **POH Classlength, Xpoh =**
  - **Samples Needed @ Xpoh =**
  - **New Largest Classlength, 2XL =**
  - **Xn is Near Verification Point =**
  - **Opt. POD classlength, Xpodopt =**
  - **Samples Needed @Xpodopt =**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.***

**Alternate Xm = Xpodopt**

### Directed DOE Options

#### TABLE A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.178</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.111</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

#### TABLE B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

#### TABLE C
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

* No Misses Observed  
** At Least One Miss Occurred  
Δ XL  
○ Xm  
○ Xs  
○ Xss  
□ Xlcl  
□ Xpoh  
□ 2XL  
■ Xpod  
◆ Xpodopt

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.***

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**Alternate Xm = Xpod_opt**

**TABLE A**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.997</td>
</tr>
<tr>
<td>Xm</td>
<td>0.523</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod</td>
<td></td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

Case 1 - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses, which resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 10 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1 - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh =

NTIAC 90% POD = 0.905 @ 0.095 inch
NTIAC 90/95 POD = 0.901 @ 0.115 inch

False Call Rate = with UCL @ 95%

Largest Classlength , XL = 0.979 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.345 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

Xp = 0.2790 inch

File Name = D1001BL.XLS
Data Set Name = D1001BL(CRACK #)
Date & Time = 6/4/15 11:42 PM
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp = 1.0000
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 10 more large flaws.

**Warning:** No false call analysis.

**CASE 1:** # - 90/95 Xp may be VALIDATED from Xp to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

**CASE 2:** # - 90/95 Xpod may be VALIDATED from Xp to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

**CASE 3:** # - 90/95 Xpod may be VALIDATED from Xp to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table E exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

* The table below shows the class lengths and additional samples needed for the Xpod target.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpoh</td>
<td>0.178</td>
</tr>
<tr>
<td>Xpodopt</td>
<td>0.038</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.038 29

* TABLE A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

* TABLE B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

* TABLE C*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**No Misses Observed**

**At Least One Miss Occurred**

- XL
- Xm
- Xs
- Xss
- Xlcl
- Xpoh
- 2XL

File Name = D1001CD.XLS

Data Set Name = D1001CD(CRACK #)

Directed DOE Options

Number of Additional Samples Needed

- 0.00
- 5.00
- 10.00
- 15.00
- 20.00
- 25.00
- 30.00
- 35.00

Selected class lengths
with existing misses.
Each point requires
additional samples in
or to achieve the
Xpod listed.

Selected class lengths
with no misses. Additional
samples at these
class lengths will
achieve the Xpod
listed.

Selected class lengths
with existing misses.
Each point requires
additional samples in
or to achieve the
Xpod listed.

0.00 0.020 0.040 0.060 0.080 0.100 0.120 0.140 0.160 0.180 0.200

Inch

0.000 0.020 0.040 0.060 0.080 0.100 0.120 0.140 0.160 0.180 0.200

Xpod, Class Length
No. Need

- Xpoh
- 2XL
- Xpod
- Xpodopt

No Misses Observed

- XL
- Xm
- Xs
- Xss
- Xlcl
- Xpoh
- 2XL

At Least One Miss Occurred
Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.

CASE 18: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Caution: False Call Rate with UCL @ 95% = 0.1170 - 0.001 inch

Survey/Optimum Xpoh = 0.1170 - 0.001 inch 27 Samples

File Name = D1001CL.XLS
Data Set Name = D1001CL(Crack #)
Date & Time = 6/4/15 11:45 PM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
POD @ Xp =
Classwidth @ Xp =
Classlength @ Xp =
POH Classlength @ Xpoh =
New Largest Classlength, 2XL =

Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
POH Classlength, Xpoh =
Classwidth @ Xs =
Classlength @ Xs =

Largest Classlength, XL = 0.979 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.523 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =

Xp = 0.1530 inch

Warning: No false call analysis.

FILE NAME = D1001CL.XLS
DATA SET NAME = D1001CL(CRACK #)
DATE & TIME = 6/4/15 11:45 PM

XPod 90/95 Reached Anywhere?
Class Width @ 90/95 XPod =
Class Length @ 90/95 XPod =
Lower Confidence Bound =
Best LCL =
Class Width @ Best LCL =
Class Length @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Class Length =
POD @ Xp =
Class Width @ Xp =
Class Length @ Xp =
POH Class Length @ Xpoh =
New Largest Class Length, 2XL =

Xm is Near Verification Point =
Opt. POD class length, Xpodopt =

Warning: No false call analysis.

FILE NAME = D1001CL.XLS
DATA SET NAME = D1001CL(CRACK #)
DATE & TIME = 6/4/15 11:45 PM

XPod 90/95 Reached Anywhere?
Class Width @ 90/95 XPod =
Class Length @ 90/95 XPod =
Lower Confidence Bound =
Best LCL =
Class Width @ Best LCL =
Class Length @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Class Length =
POD @ Xp =
Class Width @ Xp =
Class Length @ Xp =
POH Class Length @ Xpoh =
New Largest Class Length, 2XL =

Xm is Near Verification Point =
Opt. POD class length, Xpodopt =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. No Misses Observed

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

**Alternate Xm = Xpodopt**

**TABLE A**

<table>
<thead>
<tr>
<th>Xl</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td>28</td>
</tr>
<tr>
<td>0.149</td>
<td>28</td>
</tr>
<tr>
<td>0.356</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xl</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td>28</td>
</tr>
<tr>
<td>0.149</td>
<td>28</td>
</tr>
<tr>
<td>0.356</td>
<td>29</td>
</tr>
</tbody>
</table>

**Directed DOE Options**

**No Misses Observed**

**At Least One Miss Occurred**

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
<th>Xpod</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td>0.149</td>
<td>0.356</td>
<td>28</td>
<td>28</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**D1002AD.XLS**

**D1002AD(CRACK #)**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod,Class Length</th>
<th>Xpod,Class Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Need</td>
<td>No. Need</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod,Class Length</th>
<th>Xpod,Class Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. Need</td>
<td>No. Need</td>
</tr>
</tbody>
</table>
Warning: False call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 13 more flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet

Probabilities of Hit (POH) in Class Range

Lower Confidence Bound @ 95%

Xp, 90/95 POD

MLE (Mean) POD

MLE (95%) LCL

Class Length, inch

Probability of Hit (POH), Lower Confidence Limit, LCL

Classwidth @ 90/95 Xpod

Classlength @ 90/95 Xpod

Lower Confidence Bound

Best LCL

Classwidth @ Best LCL

Classlength @ Best LCL

User Provided a 90/95 POD @

User's Maximum Allowed Classlength

Inspector Classwidth @ Xp

POD @ Xpod

Best LCL Classlength, Xlcl

POH Classlength, Xpoh

Large flaw validation failure. Need 13 more flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

FILE NAME = D1002AL.XLS

Data Set Name = D1002AL(CRACK #)

Date & Time = 6/4/15 11:49 PM

Xpod 90/95 Reached Anywhere?

Classwidth @ 90/95 Xpod

Classlength @ 90/95 Xpod

Lower Confidence Bound @ 95%

Classwidth @ Best LCL

Classlength @ Best LCL

User Provided a 90/95 POD @

User's Maximum Allowed Classlength

Inspector Classwidth @ Xp

POD @ Xpod

Best LCL Classlength, Xlcl

POH Classlength, Xpoh

New Largest Classlength, 2XL

Xm is Near Verification Point

Opt. POD classlength, Xpodopt

NTIAC 90% POD = 0.901 @ 0.170 inch

NTIAC 90/95 POD = 0.900 @ 0.265 inch

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.979 inch

Samples Needed @ XL =

Classlength Mid-point , Xm = 0.489 inch

Samples Needed @ Xm =

Smallest Classlength, Xs =

Samples Needed @ Xs =

New Smaller Classlength, Xss =

BestLCL Classlength, Xlcl =

Samples Needed @ Xlcl =

POH Classlength, Xpoh =

Samples Needed @ Xpoh =

New Largest Classlength, 2XL =

Xm is Near Verification Point =

Opt. POD classlength, Xpodopt =

Samples Needed @Xpodopt =

Survey/Optimum Xpoh =

Xp = 0.2900 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 11 more large flaws.

Warning: No false call analysis.

CASE 2: 90/95 Xpod is reached at a class length, Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = D1002B0.XLS
Data Set Name = D1002B0(CRACK #)
Date & Time = 6/4/15 11:51 PM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.178 inch
Classlength @ 90/95 Xpod = 0.115 inch
Lower Confidence Bound = 0.0070 inch
Best LCL = 0.0450 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

Largest Classlength , XL = 0.178 inch
Samples Needed @ XL = 27
Classlength Mid-point , Xm = 0.115 inch
Samples Needed @ Xm = 11
Smallest Classlength, Xs = inch
Samples Needed @ Xs = 
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl = inch
Samples Needed @ Xcl = 
POD Classlength, Xpoh = inch
Samples Needed @ Xpoh = 
New Largest Classlength , 2XL = inch
Xm is Near Verification Point = 
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = 
XP = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Alternate Xm = Xpodopt**

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 13 more large flaws.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.901 @ 0.125 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.979 inch
Samples Needed @ XL = 27
Classlength Mid-point, Xm = 0.489 inch
Samples Needed @ Xm = 24
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
XL is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

Class Length, inch
Probability of Hit (POH), Lower Confidence Bound @ 95%

File Name = D1002L.XLS
Data Set Name = D1002L(CRACK #)
Date & Time = 6/4/15 11:52 PM
Xpod 90/95 Reached Anywhere? = REACHED
Classwidth @ 90/95 Xpod = 0.0490 inch
Classlength @ 90/95 Xpod = 0.2900 inch
Lower Confidence Bound = 0.9001 inch
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
POD @ Xpod = 1.0000 inch

Warning: No false call analysis.

Large flaw validation failure. Need 13 more large flaws.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
### Detection Probability

Utilization of DOEPOD results requires approval of Engineering Authority.

Large flaw validation failure. Need 13 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

---

**File Name:** D1002CD.XLS  
**Data Set Name:** D1002CD(CRACK #)  
**Date & Time:** 6/4/15 11:54 PM  
**Xpod 90/95 Reached Anywhere?** REACHED  
**Classwidth @ 90/95 Xpod:** 0.178 inch  
**Lower Confidence Bound:** 0.117 inch  
**Classlength @ 90/95 Xpod:** 0.900 inch  
**Best LCL:** 0.905 inch  
**Classwidth @ Best LCL:** 0.025 inch  
**Classlength @ Best LCL:** 0.040 inch  
**User Provided a 90/95 POD @:** 0.900 inch  
**User's Maximum Allowed Classlength:** 1.0000 inch  
**POD @ Xpod:** 0.000 inch

---

**Survey/Optimum Xpoh =** 0.000 inch
**Samples =** 0

**False Call Rate =** 0.000 inch
**with UCL @ 95% =** 0.000 inch

### CASE 1

**Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.**

---

**Large flaw validation failure. Need 13 more large flaws.**

---

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart***

---

**Directed DOE Options**

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.178</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.117</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm</strong> = Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.987.

Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

File Name = D1002CL.XLS
Data Set Name = D1002CL(CRACK #)
Date & Time = 6/4/15 11:55 PM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Classlength @ 90/95 Xpod
Lower Confidence Bound
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD
User's Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xpod

Best LCL Classlength, Xlcl
POH Classlength, Xpoh
New Largest Classlength, 2XL
Xm is Near Verification Point
Opt. POD classlength, Xpodopt
New Smaller Classlength, Xss
Smallest Classlength, Xs
Samples Needed @ Xs
Classlength Mid-point, Xm
Smallest Classlength, Xs
Largest Classlength, XL
Samples Needed @ XL
Classlength @ Best LCL
Best LCL
Classwidth @ Best LCL
Classlength @ 90/95 Xpod
Lower Confidence Bound @ 95%
Hit/Miss
Probability of Hit (POH)
Largest Classlength , XL = 0.979 inch
Samples Needed @ XL = 0.543 inch
Classlength Mid-point , Xm = 0.543 inch
Smallest Classlength, Xs = 0.125 inch
New Smaller Classlength, Xss = 0.090 inch
Best LCL Classlength, Xlcl = 0.901 inch
POH Classlength, Xpoh = 0.902 inch
Samples Needed @ Xs = 0.125 inch
New Largest Classlength, 2XL = 0.090 inch
Xm is Near Verification Point = 0.000 inch
Opt. POD classlength, Xpodopt = 0.000 inch
Samples Needed @ Xpodopt = 0.000 inch

False Call Rate = with UCL @ 95%
Survey/Optimum Xpoh = 0.000 inch
Samples @ Xpoh = 0.000 inch
NTIAC 90% POD = 0.901 @ 0.090 inch
NTIAC 90/95 POD = 0.902 @ 0.125 inch

Largest Classlength , XL = 0.979 inch
Samples Needed @ XL = 0.543 inch
Classlength Mid-point , Xm = 0.543 inch
Smallest Classlength, Xs = 0.125 inch
New Smaller Classlength, Xss = 0.090 inch
Best LCL Classlength, Xlcl = 0.901 inch
POH Classlength, Xpoh = 0.902 inch
Samples Needed @ Xs = 0.125 inch
New Largest Classlength, 2XL = 0.090 inch
Xm is Near Verification Point = 0.000 inch
Opt. POD classlength, Xpodopt = 0.000 inch
Samples Needed @ Xpodopt = 0.000 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

| TABLE A* | Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed. |
| TABLE B* | Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed. |

**Alternate Xm = Xpodopt

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.979</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.543</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt

*File Name = D1002CL.XLS  
Data Set Name = D1002CL(Crack #)

**Number of Additional Samples Needed

**Xpod,Class Length  
No. Need  
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**Table C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.979</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.543</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 1: 90/95 Xp  may be VALIDATED from Xp to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

- **XL** = 0.178
- **Xm** = 0.111
- **Xs** =
- **Xss** =
- **Xpoh** =
- **2XL** =

**Alternate Xm =**

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.038</td>
<td>29</td>
</tr>
</tbody>
</table>

**File Name =** D1003AD.XLS
**Data Set Name =** D1003AD(CRACK #)

---

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 5 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.0860 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, Xl = 0.610 inch
Samples Needed @ Xl =
Classlength Mid-point, Xm = 0.262 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.102 inch
Samples Needed @ Xpodopt = 29

User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspectors Classwidth @ Xp =
POD @ Xp =

D1003AL.CRACK #

D1003AL.XLS

File Name =
Data Set Name =

Warning: No false call analysis.

Class Length, inch

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length, inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 11 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Survey/Optimum Xpoh = 0.000 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.178 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.110 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

Xp = 0.0350 inch

D1003BD.XLS
Data Set Name = D1003BD(CRACK #)
Date & Time = 6/5/15 12:02 AM

Xpod 90/95 Reached Anywhere?
Class width @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD@ =
User’s Maximum Allowed Classlength =

Inspector Classwidth @ Xp =
POD @ Xpod =

Best LCL =

Probability of Hit (POH), Lower Confidence Limit, LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 4 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.610 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.262 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp = 0.0830 inch

XL = 0.610 inch
Xm = 0.262 inch
Xs =
Xss =
Xlcl =
Xpoh =
Xpodopt =
Xp = 0.0830 inch

Survey/Optimum Xpoh =
NTIAC 90% POD = 0.936 @ 0.035 inch
NTIAC 90/95 POD = 0.920 @ 0.045 inch

<table>
<thead>
<tr>
<th>File Name</th>
<th>D1003BL.XLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Set Name</td>
<td>D1003BL(CRACK #)</td>
</tr>
<tr>
<td>Date &amp; Time</td>
<td>6/5/15 12:05 AM</td>
</tr>
<tr>
<td>Xpod 90/95 Reached Anywhere?</td>
<td>REACHED</td>
</tr>
<tr>
<td>Classwidth @ 90/95 Xpod =</td>
<td>0.0830 inch</td>
</tr>
<tr>
<td>Lower Confidence Bound = Best LCL =</td>
<td>0.0901</td>
</tr>
<tr>
<td>Classlength @ Best LCL =</td>
<td>inch</td>
</tr>
<tr>
<td>User Provided a 90/95 POD @ =</td>
<td></td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength =</td>
<td>inch</td>
</tr>
<tr>
<td>Inspector Classwidth @ Xp =</td>
<td>0.9001 inch</td>
</tr>
<tr>
<td>POD @ Xpod =</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
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MLE Divergence Warning: initial results listed.
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MLE Divergence Warning: initial results listed.
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MLE Divergence Warning: initial results listed.
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MLE Divergence Warning: initial results listed.
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MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

MLE Divergence Warning: initial results listed.
Although $X_{pod}$ appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 11 more large flaws.

Warning: No false call analysis.

File Name = D1003CD.XLS
Data Set Name = D1003CD (CRACK #)
Date & Time = 6/5/15 12:10 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.000 inch
Classlength @ 90/95 Xpod = 0.000 inch
Lower Confidence Bound @ 90/95 Xpod = 0.000 inch
Best LCL = 0.900 inch
Classwidth @ Best LCL = 0.000 inch
Classlength @ Best LCL = 0.000 inch
User Provided a 90/95 POD = 0.9672
User's Maximum Allowed Classlength = 0.900 inch
POD @ Xpod = 0.9001

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.000 inch
NTIAC 90% POD = 0.911 @ 0.035 inch
NTIAC 90/95 POD = 0.906 @ 0.050 inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.178 inch
Samples Needed @ XL = 27
Classlength Mid-point , Xm = 0.110 inch
Samples Needed @ Xm = 13
Smallest Classlength, Xs = 0.035 inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp =

Largest Classlength , XL = 0.180 inch
Smallest Classlength, Xs = 0.035 inch
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.178</td>
</tr>
<tr>
<td>Xm</td>
<td>0.110</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1260</td>
<td>52</td>
</tr>
<tr>
<td>0.1190</td>
<td>53</td>
</tr>
<tr>
<td>0.1170</td>
<td>38</td>
</tr>
<tr>
<td>0.1160</td>
<td>38</td>
</tr>
</tbody>
</table>

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td>27</td>
</tr>
<tr>
<td>0.178</td>
<td>27</td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.87.

**MLE Divergence Warning:** Initial results listed.

**Warning:** No false call analysis.

**CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.**

<table>
<thead>
<tr>
<th>POD at Xp</th>
<th>XL Reached Anywhere?</th>
<th>Classwidth @ 90/95 Xpod</th>
<th>Lower Confidence Bound</th>
<th>Best LCL</th>
<th>Classwidth @ Best LCL</th>
<th>Classlength @ Best LCL</th>
<th>User Provided a 90/95 POD</th>
<th>User's Maximum Allowed Classlength</th>
<th>Inspector Classwidth @ Xp</th>
<th>POD @ Xp</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.610</td>
<td>REACHED</td>
<td>0.290</td>
<td>0.9001</td>
<td>inch</td>
<td>inch</td>
<td>inch</td>
<td>1.000</td>
<td>inch</td>
<td>0.0490</td>
<td>0.380</td>
</tr>
</tbody>
</table>

**Survey/Optimum Xpoh**

- NTIAC 90% POD = 0.901 @ 0.095 inch
- NTIAC 90/95 POD = 0.901 @ 0.140 inch

**False Call Rate**

- Largest Classlength, XL = 0.610 inch
- Samples Needed @ XL = 18
- Classlength Mid-point, Xm = 0.380 inch
- Samples Needed @ Xm = 17
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs = inch
- New Smaller Classlength, Xss = inch
- Best LCL Classlength, Xcl = inch
- Samples Needed @ Xcl = inch
- POH Classlength, Xpoh = inch
- Samples Needed @ Xpoh = inch
- New Largest Classlength, 2XL = inch
- Xm is Near Verification Point = inch
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt = inch

**Analysis file name:** DOEPOD.xlsx2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Alternate Xm = Xpodopt**

!!! The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5430</td>
<td>56</td>
<td>0.6100</td>
<td>18</td>
</tr>
<tr>
<td>0.5390</td>
<td>56</td>
<td>0.6100</td>
<td>18</td>
</tr>
<tr>
<td>0.5350</td>
<td>56</td>
<td>0.6100</td>
<td>18</td>
</tr>
<tr>
<td>0.5230</td>
<td>57</td>
<td>0.6100</td>
<td>18</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5430</td>
<td>56</td>
<td>0.6100</td>
<td>18</td>
</tr>
<tr>
<td>0.5390</td>
<td>56</td>
<td>0.6100</td>
<td>18</td>
</tr>
<tr>
<td>0.5350</td>
<td>56</td>
<td>0.6100</td>
<td>18</td>
</tr>
<tr>
<td>0.5230</td>
<td>57</td>
<td>0.6100</td>
<td>18</td>
</tr>
</tbody>
</table>

* Although X pod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 6 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

**CASE 1** - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

File Name = D2002AD.XLS
Data Set Name = D2002AD(CRACK #)
Date & Time = 6/5/15 12:13 AM

Xpod 90/95 Reached Anywhere?
Class Width @ 90/95 Xpod
Lower Confidence Bound
Best LCL
Class Width @ Best LCL
Class Length @ Best LCL
User Provided a 90/95 POD @
POD @ Xpod = 1.0000

User's Maximum Allowed Class Length
Inspector Class Width @ Xp
POD @ Xpoh

Survey/Optimum Xpoh = 0.000 Inch Samples
NTIAC 90% POD = 0.902 @ 0.025 Inch
NTIAC 90/95 POD = 0.902 @ 0.040 Inch

False Call Rate = with UCL @ 95% =
Largest Class Length, XL = 0.144 Inch
Samples Needed @ XL =
Class Length Mid-point, Xm = 0.115 Inch
Samples Needed @ Xm =
Smallest Class Length, Xs =
Samples Needed @ Xs =
New Smaller Class Length, Xss =
Best LCL Class Length, Xlcl =
Samples Needed @ Xlcl =
POD Class Length, Xpoh =
Samples Needed @ Xpoh =
New Largest Class Length, 2XL =
Xm is Near Verification Point =
Opt. POD class length, Xpodopt =
Samples Needed @ Xpodopt =

Xp = 0.0940 Inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Table A includes selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed. Table B includes selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first. **Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.***

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Directed DOE Options**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.144</td>
</tr>
<tr>
<td>Xm</td>
<td>0.115</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =** Xpodopt

---

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.144</td>
<td></td>
<td>0.115</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 1.602.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

File Name = D2002AL.XLS
Data Set Name = D2002AL(CRACK #)
Date & Time = 6/5/15 12:14 AM
REACHED
Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Classlength @ 90/95 Xpod
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =
Mean (MLE) POD =
95% LCL =
Probability of Hit (POH) in Class Range
Large flaw validation failure. Extend flaw size range to 1.602.
Although $X_{pod}$ appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the $X_{pod}$ listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the $X_{pod}$ listed.

---

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.550</td>
</tr>
<tr>
<td>$X_m$</td>
<td>0.538</td>
</tr>
<tr>
<td>$X_s$</td>
<td></td>
</tr>
<tr>
<td>$X_{ss}$</td>
<td></td>
</tr>
<tr>
<td>$X_{lcl}$</td>
<td></td>
</tr>
<tr>
<td>$X_{pod}$</td>
<td></td>
</tr>
<tr>
<td>$2XL$</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate $X_m$ = 0.288 **

---

<table>
<thead>
<tr>
<th>$X_{podopt}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.288</td>
</tr>
</tbody>
</table>

---

* Although $X_{pod}$ appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target $X_{pod}$ points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### TABLE A*

<table>
<thead>
<tr>
<th>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpoh</td>
</tr>
<tr>
<td>2XL</td>
</tr>
<tr>
<td>Xpod</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

### TABLE A

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.144</td>
</tr>
<tr>
<td>Xm</td>
<td>0.115</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE C

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
</tbody>
</table>

### Chart

The chart shows the number of additional samples needed versus the class length. The data points are labeled with various symbols indicating whether there are no misses observed or at least one miss occurred.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation failure. Extend flaw size range to 1.602.

File Name = D2002BL.XLS
Data Set Name = D2002BL(CRACK #)
Date & Time = 6/5/15 12:15 AM

Xpod Reached Anywhere?  REACHED
Classwidth @ 90/95 Xpod = 0.0600 inch
Classlength @ 90/95 Xpod = 0.5340 inch
Lower Confidence Bound @ 95% = 0.0000 inch
Best LCL = 0.5340 inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
POD @ Xpod =

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Warning: No false call analysis.
Large flaw validation failure. Extend flaw size range to 1.602.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Table C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.550</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.538</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.288 28**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 6 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

**CASE 1** - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 1.602.

Warning: No false call analysis.

Xpod 90/95 Reached Anywhere?
- Classwidth @ 90/95 Xpod
- Lower Confidence Bound @ 90/95 Xpod
- Best LCL @ 90/95 Xpod
- Classwidth @ Best LCL
- Classlength @ Best LCL
- User Provided a 90/95 POD
- User's Maximum Allowed Classlength
- Inspector Classwidth @ Xp
- POD @ Xpod

File Name = D2002CL.XLS
Data Set Name = D2002CL(Crack #)
Date & Time = 6/5/15 12:17 AM

Xpod 90/95 Reached Anywhere?
- Classwidth @ 90/95 Xpod
- Lower Confidence Bound @ 90/95 Xpod
- Best LCL @ 90/95 Xpod
- Classwidth @ Best LCL
- Classlength @ Best LCL
- User Provided a 90/95 POD
- User's Maximum Allowed Classlength
- Inspector Classwidth @ Xp
- POD @ Xpod

Case 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.3400 inch
- 28 Samples

False Call Rate = 0.005 inch
- with UCL @ 95% =

- Largest Classlength , XL = 0.550 inch
- Samples Needed @ XL =
- Classlength Mid-point , Xm = 0.538 inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- BestLCL Classlength, Xcl =
- Samples Needed @ Xcl =
- POH Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL =
- Xm is Near Verification Point =
- Opt. POD classlength, Xpodopt = 0.426 inch
- Samples Needed @Xpodopt = 23
- Xp = 0.5340 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.550</td>
</tr>
<tr>
<td>Xm</td>
<td>0.538</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm**
Xpodopt = 0.426

---

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.550</td>
<td>23</td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.645.

Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

**CASE 1** - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

### File Name = D3001AL.XLS
### Data Set Name = D3001AL(CRK #)

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>6/5/15 12:18 AM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod 90/95 Reached Anywhere?</td>
<td>REACHED</td>
</tr>
<tr>
<td>Classwidth @ 90/95 Xpod</td>
<td></td>
</tr>
<tr>
<td>Lower Confidence Bound</td>
<td></td>
</tr>
<tr>
<td>Best LCL</td>
<td></td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
<td></td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
<td></td>
</tr>
<tr>
<td>User Provided a 90/95 POD @</td>
<td></td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
<td></td>
</tr>
<tr>
<td>Inspector Classwidth @ Xp</td>
<td></td>
</tr>
<tr>
<td>POD @ Xp</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

### Survey/Optimum Xpoh =

| NTIAC 90% POD | 0.904 @ 0.185 inch |
| NTIAC 90/95 POD | 0.903 @ 0.245 inch |

### False Call Rate =

| Largest Classlength, XL | 0.407 inch |
| Samples Needed @ XL | |
| Classlength Mid-point, Xm | 0.265 inch |
| Samples Needed @ Xm | |
| Smallest Classlength, Xs | |
| Samples Needed @ Xs | |
| New Smaller Classlength, Xss | |
| Best LCL Classlength, Xlcl | |
| Samples Needed @ Xlcl | |
| POH Classlength, Xpoh | |
| Samples Needed @ Xpoh | |
| Opt. POD classlength, Xpodopt | |
| New Largest Classlength, 2XL | |
| Xm is Near Verification Point | |
| Xp = | 0.2550 inch |

### Diagram:

- **Probability of Hit (POH) in Class Range**
- **Lower Confidence Bound @ 95%**
- **Hit/Miss**
- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**

### Table:

<table>
<thead>
<tr>
<th>Probability of Hit (POH), Lower Confidence Limit, LCL</th>
<th>Probability of Hit (POH), Lower Confidence Limit, LCL</th>
<th>Probability of Hit (POH), Lower Confidence Limit, LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probability of Hit (POH) in Class Range</td>
<td>Probability of Hit (POH) in Class Range</td>
<td>Probability of Hit (POH) in Class Range</td>
</tr>
<tr>
<td>Probability of Hit (POH), Lower Confidence Limit, LCL</td>
<td>Probability of Hit (POH), Lower Confidence Limit, LCL</td>
<td>Probability of Hit (POH), Lower Confidence Limit, LCL</td>
</tr>
</tbody>
</table>

### Analysis File Name:

DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 18: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or optimum Xpoh (if listed) is also satisfied.

<table>
<thead>
<tr>
<th>Class Length, inch</th>
<th>POH Classlength, Xpoh</th>
<th>Samples Needed @ Xpoh</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>29</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26 Samples</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>False Call Rate = with UCL @ 95% =</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>NTIAC 90% POD = 0.900 @ 0.235 inch</td>
</tr>
<tr>
<td>NTIAC 90/95 POD = 0.900 @ 0.345 inch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Xp = 0.3000 inch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 0.9.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = D3001BL.XLS
Data Set Name = D3001BL(CRK #)
Date & Time = 6/5/15 12:19 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.0880 inch
Classlength @ 90/95 Xpod = 0.3000 inch
Lower Confidence Bound = 0.0890 inch
Best LCL = 0.3000 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
POD @ Xpod = 1.0000

Xp = 0.407 inch
Mx = 0.345 inch

Largest Classlength , XL = 0.903 inch
Samples Needed @ XL = 26
Classlength Mid-point , Xm = 0.300 inch
Samples Needed @ Xm = 1.0000
Smallest Classlength, Xs = 0.288 inch
Samples Needed @ Xs = 26
New Smaller Classlength, Xss = 0.088 inch
BestLCL Classlength, Xcl = 0.300 inch
Samples Needed @ Xcl = 26
POH Classlength, Xpoh = 0.235 inch
Samples Needed @ Xpoh = 26
Opt. POD classlength, Xpodopt = 0.3000 inch
Samples Needed @Xpodopt = 26

False Call Rate = 0.2120 - 0.001 inch
Samples = 26
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.75.

Warning: No false call analysis.

Note: Xpodopt is within one class width of Xpod.

File Name = D3001CL.XLS
Data Set Name = D3001CL(CRK #)

Date & Time = 6/5/15 12:20 AM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0450 inch
Classlength @ 90/95 Xpod = 0.2500 inch
Lower Confidence Bound = 0.9001 inch
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
POD @ Xpod = 1.0000

Xp = 0.407 inch

False Call Rate = 0.2050 - 0.002 inch
Survey/Optimum Xpod = 0.2050 - 0.002 inch 28 Samples
NTIAC 90% POD = 0.901 @ 0.140 inch
NTIAC 90/95 POD = 0.904 @ 0.180 inch

CASE 18 : 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 0.75.

Note: Xpodopt is within one class width of Xpod.

File Name = D3001CL.XLS
Data Set Name = D3001CL(CRK #)

Date & Time = 6/5/15 12:20 AM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0450 inch
Classlength @ 90/95 Xpod = 0.2500 inch
Lower Confidence Bound = 0.9001 inch
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
POD @ Xpod = 1.0000

Xp = 0.407 inch

False Call Rate = 0.2050 - 0.002 inch
Survey/Optimum Xpod = 0.2050 - 0.002 inch 28 Samples
NTIAC 90% POD = 0.901 @ 0.140 inch
NTIAC 90/95 POD = 0.904 @ 0.180 inch

CASE 18 : 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

<table>
<thead>
<tr>
<th>TABLE A*</th>
<th>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod, Class Length</td>
<td>No. Need</td>
</tr>
<tr>
<td>D3001CL.CRK #</td>
<td></td>
</tr>
<tr>
<td>XL</td>
<td>0.407</td>
</tr>
<tr>
<td>Xm</td>
<td>0.355</td>
</tr>
<tr>
<td>Xs</td>
<td>0.300</td>
</tr>
<tr>
<td>Xss</td>
<td>0.250</td>
</tr>
<tr>
<td>Xlcl</td>
<td>0.200</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.150</td>
</tr>
<tr>
<td>2XL</td>
<td>0.100</td>
</tr>
<tr>
<td><strong>Alternate Xm = Xpodopt</strong></td>
<td>0.249</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE B*</th>
<th>Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod, Class Length</td>
<td>No. Need</td>
</tr>
<tr>
<td>0.249</td>
<td>29</td>
</tr>
</tbody>
</table>

File Name = D3001CL.XLS
Data Set Name = D3001CL(CRK #)

**Directed DOE Options**

<table>
<thead>
<tr>
<th>No. Need</th>
<th>Xpod, Class Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.000</td>
</tr>
<tr>
<td>0.05</td>
<td>0.005</td>
</tr>
<tr>
<td>0.10</td>
<td>0.010</td>
</tr>
<tr>
<td>0.15</td>
<td>0.015</td>
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<tr>
<td>0.20</td>
<td>0.020</td>
</tr>
<tr>
<td>0.25</td>
<td>0.025</td>
</tr>
<tr>
<td>0.30</td>
<td>0.030</td>
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<tr>
<td>0.35</td>
<td>0.035</td>
</tr>
<tr>
<td>0.40</td>
<td>0.040</td>
</tr>
<tr>
<td>0.45</td>
<td>0.045</td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Directed DOE Options**

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>2XL</td>
<td>0.814</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>2XL</td>
<td>29</td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.648.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 1: 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

File Name = D3003BL.XLS
Data Set Name = D3003BL(CRK #)
Date & Time = 6/5/15 12:22 AM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0340 inch
Classlength @ 90/95 Xpod = 0.2160 inch
Lower Confidence Bound = 0.9001 inch
Best LCL = 0.176 inch
Classwidth @ Best LCL = 0.407 inch
Classlength @ Best LCL = 0.265 inch
User Provided a 90/95 POD = True
User's Maximum Allowed Classlength = 1.0000 inch
POD @ Xpod = 0.1440 inch
MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

File Name = DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
Analysis file name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

Survey/Optimum Xpoh = 0.1440 -0.002 inch 28 Samples

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.407 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.265 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpopt = 0.176 inch
Samples Needed @Xpopt = 15

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

<table>
<thead>
<tr>
<th>No Misses Observed</th>
<th>At Least One Miss Occurred</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
<th>Xpod</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

D3003BL(CRK #)

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Survey/Optimum Xpoh = 0.0681 - 0.001 inch with UCL @ 95% = 28 Samples

- NTIAC 90% POD = 0.901 @ 0.245 inch
- NTIAC 90/95 POD = 0.900 @ 0.510 inch
- False Call Rate =

- Largest Classlength, XL = 0.090 inch
- Samples Needed @ XL = 4
- Classlength @ Mid-point, Xm =
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- POH Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL =
- Xn is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =
- Xp =

File Name = D5004.XLS
Data Set Name = D5004(HOLE #)
Date & Time = 6/5/15 12:25 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL = 0.8853
Classwidth @ Best LCL = 0.0230 inch
Classlength @ Best LCL = 0.0902 inch
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =

Class Length, inch
0.000 0.020 0.040 0.060 0.080 0.100
Probability of Hit (POH), Lower Confidence Limit, LCL
0.000 0.100 0.200 0.300 0.400 0.500 0.600 0.700 0.800 0.900 1.000

Analysis file name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller or to within the class width indicated in the companion chart.**

---

**Directed DOE Options**

<table>
<thead>
<tr>
<th>Table C</th>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.090</td>
<td>4</td>
</tr>
<tr>
<td>Xm</td>
<td>0.090</td>
<td>4</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td>0.090</td>
<td>4</td>
</tr>
<tr>
<td>Xpod</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>0.180</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =**

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller or to within the class width indicated in the companion chart.**
CASE 6: 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = D6001BL.XLS
Data Set Name = D6001BL(CRK #)
Date & Time = 6/5/15 12:30 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.070 inch
Classlength @ 90/95 Xpod = 0.250 inch
Lower Confidence Bound = 0.901 inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User’s Maximum Allowed Classlength = inch

POD @ Xpod = 1.000

CASE 2 - 90/95 Xpod is reached at a class length, Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* File Name = D6001BL.XLS
  Data Set Name = D6001BL(CRK #)

** Directed DOE Options

<table>
<thead>
<tr>
<th>TABLE C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Length</td>
</tr>
<tr>
<td>XL = 2.403</td>
</tr>
<tr>
<td>Xm = 1.603</td>
</tr>
<tr>
<td>Xs =</td>
</tr>
<tr>
<td>Xss =</td>
</tr>
<tr>
<td>Xpoh =</td>
</tr>
<tr>
<td>2XL =</td>
</tr>
<tr>
<td>**Alternate Xm = Xpodopt =</td>
</tr>
</tbody>
</table>

** Alternate Xm = Xpodopt =

* TABLE A *
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

| Xpod, Class Length | No. Need |
| 1.2270 | 45 |
| 0.4000 | 41 |
| 0.3500 | 34 |
| 0.3320 | 48 |

** TABLE B *
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

| Xpod, Class Length | No. Need |
| 1.8030 | 28 |

No Misses Observed □ At Least One Miss Occurred ▲ XL ○ Xm □ Xs □ Xss □ Xpoh ▲ 2XL ▲ Xpod ▲ Xpodopt

1.000 1.500 2.000 2.500 3.000

0.00 5.00 10.00 15.00 20.00 25.00 30.00 35.00 40.00 45.00 50.00 55.00 60.00

Number of Additional Samples Needed

0.00 0.500 1.000 1.500 2.000 inch
### Detection Probability

Utilization of DOEPOD results requires approval of Engineering Authority.

- **Warning:** No false call analysis.

**CASE 6** - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod Reached Anywhere?</td>
<td>NOT REACHED</td>
</tr>
<tr>
<td>POD @ Xpod</td>
<td>2.403</td>
</tr>
<tr>
<td>Best LCL</td>
<td>0.0800</td>
</tr>
<tr>
<td>Lower Confidence Bound @ 95%</td>
<td>0.8931</td>
</tr>
<tr>
<td>Class Length @ Best LCL</td>
<td>0.2620</td>
</tr>
<tr>
<td>Xp, 90/95 POD</td>
<td>1.6030</td>
</tr>
<tr>
<td>POD @ Xp</td>
<td>1.6030</td>
</tr>
<tr>
<td>NTIAC 90% POD @ 0.330</td>
<td>0.901</td>
</tr>
<tr>
<td>NTIAC 90/95 POD @ 0.330</td>
<td>0.901</td>
</tr>
<tr>
<td>False Call Rate</td>
<td>0.000</td>
</tr>
<tr>
<td>Survey/Optimum Xpoh</td>
<td>1.6030</td>
</tr>
<tr>
<td>Largest Class length, XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td>28</td>
</tr>
<tr>
<td>Class length Mid-point, Xm</td>
<td>1.6030</td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
<td>28</td>
</tr>
<tr>
<td>Smallest Class length, Xs</td>
<td>0.0800</td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td>28</td>
</tr>
<tr>
<td>New Smaller Class length, Xss</td>
<td>0.0800</td>
</tr>
<tr>
<td>Best LCL Class length, Xlcl</td>
<td>1.6030</td>
</tr>
<tr>
<td>Samples Needed @ Xlcl</td>
<td>28</td>
</tr>
<tr>
<td>POD Class length, Xpoh</td>
<td>1.6030</td>
</tr>
<tr>
<td>Samples Needed @ Xpoh</td>
<td>28</td>
</tr>
<tr>
<td>New Largest Class length, 2XL</td>
<td>4.806</td>
</tr>
<tr>
<td>Xm is Near Verification Point</td>
<td>1.6030</td>
</tr>
<tr>
<td>Opt. POD class length, Xpodopt</td>
<td>1.6030</td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td>28</td>
</tr>
</tbody>
</table>

**File Name:** D6001CL.XLS  
**Data Set Name:** D6001CL(CRK #)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 - 0.3000 inch
Samples = 28

False Call Rate = with UCL @ 95%
Largest Classlength , XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point , Xm = 1.603 inch
Samples Needed @ Xm = 28
Smallest Classlength, Xs = 1.603 inch
Samples Needed @ Xs = 28
New Smaller Classlength, Xss = 1.603 inch
Best LCL Classlength, Xlcl = 1.603 inch
Samples Needed @ Xlcl = 28
POH Classlength, Xpoh = 1.603 inch
New Largest Classlength , 2XL = 4.806 inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

File Name = D6003CL.XLS
Data Set Name = D6003CL(CRK # )
Date & Time = 6/5/15 12:37 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound @ 95%
Best LCL = 0.8813
Best LCL = 0.0880
Classlength @ Best LCL = 0.2620
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
False Call Rate = 0.0532
Survey/Optimum Xpoh = 0.0532

Largest Class Length, XL = 0.342 inch
Samples Needed @ XL = 26

Best LCL, Classlength, Xcl = 0.190 inch
Samples Needed @ Xcl = 2

Opt. POD classlength, Xpodopt = 0.074 inch
Samples Needed @ Xpodopt = 3

Classlength, Xp = 0.342 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**Alternate Xm = Xpodopt**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.342</td>
</tr>
<tr>
<td>Xm</td>
<td>0.169</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm = Xpodopt</strong></td>
<td>0.074 3</td>
</tr>
</tbody>
</table>

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 11 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

### Table C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.066</td>
<td></td>
</tr>
</tbody>
</table>

### Table A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.342</td>
<td></td>
</tr>
</tbody>
</table>

### Table B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.066</td>
<td></td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 11 more large flaws.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

Case 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.0575 -0.001 Inch 28 Samples

NTIAC 90% POD = 0.933 @ 0.065 inch
NTIAC 90/95 POD = 0.925 @ 0.075 inch
False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.342 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.169 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
New TL CL Classlength, Xcl =
Smallest Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpoh = 0.078 inch
Samples Needed @ Xpoh =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**Alternate Xm = Xpodopt = 0.078 4**

---

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.342</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.169</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.0730 - 0.002 Inch
False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.095 Inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm =
 Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh = 0.073 Inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = 0.190 Inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp =

DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm Analysis file name:

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

File Name = D8001(3)L.xls
Data Set Name = D8001(3)CK. NO

Warning: No false call analysis.

Large flaw validation failure. Need 11 more large flaws.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length, inch

Survey/Optimum Xpoh = 0.000 Inch Samples

Factors

- False Call Rate
- Optimal POD classlength, Xpodopt
- Xp
- XL is Near Verification Point
- Largest Classlength, XL
- Samples Needed @ XL
- Classlength Mid-point, Xm
- Samples Needed @ Xm
- Smallest Classlength, Xs
- Samples Needed @ Xs
- New Smaller Classlength, Xss
- BestLCL Classlength, Xlcl
- Samples Needed @ Xlcl
- NTIAC 90% POD
- NTIAC 90/95 POD

Analysis file name: DOEPOD_v.1.2.01_PC08262010.Win7.xlsm

x Hit/Miss

Probability of Hit (POH) in Class Range

Lower Confidence Bound @ 95%

MLE(Mean) POD

MLE(95%) LCL

Analysis Name: DOEPOD_v.1.2.01_PC08262010.Win7.xlsm

Analysis Date & Time = 6/5/15 12:44 AM

Reached:
- Xpod 90/95 Reached Anywhere?
- Classwidth @ 90/95 Xpod
- Lower Confidence Bound
- Best LCL
- Classwidth @ Best LCL
- Classlength @ Best LCL
- User Provided a 90/95 POD @
- User's Maximum Allowed Classlength

Pilot Classwidth @ Xp = 1.0000

Best LCL Classlength, Xlcl =

POD @ Xpod =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.132.

Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

**CASE 1** - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

### Table: POD Analysis

<table>
<thead>
<tr>
<th>POD Type</th>
<th>POD Value</th>
<th>xlcl Value</th>
<th>Samples Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>NTIAC 90% POD</td>
<td>0.931</td>
<td>0.045</td>
<td></td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
<td>0.920</td>
<td>0.050</td>
<td></td>
</tr>
<tr>
<td>False Call Rate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with UCL @ 95%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Largest Classlength, XL</td>
<td>0.095</td>
<td>inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classlength, Mid-point, Xm</td>
<td>0.057</td>
<td>inch</td>
<td></td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xss</td>
<td></td>
<td>inch</td>
<td></td>
</tr>
<tr>
<td>Best LCL Classlength, Xlcl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xlcl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POD Classlength, Xpod</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpod</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Largest Classlength, 2XL</td>
<td></td>
<td>inch</td>
<td></td>
</tr>
<tr>
<td>Xm is Near Verification Point</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td></td>
<td>inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**File Name:** D8002(3)D.xls  
**Data Set Name:** D8002(3)(K.NO.)  
**Date & Time:** 6/5/15 12:46 AM  
**Xpod 90/95 Reached Anywhere?** REACHED  
**Classwidth @ 90/95 Xpod** 0.0300 inch  
**Lower Confidence Bound @ 95%** 0.0440 inch  
**Best LCL** 0.9050 inch  
**Classwidth @ Best LCL** inch  
**Classlength @ Best LCL** inch  
**User Provided a 90/95 POD @**  
**User's Maximum Allowed Classlength** inch  
**POD @ Xpod** 1.0000  
**POH Classlength, Xpoh**  
**New Largest Classlength, 2XL**  
**Xm is Near Verification Point**  
**Opt. POD classlength, Xpodopt**  

**Analysis File name:** DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.095</td>
<td></td>
</tr>
<tr>
<td>0.057</td>
<td></td>
</tr>
<tr>
<td>0.030</td>
<td></td>
</tr>
<tr>
<td>0.020</td>
<td></td>
</tr>
<tr>
<td>0.010</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.095</td>
<td></td>
</tr>
<tr>
<td>0.057</td>
<td></td>
</tr>
<tr>
<td>0.030</td>
<td></td>
</tr>
<tr>
<td>0.020</td>
<td></td>
</tr>
<tr>
<td>0.010</td>
<td></td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**TABLE C**
Selected class lengths with existing misses.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.095</td>
<td>0.057</td>
</tr>
<tr>
<td>0.030</td>
<td>0.020</td>
</tr>
<tr>
<td>0.010</td>
<td></td>
</tr>
<tr>
<td>0.005</td>
<td></td>
</tr>
</tbody>
</table>

No Misses Observed □ At Least One Miss Occurred △ XL ○ Xm □ Xs ○ Xss □ Xlcl ○ Xpoh □ 2XL ○ Xpod □ Xpodopt
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 12 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh = 0.000 inch Samples

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.684 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.563 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
Opt. POD classlength, Xpodopt =
New Largest Classlength, 2XL =
Xm is Near Verification Point =

XP = 0.5420 inch

Notice: No false call analysis.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.126.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.828.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpod = 0.902 @ 0.370 inch
NTIAC 90% POD = 0.900 @ 0.460 inch
False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.684 inch
Samples Needed @ XL = 13
Classlength Mid-point, Xm = 0.569 inch
Samples Needed @ Xm = 20
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
Opt. POD classlength, Xpodopt =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =

Xp = 0.684 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

![Directed DOE Options](image)

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

- XL =
- Xs =
- Xss =
- Xlcl =
- Xpoh =
- 2XL =

**Alternate Xm =**

- Xpodopt =

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

2.542 29

**Xpodopt =**

29

**Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.**

**Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.**

**No Misses Observed**

**At Least One Miss Occurred**

- XL
- Xm
- Xs
- Xss
- Xlcl
- Xpoh
- 2XL
- Xpod
- Xpodopt

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths indicating that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide an alternate target Xpod point. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Table A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**Table B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**Alternate Xm**
Xpodopt =

**Table C**
Class Length Additional Samples

D9002(3)L.xlsx
D9002(3)L(CK.NO.)

Xpoh = 2.542

2XL =

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

*The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.*

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.*
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.189.
Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

MLE Divergence Warning: Initial results listed.

File Name = D900313D.xls
Data Set Name = D900313D(C) NO.
Date & Time = 6/5/15 1:02 AM
Xpod 90/95 Reached Anywhere?
Class width @ 90/95 Xpod
Lower Confidence Bound
Hit/Miss
MLE(Mean) POD
MLE(95%) LCL
Best LCL
Class width @ Best LCL
Class length @ Best LCL
User Provided a 90/95 POD
User's Maximum Allowed Class length
Inspector Class width @ Xp
POD @ Xpod

Best LCL
Largest Class length, XL
Smallest Class length, Xs
POH Class length, Xpoh
New Largest Class length, 2XL
False Call Rate
New Smaller Class length, Xss
Opt POD class length, Xpodopt

NTIAC 90% POD = 0.999
NTIAC 90/95 POD = 0.933
False Call Rate = 0.000

Largest Class length, XL = 0.160
Samples Needed @ XL = 0.105
Class length Mid-point, Xm =
Smallest Class length, Xs =
Samples Needed @ Xs =
New Smaller Class length, Xss =
Best LCL class length, Xcl =
Samples Needed @ Xcl =
POH Class length, Xpoh =
Samples Needed @ Xpoh =
Opt. POD class length, Xpodopt =
Samples Needed @ Xpodopt =

Survey/Optimum Xpoh = 0.000 Inch Samples

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm
requirements. VALIDATION GAP exists. Xp may VALIDATE
between Xp and XL when causes of Misses are understood and
corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 2.064. Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

File Name = D9003(3)L.xls
Data Set Name = D9003(3) (CK. NO.)
Date & Time = 6/5/15 1:19 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = 0.0170 inch
Classlength @ 90/95 Xpod = 0.6880 inch
Lower Confidence Bound = 0.9050 inch
Best LCL = Classwidth @ Best LCL = Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = POD @ Xpod = 0.9000
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
Best LCL Classlength, Xlcl = inch
Classlength Mid-point, Xm = inch
Smallest Classlength, Xs = inch
New Smaller Classlength, Xss = inch
POH Classlength, Xpoh = inch
New Largest Classlength, 2XL = inch
Xn is Near Verification Point = inch
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt = inch

Survey/Optimum Xpoh = 0.000 Inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.271 inch
Samples Needed @ XL = inch
Classlength Mid-point, Xm = 0.846 inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh = inch
New Largest Classlength, 2XL = inch

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and alternate Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resloved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Analysis file name: DOEPOD_v.1.2.01.PC.Office2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

**Directed DOE Options**

<table>
<thead>
<tr>
<th>TABLE A*</th>
<th>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XL</strong>: 1.500</td>
<td><strong>TABLE B</strong>*: Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.</td>
</tr>
<tr>
<td><strong>Xm</strong>: 29</td>
<td></td>
</tr>
<tr>
<td><strong>Xs</strong>:</td>
<td></td>
</tr>
<tr>
<td><strong>Xss</strong>:</td>
<td></td>
</tr>
<tr>
<td><strong>Xlcl</strong>:</td>
<td></td>
</tr>
<tr>
<td><strong>Xpoh</strong>:</td>
<td></td>
</tr>
<tr>
<td><strong>2XL</strong>:</td>
<td></td>
</tr>
</tbody>
</table>

**Additional Samples Needed**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>1.500</td>
</tr>
<tr>
<td>Xm</td>
<td>29</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

**Xpodopt**

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Misses Observed</td>
<td>At Least One Miss Occurred</td>
</tr>
<tr>
<td>XL</td>
<td>Xm</td>
</tr>
</tbody>
</table>

**Selected class lengths with existing misses.**

Each point requires additional samples in or to achieve the Xpod listed.

**Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.**

**File Name =** D9004(3)L.xls

**Data Set Name =** D9004(3)L(CK. NO.)

563
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

File Name = D9005(3)D.xls
Data Set Name = D9005(3)D(CK. NO.)

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.320</td>
<td>29</td>
<td>0.320</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm** = Xpodopt

---

**TABLE C**

Class Length Additional Samples

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.2450 - 0.018 inch
Xpod = 1.271 inch
2XL = 2.542 inch
Xm is Near Verification Point = False Call Rate = 0.018
Opt. POD classlength, Xpodopt = 1.245 inch
false call analysis.

Probabilities of Hit (POH) in Class Range:
- Probability of Hit (POH) in Class Range
- Lower Confidence Bound @ 95%
- Hit/Miss
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.160</td>
<td></td>
<td>0.094</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.160</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**
Selected class lengths.

No Misses Observed
At Least One Miss Occurred

D9006(3)D.xls
D9006(3)D(CRACK)

File Name = D9006(3)D.xls
Data Set Name = D9006(3)D(CRACK)
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 1.554.
Any highlighted Misses are RED and shown in Column A of this data sheet.
Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, indicating that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### TABLE A

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.889</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.742</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

### TABLE B

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

### TABLE C

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Xpod, Class Length | No. Need | Xpod, Class Length | No. Need |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**File Name = D9006(3)L.xls**

**Data Set Name = D9006(3)L(CRACK)**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

File Name = DA001
Data Set Name = DA001
Date & Time = 6/5/15 2:17 AM
Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod inch
Classlength @ 90/95 Xpod inch
Lower Confidence Bound = 0.8931 inch
Best LCL = 0.0930 inch
Classwidth @ Best LCL inch
Classlength @ Best LCL inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength @ inch
Inspector Classwidth @ Xp = inch
POD @ Xpod = inch

Warning: No false call analysis.

CASPOD.v.1.2.01.PC.Office2010.Win7.xlsm Analysis file name: DA001

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = inch
Samples Needed @ XL = inch
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh = inch
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt = inch
Xp = inch
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Directed DOE Options**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Class Length | Additional Samples
---|---
XL = | 0.430 29
XM = | **Alternate Xm =**
XS = | Xpodopt =
XSS = |
XLCL = |
XPoh = |
2XL = |

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternative target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Case 6 - 90/95 Xp is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

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MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

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Warning: No false call analysis.

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Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

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Warning: No false call analysis.

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Warning: No false call analysis.

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Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 15 more large flaws.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>0.470</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 29

TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

Xpod, Class Length, No. Need

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

DB001(3)D.xls

DB001(3)D(CK. NO.)

TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

Xpod, Class Length, No. Need

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
FILE NAME = D80013L.xls
DATA SET NAME = D80013L(CK. NO.)
Date & Time = 6/5/15 2:27 AM

Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.8190 inch
Best LCL = 0.1000 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 0.000 Inch Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

Probabilities of hit (POH) in class range

WARNING: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Large flaw validation failure. Need 11 more large flaws.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh =

False Call Rate =

with UCL @ 95% =

Largest Classlength, XL =
Samples Needed @ XL =
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xicl =
Samples Needed @ Xicl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp =

File Name = D8002(3)OL.xls
Data Set Name = D8002(3)OL(CK. NO.)
Date & Time = 6/5/15 2:28 AM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =

Table A

<table>
<thead>
<tr>
<th>POD</th>
<th>90%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>0.30</td>
<td>0.30</td>
</tr>
<tr>
<td>0.40</td>
<td>0.40</td>
</tr>
<tr>
<td>0.50</td>
<td>0.50</td>
</tr>
<tr>
<td>0.60</td>
<td>0.60</td>
</tr>
<tr>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>0.80</td>
<td>0.80</td>
</tr>
<tr>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Table B

<table>
<thead>
<tr>
<th>POD</th>
<th>95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>0.10</td>
<td>0.10</td>
</tr>
<tr>
<td>0.20</td>
<td>0.20</td>
</tr>
<tr>
<td>0.30</td>
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<td>0.40</td>
<td>0.40</td>
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<td>0.50</td>
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<tr>
<td>0.60</td>
<td>0.60</td>
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<tr>
<td>0.70</td>
<td>0.70</td>
</tr>
<tr>
<td>0.80</td>
<td>0.80</td>
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<tr>
<td>0.90</td>
<td>0.90</td>
</tr>
<tr>
<td>1.00</td>
<td>1.00</td>
</tr>
</tbody>
</table>

WARNING: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Alternate Xm = Xpodopt**

### Table A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1510</td>
<td>67</td>
<td>26</td>
</tr>
<tr>
<td>0.1470</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>0.1380</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>0.1300</td>
<td>117</td>
<td></td>
</tr>
</tbody>
</table>

### Table B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1510</td>
<td>67</td>
</tr>
<tr>
<td>0.1590</td>
<td>26</td>
</tr>
</tbody>
</table>

### Table C
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.235</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>0.116</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Need 16 more large flaws.

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.000 Inch Samples
NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 1.435 inch
Samples Needed @ XL = 17
Classlength Mid-point, Xm = 1.085 inch
Samples Needed @ Xm = 23
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
Opt. POD classlength, Xpodopt =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
POH Classlength, Xpoh =
New Larger Classlength, 2XL =

False Call Rate =
Largest Classlength, XL = 1.435 inch
Samples Needed @ XL = 17
Classlength Mid-point, Xm = 1.085 inch
Samples Needed @ Xm = 23
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
Opt. POD classlength, Xpodopt =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
POH Classlength, Xpoh =
New Larger Classlength, 2XL =

False Call Rate =
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.2350 - 0.041 Inch
Samples Needed @ Xpoh = 26

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.235 Inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh = 0.235 Inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = 0.470 Inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

% NTIC 90% POD = @ Inch
% NTIC 90/95 POD = @ Inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

\[ X_{\text{pod opt}} = \]

**TABLE A**
Selected class lengths with existing misses.
Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xlcl</th>
<th>Xpoh</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.235</td>
<td>0.470</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xlcl</th>
<th>Xpoh</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.235</td>
<td>0.470</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpod opt**
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Need 3 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 7 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 3 more large flaws.

**Warning:** No false call analysis.

### File Name = DC002(3)D.xls
**Data Set Name = DC002(3)D(CK. NO.)**

**Date & Time = 6/5/15 2:43 AM**

**Xpod 90/95 Reached Anywhere?**
- Yes

**Classwidth @ 90/95 Xpod**
- 0.0060 inch

**Classlength @ 90/95 Xpod**
- 0.0590 inch

**Lower Confidence Bound = 0.9050 inch**

**Best LCL**
- 0.9050 inch

**Classwidth @ Best LCL**
- 0.9050 inch

**Classlength @ Best LCL**
- 0.9050 inch

**User Provided a 90/95 POD @**
- 0.9050 inch

**User's Maximum Allowed Classlength**
- 0.0060 inch

**POD @ Xpod**
- 0.0060 inch

### CASE 2 - 90/95 Xpod is reached at a class length. Further VALIDATION is required. Recommend satisfying XL and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

**Survey/Optimum Xpoh**
- 0.000 Inch

**NTIAC 90% POD = 0.903 @ 0.060 inch**

**NTIAC 90/95 POD = 0.902 @ 0.105 inch**

**False Call Rate = 0.000**

**with UCL @ 95%**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largest Classlength, XL</td>
<td>0.276 inch</td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td>26</td>
</tr>
<tr>
<td>Classlength Mid-point, Xm</td>
<td>0.215 inch</td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
<td>17</td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
<td>0.060 inch</td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xs</td>
<td></td>
</tr>
<tr>
<td>BestLCL Classlength, Xcl</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xcl</td>
<td></td>
</tr>
<tr>
<td>POH Classlength, Xpoh</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpoh</td>
<td></td>
</tr>
<tr>
<td>New Largest Classlength, 2XL</td>
<td></td>
</tr>
<tr>
<td>Xn is Near Verification Point</td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

### Analysis File Name: DOEPOD_v.1.2.01_PC_Oct2010_Win7.xlsm

**Analysis File Name:** DOEPOD_v.1.2.01_PC_Oct2010_Win7.xlsm

**Analysis File Name:** DOEPOD_v.1.2.01_PC_Oct2010_Win7.xlsm

**Analysis File Name:** DOEPOD_v.1.2.01_PC_Oct2010_Win7.xlsm
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths: this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2390</td>
<td>43</td>
</tr>
<tr>
<td>0.1870</td>
<td>55</td>
</tr>
<tr>
<td>0.1820</td>
<td>64</td>
</tr>
<tr>
<td>0.1790</td>
<td>37</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2760</td>
<td>26</td>
</tr>
<tr>
<td>0.2150</td>
<td>17</td>
</tr>
<tr>
<td>0.1950</td>
<td>23</td>
</tr>
<tr>
<td>0.1930</td>
<td>23</td>
</tr>
</tbody>
</table>

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths: this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Need 7 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

False Call Rate = with UCL @ 95% =

Largest Classlength, Xl = 1.562 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 1.061 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
Opt. POD classlength, Xpodopt =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Samples Needed @ Xp = 0.8950 inch

Survey/Optimum Xpoh = 0.000 inch @ 0.235 inch
NTIAC 90% POD = 0.900 inch @ 0.8950 inch
NTIAC 90/95 POD = 0.900 inch @ 0.8950 inch

File Name = DC0023JL.xls
Data Set Name = DC0023JL(CK. NO.)
Date & Time = 6/5/15 2:47 AM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.235 inch
Lower Confidence Bound = 0.360 inch
Best LCL = 0.9050 inch
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod = 1.0000
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

Warning: No false call analysis.

Large flaw validation failure. Need 5 more large flaws.

Any highlighted Misses are RED and shown in Column A of this data sheet.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation failure. Need 7 more large flaws.
Any highlighted Misses are RED and shown in Column A of this data sheet.

**Warning:** No false call analysis.

**Case 1**: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

**Survey/Optimum Xpoh =**

- **NTIAC 90% POD =** 0.903 @ 0.185 inch
- **NTIAC 90/95 POD =** 0.901 @ 0.235 inch

**False Call Rate =** with UCL @ 95% =

- **Largest Classlength, XL =** 1.562 inch
- **Samples Needed @ XL =**
- **Classlength Mid-point, Xm =** 1.119 inch
- **Samples Needed @ Xm =**
- **Smallest Classlength, Xs =**
- **New Smaller Classlength, Xss =**
- **Best LCL Classlength, Xlcl =**
- **Samples Needed @ Xlcl =**
- **POH Classlength, Xpoh =**
- **Samples Needed @ Xpoh =**
- **New Largest Classlength, 2XL =**
- **Xm is Near Verification Point =**
- **Opt. POD classlength, Xpodopt =**
- **Samples Needed @ Xpodopt =**

**Xp =** 0.348 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.***

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.

Survey/Optimum Xpoh = 0.2150 - 0.090 inch
Samples = 26

False Call Rate = with UCL @ 95% = 0.0120 - 0.0150 inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = D0001(3)D.xls
Data Set Name = D0001(3)D
Date & Time = 6/5/15 3:00 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod
Classlength @ 90/95 Xpod
Lower Confidence Bound
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD
User's Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xpod

Classwidth @ 90/95 Xpod = 0.1150 inch
Classlength @ 90/95 Xpod = 0.7169 inch
Best LCL = 0.0120 inch
Classwidth @ Best LCL = 0.0120 inch
Classlength @ Best LCL = 0.1150 inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

### Directed DOE Options

<table>
<thead>
<tr>
<th>Directed DOE Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE C</td>
</tr>
<tr>
<td>Class Length</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td>XL = 0.215</td>
</tr>
<tr>
<td>Xm = 0.215</td>
</tr>
<tr>
<td>Xs = 0.430</td>
</tr>
<tr>
<td>Xss =</td>
</tr>
<tr>
<td>Xlcl =</td>
</tr>
<tr>
<td>Xpod =</td>
</tr>
<tr>
<td>2XL =</td>
</tr>
<tr>
<td>Xpodopt =</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpod =**

### File Name = DDo01(3)D.xls

**Data Set Name =**

**Selected class lengths with existing misses.**

Each point requires additional samples in or to achieve the Xpod listed.

**Selected class lengths with no misses.**

Additional samples at these class lengths will achieve the Xpod listed.

- **TABLE A**
- **TABLE B**

### Table A

<table>
<thead>
<tr>
<th>No Misses Observed</th>
<th>At Least One Miss Occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>X pod</td>
<td>Class Length</td>
</tr>
<tr>
<td>Need</td>
<td>No.</td>
</tr>
</tbody>
</table>

### Table B

<table>
<thead>
<tr>
<th>No Misses Observed</th>
<th>At Least One Miss Occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>X pod</td>
<td>Class Length</td>
</tr>
<tr>
<td>Need</td>
<td>No.</td>
</tr>
</tbody>
</table>

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpod = 0.4950
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.495 inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh = 0.495 inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = 0.990 inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.1240 - 0.008 inch 26 Samples

NTIAC 90% POD = 0.902 @ 0.130 inch

NTIAC 90/95 POD =

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.215 inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh = 0.215 inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = 0.430 inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp =

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = D0002(3)D.xls
Data Set Name = D0002(3)D(CK. NO. )

Date & Time = 6/5/15 3:02 AM

Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.8666 inch
Best LCL = 0.0390 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp =
POD @ Xpod =

User Provided a 90/95 POD @
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp =
POD @ Xpod =

Largest Classlength, XL =
Samples Needed @ XL =
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp =

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
File Name = D003[30.xls
Data Set Name = D003[30(CK. NO.)

Date & Time = 6/5/15 3:04 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = NOT REACHED
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.3152
Best LCL = 0.0120 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 Inch Samples

NTIAC 90% POD = 0.430 inch
NTIAC 90/95 POD = 0.000 inch
False Call Rate = No false call analysis.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Table C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.430</td>
</tr>
<tr>
<td>Xm</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

### Table A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>XL</strong></td>
<td>0.430</td>
<td>29</td>
</tr>
</tbody>
</table>

### Table B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Xlcl</strong></td>
<td>0.430</td>
<td><strong>2XL</strong></td>
<td>29</td>
</tr>
</tbody>
</table>

### Directed DOE Options

**FILENAME** = DD003(3)D.xls

**Data Set Name** = DD003(3)0 (CK. NO.)
Warning: No false call analysis.

CASE 7 - 90/95 Xp is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh =

- NTIAC 90% POD = 0.989 ± 0.005 inch
- NTIAC 90/95 POD =
- False Call Rate = with UCL @ 95%
  - Largest Classlength, XL = inch
  - Samples Needed @ XL =
  - Classlength Mid-point, Xm = inch
  - Samples Needed @ Xm =
  - Smallest Classlength, Xs = inch
  - Samples Needed @ Xs =
  - New Smaller Classlength, Xss = inch
  - Best LCL Classlength, Xlcl = inch
  - Samples Needed @ Xlcl =
  - POH Classlength, Xpoh = inch
  - Samples Needed @ Xpoh =
  - New Largest Classlength, 2XL = inch
  - Xm is Near Verification Point =
  - Opt. POD classlength, Xpodopt = inch
  - Samples Needed @ Xpodopt =
  - Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name: E1002AL.XLS
Data Set Name: E1002AL(CRACK #)
Date & Time: 6/5/15 3:10 AM

Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.7169 inch
Best LCL = 0.0290 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Survey/Optimum Xpoh = 0.4220 -0.056 inch
Samples Needed @ Xpoh = 28

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.422 inch
Samples Needed @ XL = 28
Classlength Mid-point , Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 0.422 inch
Samples Needed @ Xpoh = 28
New Largest Classlength , 2XL = 0.844 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt = inch

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 inch
False Call Rate = with UCL @ 95%

- Largest Classlength, XL = inch
- Samples Needed @ XL =
- Classlength Mid-point, Xm = inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs =
- New Smaller Classlength, Xss = inch
- BestLCL Classlength, Xlcl = inch
- Samples Needed @ Xlcl =
- POH Classlength, Xpoh = inch
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL = inch
- Xn is Near Verification Point =
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt =

File Name = E2006.XLS
Data Set Name = E2006(HOLE #)
Date & Time = 6/5/15 3:11 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL = 0.7266 inch
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =

Class Length, inch
Probability of Hit (POH)
Lower Confidence Bound @ 95%

- NTIAC 90% POD = 0.901 @ 0.280 inch
- NTIAC 90/95 POD = 0.901 @ 0.715 inch

Analysis file name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resloved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

* The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

** Alternate Xm = Xpodopt

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

**MLE Divergence Warning:** Initial results listed.

**Warning:** No false call analysis.

**CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.**

**Survey/Optimum Xpoh = 0.8091 -0.092 inch**  
28 Samples

- **NTIAC 90% POD =** 0.809 inch
- **NTIAC 90/95 POD =** 0.010 inch

**False Call Rate =** with UCL @ 95% =

- Largest Classlength, XL = 0.809 inch
- Samples Needed @ XL = 28
- Classlength Mid-point, Xm =
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- POH Classlength, Xpoh = 0.809 inch
- Samples Needed @ Xpoh = 28
- New Largest Classlength, 2XL = 1.618 inch
- Xn is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**SATISFYING THE ALTERNATE Xm REQUIREMENT REMOVES THE NEED TO MEET THE ADJACENT Xm REQUIREMENT.

**THE ADDED CLASS LENGTHS ARE TO BE AT THE CLASS LENGTH INDICATED OR SMALLER TO WITHIN THE CLASS WIDTH INDICATED IN THE COMPANION CHART.

**Alternate Xm = Xpodopt =
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.618</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 1.74999.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.809</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.650</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.578  29**

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.809</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.650</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.809</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.650</td>
<td></td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh =</td>
<td></td>
</tr>
<tr>
<td>2XL =</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.578  29**

---

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 2.03181.
Any highlighted Misses are RED and shown in Column A of this data sheet

**Warning:** No false call analysis.

### Case 1
- 90/95 Xpod is reached. Xp used to satisfy XL and alternate Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.

### Data Sheet Information
- **File Name:** F10002BA.XLS
- **Data Set Name:** F10002BA(CRACK #)
- **Date & Time:** 6/5/15 3:19 AM
- **Xpod 90/95 Reached Anywhere?** REACHED
- **Classwidth @ 90/95 Xpod:**
  - **MLE(Mean) POD:** 0.2000 inch
  - **MLE(95%) LCL:** 0.9117 inch
- **Classlength @ 90/95 Xpod:**
  - **Best LCL:** 0.809 inch
  - **Classwidth @ Best LCL:** 0.717 inch
  - **Classlength @ Best LCL:** 0.480 inch
- **User Provided a 90/95 POD @:**
  - **POD @ Xpod:** 0.6773 inch
- **User's Maximum Allowed Classlength:**
  - **POD @ Xpod:** 0.9701 inch
- **Inspector Classwidth @ Xp:**
  - **Classwidth @ Xpod:** 0.480 inch
  - **Classlength @ Xpod:** 0.585 inch
  - **Classwidth @ Xp:** 0.901 inch
  - **Classlength @ Xp:** 0.900 inch
  - **Classwidth @ Best LCL:** 0.9701 inch
  - **Classlength @ Best LCL:** 0.9117 inch
- **Largest Classlength, XL:** 0.9701 inch
- **Samples Needed @ XL:** 28
- **Smallest Classlength, Xs:** 0.480 inch
- **Samples Needed @ Xs:** 28
- **New Smaller Classlength, Xss:**
  - **Best LCL Classlength, Xlcl:** 0.901 inch
  - **POH Classlength, Xpoh:** 0.5667 inch
  - **Samples Needed @ Xpoh:** 28
  - **New Larger Classlength, 2XL:** 0.6773 inch
  - **Xm is Near Verification Point:** FOH
  - **Opt. POD classlength, Xpodopt:**
  - **Samples Needed @Xpodopt:**

### False Call Rate
- **False Call Rate =** with UCL @ 95% =
  - **Largest Classlength , XL:** 0.809 inch
  - **Samples Needed @ XL:** 28
  - **Classlength Mid-point , Xm:** 0.717 inch
  - **Samples Needed @ Xm:** 28
  - **Smallest Classlength, Xs:** 0.480 inch
  - **Samples Needed @ Xs:** 28
  - **New Smaller Classlength, Xss:**
  - **Best LCL Classlength, Xlcl:** 0.901 inch
  - **POH Classlength, Xpoh:** 0.5667 inch
  - **Samples Needed @ Xpoh:** 28
  - **New Larger Classlength, 2XL:** 0.6773 inch
  - **Xm is Near Verification Point:** FOH
  - **Opt. POD classlength, Xpodopt:**
  - **Samples Needed @Xpodopt:**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

#### Table A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.660</td>
<td></td>
</tr>
<tr>
<td>0.680</td>
<td></td>
</tr>
<tr>
<td>0.700</td>
<td></td>
</tr>
<tr>
<td>0.720</td>
<td></td>
</tr>
<tr>
<td>0.740</td>
<td></td>
</tr>
<tr>
<td>0.760</td>
<td></td>
</tr>
<tr>
<td>0.780</td>
<td></td>
</tr>
<tr>
<td>0.800</td>
<td></td>
</tr>
<tr>
<td>0.820</td>
<td></td>
</tr>
</tbody>
</table>

#### Table B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.660</td>
<td></td>
</tr>
<tr>
<td>0.680</td>
<td></td>
</tr>
<tr>
<td>0.700</td>
<td></td>
</tr>
<tr>
<td>0.720</td>
<td></td>
</tr>
<tr>
<td>0.740</td>
<td></td>
</tr>
<tr>
<td>0.760</td>
<td></td>
</tr>
<tr>
<td>0.780</td>
<td></td>
</tr>
<tr>
<td>0.800</td>
<td></td>
</tr>
<tr>
<td>0.820</td>
<td></td>
</tr>
</tbody>
</table>

#### Table C
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.660</td>
<td></td>
</tr>
<tr>
<td>0.680</td>
<td></td>
</tr>
<tr>
<td>0.700</td>
<td></td>
</tr>
<tr>
<td>0.720</td>
<td></td>
</tr>
<tr>
<td>0.740</td>
<td></td>
</tr>
<tr>
<td>0.760</td>
<td></td>
</tr>
<tr>
<td>0.780</td>
<td></td>
</tr>
<tr>
<td>0.800</td>
<td></td>
</tr>
<tr>
<td>0.820</td>
<td></td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 1.74999.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 1.74999.

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 1.74999.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 0.5667 \pm 0.014 inch
28 Samples

NTIAC 90% POD = 0.903 @ 0.400 inch
NTIAC 90/95 POD = 0.902 @ 0.475 inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = 1.618 inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

File Name = F1003AA.XLS
Data Set Name = F1003AA(Crack #)
Date & Time = 6/5/15 3:23 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classwidth @ Best LCL = 0.9049 inch
Classwidth @ Worst LCL = 0.8091 inch
Classlength @ 90/95 Xpod = inch
Classlength @ Best LCL = 0.3000 inch
Classlength @ Worst LCL = 0.4750 inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 1.51362.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh = 0.902 @ 0.435 inch
NTIAC 90% POD = 0.901 @ 0.525 inch
False Call Rate = 0.000 with UCL @ 95% =

- Largest Classlength, XL = 0.809 inch
- Samples Needed @ XL =
- Classlength Mid-point, Xm = 0.600 inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- OPT. POD classlength, Xpodopt =
- New Largest Classlength, 2XL =
- Xm is Near Verification Point =
- Samples Needed @ Xpodopt =

Xp = 0.533 inch

File Name = F10003BA.XLS
Data Set Name = F10003BA(CRACK #)
Date & Time = 6/5/15 3:25 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod = 1.0000

XL = 0.5045 inch
XL = 0.9001 inch
XL = 0.435 inch
XL = 0.525 inch
XL = 0.809 inch
XL = 0.600 inch
XL = 0.300 inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.809</td>
</tr>
<tr>
<td>Xm</td>
<td>0.600</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

## TABLE C

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td></td>
</tr>
</tbody>
</table>

### TABLE B*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>#</td>
<td></td>
</tr>
</tbody>
</table>

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy the elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length, Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Class Length @ 90/95 Xpod
Lower Confidence Bound = Best LCL = Classwidth @ Best LCL = Classlength @ Best LCL =
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
Pod @ Xpod = 1.0000

CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.5182 - 0.001 inch 26 Samples

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 0.809 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.683 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.592 inch
Samples Needed @ Xpodopt = 29
Xp = 0.6000 inch

WARNING: No false call analysis.

Large flaw validation failure. Extend flaw size range to 1.8.

Note: Xpodopt is within one class width of Xpod.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 XPod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### Directed DOE Options

<table>
<thead>
<tr>
<th>XL =</th>
<th>Xs =</th>
<th>Xss =</th>
<th>Xlcl =</th>
<th>Xpoh =</th>
<th>2XL =</th>
<th>Xpodopt =</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.086</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

---

### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

### TABLE C

Class Length | Additional Samples
|------------|------------------|

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

---

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 Inch Samples

False Call Rate = with UCL @ 95% =

Large Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =

MLE Divergence Warning: Initial results listed.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

File Name = F10601XL.XLS
Data Set Name = F10601XL(CRACK #)
Date & Time = 6/5/15 3:33 AM
Xpod 90/95 Reached Anywhere? NOT REACHED
Class Length @ 90/95 Xpod = inch
Lower Confidence Bound = 0.0127
Best LCL = 0.0010
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
POD @ Xpod =

 CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 Inch 
Samples Needed @ Xpoh =

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =
Xp = inch

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length,

Probability of Hit (POH) in Class Range,
Lower Confidence Bound @ 95% 
Hit/Miss
Xp, 90/95 POD 
MLE(Mean) POD 
MLE(95%) LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

<table>
<thead>
<tr>
<th>TABLE A*</th>
<th>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</th>
<th>TABLE B*</th>
<th>Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X pod</td>
<td>Class Length</td>
<td>No. Need</td>
<td>X pod</td>
</tr>
<tr>
<td>0.684</td>
<td>29</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

<table>
<thead>
<tr>
<th>Directed DOE Options</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Table C</strong></td>
</tr>
<tr>
<td>Class Length</td>
</tr>
<tr>
<td>2XL</td>
</tr>
</tbody>
</table>

**Table C**

| File Name = F10601BL.XLS | Data Set Name = F10601BL(CRACK #) |

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first. Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement. The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.*
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

File Name = F10601CD.XLS
Data Set Name = F10601CD(CRACK #)
Date & Time = 6/5/15 3:35 AM

Xpod 90/95 Reached Anywhere?
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.0127 inch
Best LCL = 0.0010 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 Inch

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

Probability of Hit (POH) in Class Range,
Lower Confidence Limit, LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in $LCL < 0.90$. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Directed DOE Options**

<table>
<thead>
<tr>
<th>File Name</th>
<th>Data Set Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>F10601CD.XLS</td>
<td>F10601CD(CRACK #)</td>
</tr>
</tbody>
</table>

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.086</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
</tr>
<tr>
<td>0.010</td>
</tr>
<tr>
<td>0.020</td>
</tr>
<tr>
<td>0.030</td>
</tr>
<tr>
<td>0.040</td>
</tr>
<tr>
<td>0.050</td>
</tr>
<tr>
<td>0.060</td>
</tr>
<tr>
<td>0.070</td>
</tr>
<tr>
<td>0.080</td>
</tr>
<tr>
<td>0.090</td>
</tr>
<tr>
<td>0.100</td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in $LCL < 0.90$. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

File Name = F10601C.XLS
Data Set Name = F10601C(CRACK #)
Date & Time = 6/5/15 3:35 AM
NOT REACHED
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.0127 inch
Best LCL = 0.0010 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User’s Maximum Allowed Classlength = inch
POD @ Xpod =

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL

Survey/Optimum Xpoh = 0.000 Inch Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length, inch

Probability of Hit (POH) in Class Range

Lower Confidence Bound @ 95%
Hit/Miss
Xp, 90/95 POD
MLE(Mean) POD
MLE(95%) LCL

Analysis file name: DOEPOD-v.1.2.01-PC-06feb2010-Win7.xlam
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.684</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

File Name = F10601CL.XLS
Data Set Name = F10601CL(CRACK #)

Sample Selection: No Misses Observed

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Large flaw validation failure. Extend flaw size range to 0.129.

Case 18 - 90/95 Xpod is reached at XL. Increase flaw sizes to exceed 0.129. Recommend satisfying alternate 90/95 Xpodopt or Optimum Xpoh (if listed).

Survey/Optimum Xpoh = 0.0330 + 0.001 Inch 18 Samples

<table>
<thead>
<tr>
<th>NTIAC 90% POD</th>
<th>NTIAC 90/95 POD</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.919 @ 0.040 Inch</td>
<td>0.934 @ 0.055 Inch</td>
</tr>
</tbody>
</table>

False Call Rate = with UCL @ 95% =

- Largest Classlength, XL = 0.043 Inch
- Samples Needed @ XL = 0
- Classlength Mid-point, Xm = 0.043 Inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- POD Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL =
- Xm is Near Verification Point =
- Opt. POD classlength, Xpodopt = 0.042 Inch
- Samples Needed @ Xpodopt = 29

Note: Xpodopt is within one class width of Xpod.
Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### Directed DOE Options

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.043</td>
</tr>
<tr>
<td>Xm</td>
<td>0.043</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm</strong></td>
<td><strong>Xpodopt</strong> = 0.042</td>
</tr>
</tbody>
</table>

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F10602AL.XLS
Data Set Name = F10602AL(CRACK #)
Date & Time = 6/5/15 3:37 AM
Xpod 90/95 Reached Anywhere? Not Reached
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.8931
Best LCL = 0.9053
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Probability of Hit (POH), Lower Confidence Limit, LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.342</td>
<td>2XL</td>
<td>0.684</td>
</tr>
<tr>
<td>Xm</td>
<td>0.342</td>
<td>Xpod</td>
<td>0.342</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td>Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.342</td>
<td>2XL</td>
<td>0.684</td>
</tr>
<tr>
<td>Xm</td>
<td>0.342</td>
<td>Xpod</td>
<td>0.342</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td>Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

* TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.342</td>
</tr>
<tr>
<td>Xm</td>
<td>0.342</td>
</tr>
<tr>
<td>Xs</td>
<td>0.342</td>
</tr>
<tr>
<td>Xss</td>
<td>0.342</td>
</tr>
<tr>
<td>Xlcl</td>
<td>0.342</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.684</td>
</tr>
<tr>
<td>2XL</td>
<td>2</td>
</tr>
<tr>
<td><strong>Alternate Xm =</strong></td>
<td>Xpodopt</td>
</tr>
</tbody>
</table>
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POM function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual."
Case 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.

Large flaw validation failure. Extend flaw size range to 1.617.

Note: Xpodopt is within one class width of Xpod.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.129.

**Warning:** No false call analysis.

CASE 1A – 90/95 Xpod is reached at XL. Increase flaw sizes to exceed 0.129. Recommend satisfying alternate 90/95 Xpodopt or Optimum Xpoh (if listed).

Survey/ Optimum Xpoh = 0.0330 inch @ 0.001 Inch 18 Samples

**False Call Rate** = with UCL @ 95% =

- Largest Classlength, XL = 0.043 inch
- Samples Needed @ XL = 0
- Classlength Mid-point, Xm = 0.043 inch
- Samples Needed @ Xm = 0
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs =
- New Smaller Classlength, Xss = inch
- BestLCL Classlength, Xlcl = inch
- Samples Needed @ Xlcl =
- POH Classlength, Xpoh = inch
- Samples Needed @ Xpoh =
- New Largest Classlength, 2XL = inch
- Xm is Near Verification Point =
- Opt. POD classlength, Xpodopt = 0.042 inch
- Samples Needed @Xpodopt = 29)

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller within the class width indicated in the companion chart.

**Table A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**Table B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**Alternate Xm = Xpodopt =**
**Warning:** No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.0350 - 0.001 Inch 22 Samples

NTIAC 90% POD = 0.938 @ 0.030 Inch

NTIAC 90/95 POD = 0.901 @ 0.035 Inch

False Call Rate = 0.0350 - 0.001 Inch

With UCL @ 95% =

- Largest Classlength, XL = 0.086 Inch
- Samples Needed @ XL =
- Classlength Mid-point, Xm =
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =
- New Largest Classlength, 2XL =
- Xn is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resloved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.342</td>
<td>2</td>
</tr>
<tr>
<td>Xm = 0.342</td>
<td></td>
</tr>
<tr>
<td>Xs = 0.342</td>
<td></td>
</tr>
<tr>
<td>Xss = 0.342</td>
<td></td>
</tr>
<tr>
<td>Xlcl = 0.684</td>
<td>29</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.129.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

<table>
<thead>
<tr>
<th>Xp, 90/95 POD</th>
<th>MLE(Mean) POD</th>
<th>MLE(95%) LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0110</td>
<td>0.0110</td>
<td>0.0110</td>
</tr>
<tr>
<td>0.0430</td>
<td>0.0430</td>
<td>0.0430</td>
</tr>
</tbody>
</table>

Warning: No false call analysis.

CASE 18 - 90/95 Xpod is reached at XL. Increase flaw sizes to exceed 0.129. Recommend satisfying alternate 90/95 Xpodopt or Optimum Xpoh (if listed).

Survey/Optimum Xpoh = 0.0330 - 0.001 inch 18 Samples

False Call Rate = with UCL @ 95% =

<table>
<thead>
<tr>
<th></th>
<th>NTIAC 90% POD</th>
<th>NTIAC 90/95 POD</th>
<th>0.965</th>
<th>0.025 inch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>@</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Largest Classlength, XL =</td>
<td>0.043 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ XL =</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classlength Mid-point, Xm =</td>
<td>0.043 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xm =</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smallest Classlength, Xs =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xs =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xss =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BestLCL Classlength, Xcl =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xcl =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POD Classlength, Xpoh =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpoh =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Largest Classlength, 2XL =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xn is Nearest Verification Point =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt =</td>
<td>0.042 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @Xpodopt =</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CASE 1 - 90/95 Xpod is reached at XL.** Increase flaw sizes to exceed 0.129. Recommend satisfying alternate 90/95 Xpodopt or Optimum Xpoh (if listed).

Survey/Optimum Xpoh = 0.0330 - 0.001 inch 18 Samples

False Call Rate = with UCL @ 95% =

<table>
<thead>
<tr>
<th></th>
<th>NTIAC 90% POD</th>
<th>NTIAC 90/95 POD</th>
<th>0.965</th>
<th>0.025 inch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>@</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Largest Classlength, XL =</td>
<td>0.043 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ XL =</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classlength Mid-point, Xm =</td>
<td>0.043 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xm =</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smallest Classlength, Xs =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xs =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xss =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BestLCL Classlength, Xcl =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xcl =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POD Classlength, Xpoh =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpoh =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Largest Classlength, 2XL =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xn is Nearest Verification Point =</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt =</td>
<td>0.042 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @Xpodopt =</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.861.

Warning: No false call analysis.

Note: No Midpoint evaluation; Xpod near XL. Meet 2XL to extend VALIDATION.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.129.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 18 - 90/95 Xpod is reached at XL. Increase flaw sizes to exceed 0.129. Recommend satisfying alternate 90/95 Xpodopt or Optimum Xpoh (if listed).

File Name = F10603CD.XLS
Data Set Name = F10603CD(CRACK #)
Date & Time = 6/5/15 3:46 AM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0110 inch
Classlength @ 90/95 Xpod = 0.0430 inch
Lower Confidence Bound = 0.9001 inch
Best LCL = Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ POD @ Xpod = 1.0000
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod = inch

File Name = F10603CD.XLS
Data Set Name = F10603CD(CRACK #)
Date & Time = 6/5/15 3:46 AM
Xpod 90/95 Reached Anywhere? REACHED
Classwidth @ 90/95 Xpod = 0.0110 inch
Classlength @ 90/95 Xpod = 0.0430 inch
Lower Confidence Bound = 0.9001 inch
Best LCL = Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ POD @ Xpod = 1.0000
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod = inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**MLE Divergence Warning:** Initial results listed.

Warning: No false call analysis.

**CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xp = 0.356 inch</td>
<td></td>
</tr>
<tr>
<td>Xp is Near Verification Point</td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td>2XL</td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td>28 Samples</td>
</tr>
<tr>
<td>NTIAC 90% POD = @ inch</td>
<td></td>
</tr>
<tr>
<td>NTIAC 90/95 POD = @ inch</td>
<td></td>
</tr>
<tr>
<td>False Call Rate = with UCL @ 95%</td>
<td></td>
</tr>
<tr>
<td>Largest Classlength, XL = inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ XL =</td>
<td></td>
</tr>
<tr>
<td>Classlength Mid-point, Xm = inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xm =</td>
<td></td>
</tr>
<tr>
<td>Smallest Classlength, Xs = inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xs =</td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xss =</td>
<td></td>
</tr>
<tr>
<td>Best LCL Classlength, Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xlcl =</td>
<td></td>
</tr>
<tr>
<td>POD Classlength, Xpoh =</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpoh =</td>
<td></td>
</tr>
<tr>
<td>New Largest Classlength, 2XL =</td>
<td></td>
</tr>
<tr>
<td>XL is Near Verification Point</td>
<td></td>
</tr>
<tr>
<td>POD classlength, Xpodopt =</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt =</td>
<td></td>
</tr>
</tbody>
</table>

**FILE NAME:** F12201AD.XLS  
**DATA SET NAME:** F12201AD(CRACK #)  
**DATE & TIME:** 6/5/15 3:48 AM  
**NOT REACHED**  

- Probability of Hit (POH) in Class Range
- Lower Confidence Bound @ 95%
- Hit/Miss
- Xp, 90/95 POD
- MLE(Mean) POD
- MLE(95%) LCL

**FILE NAME:** DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm  
**Warning:** False Call Rate = with UCL @ 95% =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

**Alternate Xm = Xpodopt =

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpoh</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th><strong>Alternate Xm</strong></th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.178</td>
<td></td>
</tr>
<tr>
<td>0.178</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.356</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpoh</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.356</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpoh</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th><strong>Alternate Xm</strong></th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.178</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>0.356</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.979</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlod</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.610</td>
</tr>
<tr>
<td>2XL</td>
<td>1.958</td>
</tr>
<tr>
<td><strong>Alternate Xm</strong></td>
<td><strong>Xpodopt</strong></td>
</tr>
</tbody>
</table>

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

**Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F12201CD.XLS
Data Set Name = F12201CD(CRACK #)
Date & Time = 6/5/15 3:55 AM

Xpod 90/95 Reached Anywhere?
Classwith @ 90/95 Xpod
Classlength @ 90/95 Xpod
Lower Confidence Bound
Best LCL
Classwidth @ Best LCL
Classlength @ Best LCL
User Provided a 90/95 POD @
User's Maximum Allowed Classlength
Inspector Classwidth @ Xp
POD @ Xpod

NTIAC 90% POD = 0.902
NTIAC 90/95 POD = 0.185
False Call Rate = with UCL @ 95%

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

Class Length, inch
Probability of Hit (POH), Lower Confidence Bound @ 95%
Probability of Hit (POH) in Class Range
Hit/Miss
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xl</td>
<td><strong>2XL</strong> = 0.356</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

*The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.*

*The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.*

*Follow sample selection priority in the DOEPOD Manual.*

*Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.*

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.*
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

File Name = F12201CL.XLS
Data Set Name = F12201CL(CRACK #)
Date & Time = 6/5/15 3:56 AM

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Class Length, inch

Probability of Hit (POH), Lower Confidence Limit, LCL

Case Length, inch

POD @ Xpod = 0.979 inch
Samples Needed @ Xp = 28 samples
Xp is Near Verification Point
Opt. POD classlength, Xpodopt = Xp = 0.979 inch

New Largest Classlength, 2XL = Xp = 0.610 inch

Largest classlength, XL = 0.979 inch
Samples Needed @ XL = 28 samples

Class Length, Classwidth @ 90/95 Xpod = 0.610 inch
Class length @ 90/95 Xpod = 0.6877 inch
Lower Confidence Bound @ 95% = 0.041 inch

Best LCL = 0.5430 inch
Best classwidth @ Best LCL = 0.041 inch
Classlength @ Best LCL = 0.5430 inch
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

Survey/Optimum Xpoh = 0.6100 -0.041 inch 28 Samples

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.979 inch
Samples Needed @ XL = 28 samples
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F12202AD.XLS
Data Set Name = F12202AD(CRACK #)
Date & Time = 6/5/15 3:58 AM
Xpod 90/95 Reached Anywhere? NO REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.8813
Best LCL = inch
Classwidth @ Best LCL = 0.0690
Classlength @ Best LCL = inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Best LCL Classlength, Xlcl =

Survey/Optimum Xpoh = 0.1100 -0.001 Inch 22 Samples
NTIAC 90% POD = 0.905 @ 0.130 inch
NTIAC 90/95 POD = 0.900 @ 0.185 inch
False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.178 inch
Samples Needed @ XL = 5
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl = 0.178 inch
Samples Needed @ Xlcl = 5
POH Classlength, Xpoh = 0.178 inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = 0.356 inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp =

Probability of Hit (POH) in Class Range
Lower Confidence Bound @ 95%
Hit/Miss
Xp, 90/95 POD
MLE(Mean) POD
MLE(95%) LCL
Although Xpod appears to have been reached at a point, there are misses at larger class lengths which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Case 18 - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

<table>
<thead>
<tr>
<th>TABLE A*</th>
<th>Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod, Class Length</td>
<td>No. Need</td>
</tr>
<tr>
<td>0.537</td>
<td>29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TABLE B*</th>
<th>Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod, Class Length</td>
<td>No. Need</td>
</tr>
<tr>
<td>0.979</td>
<td>0.710</td>
</tr>
</tbody>
</table>

![Directed DOE Options](image)

<table>
<thead>
<tr>
<th>Directed DOE Options</th>
<th>TABLE C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Length</td>
<td>Additional Samples</td>
</tr>
<tr>
<td>XL</td>
<td>0.979</td>
</tr>
<tr>
<td>Xm</td>
<td>0.710</td>
</tr>
<tr>
<td>Xs</td>
<td>0.710</td>
</tr>
<tr>
<td>Xss</td>
<td>0.710</td>
</tr>
<tr>
<td>Xlcl</td>
<td>0.710</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.710</td>
</tr>
<tr>
<td>2XL</td>
<td>0.710</td>
</tr>
<tr>
<td><strong>Alternate Xm</strong></td>
<td>Xpodopt</td>
</tr>
<tr>
<td><strong>0.537</strong></td>
<td>29</td>
</tr>
</tbody>
</table>

**File Name = F122028L.XLS**

**Data Set Name = F122028L(CRACK #)**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.***

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpho, and 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 18 - 90/95 Xpod may be VALIDATED from Xpod to XL when Xm is satisfied. Xp used to satisfy XL requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Large flaw validation failure. Extend flaw size range to 1.605.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

CASE 1A - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.3330 -0.001 inch 28 Samples

NTIAC 90% POD = 0.902 @ 0.305 inch
NTIAC 90/95 POD = 0.902 @ 0.410 inch

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.610 inch
Samples Needed @ XL =
Classlength Mid-point , Xm = 0.568 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xcl =
Samples Needed @ Xcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = 0.529 inch
Samples Needed @Xpodopt = 29
Xp = 0.3350 inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Analysis file name:  DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xl</td>
<td>0.178</td>
<td>17</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td>0.178</td>
<td>17</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.356</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =**

---

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xl</td>
<td>0.178</td>
<td>17</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td>0.178</td>
<td>17</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.356</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =**

---

**Directed DOE Options**

**FILE NAME = F12203CD.XLS**  **DATA SET NAME = F12203CD(Crack #)**

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
**Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)**

Large flaw validation failure. Extend flaw size range to 1.557.

Note: Xpodopt is within one class width of Xpod.

Warning: No false call analysis.

**CASE 1:** 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

**False Call Rate**

- NTIAC 90% POD = 0.901 @ 0.300 inch
- NTIAC 90/95 POD = 0.902 @ 0.415 inch

Survey/Optimum Xpoh = 0.3210 with UCL @ 95% = -0.002 inch 28 Samples

- Largest Classlength, XL = 0.610 inch
- Samples Needed @ XL =
- Classlength Mid-point, Xm = 0.543 inch
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xicl =
- Samples Needed @ Xicl =
- POD Classlength, Xpoh =
- Samples Needed @ Xpoh =
- New Largest Classlength, XL =
- Xn is Near Verification Point =
- Opt. POD classlength, Xpodopt = 0.519 inch
- Samples Needed @Xpodopt = 29
- Xp = 0.5190 inch

File Name = F12203CL.XLS
Data Set Name = F12203CL(CRACK #)

Date & Time = 6/5/15 4:14 AM
Xpod 90/95 Reached Anywhere? = REACHED
Classwidth @ 90/95 Xpod = 0.2000 inch
Classlength @ 90/95 Xpod = 0.5190 inch
Lower Confidence Bound = 0.9253 inch
Best LCL =
Classwidth @ Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
POD @ Xp =
POD @ Xp =
POH Classlength, Xpoh =
Classwidth @ POH classlength, Xpoh =
Classlength @ POH classlength, Xpoh =
Samples Needed @ POH classlength, Xpoh =
Best LCL Classlength, Xicl =
Classwidth @ Best LCL Classlength, Xicl =
Classlength @ Best LCL Classlength, Xicl =
Samples Needed @ Best LCL Classlength, Xicl =
Optimum POD classlength, Xpodopt =
Classwidth @ Optimum POD classlength, Xpodopt =
Classlength @ Optimum POD classlength, Xpodopt =
Samples Needed @ Optimum POD classlength, Xpodopt =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

File Name = F20002BA.XLS
Data Set Name = F20002BA(CRACK #)
Date & Time = 6/5/15 4:17 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.6518
Best LCL = 0.6545
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Xp = 0.655 inch

Largest Classlength, XL = 0.655 inch
Samples Needed @ XL = 22
Classlength Mid-point, Xm = 0.655 inch
Samples Needed @ Xm = 22
Smallest Classlength, Xs = 0.618 inch
Samples Needed @ Xs = 23
New Smaller Classlength, Xss = 1.309 inch
BestLCL Classlength, Xlcl = 0.655 inch
Samples Needed @ Xlcl = 22
POH Classlength, Xpoh = 0.618 inch
Samples Needed @ Xpoh = 23
New Largest Classlength, 2XL = 1.309 inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =

Survey/Optimum Xpoh = 0.5636 - 0.040 inch
False Call Rate = with UCL @ 95% =

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

318
718
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: initial results listed.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.0540 -0.005 inch
Xp = 0.054 inch

Warning: No false call analysis.

Largest Classlength , XL = 0.054 inch
Samples Needed @ XL = 28

Classlength Mid-point , Xm = 0.108 inch
Samples Needed @ Xm = 28

Smallest Classlength, Xs =
Samples Needed @ Xs =

New Smaller Classlength, Xss =

Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =

POH Classlength, Xpoh =
Samples Needed @ Xpoh =

New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

False Call Rate = with UCL @ 95% =

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.054</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.054</td>
</tr>
<tr>
<td>2XL</td>
<td>0.108</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

FILE NAME = F20852AD.XLS
Data Set Name = F20852AD(CRACK #)

Directed DOE Options

TABLE A*
Selected class lengths with existing misses.
Each point requires additional samples in or to achieve the Xpod listed.

TABLE B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need

Selected class lengths with existing misses.
Table A

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.
Table B

Xpod, Class Length, No. Need
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F20852AL.XLS
Data Set Name = F20852AL(CRACK #)
Date & Time = 6/5/15 4:20 AM

Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod inch
Classlength @ 90/95 Xpod inch
Lower Confidence Bound 0.3493 inch
Best LCL 0.3260 inch
Classlength @ Best LCL inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength inch
Inspector Classwidth @ Xp inch
POD @ Xpod inch

Survey/Optimum Xpoh = 0.000 Inch Samples

NTIAC 90% POD @ inch
NTIAC 90/95 POD @ inch
False Call Rate = with UCL @ 95% =

Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
**Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.**

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

### TABLE A*

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm = Xpodopt</strong></td>
<td>0.768 29</td>
</tr>
</tbody>
</table>

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

### TABLE B*

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod, Class Length</td>
<td>No. Need</td>
</tr>
</tbody>
</table>

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.*

Follow sample selection priority in the DOEPOD Manual.

*Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.*

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
**CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.**

- **Survey/Optimum Xpod:** 0.0480 inch
- **False Call Rate:** Not applicable
  - with UCL @ 95% =

- **File Name:** F208528D.XLS
- **Data Set Name:** F208528D(CRACK #)
- **Date & Time:** 6/5/15 4:22 AM
- **Xpod 90/95 Reached Anywhere?**
  - NOT REACHED
- **Best LCL:** 0.0540 inch
- **Best LCL POD:** 0.108 inch
- **Best POD @ Xpod:**

**Legend:**
- Probability of Hit (POH) in Class Range
- Lower Confidence Bound @ 95%
- Hit/Miss
- Xp, 90/95 POD
- MLE(Mean) POD
- MLE(95%) LCL

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses, and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 0.0480 - 0.001 Inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = inch
Classlength @ XL = inch
Classlength Mid-point, Xm = inch
Smallest Classlength, Xs = inch
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = inch
POH Classlength, Xpoh = inch
Classlength @ Xpoh = inch
New Largest classlength, 2XL = inch
Xm is Near Verification Point =
POD @ Xp = inch
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt = inch
Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Survey/Optimum Xpoh = 0.3840 -0.011 Inch 28 Samples
NTIAC 90% POD = 0.901 @ 0.505 inch
NTIAC 90/95 POD = @ inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt = inch
Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

- File Name = F2202AD.XLS
- Data Set Name = F2202AD(CRACK #)
- Date & Time = 6/5/15 4:25 AM
- Xpod 90/95 Reached Anywhere? = NOT REACHED
- Classwidth @ 90/95 Xpod = inch
- Classlength @ 90/95 Xpod = inch
- Lower Confidence Bound = 0.0200 inch
- Best LCL = 0.1440 inch
- Classlength @ Best LCL = inch
- User Provided a 90/95 POD @ = inch
- User's Maximum Allowed Classlength = inch
- Inspector Classwidth @ Xp = inch
- POD @ Xpod = inch

Warning: No false call analysis.

- NTIAC 90% POD = 0.909 @ 0.140 inch
- NTIAC 90/95 POD = 0.904 @ 0.200 inch
- False Call Rate = with UCL @ 95% =
  - Largest Classlength , XL = 0.144 inch
  - Samples Needed @ XL = 22
  - Classlength Mid-point , Xm = inch
  - Samples Needed @ Xm = inch
  - Smallest Classlength, Xs = inch
  - Samples Needed @ Xs = inch
  - New Smaller Classlength, Xss = inch
  - BestLCL Classlength, Xlcl = 0.136 inch
  - Samples Needed @ Xlcl = 23
  - POH Classlength, Xpoh = 0.288 inch
  - Samples Needed @ Xpoh = inch
  - New Largest Classlength , 2XL = inch
  - Xm is Near Verification Point = inch
  - Opt. POD classlength, Xpodopt = inch
  - Samples Needed @Xpodopt = inch
  - XP = inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

**TABLE A**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.144</td>
</tr>
<tr>
<td>Xm</td>
<td>0.288</td>
</tr>
<tr>
<td>Xs</td>
<td>0.136</td>
</tr>
<tr>
<td>Xss</td>
<td>0.144</td>
</tr>
<tr>
<td>XLcl</td>
<td>0.288</td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.144</td>
</tr>
<tr>
<td>Xm</td>
<td>0.288</td>
</tr>
<tr>
<td>Xs</td>
<td>0.136</td>
</tr>
<tr>
<td>Xss</td>
<td>0.144</td>
</tr>
<tr>
<td>XLcl</td>
<td>0.288</td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.144</td>
</tr>
<tr>
<td>Xm</td>
<td>0.288</td>
</tr>
<tr>
<td>Xs</td>
<td>0.136</td>
</tr>
<tr>
<td>Xss</td>
<td>0.144</td>
</tr>
<tr>
<td>XLcl</td>
<td>0.288</td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

*Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.*

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the miss be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>1.100</td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**
**Warning:** No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.1240  - 0.008 inch
28 Samples

| NTIAC 90% POD | 0.914 | @ 0.140 inch |
| NTIAC 90/95 POD | 0.903 | @ 0.195 inch |

False Call Rate = False Call Rate with UCL @ 95%

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 0.1240 - 0.008 inch  
28 Samples  
False Call Rate with UCL @ 95% =

Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
inches
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resloved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
**CASE 7** - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

**Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.3200 ± 0.002 inch
False Call Rate = with UCL @ 95% =

- Largest Classlength, XL = inch
- Samples Needed @ XL = inch
- Classlength Mid-point, Xm = inch
- Samples Needed @ Xm = inch
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs = inch
- New Smaller Classlength, Xss = inch
- Best LCL Classlength, Xlcl = inch
- Samples Needed @ Xlcl = inch
- Opt. POD classlength, Xpodopt = inch
- Xp = inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

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Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

### CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

<table>
<thead>
<tr>
<th>False Call Rate</th>
<th>with UCL @ 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey/Optimum Xpoh</td>
<td>0.3200 @ 0.290 inch</td>
</tr>
<tr>
<td>NTIAC 90% POD</td>
<td>0.962 @ 0.290 inch</td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
<td>0.900 @ 0.480 inch</td>
</tr>
</tbody>
</table>

### DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

**File Name:** F306518L.XLS  
**Data Set Name:** F306518L(CRK #)

**Date & Time:** 6/5/15 4:36 AM

- **Xpod 90/95 Reached Anywhere?** NOT REACHED
- **Classwidth @ 90/95 Xpod** inch
- **Classlength @ 90/95 Xpod** inch
- **Lower Confidence Bound @ 95%** 0.7206 inch
- **Best LCL** 0.2000 inch
- **Classwidth @ Best LCL** inch
- **Classlength @ Best LCL** inch
- **User Provided a 90/95 POD** inch
- **User's Maximum Allowed Classlength** inch
- **Inspector Classwidth @ Xp** inch
- **POD @ Xpod** inch

### Summary of Results:

- **Best LCL Classlength, Xlcl:** inch
- **POH Classlength, Xpoh:** inch
- **New Larger Classlength, 2XL:** inch
- **Xm is Near Verification Point:** inch
- **Opt. POD classlength, Xpodopt:** inch
- **Samples Needed @ Xpoh:** inch
- **Largest Classlength, XL:** inch
- **Samples Needed @ XL:** inch
- **Classwidth Mid-point, Xm:** inch
- **Samples Needed @ Xm:** inch
- **Smallest Classlength, Xs:** inch
- **Samples Needed @ Xs:** inch
- **New Smaller Classlength, Xss:** inch
- **Samples Needed @ Xss:** inch

**Analysis File Name:** DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**Table C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
<tr>
<td><strong>Alternate Xm</strong></td>
<td><strong>Xpodopt</strong></td>
</tr>
</tbody>
</table>

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

File Name = F30651CD.XLS
Data Set Name = F30651CD(CRK #)
Date & Time = 6/5/15 4:37 AM
Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch

Lower Confidence Bound =
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

**POH Classlength, Xpoh =**
**New Largest Classlength , 2XL =**
**Xm is Near Verification Point =**
**Opt. POD classlength, Xpodopt =**
**Samples Needed @ Xpodopt =**
**New Smaller Classlength, Xss =**
**BestLCL ClassLength, Xcl =**
**Samples Needed @ Xcl =**
**POH Classlength, Xph =**
**Samples Needed @ Xph =**

**NTIAC 90% POD =**
**NTIAC 90/95 POD =**

**Survey/Optimum Xpoh =**

**False Call Rate =**
with UCL @ 95% =

Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

### Directed DOE Options

#### TABLE A

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>0.200</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

<table>
<thead>
<tr>
<th>Number of Additional Samples Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
</tr>
<tr>
<td>0.050</td>
</tr>
<tr>
<td>0.100</td>
</tr>
<tr>
<td>0.150</td>
</tr>
<tr>
<td>0.200</td>
</tr>
<tr>
<td>0.250</td>
</tr>
</tbody>
</table>

---

| File Name = F30651CD.XLS |
| Data Set Name = F30651CD(CRK #) |

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CASE 7: 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Survey/Optimum Xpoh = 0.3200 ± 0.002 inch 27 Samples

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xicl = inch
Samples Needed @ Xicl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Samples Needed @ Xp =

File Name = F30651CL.xls
Data Set Name = F30651CL(CRK #)
Date & Time = 6/5/15 4:39 AM

Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL = 0.7411 inch
Classwidth @ Best LCL = 0.0930 inch
Classlength @ Best LCL = 0.2500 inch
User Provided a 90/95 POD @
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

DETECTOR PROBABILITY
Class Range

Probability of Hit (POH)
Lower Confidence Limit, LCL
Class Width, inch
Class Length, inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Best LCL Classlength, Xicl =
Samples Needed @ Xicl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Samples Needed @ Xp =

Warning: No false call analysis.

Survey/Optimum Xpoh = 0.3200 ± 0.002 inch 27 Samples

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xicl = inch
Samples Needed @ Xicl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt =
Samples Needed @ Xp =

DoePOD.v.1.2.01.PC.Office2010.Win7.xlsm Analysis file name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xp0d appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**Alternate Xm = Xpodopt**

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

Xpod, Class Length, No. Need, Xpod, Class Length, No. Need

**TABLE C**

Directed DOE Options

Class Length, Additional Samples

XL, Xm, Xs, Xss, Xlcl, Xpoh, 2XL, **Alternate Xm = Xpodopt**

**0.814, 29**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

**File Name:** F3063AD.XLS  
**Data Set Name:** F3063ADD(CRK #)

**Date & Time:** 6/5/15 4:40 AM

**Xpod 90/95 Reached Anywhere?** NOT REACHED

**Classwidth @ 90/95 Xpod**

**Classlength @ 90/95 Xpod**

**Lower Confidence Bound @ 95%**

**Best LCL**

**Classwidth @ Best LCL**

**Classlength @ Best LCL**

**User Provided a 90/95 POD @**

**User's Maximum Allowed Classlength**

**Inspector Classwidth @ Xp**

**POD @ Xpod**

**CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.**

Survey/Optimum Xpoh = 0.0510 - 0.003 inch  
28 Samples

False Call Rate = with UCL @ 95% =

- Largest Classlength , XL = 0.100 inch
- Samples Needed @ XL = 28
- Classlength Mid-point , Xm = inch
- Samples Needed @ Xm = inch
- Smallest Classlength , Xs = inch
- Samples Needed @ Xs = inch
- New Smaller Classlength , Xss = inch
- BestLCL Classlength , Xlcl = inch
- Samples Needed @ Xlcl = inch
- Opt. POD classlength , Xpodopt = inch
- Samples Needed @ Xpodopt = inch

**NEW**

- POH Classlength , Xpoh = 0.100 inch
- Samples Needed @ Xpoh = 28
- New Largest Classlength , 2XL = 0.200 inch
- Xn is Near Verification Point = inch
- Xm is Near Verification Point = inch
- Smallest Classlength , Xs = inch
- Samples Needed @ Xs = inch
- New Smaller Classlength , Xss = inch
- BestLCL Classlength , Xlcl = inch
- Samples Needed @ Xlcl = inch
- Opt. POD classlength , Xpodopt = inch
- Samples Needed @ Xpodopt = inch

**Classwidth @ Best LCL**

**Classlength @ Best LCL**

**User Provided a 90/95 POD @**

**User's Maximum Allowed Classlength**

**Inspector Classwidth @ Xp**

**POD @ Xpod**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 Inch Samples

FILE NAM"
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

### Directed DOE Options

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td>0.814 29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =**

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Analysis File Name: DOEPOD_v1.2.01.FC2010.Win7.xlsm
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning: No false call analysis.**

<table>
<thead>
<tr>
<th>Probability of Hit (POH), Lower Confidence Limit, LCL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod 90/95 Reached Anywhere?</td>
</tr>
<tr>
<td>Class Length @ 90/95 Xpod</td>
</tr>
<tr>
<td>Lower Confidence Bound @ 95%</td>
</tr>
<tr>
<td>Classlength @ Best LCL</td>
</tr>
<tr>
<td>Classwidth @ Best LCL</td>
</tr>
<tr>
<td>User Provided a 90/95 POD @</td>
</tr>
<tr>
<td>User's Maximum Allowed Classlength</td>
</tr>
<tr>
<td>Inspector Classwidth @ Xp</td>
</tr>
<tr>
<td>POD @ Xpod</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>File Name</th>
<th>Data Set Name</th>
<th>Date &amp; Time</th>
<th>Xpod 90/95 Reached Anywhere?</th>
</tr>
</thead>
<tbody>
<tr>
<td>F30653BL.XLS</td>
<td>F30653BL(CRK #1)</td>
<td>6/5/15 4:43 AM</td>
<td>NOT REACHED</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Classlength</th>
<th>Classwidth</th>
<th>Lower Confidence Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7411 inch</td>
<td>0.0170 inch</td>
<td>0.0840 inch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NTAC 90% POD</th>
<th>NTAC 90/95 POD</th>
</tr>
</thead>
<tbody>
<tr>
<td>inch</td>
<td>inch</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>False Call Rate = with UCL @ 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Largest Classlength, XL = inch</td>
</tr>
<tr>
<td>Samples Needed @ XL = inch</td>
</tr>
<tr>
<td>Classlength Mid-point, Xmp = inch</td>
</tr>
<tr>
<td>Samples Needed @ Xmp = inch</td>
</tr>
<tr>
<td>Smallest Classlength, Xs = inch</td>
</tr>
<tr>
<td>Samples Needed @ Xs = inch</td>
</tr>
<tr>
<td>New Smaller Classlength, Xss = inch</td>
</tr>
<tr>
<td>Best LCL Classlength, Xcl = inch</td>
</tr>
<tr>
<td>Samples Needed @ Xcl = inch</td>
</tr>
<tr>
<td>POH Classlength, Xpoh = inch</td>
</tr>
<tr>
<td>Samples Needed @ Xpoh = inch</td>
</tr>
<tr>
<td>New Largest Classlength, 2XL = inch</td>
</tr>
<tr>
<td>Xmp is Near Verification Point = inch</td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt = inch</td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt = inch</td>
</tr>
</tbody>
</table>

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 inch Samples

<table>
<thead>
<tr>
<th>Analysis file name:</th>
<th>DOEPOD.v.1.2-2010.1116</th>
<th>NTIAC 90% POD = @ inch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>NTIAC 90/95 POD = @ inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>False Call Rate = with UCL @ 95% =</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Largest Classlength, XL = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samples Needed @ XL = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Classlength Mid-point, Xmp = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samples Needed @ Xmp = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Smallest Classlength, Xs = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samples Needed @ Xs = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Smaller Classlength, Xss = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best LCL Classlength, Xcl = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samples Needed @ Xcl = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>POH Classlength, Xpoh = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samples Needed @ Xpoh = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Largest Classlength, 2XL = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Xmp is Near Verification Point = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Opt. POD classlength, Xpodopt = inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Samples Needed @ Xpodopt = inch</td>
</tr>
</tbody>
</table>

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

#### TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Value</td>
</tr>
</tbody>
</table>

#### TABLE B*

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Value</td>
</tr>
</tbody>
</table>

#### TABLE C

Class Length | Additional Samples
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>Xm</td>
</tr>
<tr>
<td>Xs</td>
<td>Xss</td>
</tr>
<tr>
<td>Xlcl</td>
<td>Xpoh</td>
</tr>
<tr>
<td>2XL</td>
<td>Xpodopt</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

<table>
<thead>
<tr>
<th>File Name =</th>
<th>Data Set Name =</th>
<th>F30653C1_XLS</th>
<th>F30653C1(CRK #)</th>
</tr>
</thead>
</table>

### Directed DOE Options

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt = 0.814**

---

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Case 6: 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

Table: Directed DOE Options

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.352</td>
</tr>
<tr>
<td>Xm</td>
<td>0.320</td>
</tr>
<tr>
<td>Xs</td>
<td>0.704</td>
</tr>
<tr>
<td>Xss</td>
<td>0.704</td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

Table A*
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Need</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table B*
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>Need</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths; this indicates that the POK function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning: No false call analysis.**

<table>
<thead>
<tr>
<th>Class Length, inch</th>
<th>Probability of Hit (POH) in Class Range</th>
<th>Lower Confidence Bound @ 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>0.05</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>0.10</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td>0.15</td>
<td>0.15</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>0.40</td>
<td>0.40</td>
<td></td>
</tr>
</tbody>
</table>

**CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.**

- **Survey/Optimum Xpod:** 0.3200 - 0.044 inch
- **Samples Needed:** 28

**False Call Rate =** with UCL @ 95%:
- Largest Classlength, XL = inch
- Classlength Mid-point, Xm = inch
- Smallest Classlength, Xs = inch
- New Smaller Classlength, Xss = inch
- Best LCL Classlength, Xlcl = inch
- Samples Needed @ Xs =
- Samples Needed @ Xs =
- Samples Needed @ Xs =
- New Largest Classlength, 2XL = inch
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt =
- Samples Needed @ Xpodopt =
- POD @ Xpod =

**File Name:** F32251CD.XLS
**Data Set Name:** F32251CD(CRK #)
**Date & Time:** 6/5/15 4:54 AM

**Xpod 90/95 Reached Anywhere?**
- NOT REACHED

**Classwidth @ 90/95 Xpod =**
- 0.2486 inch

**Classlength @ 90/95 Xpod =**
- 0.0870 inch

**Lower Confidence Bound =**
- 0.3520 inch

**Best LCL =**
- 0.2486 inch

**Classlength @ Best LCL =**
- 0.0870 inch

**Classwidth @ Best LCL =**
- 0.3520 inch

**User Provided a 90/95 POD =**
- inch

**User's Maximum Allowed Classlength =**
- inch

**POH Classlength, Xpoh =**
- 0.704 inch

**New Largest Classlength, 2XL =**
- inch

**Xm is Near Verification Point =**
- inch

**Opt. POD classlength, Xpodopt =**
- inch

**POD @ Xpod =**
- inch

**Gage Inspection Classwidth =**
- inch

**Gage Inspection Classlength =**
- inch

**File Name:** DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm
**Analysis File name:** DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsm

**Warning: No false call analysis.**
Although Xpod appears to have been reached at a point, there are misses at larger class lengths, which indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

<table>
<thead>
<tr>
<th>Class Length, inch</th>
<th>Sample Needed @ XL</th>
<th>Sample Needed @ Xs</th>
<th>Sample Needed @ Xn</th>
<th>Sample Needed @ Xxl</th>
<th>Sample Needed @ Xlcl</th>
<th>Sample Needed @ Xm</th>
<th>Sample Needed @ Xh</th>
<th>Sample Needed @ 2Xl</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

**Survey/Optimum Xpoh:**
- NTIAC 90% POD = 0.3200 inch
- NTIAC 90/95 POD = 0.044 inch

**False Call Rate**
- with UCL @ 95% = 0.704 inch

**Samples Needed:**
- @ XL: 28
- @ Xs: inch
- @ Xn: inch
- @ Xxl: inch
- @ Xlcl: inch
- @ Xm: inch
- @ Xh: inch
- @ 2Xl: inch

**Analysis File Name:** DOEPOD_v.1.2.01.PC.Office2010.Win7.xlsm

**File Name:** F32251C.XLS

**Data Set Name:** F32251C(CRK #)

**Date & Time:** 6/5/15 4:55 AM

**Xpod 90/95 Reached Anywhere?**
- NOT REACHED

**Classwidth @ 90/95 Xpod:**
- inch

**Classlength @ 90/95 Xpod:**
- inch

**Lower Confidence Bound @ 95%**
- 0.2486 inch

**Best LCL:**
- 0.3570 inch

**User Provided a 90/95 POD @:**
- inch

**User's Maximum Allowed Classlength:**
- inch

**Inspector Classwidth @ Xp:**
- inch

**POD @ Xpod:**
- inch

**Classwidth @ Best LCL:**
- inch

**Classlength @ Best LCL:**
- inch

**Largest Classlength, XL:**
- 0.704 inch

**Smallest Classlength, Xs:**
- inch

**New Smaller Classlength, Xss:**
- inch

**Best LCL Classlength, Xlcl:**
- inch

**POH Classlength, Xpoh:**
- inch

**Samples Needed @ Xh:**
- inch

**New Largest Classlength, 2XL:**
- inch

**Xm is Near Verification Point:**
- inch

**Opt. POD classlength, Xpodopt:**
- inch

**Samples Needed @ Xpodopt:**
- inch

**POH Classlength, Xpoh:**
- inch

**New Largest Classlength, 2XL:**
- inch

**Xm is Near Verification Point:**
- inch

**Opt. POD classlength, Xpodopt:**
- inch

**Samples Needed @ Xpodopt:**
- inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POh function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual. Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first. **Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

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Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

TABLE C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.370 28</td>
</tr>
<tr>
<td>Xm</td>
<td>0.352 28</td>
</tr>
<tr>
<td>Xs</td>
<td>0.740 29</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

TABLE A*

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
</table>

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The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

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Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

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***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.3520 \pm 0.031 Inch
28 Samples

NTIAC 90% POD = @ \text{ inch}
NTIAC 90/95 POD = @ \text{ inch}

False Call Rate = with UCL @ 95%

Largest Classlength, XL = 0.370 inch
Samples Needed @ XL = 27
Classlength Mid-point, Xm = \text{ inch}
Samples Needed @ Xm = \text{ inch}
Smallest Classlength, Xs = \text{ inch}
Samples Needed @ Xs = \text{ inch}
New Smaller Classlength, Xss = \text{ inch}
BestLCL Classlength, Xlcl = \text{ inch}
Samples Needed @ Xlcl = \text{ inch}
POH Classlength, Xpoh = 0.370 inch
Samples Needed @ Xpoh = 27
New Largest Classlength, 2XL = 0.740 inch
Xn is Near Verification Point = \text{ inch}
Opt. POD classlength, Xpodopt = \text{ inch}
Samples Needed @ Xpodopt = \text{ inch}

Xp = 0.370 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

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Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

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**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.3700 -0.017 inch
28 Samples
False Call Rate = with UCL @ 95% =
Largest Class Length, XL = 0.370 inch
Samples Needed @ XL = 28
Class Length Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Class Length, Xs = inch
Samples Needed @ Xs =
New Smaller Class Length, Xss = inch
Best LCL Class Length, Xlcl = inch
Samples Needed @ Xlcl =
POH Class length, Xpoh = 0.370 inch
Samples Needed @ Xpoh = 28
New Largest Class Length, 2XL = 0.740 inch
Xm is Near Verification Point =
Opt. POD class length, Xpodopt = inch
Samples Needed @ Xpodopt =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 7 - 90/95 Xpoe is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**Directed DOE Options**

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

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Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

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Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths—this indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

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---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.248</td>
<td>Xlcl</td>
<td>0.496</td>
</tr>
<tr>
<td>Xm</td>
<td>0.175</td>
<td>Xpoh</td>
<td>0.496</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
<td>0.496</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
<td>0.496</td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
<td>0.496</td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.248</td>
<td>Xpoh</td>
<td>0.496</td>
</tr>
<tr>
<td>Xm</td>
<td>0.175</td>
<td></td>
<td>0.496</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
<td>0.496</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
<td>0.496</td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
<td>0.496</td>
</tr>
</tbody>
</table>

---

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**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 0.2370 inch @ 27 Samples

NTIAC 90% POD = 0.901 inch @ 0.490 inch
NTIAC 90/95 POD =

False Call Rate = with UCL @ 95% =

Largest Classlength , XL = 0.248 inch
Samples Needed @ XL = 28
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength , Xs =
Samples Needed @ Xs =
New Smaller Classlength , Xss =
BestLCL Classlength, Xicl =
Samples Needed @ Xicl =
POH Classlength, Xpoh = 0.248 inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = 0.496 inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

File Name = F406038.XLS
Data Set Name = F406038(CRK # )
Date & Time = 6/5/15 5:09 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL = 0.6877 inch
Classwidth @ Best LCL =
Classlength @ Best LCL = 0.0943 inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

Classwidth @ 90/95 Xpod =
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL = 0.6877 inch
Classwidth @ Best LCL =
Classlength @ Best LCL = 0.0943 inch
User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

User Provided a 90/95 POD =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xp =

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
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Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* **Alternate Xm = Xpodopt =

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

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---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
<td>2XL</td>
<td>4.806</td>
</tr>
<tr>
<td>Xm</td>
<td>1.603</td>
<td>Xpoh</td>
<td>28</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Xss</td>
<td></td>
<td></td>
<td>29</td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| 2XL                |          | Xpoh               | 28       |

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**Alternate Xm = Xpodopt**

---

File Name = F42501A.XLS
Data Set Name = F42501A(CRK #)

**Directed DOE Options**

**TABLE C**

Class Length | Additional Samples
-------------|---------------------
XL           | 2.403               |
Xm           |                     |
Xs           |                     |
Xss          |                     |
Xlcl         |                     |
Xpoh         | 1.603               |
2XL          | 4.806               |

**Alternate Xm = Xpodopt**
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 -0.300 inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl =
Samples Needed @ Xlcl =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Alternate Xm = Xpodopt**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples to or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Xm</td>
<td>1.603</td>
</tr>
<tr>
<td>Xs</td>
<td>4.806</td>
</tr>
<tr>
<td>Xss</td>
<td><strong>Alternate Xm</strong></td>
</tr>
</tbody>
</table>
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Class Length, inch
Probability of Hit (POH), Lower Confidence Limit, LCL

File Name = F42501C.XLS
Data Set Name = F42501(CRKR)
Date & Time = 6/5/15 5:16 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Lower Confidence Bound = inch
Best LCL = 0.2236 inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod = inch

User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspector Classwidth @ Xp =
POD @ Xpod =

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
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Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.6030 inch
False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xlcl = inch
Samples Needed @ Xlcl = inch
POH Classlength, Xpoh = 1.603 inch
Samples Needed @ Xpoh = 28
New Largest Classlength, 2XL = 4.806 inch
Xm is Near Verification Point = inch
Opt. POD classlength, Xpopt = inch
Samples Needed @ Xpopt = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

**Survey/Optimum Xpoh = 1.6030 -0.3000 inch**
**28 Samples**

**False Call Rate =** with UCL @ 95%
- Largest Classlength, XL = 2.403 inch
- Samples Needed @ XL = 28
- Classlength Mid-point, Xm = inch
- Samples Needed @ Xm = inch
- Smallest Classlength, Xs = inch
- Samples Needed @ Xs = inch
- New Smaller Classlength, Xss = inch
- BestLCL Classlength, Xlcl = inch
- Samples Needed @ Xlcl = inch
- POH Classlength, Xpoh = 1.603 inch
- Samples Needed @ Xpoh = 28
- New Largest Classlength, 2XL = 4.806 inch
- Xn is Near Verification Point = inch
- Opt. POD classlength, Xpodopt = inch
- Samples Needed @ Xpodopt = inch

**Warning: No false call analysis.**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

Survey/Optimum Xpoh = 0.5320 - 0.071 Inch
Samples = 28

False Call Rate = with UCL @ 95% =
Largest Classlength, XL = 2.403 Inch
Samples Needed @ XL = 28
Classlength Mid-point, Xm =  Inch
Samples Needed @ Xm =
Smallest Classlength, Xs =  Inch
Samples Needed @ Xs =
New Smaller Classlength, Xss =  Inch
BestLCL Classlength, Xlcl =  Inch
Samples Needed @ Xlcl =
POH Classlength, Xpoh =  Inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =  Inch
Xm is Near Verification Point =  Inch
Opt. POD classlength, Xpodopt =  Inch
Samples Needed @ Xpodopt =
Xp =  Inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 5 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and Xpoh.

Survey/Optimum Xpoh = 0.4600 ± 0.059 inch
28 Samples

NTIAC 90% POD = 0.901 ± 0.057 inch

NTIAC 90/95 POD =

False Call Rate = with UCL @ 95% =

- Largest Classlength, XL = 2.403 inch
- Samples Needed @ XL = 28
- Classlength Mid-point, Xm =
- Samples Needed @ Xm =
- Smallest Classlength, Xs =
- Samples Needed @ Xs =
- New Smaller Classlength, Xss =
- Best LCL Classlength, Xlcl =
- Samples Needed @ Xlcl =
- POH Classlength, Xpoh = 0.532 inch
- Samples Needed @ Xpoh = 28
- New Largest Classlength, 2XL =
- Xm is Near Verification Point =
- Opt. POD classlength, Xpodopt =
- Samples Needed @ Xpodopt =
- Xp =

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>2.403</td>
</tr>
<tr>
<td>Xm</td>
<td>0.532</td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

- File Name = F42503C.XLS
- Data Set Name = F42503C(CRK #)
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

Large flaw validation failure. Extend flaw size range to 3.474 inch.

Any highlighted Misses are RED and shown in Column A of this data sheet.

### Detection Probability

- **Probability of Hit (POH), Lower Confidence Limit, LCL**
- **Class Length, inch**
- **Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)**
- **Probability of Hit (POH) in Class Range**
- **Lower Confidence Bound @ 95%**
- **Hit/Miss**
- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**

### Data Details

- **File Name:** F5001(3).xls
- **Data Set Name:** F5001(3)(LCK. NO.)
- **Date & Time:** 6/5/15 5:24 AM
- **Xpod 90/95 Reached Anywhere?** REACHED
- **Classwidth @ 90/95 Xpod**
- **Classlength @ 90/95 Xpod**
- **Lower Confidence Bound @ 90/95 Xpod**
- **Best LCL**
- **Classwidth @ Best LCL**
- **Classlength @ Best LCL**
- **User Provided a 90/95 POD @**
- **User's Maximum Allowed Classlength**
- **Inspector Classwidth @ Xp**
- **POD @ Xpod**
- **POD @ Xpod**
- **Best LCL**
- **Largest Classlength, XL**
- **Samples Needed @ XL**
- **Classlength Mid-point, Xm**
- **Samples Needed @ Xm**
- **Smallest Classlength, Xs**
- **Samples Needed @ Xs**
- **New Smaller Classlength, Xss**
- **Best LCL**
- **POH Classlength, Xpoh**
- **Samples Needed @ Xpoh**
- **New Largest Classlength, 2XL**
- **Xm is Near Verification Point**
- **Opt. POD classlength, Xpodopt**
- **Samples Needed @ Xpodopt**

### Measurements

- **File Name:** F5001(3).xls
- **Data Set Name:** F5001(3)(LCK. NO.)
- **Date & Time:** 6/5/15 5:24 AM
- **Xpod 90/95 Reached Anywhere?** REACHED
- **Classwidth @ 90/95 Xpod**
- **Classlength @ 90/95 Xpod**
- **Lower Confidence Bound @ 90/95 Xpod**
- **Best LCL**
- **Classwidth @ Best LCL**
- **Classlength @ Best LCL**
- **User Provided a 90/95 POD @**
- **User's Maximum Allowed Classlength**
- **Inspector Classwidth @ Xp**
- **POD @ Xpod**

### Notes

**CASE 1**: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. Xp may VALIDATE between Xpod and XL when causes of highlighted Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths, this indicates that the Poh function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**Alternate Xm =**

---

### Directed DOE Options

- **No Misses Observed**
- **At Least One Miss Occurred**

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
<th>Xpod</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TABLE A

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TABLE B

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### TABLE C

Additional Samples

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod</td>
<td></td>
</tr>
</tbody>
</table>

---
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation successful.
Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to satisfy XL requirements. Further VALIDATION is required.
Recommend satisfying Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in T

Survey/Optimum Xpoh = 0.000 inch

False Call Rate = with UCL @ 95%

File Name = FS002(3L).xls
Data Set Name = FS002(3L)(CK. NO.)

Date & Time = 6/5/15 5:28 AM

REACHED
0.0490 inch
0.9050 inch
0.9050 inch
0.0490 inch

0.3370 inch
824

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
**Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)**

- **Large flaw validation failure. Extend flaw size range to 0.216.**
- **MLE Divergence Warning: Initial results listed.**
- **Warning: No false call analysis.**

**CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.**

**Table: Detection Probability**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>POD @ Xpodopt</td>
<td>0.995</td>
<td>0.930</td>
</tr>
<tr>
<td>NTIAC 90% POD</td>
<td>@ 0.005 inch</td>
<td>@ 0.005 inch</td>
</tr>
<tr>
<td>NTIAC 90/95 POD</td>
<td>@ 0.995 inch</td>
<td>@ 0.930 inch</td>
</tr>
<tr>
<td>False Call Rate</td>
<td>with UCL @ 95%</td>
<td></td>
</tr>
<tr>
<td>Largest Classlength, XL</td>
<td>0.160 inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ XL</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Classlength Mid-point, Xm</td>
<td>0.105 inch</td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xm</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Smallest Classlength, Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Smaller Classlength, Xss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Best LCL Classlength, Xcl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xclil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POH Classlength, Xpoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpoh</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Larget Classlength, 2XL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xn is Near Verification Point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opt. POD classlength, Xpodopt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Samples Needed @ Xpodopt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Graph:**

- **Probability of Hit (POH) in Class Range**
- **Lower Confidence Bound @ 95%**
- **Hit/Miss**
- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**

**File Name:** F50033J0.xls

**Data Set Name:** F50033J0(CK. NO.)

**Date & Time:** 6/5/15 5:30 AM

**Xpod 90/95 Reached Anywhere?**

- **Classwidth @ 90/95 Xpod:** 0.020 inch, 0.0720 inch, 0.9050 inch
- **Lower Confidence Bound:** 0.005 inch, 0.005 inch, 0.005 inch
- **Best LCL:** 0.995 inch, 0.930 inch, 0.930 inch
- **Classwidth @ Best LCL:** 0.005 inch, 0.005 inch, 0.005 inch
- **Classlength @ Best LCL:** 0.005 inch, 0.005 inch, 0.005 inch
- **User Provided a 90/95 POD @:** 0.9050 inch
- **User's Maximum Allowed Classlength:** 1.0000 inch
- **POD @ Xp:** 0.0000 inch

- **MLE Divergence Warning:** Initial results listed.
- **Warning:** No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 2.064.

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 2 - 90/95 Xpod is reached at a class length. Xp used to reduce XL requirements. Recommend satisfying XL, Xm and the smallest Xpod in TABLE B that is greater than the largest Xpod in TABLE A, and/or the largest Xpod in Table A.

Survey/Optimum Xpoh = 0.000, with UCL @ 95%

NTIAC 90% POD = 0.998 @ 0.005 inch
NTIAC 90/95 POD = 0.931 @ 0.005 inch

False Call Rate = 0.000 with UCL @ 95%

Largest Classlength, XL = 1.210 inch
Samples Needed @ XL = 16
Classlength Mid-point, Xm = 1.079 inch
Samples Needed @ Xm = 14
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

Table C:

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.210</td>
<td>16</td>
</tr>
<tr>
<td>1.079</td>
<td>14</td>
</tr>
</tbody>
</table>

Table A:

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1750</td>
<td>67</td>
</tr>
<tr>
<td>1.1580</td>
<td>64</td>
</tr>
<tr>
<td>1.1350</td>
<td>49</td>
</tr>
<tr>
<td>1.1220</td>
<td>67</td>
</tr>
</tbody>
</table>

Table B:

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2100</td>
<td>16</td>
</tr>
<tr>
<td>1.1840</td>
<td>20</td>
</tr>
<tr>
<td>1.1500</td>
<td>26</td>
</tr>
<tr>
<td>1.1500</td>
<td>26</td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xlcl</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xl</th>
<th>Xpoh</th>
<th>2XL</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.430</td>
<td>29</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.000</td>
<td>0.050</td>
</tr>
<tr>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

**Directed DOE Options**

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

* The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

* The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

* Follow sample selection priority in the DOEPOD Manual.

* Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

* Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

* The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

*Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked. The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.**

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 0.2150 inch
False Call Rate = with UCL @ 95% = 0.036 inch
Opt. POD classlength, Xpodopt = 0.430 inch

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>1.188</td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td>1.188</td>
</tr>
<tr>
<td>2XL</td>
<td>2.376</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**TABLE C**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Survey/Optimum Xpoh = 0.1530 -0.019 inch
26 Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

False Call Rate = with UCL @ 95% =
Largest Classlength , XL = 0.215 inch
Samples Needed @ XL = 8
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
BestLCL Classlength, Xlcl = 0.215 inch
Samples Needed @ Xlcl = 8
POH Classlength, Xpoh = 0.215 inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Xp = inch
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
### Case 4 - 90/95 Xpod is not reached anywhere.

Recommend satisfying XL and the greater of Xpoh or Xlcl.

### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

**Warning:** No false call analysis.

#### Analysis File Name
- **File Name:** DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsx
- **Data Set Name:** F6003(3)L.xls
- **File Name:** F6003(3)L.xls
- **Data Set Name:** F6003(3)L(CK. NO.)

#### Date & Time
- **Date & Time:** 6/5/15 5:56 AM

#### POD @ Xpod
- **POD @ Xpod:** 0.9810
- **False Call Rate:** with UCL @ 95% = 0.0400
- **Survey/Optimum Xpoh:** 0.9810
- **Samples Needed @ Xpoh:** 26

#### XL & UCL @ 95%
- **XL:** 1.1880
- **UCL @ 95%:** 1.1880
- **Samples Needed @ XL:** 26

#### Xp & UCL @ 95%
- **Xp:** 1.1880
- **UCL @ 95%:** 0.9810
- **Opt. POD classlength, Xpodopt:** 14
- **Samples Needed @ Xpodopt:** 26

#### Xlcl & UCL @ 95%
- **Xlcl:** 0.9810
- **UCL @ 95%:** 0.9810
- **Samples Needed @ Xlcl:** 26

#### Xpoh & UCL @ 95%
- **Xpoh:** 0.9810
- **UCL @ 95%:** 0.9810
- **Samples Needed @ Xpoh:** 26

#### Other Parameters
- **User Provided a 90/95 POD @:**
- **POD @ Xpod:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Class Length @ 90/95 Xpod:**
- **Class Length @ 90/95 Xpod:**
- **Class Length @ 90/95 Xpod:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Classwidth @ Xp:**
- **Classwidth @ Xp:**
- **Classwidth @ Xp:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **User's Maximum Allowed Classlength:**
- **User's Maximum Allowed Classlength:**
- **User's Maximum Allowed Classlength:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Classwidth @ Best LCL:**
- **Classwidth @ Best LCL:**
- **Classwidth @ Best LCL:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Classlength @ Best LCL:**
- **Classlength @ Best LCL:**
- **Classlength @ Best LCL:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Classlength @ Best LCL:**
- **Classlength @ Best LCL:**
- **Classlength @ Best LCL:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Classwidth @ 90/95 Xpod:**
- **Classwidth @ 90/95 Xpod:**
- **Classwidth @ 90/95 Xpod:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Classlength @ 90/95 Xpod:**
- **Classlength @ 90/95 Xpod:**
- **Classlength @ 90/95 Xpod:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Lower Confidence Bound:**
- **Lower Confidence Bound:**
- **Lower Confidence Bound:**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880
- **Probability of Hit (POH):**
- **Probability of Hit (POH):**
- **Probability of Hit (POH):**
- **Best LCL:** 0.8100
- **Best LCL:** 0.3000
- **Best LCL:** 1.1880

### Diagram

- **Probability of Hit (POH) in Class Range**
- **Lower Confidence Bound @ 95%**
- **Hit/Miss**
- **Xp, 90/95 POD**
- **MLE(Mean) POD**
- **MLE(95%) LCL**
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart***
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.4350 -0.300 inch
26 Samples

Error! No false call analysis.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F7001(3).xls
Data Set Name = F7001(3)(CK. NO.)

Date & Time = 6/5/15 5:59 AM
Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.0130 inch
Best LCL = 0.0670 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
POD @ Xp =

Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =

POH Classlength, Xpoh =
Samples Needed @ Xpoh =

New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Survey/Optimum Xpoh = 0.1930 -0.018 inch
False Call Rate = \( \frac{\text{Number of False Alarms}}{\text{Total Number of Tests}} \) with UCL @ 95% 
Largest Classlength, XL = 0.235 inch
Samples Needed @ XL = 23
Classlength Mid-point, Xm = inch
Samples Needed @ Xm = inch
Smallest Classlength, Xs = inch
Samples Needed @ Xs = inch
New Smaller Classlength, Xss = inch
Best LCL Classlength, Xlcl = 0.235 inch
Samples Needed @ Xlcl = 23
POH Classlength, Xpoh = 0.235 inch
Samples Needed @ Xpoh = 23
New Largest Classlength, 2XL = 0.470 inch
Xn is Near Verification Point = inch
Opt. POD classlength, Xpodopt = inch
Samples Needed @ Xpodopt = inch
Xp = 0.235 inch

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F7002[3].xls
Data Set Name = F7002[3](CK. NO.)

Date & Time = 6/5/15 6:03 AM
Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod inch
Classlength @ 90/95 Xpod inch
Lower Confidence Bound 0.0130 inch
Best LCL 0.2730 inch
Classwidth @ Best LCL inch
Classlength @ Best LCL inch
User Provided a 90/95 POD inch
User's Maximum Allowed Classlength inch
Inspector Classwidth @ Xp inch
POD @ Xpod = 0.6070

Xp, 90/95 POD
MLE (Mean) POD
MLE (95%) LCL

Best LCL Classlength, Xlcl inch
Samples Needed @ Xlcl
POH Classlength, Xpoh inch
Samples Needed @ Xpoh
New Largest Classlength, 2XL inch
Samples Needed @ 2XL
Opt. POD classlength, Xpodopt inch
Samples Needed @ Xpodopt

CASE 6POD.v.1.2.01.PC.Office2010.Win7.xlsm Analysis file name:

Largest Classlength, XL inch
Samples Needed @ XL 26
Classlength Mid-point, Xm inch
Samples Needed @ Xm
Smallest Classlength, Xs inch
Samples Needed @ Xs
New Smaller Classlength, Xss inch
Classwidth @ Best LCL inch
Classlength @ Best LCL inch
User Provided a 90/95 POD inch
User's Maximum Allowed Classlength inch
Inspector Classwidth @ Xp inch
POD @ Xpod =

NTIAC 90% POD @ inch
NTIAC 90/95 POD @ inch
False Call Rate with UCL @ 95% =
Largest Classlength, XL inch
Samples Needed @ XL 26
Classlength Mid-point, Xm inch
Samples Needed @ Xm
Smallest Classlength, Xs inch
Samples Needed @ Xs
New Smaller Classlength, Xss inch
Best LCL Classlength, Xlcl inch
Samples Needed @ Xlcl
POH Classlength, Xpoh inch
Samples Needed @ Xpoh
New Largest Classlength, 2XL inch
Xn is Near Verification Point inch
Opt. POD classlength, Xpodopt inch
Samples Needed @ Xpodopt

Survey/Optimum Xpoh = 1.4350 -0.300 inch 26 Samples
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.*

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

---

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xl</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2Xl</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.235</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.235</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xl</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2Xl</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.470</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td></td>
</tr>
<tr>
<td>0.050</td>
<td></td>
</tr>
<tr>
<td>0.100</td>
<td></td>
</tr>
<tr>
<td>0.150</td>
<td></td>
</tr>
<tr>
<td>0.200</td>
<td></td>
</tr>
<tr>
<td>0.250</td>
<td></td>
</tr>
<tr>
<td>0.300</td>
<td>26</td>
</tr>
<tr>
<td>0.350</td>
<td></td>
</tr>
<tr>
<td>0.400</td>
<td></td>
</tr>
<tr>
<td>0.450</td>
<td></td>
</tr>
<tr>
<td>0.500</td>
<td></td>
</tr>
</tbody>
</table>

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.

Survey/Optimum Xpoh = 1.435  inch
False Call Rate = with UCL @ 95% = 0.000

Largest Classlength , XL = 1.435  inch
Samples Needed @ XL = 26
Classlength Mid-point , Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh = 1.435  inch
Samples Needed @ Xpoh = 26
New Largest Classlength, 2XL = 2.870  inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp =

Notice: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

**FILE**

File Name = F7003(3)L.xls
Data Set Name = F7003(3)L(CK. NO.)

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>No Misses Observed</th>
<th>At Least One Miss Occurred</th>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
<th>Xpod</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 1.435</td>
<td></td>
<td>Xpoh = 1.435</td>
<td></td>
</tr>
<tr>
<td>Xm = 1.435</td>
<td></td>
<td>2XL = 2.870</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE C**

Selected class lengths with existing misses.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 1.435</td>
<td>26</td>
</tr>
<tr>
<td>Xm = 1.435</td>
<td>29</td>
</tr>
<tr>
<td>Xs =</td>
<td></td>
</tr>
<tr>
<td>Xss =</td>
<td></td>
</tr>
<tr>
<td>Xlcl =</td>
<td></td>
</tr>
<tr>
<td>Xpoh = 1.435</td>
<td>26</td>
</tr>
<tr>
<td>2XL = 2.870</td>
<td>29</td>
</tr>
</tbody>
</table>

**Directed DOE Options**

Number of Additional Samples Needed

- No Misses Observed
- At Least One Miss Occurred
- XL
- Xm
- Xs
- Xss
- Xlcl
- Xpoh
- 2XL
- Xpod
- Xpodopt

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Survey/Optimum Xpoh = 0.2270 - 0.012 Inch
Samples = 26

False Call Rate = with UCL @ 95% =

Largest Class length, XL = 0.276 Inch
Samples Needed @ XL = 11

Class length, Mid-point, Xm =
Samples Needed @ Xm =

Smallest Class length, Xs =
Samples Needed @ Xs =

New Smaller Class length, Xss =

Best LCL Class length, Xlcl =

Samples Needed @ Xlcl =

POH Class length, Xpoh =

Samples Needed @ Xpoh =

New Largest Class length, 2XL =

Xm is Near Verification Point =

Opt. POD class length, Xpodopt =

Samples Needed @ Xpodopt =

Xp =
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

TABLE A
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

TABLE B
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

TABLE C
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

Directed DOE Options

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.276</td>
</tr>
<tr>
<td>Xm</td>
<td>0.276</td>
</tr>
<tr>
<td>Xs</td>
<td>0.276</td>
</tr>
<tr>
<td>Xss</td>
<td>0.552</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.552</td>
</tr>
<tr>
<td>2XL</td>
<td>0.552</td>
</tr>
<tr>
<td><strong>Alternate Xm</strong> = Xpodopt =</td>
<td></td>
</tr>
</tbody>
</table>
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpod = 1.190 - 0.008 inch  26 Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch
False Call Rate = with UCL @ 95% =

Largest Classlength, XL = inch
Samples Needed @ XL =
Classlength Mid-point, Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaller Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL = inch
Xm is Near Verification Point =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =
Xp = inch
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Directed DOE Options

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.276</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Xm = 0.276</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Xs = 0.276</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Xss = 0.552</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Xlcl = 2XL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xpoh = Xpodopt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL = 0.276</td>
<td>2</td>
</tr>
<tr>
<td>Xm = 0.276</td>
<td>2</td>
</tr>
<tr>
<td>Xs = 0.276</td>
<td>2</td>
</tr>
<tr>
<td>Xss = 0.552</td>
<td>29</td>
</tr>
<tr>
<td>Xlcl = 2XL</td>
<td></td>
</tr>
<tr>
<td>Xpoh = Xpodopt</td>
<td></td>
</tr>
</tbody>
</table>

File Name = F8002[3]D.xls  
Data Set Name = F8002[3]D(CK. NO.)
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

Warning: No false call analysis.


Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

### Table A*

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td>0.276</td>
</tr>
<tr>
<td>Xm</td>
<td>0.276</td>
</tr>
<tr>
<td>Xs</td>
<td>0.276</td>
</tr>
<tr>
<td>Xss</td>
<td>0.276</td>
</tr>
<tr>
<td>Xpoh</td>
<td>0.552</td>
</tr>
<tr>
<td>2XL</td>
<td>2</td>
</tr>
</tbody>
</table>

### Table B*

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =**

### Table C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xpod</td>
<td></td>
</tr>
</tbody>
</table>

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart."
Large flaw validation failure. Need 7 more large flaws. Any highlighted Misses are RED and shown in Column A of this data sheet.

Warning: No false call analysis.

CASE 1* - 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Warning: No false call analysis.

Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F900CD.XLS
Data Set Name = F900CD(CRACK #)
Date & Time = 6/5/15 6:18 AM
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.5619 inch
Best LCL = 0.0120 inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

F900CD.v.1.2.01.PC.Office2010.Win7.xlsm Analysis file name:
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpoh</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xlcl</td>
<td>Xss</td>
</tr>
<tr>
<td>Xid</td>
<td>Xm</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

* Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
CASE 7 - No hits anywhere. Recommend satisfying 2XL

New Largest Classlength, 2XL = 0.430 inch
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @Xpodopt =

MLE Divergence Warning: Initial results listed.

Xpod 90/95 Reached Anywhere? NOT REACHED
Classlength @ 90/95 Xpod =
Lower Confidence Bound =
Best LCL =
Classlength @ Best LCL =
User Provided a 90/95 POD @ =
User's Maximum Allowed Classlength =
Inspection Classlength @ Xp =
POD @ Xpod =

Survey/Optimum Xpoh =

Largest Classlength, XL =
Samples Needed @ XL =
Classlength Mid-point, Xm =
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =

False Call Rate = 0.000
with UCL @ 95% =

NTIAC 90% POD =
NTIAC 90/95 POD =

MLE Divergence Warning: Initial results listed.

F9001(3)D.xls
File Name =
Data Set Name =
Date & Time =

MLE (Mean) POD
MLE (95%) LCL

 Probability of Hit (POH), Lower Confidence Limit, LCL
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

File Name = F9001(3).xls
Data Set Name = F9001(3)(CK. NO. )
MLE Divergence Warning: Initial results listed.

Date & Time =
Xpod 90/95 Reached Anywhere? = NOT REACHED
Classwidth @ 90/95 Xpod = inch
Lower Confidence Bound = inch
Best LCL = inch
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD = inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

CASE 7 - No hits anywhere. Recommend satisfying 2XL

Survey/Optimum Xpoh = 0.000 Inch
Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch
False Call Rate = with UCL @ 95% =
Largest Classlength , XL = inch
Samples Needed @ XL =
Classlength Mid-point , Xm = inch
Samples Needed @ Xm =
Smallest Classlength, Xs = inch
Samples Needed @ Xs =
New Smaer Classlength, Xss = inch
BestLCL Classlength, Xcl = inch
Samples Needed @ Xcl =
POH Classlength, Xpoh = inch
Samples Needed @ Xpoh =
New Largest Classlength , 2XL = inch
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt = inch
Samples Needed @Xpodopt =
Xp = inch

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length, inch
0.000 0.100 0.200 0.300 0.400 0.500 0.600
Probability of Hit (POH)/Lower Confidence Bound
0.000 0.100 0.200 0.300 0.400 0.500 0.600 0.700 0.800 0.900 1.000
Class Length, inch
0.000 0.100 0.200 0.300 0.400 0.500 0.600

870
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

MLE Divergence Warning: Initial results listed.

Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.

File Name = F9002(3)D.xls
Data Set Name = F9002(3)D(CK. NO.)

Date & Time = 6/5/15 6:19 AM

Xpod 90/95 Reached Anywhere? NOT REACHED
Classwidth @ 90/95 Xpod = inch
Classlength @ 90/95 Xpod = inch
Lower Confidence Bound = 0.3684
Classwidth @ Best LCL = inch
Classlength @ Best LCL = inch
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Classwidth @ 90/95 Xpod = 0.2150
Classlength @ 90/95 Xpod = 0.2150
Lower Confidence Bound = 0.0010
Classwidth @ Best LCL = 0.2150
Classlength @ Best LCL = 0.2150
User Provided a 90/95 POD @ inch
User's Maximum Allowed Classlength = inch
Inspector Classwidth @ Xp = inch
POD @ Xpod =

Probability of Hit (POH), Lower Confidence Limit, LCL

Class Length, inch

Largest Classlength, XL = 0.430 inch
Samples Needed @ XL = 26
Classlength Mid-point, Xm = 0.215 inch
Samples Needed @ Xm = 26
Smallest Classlength, Xs = 0.215 inch
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xicl = 0.215 inch
Samples Needed @ Xicl = 26
POH Classlength, Xpoh = 0.215 inch
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xn is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =
Xp =

Survey/Optimum Xpoh = 0.2150 -0.090 inch 26 Samples

NTIAC 90% POD = @ inch
NTIAC 90/95 POD = @ inch

False Call Rate = with UCL @ 95% =

MLE Divergence Warning: Initial results listed.
Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown. The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown. Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
**Detection Probability** (Utilization of DOEPOD results requires approval of Engineering Authority)

**MLE Divergence Warning**: Initial results listed.

<table>
<thead>
<tr>
<th>Warning: No false call analysis.</th>
</tr>
</thead>
</table>

**FILE NAME**: F9002(3).xls

**DATA SET NAME**: F9002(3) (L).xls

**DATE & TIME**: 6/5/15 6:20 AM

**DATA SET NAME**: F9002(3) (L).xls

**Date & Time**: 6/5/15 6:20 AM

**Xp, 90/95 POD**

- **MLE (Mean) POD**: 0.3684 inch
- **MLE (95%) LCL**: 0.3684 inch
- **Best LCL**: 0.0010 inch
- **Classwidth @ Best LCL**: 0.4950 inch
- **Classlength @ Best LCL**: 0.4950 inch
- **User Provided a 90/95 POD @**: 0.4950 inch
- **POD @ Xpod**: 0.4950 inch

**CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.**

**Survey/Optimum Xp @**: 0.4950 inch

**False Call Rate**

- **Largest Classlength, XL**: 0.495 inch
- **Samples Needed @ XL**: 26
- **Classlength Mid-point, Xm**: inch
- **Samples Needed @ Xm**: inch
- **Smallest Classlength, Xs**: inch
- **New Smaller Classlength, Xss**: inch
- **Best LCL Classlength, Xlcl**: 0.495 inch
- **Samples Needed @ Xlcl**: 26
- **POH Classlength, Xpoh**: 0.495 inch
- **Samples Needed @ Xpoh**: inch
- **New Largest Classlength, 2XL**: inch
- **Xm is Near Verification Point**: inch
- **Opt. POD classlength, Xpodopt**: inch
- **Samples Needed @ Xpodopt**: inch

**NOT REACHED**

- **File Name**: F9002(3).xls
- **Data Set Name**: F9002(3) (L).xls
- **Date & Time**: 6/5/15 6:20 AM
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to met the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.495</td>
<td>26</td>
</tr>
<tr>
<td>0.495</td>
<td>26</td>
</tr>
<tr>
<td>0.990</td>
<td>29</td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt =
CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.***
Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POM function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

**The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

<table>
<thead>
<tr>
<th>X pod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td>XL</td>
<td></td>
</tr>
<tr>
<td>Xm</td>
<td></td>
</tr>
<tr>
<td>Xs</td>
<td></td>
</tr>
<tr>
<td>Xss</td>
<td></td>
</tr>
<tr>
<td>Xlcl</td>
<td></td>
</tr>
<tr>
<td>Xpoh</td>
<td></td>
</tr>
<tr>
<td>2XL</td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm = Xpodopt**

---

* File Name = F9003(3)l.xls
* Data Set Name = F9003(3)l(CK. NO.)
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

- **Survey/Optimum Xpoh =** 0.901 inch @ 0.640 inch
- **NTIAC 90% POD =** 0.901 @ 0.640 inch
- **NTIAC 90/95 POD =**
- **False Call Rate =**
- **Largest Classlength , XL =** inch
- **Samples Needed @ XL =**
- **Classlength Mid-point , Xm =** inch
- **Samples Needed @ Xm =**
- **Smallest Classlength, Xs =** inch
- **Samples Needed @ Xs =**
- **New Smaller Classlength, Xss =** inch
- **Best LCL Classlength, Xlcl =** inch
- **Samples Needed @ Xlcl =**
- **POH Classlength, Xpoh =** inch
- **Samples Needed @ Xpoh =**
- **New Largest Classlength, 2XL =** inch
- **Xm is Near Verification Point =**
- **Opt. POD classlength, Xpodopt =** inch
- **Samples Needed @ Xpodopt =**

Warning: No false call analysis.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Warning: No false call analysis.

CASE 4 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL and the greater of Xpoh or Xlcl.
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the P0H function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc.) and resolved first.

*Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**TABLE A**

Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**

Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

**Alternate Xm = Xpod_{opt}**
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

Large flaw validation failure. Extend flaw size range to 0.966.

Any highlighted Misses are RED and shown in Column A of this data sheet

Warning: No false call analysis.

CASE 1*: 90/95 Xpod is reached. Xp used to satisfy XL and Xm requirements. VALIDATION GAP exists. Xp may VALIDATE between Xp and XL when causes of Misses are understood and corrected.

Survey/Optimum Xpoh = 0.901 @ 0.245 inch

NTIAC 90% POD = 0.901

NTIAC 90/95 POD = 0.900 @ 0.400 inch

False Call Rate = with UCL @ 95% =

Largest Classlength, XL = 0.610 inch
Samples Needed @ XL =
Classlength Mid-point, Xm = 0.535 inch
Samples Needed @ Xm =
Smallest Classlength, Xs =
Samples Needed @ Xs =
New Smaller Classlength, Xss =
Best LCL Classlength, Xlcl =
Samples Needed @ Xlcl =
POH Classlength, Xpoh =
Samples Needed @ Xpoh =
New Largest Classlength, 2XL =
Xm is Near Verification Point =
Opt. POD classlength, Xpodopt =
Samples Needed @ Xpodopt =

XP = 0.4750 inch

884
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**

### Table A

<table>
<thead>
<tr>
<th>XL</th>
<th>Xm</th>
<th>Xs</th>
<th>Xss</th>
<th>Xlcl</th>
<th>Xpoh</th>
<th>2XL</th>
<th>Xpodopt</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.610</td>
<td>0.535</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Alternate Xm =**

### Table B

<table>
<thead>
<tr>
<th>Xpod, Class Length</th>
<th>No. Need</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.**

**Alternate Xm =**

### Table C

<table>
<thead>
<tr>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.**
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although Xpod appears to have been reached at a point, there are misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.

---

**Directed DOE Options**

**FILE NAME** = G10003BA.XLS
**DATA SET NAME** = G10003BA(CRACK #)

<table>
<thead>
<tr>
<th>TABLE C</th>
<th>Class Length</th>
<th>Additional Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.618</td>
<td>29</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE A**
Selected class lengths with existing misses. Each point requires additional samples in or to achieve the Xpod listed.

**TABLE B**
Selected class lengths with no misses. Additional samples at these class lengths will achieve the Xpod listed.

<table>
<thead>
<tr>
<th>XL =</th>
<th>Xm =</th>
<th>Xs =</th>
<th>Xss =</th>
<th>Xlcl =</th>
<th>Xpoh =</th>
<th>2XL =</th>
<th><strong>Alternate Xm</strong> =</th>
<th>Xpodopt =</th>
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<td>1.618</td>
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*Although Xpod appears to have been reached at a point, there are Misses at larger class lengths this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.

Survey/Optimum Xpoh = 0.000 Inch

CT @ Xp = 0.356 Inch

CASE 7 - 90/95 Xpod is not reached anywhere. Recommend satisfying 2XL.
Although $X_{pod}$ appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited Misses and resulted in $LCL < 0.90$. Only the largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no Misses, and these class lengths provide alternate target $X_{pod}$ points. Only the largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate $X_m$ requirement removes the need to meet the adjacent $X_m$ requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
### Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)

- **File Name:** G10003BL.XLS
- **Data Set Name:** G10003BL(CRACK #)
- **Date & Time:** 6/5/15 6:30 AM

**Xpod 90/95 Reached Anywhere?**
- **NOT REACHED**

**Class Length @ 90/95 Xpod:** 0.0530 inch
- **Lower Confidence Bound @ 95%:** 0.2950 inch
- **Best LCL:** 0.7794 inch
- **Classwidth @ Best LCL:** 0.0530 inch
- **Classlength @ Best LCL:** 0.2950 inch
- **User Provided a 90/95 POD:** Not applicable
- **User’s Maximum Allowed Classlength:** Not applicable
- **POD @ Xpod:** Not appliclaible

**Classwidth @ Xp:**
- **Classlength @ Xp:**

**Survey/Optimum Xpoh:** 0.4990 inch
- **Samples Needed:** 28

**NTIAC 90% POD:** 0.901 @ 0.460 inch
- **NTIAC 90/95 POD:** 0.901 @ 0.630 inch

**False Call Rate = NTIAC with UCL @ 95%:**
- **Largest Classlength, XL:** 0.610 inch
- **Samples Needed @ XL:** 27
- **Classlength Mid-point, Xm:** inch
- **Smallest Classlength, Xs:** inch
- **Samples Needed @ Xs:** inch
- **New Smaller Classlength, Xss:** inch
- **BestLCL Classlength, Xicl:** inch
- **Samples Needed @ Xicl:** inch
- **POH Classlength, Xpoh:** 0.568 inch
- **Samples Needed @ Xpoh:** 23
- **New Largest Classlength, 2XL:** 1.220 inch
- **Xn is Near Verification Point:** False
- **Opt. POD classlength, Xpodopt:** inch
- **Samples Needed @ Xpodopt:** inch

**Xp:** 0.610 inch
- **Xp, 90/95 POD:** inch
- **MLE(Mean) POD:** inch
- **MLE(95%) LCL:** inch

---

**Warning:** No false call analysis.

CASE 6 - 90/95 Xpod is not reached anywhere. Recommend satisfying XL, Xpoh, and 2XL.
Although \( X_{pod} \) appears to have been reached at a point, there are Misses at larger class lengths; this indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in \( L_{CL} \) below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target \( X_{pod} \) points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

---

**Satisfying the Alternate \( X_m \) requirement removes the need to meet the adjacent \( X_m \) requirement.**

---

The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.
Detection Probability (Utilization of DOEPOD results requires approval of Engineering Authority)
Large flaw validation failure. Extend flaw size range to 0.2536.

Note: Xpodopt is within one class width of Xpod.
Warning: No false call analysis.

| File Name = | G2001L.XLS |
| Data Set Name = | G2001L(Eol-a) |
| Date & Time = | 6/5/15 6:31 AM |
| Xpod 90/95 Reached Anywhere? | REACHED |
| Classwidth @ 90/95 Xpod = | 0.0390 inch |
| Classlength @ 90/95 Xpod = | 0.0845 inch |
| Lower Confidence Bound = | 0.9001 inch |
| Best LCL = | inch |
| Classwidth @ Best LCL = | inch |
| Classlength @ Best LCL = | inch |
| User Provided a 90/95 POD @ | |
| User's Maximum Allowed Classlength = | inch |
| POD @ Xpod = | 1.0000 |

CASE 1# - 90/95 Xpod may be VALIDATED from Xpod to XL. Xp used to satisfy XL and Xm requirements. An alternate 90/95 Xpod is available if Xpodopt or Optimum Xpoh (if listed) is also satisfied.

Survey/Optimum Xpoh = 0.0516 -0.001 Inch 28 Samples

| NTIAC 90% POD = | 0.909 @ 0.075 Inch |
| NTIAC 90/95 POD = | 0.907 @ 0.100 Inch |
| False Call Rate = | with UCL @ 95% |
| Largest Classlength , XL = | 0.242 Inch |
| Samples Needed @ XL = | |
| Classlength Mid-point , Xm = | 0.169 Inch |
| Samples Needed @ Xm = | |
| Smallest Classlength, Xs = | Inch |
| Samples Needed @ Xs = | |
| New Smaller Classlength, Xss = | Inch |
| Best LCL Classlength, Xlcl = | Inch |
| Samples Needed @ Xlcl = | |
| POD Classlength, Xpoh = | Inch |
| Samples Needed @ Xpoh = | |
| New Largest Classlength , 2XL = | Inch |
| Xn is Near Verification Point = | |
| Opt. POD classlength, Xp = | 0.077 Inch |
| Samples Needed @ Xp = | 2 |

Analysis file name: DOEPOD.v.1.2.01.PC.Office2010.Win7.xlsmAnalysis
Although Xpod appears to have been reached at a point, there are Misses at larger class lengths. This indicates that the POH function may be oscillatory. This needs to be checked.

The class lengths listed in Table A exhibited misses and resulted in LCL below 0.90. Only largest 4 class lengths are shown.

The class lengths listed in Table B exhibited no misses, and these class lengths provide alternate target Xpod points. Only largest 4 class lengths are shown.

Follow sample selection priority in the DOEPOD Manual.

Before adding flawed samples to satisfy elements of Table A or Table B, it is recommended that the cause of the Misses be determined (human factors, unexpected flaw type, etc) and resolved first.

**Satisfying the Alternate Xm requirement removes the need to meet the adjacent Xm requirement.**

***The added class lengths are to be at the class length indicated or smaller to within the class width indicated in the companion chart.**
Errata

NTIAC NDE Capabilities Book, 3rd Edition (November 1997)  
[NTIAC: DB-97-02]

DATA sets that do not appear to exist on the NTIAC CD:

B20011 (appears to be B2001)
B20012 (appears to be B2002)
B20013 (appears to be B2003)

G6001G (appears to be A6001G)
G6001GR (appears to be A6001GR)
G6002G (appears to be A6002G)
G6003G (appears to be A6003G)
G6004G (appears to be A6004G)

F40601AL (appears to be F40601A)
F40601BL (appears to be F40601B)
F40601CL (appears to be F40601C)

F40603AL (appears to be F40603A)
F40603BL (appears to be F40603B)
F40603CL (appears to be F40603C)

F42501AL (appears to be F42501A)
F42501BL (appears to be F42501B)
F42501CL (appears to be F42501C)

F42503AL (appears to be F42503A)
F42503BL (appears to be F42503B)
F42503CL (appears to be F42503C)

A4000(7) is listed in Mag Particle data index – should be B4000(7) with B4001L as the companion data set

DATA sets on the CD that are not listed in the index:

B1001AD (POD data not shown in book)
B1001BD (POD data not shown in book)
B1001CD (POD data not shown in book)

B1003AD (POD data not shown in book)
B1003BD (POD data not shown in book)
B1003CD (POD data not shown in book)
B4001L (see above)

B2001 (appears to be the missing B20011 above)
B2002 (appears to be the missing B20012 above)
B2003 (appears to be the missing B20013 above)

There are an additional 18 data sets (grouped) and not listed in the index:

DB001(3)D (POD data not shown in book)
DB001(3)L (POD data not shown in book)
DB002(3)D (POD data not shown in book)
DB002(3)L (POD data not shown in book)
DB003(3)D (POD data not shown in book)
DB003(3)L (POD data not shown in book)

DC001(3)D (POD data not shown in book)
DC001(3)L (POD data not shown in book)
DC002(3)D (POD data not shown in book)
DC002(3)L (POD data not shown in book)
DC003(3)D (POD data not shown in book)
DC003(3)L (POD data not shown in book)

DD001(3)D (POD data not shown in book)
DD001(3)L (POD data not shown in book)
DD002(3)D (POD data not shown in book)
DD002(3)L (POD data not shown in book)
DD003(3)D (POD data not shown in book)
DD003(3)L (POD data not shown in book)

DATA set duplicated:

F9000CD appears to be a duplicate identical to data file F20852CD

DATA Analysis integrity:

During validation of DOEPOD results on the entire NTIAC NDE Capabilities Book "DOEPOD(NTIAC)", some exceptions were noted in the results. There are 437 data sets and exceptions were identified in the 32 data sets listed below. The analysis results shown in the NTIAC NDE Capabilities Book, 3rd Edition (1997) [NTIAC: DB-97-02] for the data sets listed below are incorrect due to a data listing error. These data sets need to be re-run with data sorted.

A1001CL.XLS
A1002CL.XLS
OTHER:

C8003(3)L.xls - sample #136 shows 3 trials with -1 in the HIT/MISS column
C8003(3)D.xls - sample #136 shows 3 trials with -1 in the HIT/MISS column

C3002: Sample #16 shows 0.10” in depth. NASA CR 151098 pg 27. shows 0.010”. Since the sample thickness is 0.063” this NTIAC entry is incorrect.

The primary and secondary scales on abscissa axes in Chart 1 may be incorrect. Compare actual flaw sizes and inspection data on data sheets available in electronic distributions.
**REPORT DOCUMENTATION PAGE**

The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

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<td>This data book contains the Directed Design of Experiments for Validating Probability of Detection (POD) Capability of NDE Systems (DOEPOD) analyses of the nondestructive inspection data presented in the NTIAC, Nondestructive Evaluation (NDE) Capabilities Data Book, 3rd ed., NTIAC DB-97-02. DOEPOD is designed as a decision support system to validate inspection system, personnel, and protocol demonstrating 0.90 POD with 95% confidence at critical flaw sizes, a90/95. The test methodology used in DOEPOD is based on the field of statistical sequential analysis founded by Abraham Wald, “Sequential analysis is a method of statistical inference whose characteristic feature is that the number of observations required by the procedure is not determined in advance of the experiment. The decision to terminate the experiment depends, at each stage, on the results of the observations previously made. A merit of the sequential method, as applied to testing statistical hypotheses, is that test procedures can be constructed which require, on average, a substantially smaller number of observations than equally reliable test procedures based on a predetermined number of observations.” A. Wald, 1947.</td>
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