FW-DOC-051

FILLER WIRE DEVELOPMENT FOR 2195 ALUMINUM-LITHIUM

Part II Final Report- November 1998

Contract No. NAS8-39929

Gerald W. Bjorkman
Dr. Alex Cho

LOCKHEED MARTIN

390 pgs.

FW-DOC-051

FILLER WIRE DEVELOPMENT FOR 2195 ALUMINUM-LITHIUM

Part II Final Report- November 1998

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Dr. Alex Cho

LOCKHEED MARTIN

CORPORATE RESEARCH AND DEVELOPMENT

METALLURGY DEPARTMENT
Materials Characterization

LETTER REPORT NO. MCR 98-058-A

March 18, 1998

IN-26
093970

To:	A. Cho	CRD/4
From:	J. T. White	CRD/4
Route:	W. A. Cassada	CRD/4
	D. H. Scott	CRD/4
Subject:	**Stress Corrosion Cracking Evaluation of Welded Al-Li Plate** (Project No. 1708)	

Summary

Forty-day alternate immersion (AI) exposure has been completed on 8 welded 2195 stress corrosion samples. No stress corrosion cracking (SCC) was found on any of the samples tested. All 8 samples experienced exfoliation corrosion attack in the heat-affected zone (HAZ) adjacent to the weld. All samples were examined metallographically and showed varying degrees of intergranular corrosion (IG). The filler metal on all samples showed moderate to heavy pitting.

Objective

To determine the susceptibility of submitted welded 2195 plate in an AI environment.

Background

Samples were received machined to a thickness of 0.3125" -- length of 10" and width of 1". The plate alloy was 2195, and the weld filler alloys were Development ID #'s 15, 16, 17, and 18.

Identification markings for the samples:

- 15B-SCC002
- 15B-SCC003
- 16B-SCC002
- 16B-SCC003
- 17B-SCC002
- 17B-SCC003
- 18B-SCC002
- 18B-SCC003

Procedure

Samples were stressed to 50 ksi using the double bent beam method (ASTM Standard G39). Samples were then degreased in acetone and exposed to 3.5% NaCl AI exposure (ASTM Standard G44) for a period of 40 days. At 10, 20, and 30 days all samples were inspected for SCC using a microscope, without disturbing the corrosion product. They were then replaced on test.

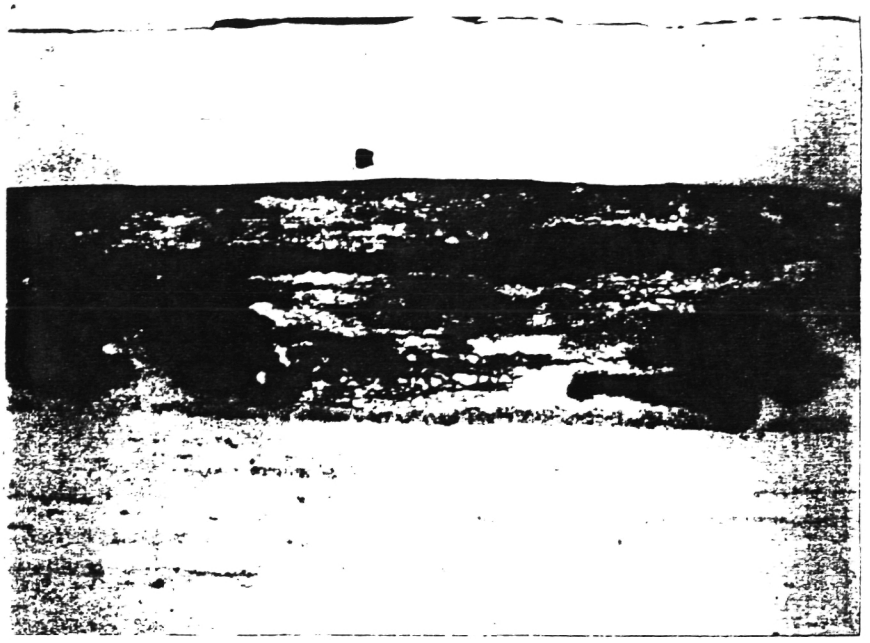

Figure 1
Photomicrograph showing typical exfoliation in the HAZ.

Magnification: 100X

Figure 2
Photomicrograph showing typical IG attack.

Magnification: 100X

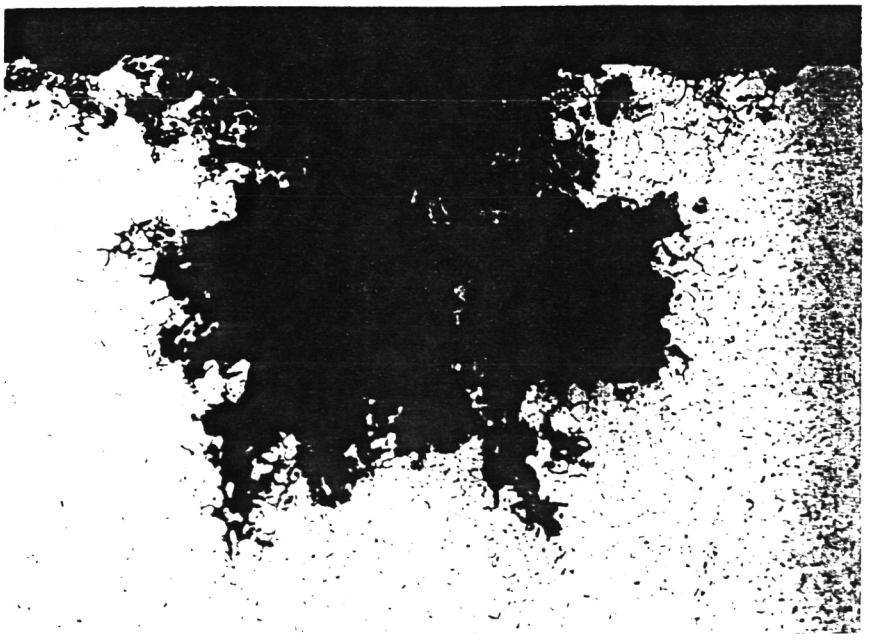

Figure 3
Photomicrograph showing mode of corrosion attack to the filler metal to be pitting.

Magnification: 100X

APPENDIX A
FILLER WIRE CHEMISTRY ANALYSIS

TARGET FILLER WIRE CHEMISTRIES

Chem	Cu	Ag	Mg	Zn	Mn	Ti	Zr
15	6.00		0.40	0.40		0.15	0.16
16	6.00	0.40		0.40		0.25	0.25
17	6.00	0.40	0.40			0.25	0.25
18	6.00	0.40				0.25	0.25
19	6.00	0.40				0.25	
20	6.00	0.40			0.3	0.25	

FILLER WIRE CHEMISTRY ANALYSIS*

Chem	Cu	Ag	Mg	Zn	Mn	Ti	Zr	S/N
15	6.55		0.67	0.52		0.14	0.18	72222-2A
15	6.71		0.75	0.55		0.20	0.18	72222-2B
15	7.00		0.54	0.61		0.06	0.22	72222-S
16	6.48	0.53		0.58		0.24	0.28	72219-4A
16	6.01	0.50		0.53		0.23	0.23	72219-4B
16	6.58	0.45		0.56		0.26	0.28	72221-S
17	5.61	0.43	0.67			0.23	0.23	72220-3A
17	6.47	0.50	0.56			0.31	0.23	72220-3B
17	6.82	0.49	0.59			0.42	0.31	72223-S
18	6.08	0.47				0.24	0.22	72221-5A
18	6.27	0.50				0.25	0.23	72221-5B
18	6.20	0.42				0.25	0.24	72218-S
19	5.93	0.48				0.27		72218-1A
19	5.85	0.45				0.20		72218-1B
19	6.21	0.43				0.31		72219-S
20	6.34	0.47			0.26	0.30		72223-6A
20	6.24	0.47			0.27	0.29		72223-6B
20	Sent to McCook							72220-S

*Chemistry Analysis performed using X-Ray Flourescence Spectroscopy

APPENDIX B
PARENT MATERIAL DATA

2195 PARENT MATERIAL DATA
REYNOLDS METALS COMPANY
VPPA WELD TASK

LOT#	PLT#	CAST/ DROP	Cu	Li	Mg	Ag	Zr	Ti	Zn	Mn	Fe	Si	Ni	TEMPER	GAGE	UTS	YS
934T649A	1A1,1A1	1140-12	4.17	1.05	0.44	0.46	0.12	0.02	0.00	0.00	0.04	0.03	0.01	T8R70	0.4	83.5	81.6
																87.1	82.3
																80.1	73.3
	1B1,1B2															80.3	77.6
																83.3	77.0
																77.4	69.8
	2B1,2B2															81.2	78.7
																79.3	71.2
																73.7	64.7

AHF
DUCOMMUN INCORPORATED
131 E. GARDENA BOULEVARD / P.O. BOX 2310 / GARDENA, CALIFORNIA 90247-0310
TELEPHONE 310 / 532-1810 / FAX 310 / 715-1492

STRETCH FORMING
HOT FORMING
MACHINING
PROCESSING

CERTIFICATION OF CONFORMANCE

CUSTOMER: MARTIN MARIETTA P.O. #: M350028

PART NUMBER: FLAT PLATE SLAVAGE REVISION: N/A

QUANTITY: 11 H/L #: NOTED BELOW SHIPPER #: 23152

AHFD S/N: N/A

1) SELLER CERTIFIES THAT THE PARTS, TOOLS AND/OR ASSEMBLIES ON ABOVE SHIPMENT WERE PRODUCED EITHER FROM MATERIALS FURNISHED BY THE BUYER OR MATERIALS FURNISHED BY THE SELLER, OF WHICH THE SELLER HAS AVAILABLE PHYSICAL AND/OR CHEMICAL REPORTS FOR EXAMINATION.

2) SELLER ALSO CERTIFIES THAT ALL ARTICLES IN THE ABOVE SHIPMENT, AS CALLED FOR IN CUSTOMER'S PURCHASE ORDER, CONFORMS TO THE PURCHASE ORDER, DRAWINGS AND ALL APPLICABLE PROCESS SPECIFICATIONS.

3) SELLER FURTHER CERTIFIES THAT ANY PROCESSES REQUIRED TO BE PERFORMED BY A CUSTOMER APPROVED SOURCE, WERE IN FACT PERFORMED BY SUCH APPROVED SOURCE, AS LISTED BELOW.

PROCESS	SPECIFICATION	PERFORMED BY
MATERIAL 2195 AL-LI	STM11A1-1	CUSTOMER FURNISHED
SOL. HEAT TREAT	SOW 935°-955°F MIN. (1) HR	TICORM
STRETCH LEVEL	SOW 2.75-4.5%	AHF-DUCOMMUN
AGE	SOW 290°F FOR 36 HOURS	TICORM
MECHANICAL PROPERTIES	SOW, STP 1008	DURKEE TEST LABS
	H/L #950M023B, PLATES 1B, 2B, 3B, 4B, 1A	
	950M024A, PLATES 1B, 2B, 3B, 1A, 2A, 3A	

FINAL ACCEPTANCE 01-19-96 (AHF 51) Q.A. REP. B. Ellsworth
STAMP/DATE SIGNATURE

MARTIN MARIETTA

PROCUREMENT QUALITY ACCEPTANCE REPORT

SUPPLIER	CONTRACT/P.A. NO.	CONTRACT/P.A. REV.	REPORT NO.
AHF DUCOMMUN	M350028	A0	001

ADDRESS: 131 E. GARDENA BLVD. GARDENA CA

DATE: 1/19/96

QUANTITY	PART NUMBER	NOMENCLATURE	TRACEABILITY NUMBER	REV.	DAS SERIAL	DAS ISSUE	NCD NUMBER OPEN	NCD NUMBER CLOSED
11	LEVEL STRETCH	PLATE	95M024A 1A 1B	S.O.W 11-27-95	—	—		N006959 N006959
	"	"	" 2A 3A	"	—	—		N006959 N006959
	"	"	95M024A 3B	"	—	—		N006959
	"	"	95M023B 1A 1B	"	—	—		N012673 N012673
	"	"	" 2B 3B	"	—	—		— N012673
	"	"	95M023B 4B	"	—	—		N012673
	"	"	95M024A 2B	"	—	—	—	—

DATA LIST AND ADDITIONAL INFORMATION:

1). SHIPPER NO. 23152

2). DATA PACK, C of C

3). SPECIAL PROVISIONS: A01, E02, E05, E14

The articles described above have been accepted and comply with the requirements of the applicable subcontract surveillance plan. Authorized variations, if any, are documented on the referenced Nonconformance Document (NCD).

MARTIN MARIETTA REPRESENTATIVE

Dan Causey MSS 257 1/19/96

DWF 3700-05 (1/94)

AHF
DUCOMMUN INCORPORATED
ENGINEERING · TOOL DESIGN · FABRICATING · MACHINING · ASSEMBLY
P.O. BOX 2310, GARDENA, CA 90247 0310
FAX (310) 380-5225
(310) 380-5390

SHIPPER

NUMBER	PAGE NO
23152 1	

DATE
JANUARY 19 1996

CUSTOMER PURCHASE ORDER NO
M350028

SALES ORDER NO
80420213

SHIPPED VIA

MARTIN MARIETTA CORPORATION
MARSHALL SPACE FLIGHT CENTER
BUILDING 4705
HUNTSVILLE, AL 35812 0

ITEM NO.	QUANTITY SHIPPED	BACKORDER QUANTITY	PART NUMBER	DESCRIPTION
2	11		FLAT PLATE SALV	LEVEL STRETCH REVISION : NA

REFERENCE NCD #N012673, N006959

CERTIFICATE OF CONFORMANCE ENCLOSED

JANUARY 19, 1996 (AHF 51)

ORDER # 34191040
ORDER # 34191070
ORDER # 34191060
ORDER # 34191050
ORDER # 34191080

** TOTAL # OF PAGES PRINTED : 1 **

ALL CLAIMS & RETURNS MUST BE MADE WITHIN 10 DAYS OF RECEIPT OF GOODS. GIVING

Customer P.Q.A. Rep:

NAME

1/19/96

(MSS 257)

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TICORM INC.

(213) 532-0419 355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248

No. 37322

CORRECTED CERT.

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SOLD TO AHF DUCOMMUN INCORPORATED
P.O. BOX 2310
GARDENA, CA. 90247-0310

SHIP TO

TERMS: NET 30 ON APPROVED CREDIT

DATE RECEIVED	CUSTOMER'S P.O. #	TICORM QUOTE #	CUSTOMER'S SHIPPER #	DATE SHIPPED
01-09-96	20771		20968	

QUANTITY	PART NO. AND DESCRIPTION
1	FLAT PLATE SALV MATERIAL 2195-0 SOLUTION TO 2195-AQ H/L#95M024A Dtd 2B MARTIN MARIETTA w/o # 3419040 1-10-96 (AHF 49)

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195-0	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT	1 ½ HRS	945 °F	8	LOAD NO. 0153
PER P.O.	QUENCHING	13 SEC.	UCON 14.2% °F		TIME OUT OF QUENCH: 3:40 P.M.
	AGING TREATMENT		°F		DATE: 01/09/96
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES	ROCKWELL	OTHER	% TESTED
ELECTRO-CONDUCTIVITY PER MIL-A-22771	READINGS	% I.A.C.S.	% TESTED

NOTES

TICORM, INC.

TICORM 4 INSP.

BY Ellie Johnson

NOTE: THIS IS OUR SHIPPING AND INVOICE NUMBER

TICORM INC.

(213) 532-0419 — 355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248 — No. 37323

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01-09-96	20777		20968	

QUANTITY	PART NO. AND DESCRIPTION
1	FLAT PLATE SALV MATERIAL 2195-0 SOLUTION TO 2195-AQ H/L#950M024A Plate 1B MARTIN MARIETTA w/o # 3H19/115 D 1-11-96 (3HF AQ)

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195-0	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT	1½ HOURS	945 °F	8	LOAD NO. 0154
PER P.O.	QUENCHING	13 SEC	UCON 14.2% °F		TIME OUT OF QUENCH: 3:30 P. DATE: 01-10-96
	AGING TREATMENT		°F		
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES — ROCKWELL — OTHER — % TESTED

ELECTRO-CONDUCTIVITY PER MIL-A-22771

READINGS — % I.A.C.S. — % TESTED

NOTES

TICORM, INC. TICORM 4 INSP.

BY: Allen Johnson
AUTHORIZED SIGNATURE

Durkee Testing Laboratories, Inc.

MECHANICAL PROPERTIES REPOR

P.O. BOX 1401 • 15700 Texaco Street • Paramount, CA 90723 • (310) 531-7111

ENT BY: LM

CUSTOMER	CUST P.O.	SHIPPER / WO.	LAB NO.	LOG NO.
A.H.F./DUCOMMUN P.O. BOX 2310 GARDENA, CA 90247	20857	21095	D2407	36221M
SPECS: MPP 5201126 STP 10088				DATE REC. 01/17/9 DATE COMP. 01/18/9

Item	Quantity	Cust Item	Test	Description	Material
1-01	6	1	MECHANICAL	TENSILE	2195-T8A3 AL/LITH

(6) TEST PARTS, IDENTIFIED AS FOR P/N FLAT PLATE SALV., (.260)
REF: W/O #34191040, 34191050, 34191080, 34191070, 34191060
S/N'S 950M024A, 950M023B
CUSTOMER: MARTIN MARIETTA

Reqs.	ID	Actual Size	Actual Area	Yield Load @ .2%	Yield PSI @ .2%	Tensile Load @ max	Tensile PSI @ max	Elong Inch 2.00	Elong (%)	Reduced Dimension	R/A (%)	Not
1	24A-L	0.2400/0.4980	.11952	9780	81830	10350	86600	0.200	10.000			
2	24A-LT	0.2400/0.5010	.12024	9220	76680	10000	83170	0.290	14.500			
3	24A-45°	0.2400/0.5000	.12000	8420	70170	9100	75830	0.330	16.500			
1	23B-L	0.2370/0.5010	.11874	10050	84640	10500	88430	0.220	11.000			
2	23B-LT	0.2380/0.5010	.11924	9500	79670	10050	84280	0.260	13.000			
3	23B-45°	0.2370/0.5010	.11874	8300	69900	8950	75380	0.320	16.000			
	Minimum Requirements: 1				73000		78000		6.000		0.000	
	Minimum Requirements: 2				73000		78000		8.000		0.000	
	Minimum Requirements: 3				66000		73000		8.000		0.000	

By:SE

Material(s) conform to specifications

Respectfully Submitted,

By: Ralph P. Harrison

RALPH P. HARRISON
GENERAL MANAGER

TICORM INC.

(213) 532-0419

355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248

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• AMF BOWLING INCORPORATED
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• GARDENA, CA 90247-0310

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• 268 E. GARDENA BLVD.
• GARDENA, CA 90248-2811

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01-12-96	20778		21023	

QUANTITY	PART NO. AND DESCRIPTION
11	FLAT PLATE SALVE ITEM 1 WO 8042021300I0 MATERIAL 2195 AGE TO 2195-T8A3 H/L # 950M023B Plates 1B, 2B, 3B, 4B, 1A 950M024A Plates 1B, 2B, 3B, 1A, 2A, 3A MARTIN MARIETTA 341910 70 w/o # 341910 60 (AHF 49) 341910 80 01-17-96 341910 50 341910 40

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT		°F		
PER P.O.	QUENCHING		°F		
	AGING TREATMENT	36 HOURS	290 °F	3	LOAD NO. 3529
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES — ROCKWELL — OTHER — % TESTED

ELECTRO-CONDUCTIVITY PER MIL-A-22771

READINGS — % I.A.C.S. — % TESTED

NOTES

TICORM, INC.

TICORM 4 INSP.

BY Eddie Thurm

AUTHORIZED SIGNATURE

TICORM INC.

(213) 532-0419 — 355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248

NOTE: THIS IS OUR SHIPPING AND INVOICE NUMBER

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01/10/96	20777		20978	

QUANTITY	PART NO. AND DESCRIPTION
1	FLAT PLATE SALT ITEM 1 MJO 304202130910 MATERIAL 2195-0 SOLUTION TO 2195-AQ

H/L # 950M023B
Plate 1B

MARTIN MARIETTA
w/o # 3411910 80
1/11/96 (AHF 49)

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195-0	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT	1¼ HOURS	945 °F	8	LOAD NO. 0154
	QUENCHING	13 SEC	UCON 14.2% °F		TIME OUT OF QUENCH: 3:30 P.M
PER P.O.	AGING TREATMENT		°F		DATE: 01-10-96
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES	ROCKWELL	OTHER	% TESTED
ELECTRO-CONDUCTIVITY PER MIL-A-22771	READINGS	% I.A.C.S.	% TESTED

NOTES

TICORM, INC.

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BY: Eddie Johnson
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TICORM INC.

(213) 532-0419

355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248

No. 37347

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DATE RECEIVED	CUSTOMER'S P.O. #	TICORM QUOTE #	CUSTOMER'S SHIPPER #	DATE SHIPPED
01/10/96	20777		20978	

QUANTITY	PART NO. AND DESCRIPTION
2	FLAT PLATE SALF ITEM 1 MJO 2042021.30010 MATERIAL 2195-0 SOLUTION TO 2195-AQ H/L # 950M0336 plates 2B, 4B MARTINI MARIETTA w/o # 34191080 1/11/96 (AHF 49)

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195-0	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT	1½ HOURS	945°F	8	LOAD NO. 0155
	QUENCHING	13 SEC	UCON 14.2%		TIME OUT OF QUENCH: 7:10 A.
PER P.O.	AGING TREATMENT		°F		DATE: 01-11-96
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES — ROCKWELL — OTHER — % TESTED

ELECTRO-CONDUCTIVITY PER MIL-A-22771

READINGS — % I.A.C.S. — % TESTED

NOTES

TICORM, INC.

TICORM 4 INSP.

BY Ellee Johnson
AUTHORIZED SIGNATURE

NOTE: THIS IS OUR SHIPPING AND INVOICE NUMBER.

TICORM INC.

(213) 532-0419

355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248

No. 37344

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• GARDENA, CA 90247-0310

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• GARDENA, CA 90248-3921

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DATE RECEIVED	CUSTOMER'S P.O. #	TICORM QUOTE #	CUSTOMER'S SHIPPER #	DATE SHIPPED
01/10/96	20777		20978	

QUANTITY	PART NO. AND DESCRIPTION
2	FLAT PLATE SALV ITEM 1 HJO 804202:30010 MATERIAL 2195-0 SOLUTION TO T195-20

H/L=950M02tA
Plates 1A, 2A

MARTIN MARIETTA
W/O # 5H194060
1-12-96 (AHF 49)

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195-0	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT	1½ HOURS	945 °F	8	LOAD NO. 0158
	QUENCHING	13 SEC	UCON 14.2%		TIME OUT OF QUENCH: 4:10 P.
PER P.O.	AGING TREATMENT		°F		DATE: 01-11-96
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES — ROCKWELL — OTHER — % TESTED

ELECTRO-CONDUCTIVITY PER MIL-A-22771

READINGS — % I.A.C.S. — % TESTED

NOTES

TICORM, INC. TICORM 4 INSP.

BY Ellie Hanson
AUTHORIZED SIGNATURE

TICORM INC.

(213) 532-0419

355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248

NOTE: THIS IS OUR SHIPPING AND INVOICE NUMBER

No. 37345

INVOICE DATE

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• AHF DUCOMMUN INCORPORATED
• P.O. BOX 2210
• GARDENA, CA 90247-0310

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•
• 268 E. GARDENA BLVD.
• GARDENA, CA 90248-2111

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DATE RECEIVED	CUSTOMER'S P.O. #	TICORM QUOTE #	CUSTOMER'S SHIPPER #		DATE SHIPPED
01/10/96	20777		20978		

QUANTITY	PART NO. AND DESCRIPTION
2	FLAT PLATE S&LV ITEM 1 BJO 904202130010 MATERIAL 2195-0 SOLUTION TO 2195-AQ H/L #950M024A Plate 3B,3A MARTIN MARIETTA W/O # 34191060 34191070 1-12-96 (AHF 49)

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195-0	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT	1¼ HOURS	945 °F	8	LOAD NO. 0157
	QUENCHING	13 SEC	UCON 14.2%		TIME OUT OF QUENCH:
PER P.O.	AGING TREATMENT		°F		1:05 P.M. DATE: 1/11/9
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES	ROCKWELL	OTHER	% TESTED
ELECTRO-CONDUCTIVITY PER MIL-A-22771	READINGS	% I.A.C.S.	% TESTED

NOTES

TICORM, INC.

TICORM 4 INSP.

BY: Ellie Johnson
AUTHORIZED SIGNATURE

TICORM INC.

(213) 532-0419 — 355 W. ALONDRA BLVD. • GARDENA, CALIFORNIA 90248

IS OUR SHIPPING AND INVOICE NUMBER

No. 37346

INVOICE DATE

SOLD TO
[illegible]
P.O. BOX 2310
GARDENA, CA 90247-0310

SHIP TO
268 E. GARDENA BLVD.
GARDENA, CA 90248-2911

TERMS: NET 30 ON APPROVED CREDIT

DATE RECEIVED	CUSTOMER'S P.O. #	TICORM QUOTE #	CUSTOMER'S SHIPPER #	DATE SHIPPED
01/10/96	20777		20978	

QUANTITY	PART NO. AND DESCRIPTION
2	FLAT PLATE SALT ITEM: 1 MJO 80420213D01C MATERIAL 2195-0 SOLUTION TO 2195-AQ H/L #950M023B, Plates 1A, 3B MARTINI MARIETTA a/o #34191070 1/11/96 (AHF 49)

CERTIFICATION OF PROCESS PERFORMED

MATERIAL USED	PROCESS	TIME	TEMPERATURE	FURN. NO.	LOAD NO. OR REMARKS
2195-0	ANNEALING OR STRESS RELIEVE		°F		
SPECIFICATION USED	SOLUTION TREATMENT	1½ HRS	945 °F	13	LOAD NO. 0156
	QUENCHING	13 SEC	UCON 14.2% °F		TIME OUT OF QUENCH: 10:10 A.M.
PER P.O.					DATE: 01/11/96
	AGING TREATMENT		°F		
			°F		
	HOT STRAIGHTENING		°F		
	HOT FORMING		°F		

HARDNESS VALUES — ROCKWELL — OTHER — % TESTED

ELECTRO-CONDUCTIVITY PER MIL-A-22771

READINGS — % I.A.C.S. — % TESTED

NOTES

TICORM, INC. TICORM 4 INSP.

BY: Ellie Thomson
AUTHORIZED SIGNATURE

APPENDIX C
VPPA WELD SCHEDULES

EH25 Weld Data Traceability

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data PREWELD TEST PANELS

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F024	N/A	INITIAL	0	0	0	N/A	MELSON		9/23/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0940000133	0830000537	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	#16	72221-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

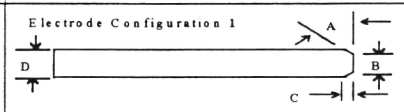
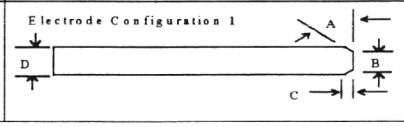
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	122	20.5	14	3.4	80	20	9.8	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW	AVC	100	18.5	6	1.8	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.2	0.045

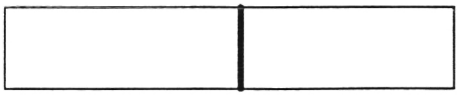
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



EH25 Weld Data Traceability

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data PREWELD TEST PANELS

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F025	N/A	INITIAL	0	0	0	N/A	PASEUR		9/23/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0990000138	0990000137	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	[redacted] #17	72223-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

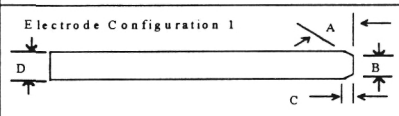
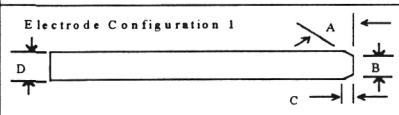
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	122	20.4	13.2	3.3	80	20	9.8	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW	AVC	100	18.6	5.8	1.8	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.2	0.045

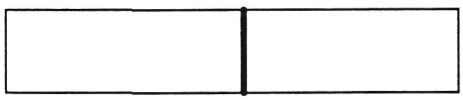
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



EH25 Weld Data Traceability

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data — PREWELD TEST PANELS

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F027	N/A	INITIAL	0	0	0	N/A	MELSON	98XALTFW-108	10/16/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	1000000148	0830000515	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A REV A	3	RED DOT STANDARD	#18	72218-s	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2%	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

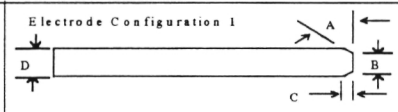
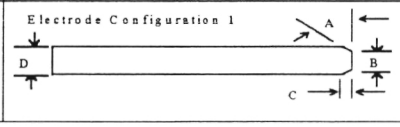
PREWELD PANEL CLEANING:

COMMENTS:

TEMPERATURE 78 **HUMIDITY** 50

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	122	20.5	13.5	3.5	80	20	9.8	ARGON	HELIUM	0.063	0.125	0.18	0.045
2ND	ALTFW	AVC	100	18.5	6	2	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.21	0.045

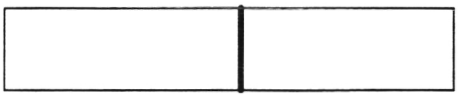
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	78	
2ND	19	4	60	80	80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	78	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



EH25 Weld Data Traceability

#16 RPT

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F020	N/A	INITIAL	0	0	0	N/A	PASEUR		9/24/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0371B00116	0371B00240	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	#16	72221-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

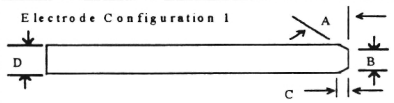
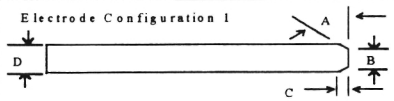
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	122	20.5	14.3	3.4	80	20	9.8	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW	AVC	100	18.5	6.3	1.8	80	25	8.7	ARGON	HELIUM	0.063	0.125	0.2	0.045

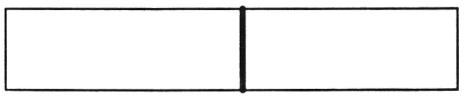
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



EH25 Weld Data Traceability

#16RP6

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F019	N/A	INITIAL	0	0	0	N/A	MELSON		9/24/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0371B00122	0371B00123	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	#16	72221-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

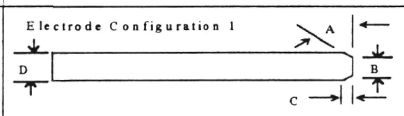
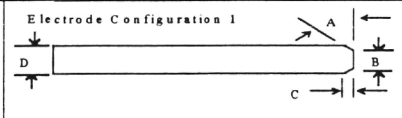
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	122	20.5	14.5	3.3	80	20	9.8	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW	AVC	100	18.6	6	1.8	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.2	0.045

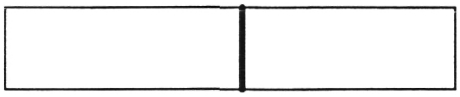
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



EH25 Weld Data Traceability

#17RP6

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F021	N/A	INITIAL	0	0	0	N/A	MELSON		9/24/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0371B00227	0371B00224	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	[redacted] #17	72223-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

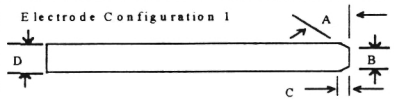
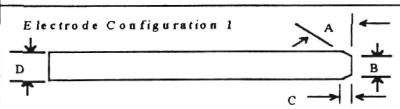
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	124	20.2	17.5	3.9	80	20	9.8	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW	AVC	100	18.4	6.2	1.8	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.2	0.045

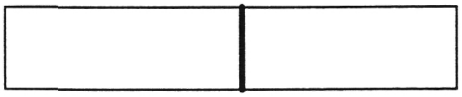
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



EH25 Weld Data Traceability

#17RP7

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F022	N/A	INITIAL	0	0	0	N/A	MELSON		9/23/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0371B00213	0370B00128	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	[redacted] #17	72223-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

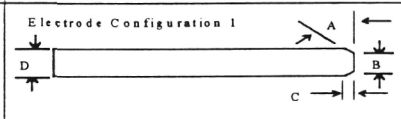
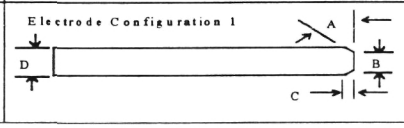
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	121	19.5	11.6	2.9	80	20	9.7	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW	AVC	100	18.6	6.1	1.8	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.2	0.045

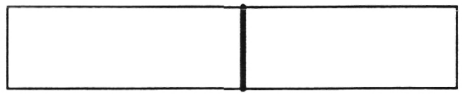
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



#18RP6

EH25 Weld Data Traceability

WELD CLASSIFICATION: DEVELOPMENT

Welding Data

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F017	N/A	INITIAL	0	0	0	N/A	MELSON		9/23/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0371B00219	0371B00226	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	#18	72218-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

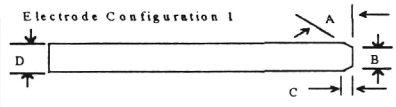
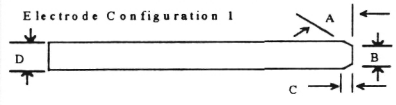
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	122	20.7	13.8	3.4	80	20	9.7	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW18	AVC	100	18.4	6	1.8	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.2	0.045

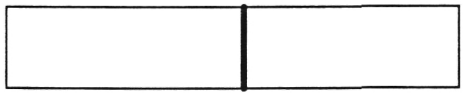
Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint



EH25 Weld Data Traceability

#18 RP7

WELD CLASSIFICATION:	DEVELOPMENT

Welding Data

WELDED PANEL ID	SPLIT	WELD TYPE	REPAIR AREAS A	B	C	PLANISH	WELDER	WELDER'S LOG ID	INITIAL WELD DATE
F018	N/A	INITIAL	0	0	0	N/A	PASEUR		9/23/98

PROGRAM	WELD PROCESS	WELDING POSITION	BUILDING NO	WELD FIXTURE	WELD STATION
Al-Li Alternate Filler	VPPA	VERTICAL	4711	2	2

MATL TYPE	MATL THICKNESS	MATL MANF	LEFT PIECE	RIGHT PIECE	MATL S/N
2195	0.2	RMC	0371B00239	0371B00229	N/A

TORCH TYPE	TORCH LEAD ANGLE	SHIELD CUP TYPE	WIRE ALLOY	WIRE HEAT LOT	WIRE MFG
HSEC300A	3	HSEC REGULAR	#18	72218-S	RMC

ELECT. TYPE	BACKPURGE GAS1/GAS2 TYPE	BACK PURGE TYPE	POWER SUPPLY	TRAILING SHIELD TYPE	TRAILING SHIELD GAS
2% Thoriated	HELIUM	TRAVEL SHOE	VP300	N/A	N/A

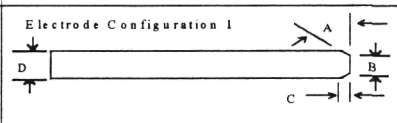
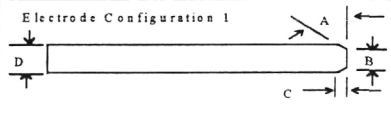
PREWELD PANEL CLEANING: Solvent wipe, file abutting edges, scrape top/bottom adjacent land surfaces, tack

COMMENTS:

TEMPERATURE 72 **HUMIDITY**

Weld Pass	Weld Schedule	Penetration Control	Current	Voltage	Plasma Gas Pres.	Plasma Flow	Shield Flow	Wire Rate	Travel Rate	Plasma Gas	Shield Gas	Wire Dia.	Orifice Size	Torch Stand Off	Electrode Set Back
1ST (PEN)	ALTFW18	AVC	122	20.5	13.3	3.4	80	20	9.8	ARGON	HELIUM	0.063	0.125	0.2	0.045
2ND	ALTFW	AVC	100	18.6	5.9	1.8	80	25	8.8	ARGON	HELIUM	0.063	0.125	0.2	0.045

Weld Pass	Straight Polarity Time	Reverse Polarity Time	Added Reverse Current	Back Purge Total Gas Flow	Back Purge Gas1/Gas2 Flow	Back Purge Pressure	Arc Osc. Dwell	Arc Osc. Freq.	Arc Osc. Speed.	Arc Osc. Pos.	Arc Osc. Amp.	Trailing Shield Flow	Inter pass Temp	Manual Weld Time
1ST (PEN)	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	
2ND	19	4	60	100	100	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72	

Weld Pass	Electrode Config	
1ST (PEN)		A: 30 B: N/A C: 0.012 D: 0.156
2ND		A: 30 B: N/A C: 0.012 D: 0.156

Joint Config

Joint Configuration 1

Square butt Joint

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-12-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
15-A	F/Wire	2195-RT70	934T649A -1A1	RMC	0.320"	1A1-4	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 15	n/a	RMC	n/a

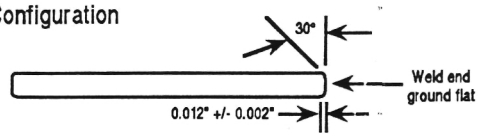
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	21.0	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	18.5	80	2.0	———	.063	60.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-12-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
15-B	F/Wire	2195-RT70	934T649A -1A1	RMC	0.320"	1A1-2	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 15	n/a	RMC	n/a

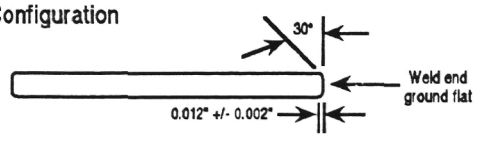
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	21.2	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	18.6	80	2.0	———	.063	56.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-9-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-A	F/Wire	2195-RT70	934T649A -2B1	RMC	0.320"	2B1-5	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

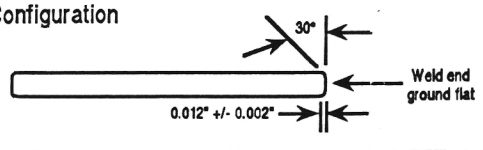
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	20.7	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	18.0	80	2.0	———	.063	57.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-9-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-B	F/Wire	2195-RT70	934T649A -1A1	RMC	0.320"	1A1-5	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

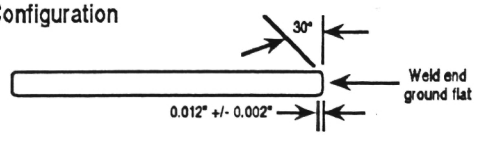
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	21.0	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	18.0	80	2.0	———	.063	59.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-8-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-A	F/Wire	2195-RT70	934T649A -1A1	RMC	0.320"	1A1-1	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

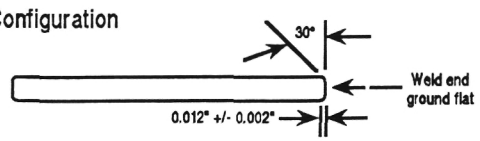
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	21.8	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	18.6	80	2.0	———	.063	50.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-8-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-B	F/Wire	2195-RT70	934T649A -1A1	RMC	0.320"	1A1-3	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

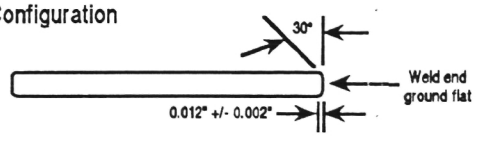
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	21.6	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	18.3	80	2.0	———	.063	50.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-8-96

Weld panel ID	Program Code	Matl Type	Matl Heat Lot #	Matl Manufacturer	Matl Thickness	Matl Serial#	Welding Process (dc-,dc+,vppa)
18-A	F/Wire	2195-RT70	934T649A -1A1	RMC	0.320"	1A1-8	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

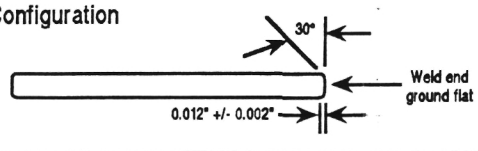
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	22.0	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	19.0	80	2.0	———	.063	60.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	10-8-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-B	F/Wire	2195-RT70	934T649A -2B1	RMC	0.320"	2B1-5	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

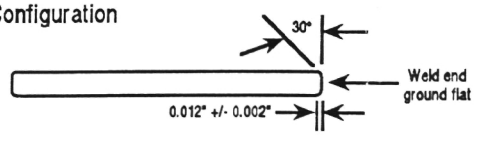
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	200	21.6	80	5.0	———	.063	25.0	11.0	RT	.156
2nd Pass	145	18.7	80	2.0	———	.063	55.0	7.0	RT	.156
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.188	.045	200	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-11-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-R01	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

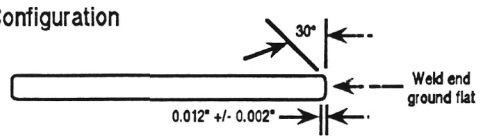
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscil. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-11-96

Weld panel ID	Program Code	Matl Type	Matl Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl Serial#	Welding Process (dc-,dc+,vppa)
16-R02	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

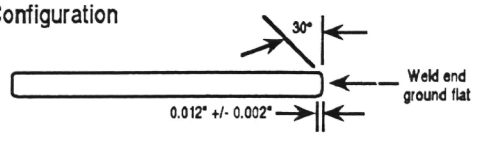
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-11-96

Weld panel ID	Program Code	Matl Type	Matl Heat Lot #	Matl Manufacturer	Matl Thickness	Matl Serial#	Welding Process (dc-,dc+,vppa)
16-R03	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

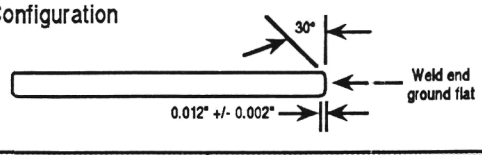
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	24.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-11-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-R04	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

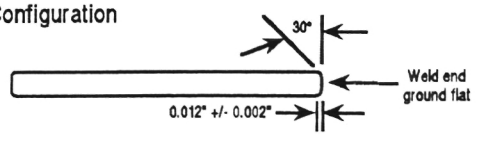
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	21.9	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	30	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	——
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-R05	F/Wire	2195-T8	950M024A	RMC	0.200"	——	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

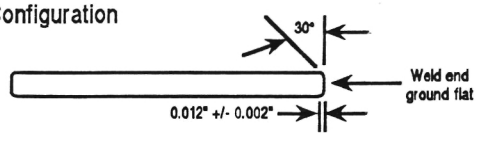
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	21.5	80	3.5	——	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	——	.063	20	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-RP1	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

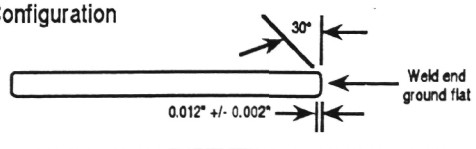
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	21.9	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	20	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-RP2	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

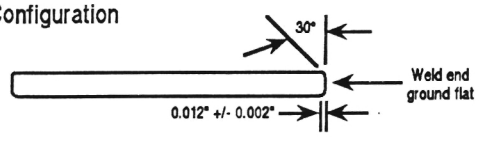
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	20	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-RP3	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

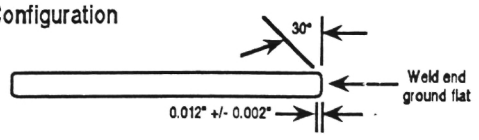
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	20.0	80	2.0	———	.063	20	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-RP4	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

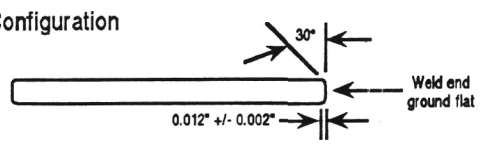
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	20	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl Type	Matl Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
16-RP5	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 16	n/a	RMC	n/a

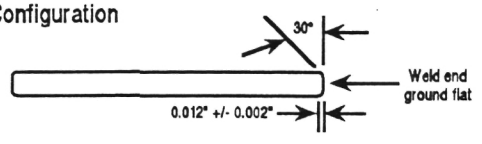
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	116	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	20	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-R01	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

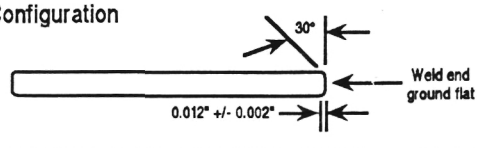
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	23	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-R02	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

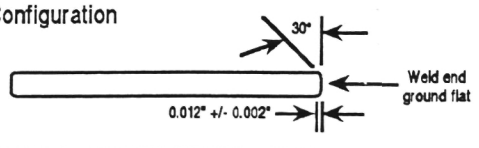
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-R03	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

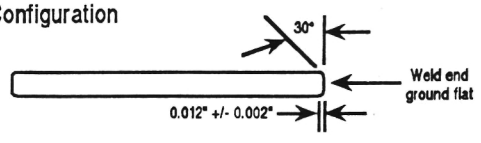
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	23	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-14-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-R04	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

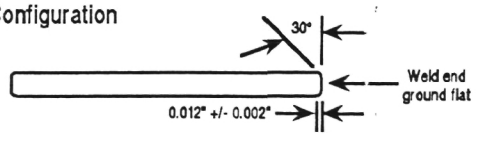
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	24	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-R05	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

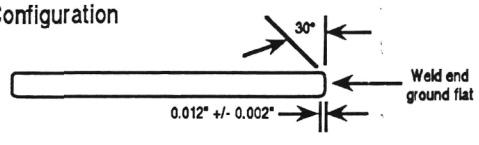
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.2	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	22	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-RP1	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

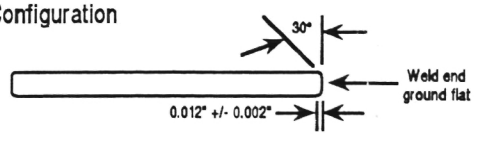
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.1	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.6	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-RP2	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

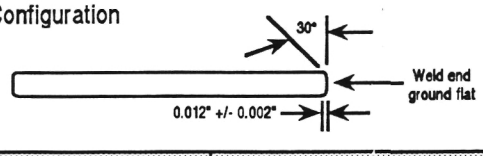
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.1	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-RP3	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD. .	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

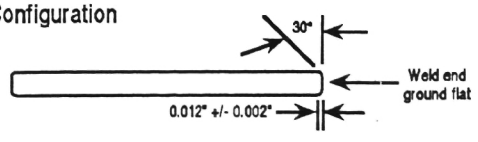
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.3	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.8	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-RP4	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

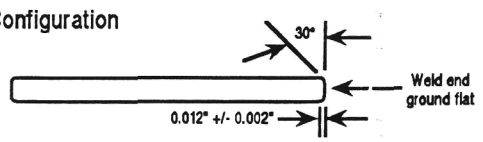
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.5	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	20.0	80	2.0	———	.063	23	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
17-RP5	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 17	n/a	RMC	n/a

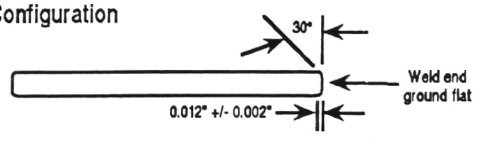
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	22.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.6	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-R01	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

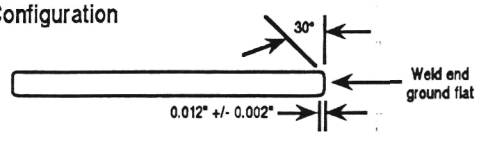
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.7	80	2.0	———	.063	24	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl Type	Matl Heat Lot #	Matl Manufacturer	Matl Thickness	Matl Serial#	Welding Process (dc-,dc+,vppa)
18-R02	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

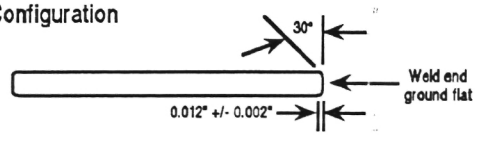
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.7	80	2.0	———	.063	24	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-R03	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

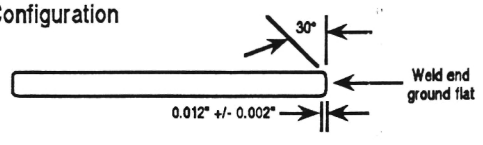
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.7	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.7	80	2.0	———	.063	24	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-17-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-R04	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

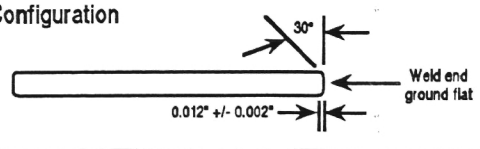
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.1	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.6	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-18-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-R05	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

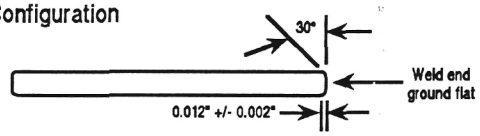
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.5	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-18-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-RP1	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

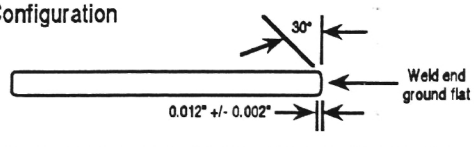
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.9	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-18-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-RP2	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

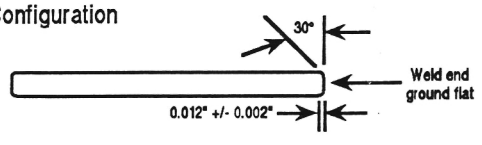
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.6	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-18-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-RP3	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

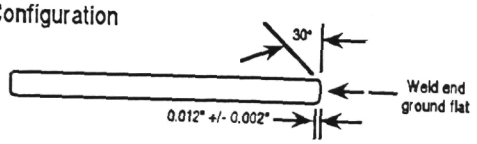
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.0	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.7	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-18-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-RP4	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

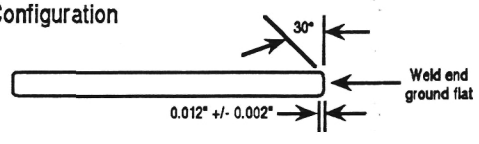
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.4	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.3	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

EH23 Weld Panel Traceability

Plasma Welding Data

Date Entered	———
Date Welded	9-18-96

Weld panel ID	Program Code	Matl. Type	Matl. Heat Lot #	Matl. Manufacturer	Matl. Thickness	Matl. Serial#	Welding Process (dc-,dc+,vppa)
18-RP5	F/Wire	2195-T8	950M024A	RMC	0.200"	———	VPPA

Operator	Electrode Type	Welding Torch	Welding Torch Shield Cup	Torch Orientation	Welding Position	Back Purge Gas Type	Plasma Gas Type	Shield Gas Type	Trailing Shield Gas Type
BJORK.	2% THOR.	B&B	STD.	3° LEAD	VERT.	HELIUM	ARGON	HELIUM	n/a

Building#	Power Supply	Weld Fixture	Weld Station	Back Purge Type	Filler wire Type	Filler Wire Heat Lot#	Filler Wire Manufacturer	Trailing Shield Type
#4705	HOBART	RCKTDYN.	#3	OPEN FACED BACKSHIELDER	Chem 18	n/a	RMC	n/a

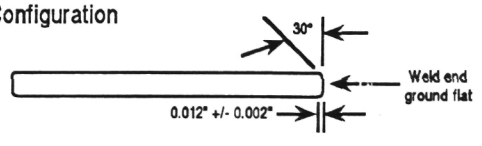
Electrode Configuration	Joint Configuration
*See Below	SQUARE BUTT

Weld Passes	Welding Current	Welding Voltage	Shield Gas Flow (SCFH)	Plasma Gas Flow Rate	Plasma Gas Pressure	Filler Wire Size Dia.	Filler Wire Rate (IPM)	Travel Rate (IPM)	Interpass Temperature	Orifice Size
Tack Pass										
First Pass	122	21.4	80	3.5	———	.063	20	9.8	RT	.125
2nd Pass	100	19.5	80	2.0	———	.063	25	8.8	RT	.125
3rd Pass										
4th Pass										
5th Pass										
6th Pass										
7th Pass										
8th Pass										

Weld Passes	Electrode Size	Electrode Set Back	Back Purge Gas Flow	Back Purge Gas Press.	Trail. Shld. Gas Flow	Strght. Pol. Time (ms)	Rev. Pol. Time (ms)	Add. Rev. Current	Arc Oscill. Dwell	Arc Oscill. Frequency	Arc Oscill. Position	Arc Oscill. Amplitude
Tack Pass												
First Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
2nd Pass	.156	.045	100	0	n/a	19	4	60	n/a	n/a	n/a	n/a
3rd Pass												
4th Pass												
5th Pass												
6th Pass												
7th Pass												
8th Pass												

Comments:

Tungsten Configuration



Plasma Gas Bottle Number	Torch Shield Gas Bottle Number	Back Purge Gas Bottle Number	Room Temp	Humidity
			70F	75%

APPENDIX D
REPAIR WELD RECORDS

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R1	100	180	4 2.00	R1 WELD	ROOT	1ST PASS	100	19		8 11	
				R1 WELD		2ND PASS	100	19		8-11	
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R2	100	195	4.00	R2 WELD	COVER	1ST PASS	100	19		8 11	
				R2 WELD		2ND PASS	100	19		8 11	
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R3	100	200	4 4.00	R3 WELD	ROOT	1ST PASS	100	19		8 11	
				R3 WELD		2ND PASS	100	19		8-11	
				R3 WELD		3RD PASS					
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R4	100	195	4 4.00	R4 WELD	COVER	1ST PASS	100	19		8 11	
				R4 WELD		2ND PASS	100	19		8 11	
				R4 WELD		3RD PASS					
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R5	100	120	4 4.00	R5 WELD	ROOT	1ST PASS	100	19		8 11	
				R5 WELD		2ND PASS	100	19		8 11	
				R5 WELD		3RD PASS					
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
				R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
				R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# FC14 - A (16RP6A)

THICKNESS 2cc'

DATE 9-24-98

WELDOR G. NELSON

INITIAL WIRE NR 16

REPAIR WIRE NR 16

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
R1	100	185	4.200	R1 WELD	ROOT	1ST PASS	100	19		8-11	
				R1 WELD		2ND PASS	100	19		8-11	
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R2	100	190	4.300	R2 WELD	COVER	1ST PASS	100	19		5-11	
				R2 WELD		2ND PASS	100	19		5-11	
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R3	100	195	4.400	R3 WELD	ROOT	1ST PASS	100	19		8-11	
				R3 WELD		2ND PASS	100	19		8-11	
				R3 WELD		3RD PASS					
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R4	.050	195	4.400	R4 WELD	COVER	1ST PASS	100	19		8-11	
				R4 WELD		2ND PASS	100	19		8-11	
				R4 WELD		3RD PASS					
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R5	1.5	195	4.400	R5 WELD	ROOT	1ST PASS	120	21		8-11	
				R5 WELD		2ND PASS	100	19		8-11	
				R5 WELD		3RD PASS					
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
				R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
				R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F19-15 (16RP6B)

THICKNESS .200

DATE 9-24-98

WELDOR G Mezsaros

INITIAL WIRE W#16

REPAIR WIRE W#16

A

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R1	.120	188	4.100	R1 WELD	ROOT	1ST PASS	100	19		8-11	
				R1 WELD		2ND PASS	100	19		8-11	
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R2	120	190	4.200	R2 WELD	COVER	1ST PASS	100	19		8-11	
				R2 WELD		2ND PASS	100	19		8-11	
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R3	.165	185	4.300	R3 WELD	ROOT	1ST PASS	100	19		8-11	
				R3 WELD		2ND PASS	100	19		8-11	
				R3 WELD		3RD PASS					
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R4	120	190	4.300	R4 WELD	COVER	1ST PASS	100	19		8-11	
				R4 WELD		2ND PASS	100	19		8-11	
				R4 WELD		3RD PASS	100	19		8-11	
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R5	100	190	4.350	R5 WELD	ROOT	1ST PASS	100	19		8-11	
				R5 WELD		2ND PASS	100	19			
				R5 WELD		3RD PASS	100	19			
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
				R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
				R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# 5020 (16RP7A)

THICKNESS 200

DATE 9-25-98

WELDOR C MERSON

INITIAL WIRE 1/16

REPAIR WIRE 1/16

B

SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
R1	115	195	4.100	R1 WELD	ROOT	1ST PASS	100	19		8-11	
				R1 WELD		2ND PASS	100	19		8-11	
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R2	100	195	4.200	R2 WELD	COVER	1ST PASS	100	19		8-11	
				R2 WELD		2ND PASS	100	19		8-11	
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R3	1.96	.195	4.500	R3 WELD	HOT	1ST PASS	100	19		8-11	
				R3 WELD		2ND PASS	100	19		8-11	
				R3 WELD		3RD PASS					
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R4	.100	.190	4.400	R4 WELD	COVER	1ST PASS	100	19		8-11	
				R4 WELD		2ND PASS	100	19		8-11	
				R4 WELD		3RD PASS	100	19		8-11	
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
R5	.100	.195	4.600	R5 WELD	ROOT	1ST PASS	100	19		8-11	
				R5 WELD		2ND PASS	100	19			
				R5 WELD		3RD PASS	100	19			
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
				R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE GRIND	DEEP	WIDE	LENGTH		SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
				R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F020 (16RP7B)

THICKNESS .200

DATE 9-25-98

WELDOR [illegible]

INITIAL WIRE 11/11/16

REPAIR WIRE 11/11/16

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R1 WELD		1ST PASS	100	19		8-12	
Root	107	190	4.5	R1 WELD		2ND PASS	100	19			
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R2 WELD		1ST PASS	100	19			
Cover	160	191	4.5	R2 WELD		2ND PASS	100	19			
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD		1ST PASS	100	19			
Root	104	.181	4.5	R3 WELD		2ND PASS	100	19			
				R3 WELD		3RD PASS	100	19			
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R4 WELD		1ST PASS	100	19			
Cover	.102	195	4.5	R4 WELD		2ND PASS	100	19			
				R4 WELD		3RD PASS	100	19			
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD		1ST PASS	100	19			
Root	.103	.191	4.5	R5 WELD		2ND PASS	100	19			
				R5 WELD		3RD PASS	100	26			
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP.	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F021 A (17RP6A)

THICKNESS: 2 oc

DATE 9-24-99

WELDOR J Dwyer

INITIAL WIRE C #17

REPAIR WIRE C #17

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R1 WELD		1ST PASS	100	19		8-12	
ROOT	103	.189	4.5	R1 WELD		2ND PASS	100	18			
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R2 WELD		1ST PASS	100	20			
COVR	104	192	4.5	R2 WELD		2ND PASS	100	19			
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD		1ST PASS	100	19			
ROOT	103	194	4.5	R3 WELD		2ND PASS	100	19			
				R3 WELD		3RD PASS	100	19			
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R4 WELD		1ST PASS	100	19			
COVR	101	.187	4.5	R4 WELD		2ND PASS	100	19			
				R4 WELD		3RD PASS	100	19			
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD		1ST PASS	100	19			
ROOT	104	193	4.5	R5 WELD		2ND PASS	100	19			
				R5 WELD		3RD PASS	100	19			
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F021 B (17RP6B)

THICKNESS 200

DATE 9-24-98

WELDOR J Dylox

INITIAL WIRE C #17

REPAIR WIRE C #17

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R1 WELD		1ST PASS	100	19		9-19	
Root	.103"	.191"	4.5"	R1 WELD		2ND PASS	100	19			
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R2 WELD		1ST PASS	100	19			
Cover	102	.193	4.5"	R2 WELD		2ND PASS	100	19			
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD		1ST PASS	100	19			
Root	102	.191	4.5	R3 WELD		2ND PASS	100	19			
				R3 WELD		3RD PASS	100	11			
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R4 WELD		1ST PASS	100	19			
Cover	.100	.193	4.5	R4 WELD		2ND PASS	100	19			
				R4 WELD		3RD PASS	100	19			
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD		1ST PASS	100	19			
Root	102	.198	4.5	R5 WELD		2ND PASS	100	19			
				R5 WELD		3RD PASS	100	19			
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F022 A (17RP7A)

THICKNESS .201

DATE 9-24-98

WELDOR J D'Angelo

INITIAL WIRE C#17

REPAIR WIRE C#17

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R1 WELD		1ST PASS	100	19		8-12	
Root	.164"	.190"	4.6"	R1 WELD		2ND PASS	100	19			
				R1 WELD		3RD PASS					
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R2 WELD		1ST PASS	100	19			
Cover	164	.192"	4.5	R2 WELD		2ND PASS	100	19			
				R2 WELD		3RD PASS					
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD		1ST PASS	100	19			
Root	102	.182	4.5"	R3 WELD		2ND PASS	100	19			
				R3 WELD		3RD PASS	100	19			
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R4 WELD		1ST PASS	100	19			
Cover	.160	184	4.5	R4 WELD		2ND PASS	100	19			
				R4 WELD		3RD PASS	100	19			
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD		1ST PASS	100	19			
Root	103"	192	4.5"	R5 WELD		2ND PASS	100	20			
				R5 WELD		3RD PASS	100	19			
				R5 WELD		4TH PASS					
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F022 A (17RP7B)

THICKNESS: .200

DATE 4-24-98

WELDOR J. Dingle

INITIAL WIRE C #17

REPAIR WIRE C #17

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R1 WELD	ROOT	1ST PASS	100	20		17	RT
ISL	.100	.160	4.00	R1 WELD	ROOT	2ND PASS	100	20			
				R1 WELD	ROOT	3RD PASS	100	20			
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R2 WELD	COVER	1ST PASS	100	20		17	
OSL	.103	.160	4.00	R2 WELD	COVER	2ND PASS	100	20			
				R2 WELD	COVER	3RD PASS	100	20			
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD	ROOT	1ST PASS	100			16	
ISL	.105	.160	4.00	R3 WELD	ROOT	2ND PASS	100				
				R3 WELD	ROOT	3RD PASS	100				
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R4 WELD	COVER	1ST PASS	100	20		16	
OSL	.099	.160	4.00	R4 WELD	COVER	2ND PASS	100	20			
				R4 WELD	COVER	3RD PASS	100	20			
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD	ROOT	1ST PASS	100	20		16	
ISL	.112	.160	4.00	R5 WELD		2ND PASS	100	20			
				R5 WELD		3RD PASS	100	20			
				R5 WELD		4TH PASS	100	20			
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# JOIN "A" (18RP6A)

THICKNESS .200

DATE 9-24-98

WELDOR ARNOLD

INITIAL WIRE C # 18

REPAIR WIRE C # 18

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R1 WELD	ROOT	1ST PASS	100			17	
ISL	.100	.160	4.00	R1 WELD	ROOT	2ND PASS	100			17	
				R1 WELD	ROOT	3RD PASS	100			17	
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R2 WELD	COVER	1ST PASS	100	20		17	
OSL	103	.160	4.00	R2 WELD	COVER	2ND PASS	100	20			
				R2 WELD	COVER	3RD PASS	100	20			
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD	ROOT	1ST PASS	100	20		16	
ISL	.107	.160	4.00	R3 WELD	〃	2ND PASS	100	20		〃	
				R3 WELD	〃	3RD PASS	100	20		〃	
				R3 WELD	〃	4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R4 WELD	COVER	1ST PASS	100	20		16	
OSL	.110	.160	4.000	R4 WELD	〃	2ND PASS	100	20		〃	
				R4 WELD	〃	3RD PASS	100	20		〃	
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD	ROOT	1ST PASS	100	20		16	
ISL	.097	.160	4.000	R5 WELD	〃	2ND PASS	100	20		〃	
				R5 WELD	〃	3RD PASS	100	20		〃	
				R5 WELD	〃	4TH PASS	100	20			
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# J017 B (18RP6B)

THICKNESS .200

DATE 9-24-98

WELDOR ANDY

INITIAL WIRE C # 18

REPAIR WIRE C # 18

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R1 WELD	ROOT	1ST PASS	100	20		17	RT
ISL	.100	.160	4.000	R1 WELD	ROOT	2ND PASS	100	20		16	
				R1 WELD	ROOT	3RD PASS	100	20		16	
				R1 WELD		4TH PASS				16	
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R2 WELD	COVER	1ST PASS	100	20		16	RT
OSL	.100	.100	4000	R2 WELD	COVER	2ND PASS	100	20		16	
				R2 WELD	COVER	3RD PASS	100	20		16	
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD	ROOT	1ST PASS	100	20		16	RT
ISL	.101	.160	4.00	R3 WELD	ROOT	2ND PASS	100	20		16	
				R3 WELD	ROOT	3RD PASS	100	20		16	
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R4 WELD	COVER	1ST PASS	100	20		16	
OSL	.108	160	4 000	R4 WELD	COVER	2ND PASS	100	20		7	
				R4 WELD	COVER	3RD PASS	100	20			
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD	ROOT	1ST PASS	100	20		16	
ISL	.105	.160	4000	R5 WELD	7	2ND PASS	100	20		7	
				R5 WELD		3RD PASS	100	20			
				R5 WELD		4TH PASS	100	20			
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F018 A (18RP7A)

THICKNESS .200

DATE 9-24-98

WELDOR ANDRE

INITIAL WIRE C # 18

REPAIR WIRE C # 18

SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP.F
GRIND	DEEP	WIDE	LENGTH	R1 WELD	ROOT	1ST PASS	100	20		17	RT
ISL	.100	.160	4.000	R1 WELD	ROOT	2ND PASS	100	20		16	
				R1 WELD	ROOT	3RD PASS	100	21		16	
				R1 WELD		4TH PASS					
				R1 WELD		5TH PASS					
				R1 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R2 WELD	COVER	1ST PASS	100	20		16	RT
OSL	.100	.160	4.000	R2 WELD	COVER	2ND PASS	100	20		16	
				R2 WELD	COVER	3RD PASS	100	20		16	
				R2 WELD		4TH PASS					
				R2 WELD		5TH PASS					
				R2 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R3 WELD	ROOT	1ST PASS	100	20		16	RT
ISL	.100	.160	4.000	R3 WELD	ROOT	2ND PASS	100	20		16	
				R3 WELD	ROOT	3RD PASS	100	20		16	
				R3 WELD		4TH PASS					
				R3 WELD		5TH PASS					
				R3 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R4 WELD	COVER	1ST PASS	100	20		16	
OSL	.097	.160	4.000	R4 WELD	COVER	2ND PASS	100	20		"	
				R4 WELD	COVER	3RD PASS	100	20		"	
				R4 WELD		4TH PASS					
				R4 WELD		5TH PASS					
				R4 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R5 WELD	ROOT	1ST PASS	100	20		16	
ISL	.097	16C	4.000	R5 WELD	ROOT	2ND PASS	100	20		"	
				R5 WELD	ROOT	3RD PASS	100	20		"	
				R5 WELD	ROOT	4TH PASS	100	20		"	
				R5 WELD		5TH PASS					
				R5 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R6 WELD		1ST PASS					
				R6 WELD		2ND PASS					
				R6 WELD		3RD PASS					
				R6 WELD		4TH PASS					
				R6 WELD		5TH PASS					
				R6 WELD		6TH PASS					
SHAVE					SIDE	PASS	AMPS	VOLTS	TIME(SECONDS)	TRAVEL(IPM)	TEMP F
GRIND	DEEP	WIDE	LENGTH	R7 WELD		1ST PASS					
				R7 WELD		2ND PASS					
				R7 WELD		3RD PASS					
				R7 WELD		4TH PASS					
				R7 WELD		5TH PASS					
				R7 WELD		6TH PASS					

PANEL# F018 B (18RP7B)

THICKNESS .200

DATE 9-24-98

WELDOR ANDRE'

INITIAL WIRE C# 18

REPAIR WIRE C# 18

PANEL # 6008A (16R01A)

THICKNESS .200"

Date 6-23-97

Weld	Deep	Wide	Length	Weld	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.101"	.177"	3.5"	101 WELD	1ST PASS	98	20		8-11	78°
				101 WELD	2ND PASS	"	20			"
				101 WELD	3RD PASS					
				101 WELD	4TH PASS					
				101 WELD	5TH PASS					
				101 WELD	6TH PASS					
				101 WELD	7TH PASS					
				101 WELD	8TH PASS					
Cover	.103"	.172"	3.5"	102 WELD	1ST PASS	98	20			78°
				102 WELD	2ND PASS	"	21			"
				102 WELD	3RD PASS					
				102 WELD	4TH PASS					
				102 WELD	5TH PASS					
				102 WELD	6TH PASS					
				102 WELD	7TH PASS					
				102 WELD	8TH PASS					
Root	.104"	.178"	3.5"	103 WELD	1ST PASS	98	21			78°
				103 WELD	2ND PASS	"	20			"
				103 WELD	3RD PASS					
				103 WELD	4TH PASS					
				103 WELD	5TH PASS					
				103 WELD	6TH PASS					
				103 WELD	7TH PASS					
				103 WELD	8TH PASS					
Cover	.101"	.174"	3.5"	104 WELD	1ST PASS	98	20			75°
				104 WELD	2ND PASS	"	21			"
				104 WELD	3RD PASS					
				104 WELD	4TH PASS					
				104 WELD	5TH PASS					
				104 WELD	6TH PASS					
				104 WELD	7TH PASS					
				104 WELD	8TH PASS					
Root	.105"	.168	3.5"	105 WELD	1ST PASS	98	20			75°
				105 WELD	2ND PASS	"	21			"
				105 WELD	3RD PASS					
				105 WELD	4TH PASS					
				105 WELD	5TH PASS					
				105 WELD	6TH PASS					
				105 WELD	7TH PASS					
				105 WELD	8TH PASS					

PANEL # FOW8B (16R01B)

THICKNESS .200"

Date: 6-23-97

Bead	Depth	Width	Length		Volts	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.103"	.170"	3.5"	#1 WELD		1ST PASS	98	20		8.11	78°
				#1 WELD		2ND PASS	"	21			"
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Cover	.102"	.171"	3.5"	#2 WELD		1ST PASS	98	20			78°
				#2 WELD		2ND PASS	"	21			"
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Root	.109"	.173"	3.5"	#3 WELD		1ST PASS	98	20			78°
				#3 WELD		2ND PASS	"	20			"
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Cover	.102"	.177"	3.5"	#4 WELD		1ST PASS	98	21			79°
				#4 WELD		2ND PASS	"	20			"
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Root	.100"	.179"	3.5"	#5 WELD		1ST PASS	98	21			79°
				#5 WELD		2ND PASS	"	20			"
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

PANEL # F009A (16R02A)

THICKNESS .200"

Date: 6-23-97

Bead	Deep	Wide	Length	Weld	Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.103"	.170"	3.5"	W1 WELD		1ST PASS	98	20	8	8-11	78°
				W1 WELD		2ND PASS	"	20			"
				W1 WELD		3RD PASS					
				W1 WELD		4TH PASS					
				W1 WELD		5TH PASS					
				W1 WELD		6TH PASS					
				W1 WELD		7TH PASS					
				W1 WELD		8TH PASS					
Cover	.102"	.165"	3.5"	W2 WELD		1ST PASS	98	20			78°
				W2 WELD		2ND PASS	"	20			"
				W2 WELD		3RD PASS					
				W2 WELD		4TH PASS					
				W2 WELD		5TH PASS					
				W2 WELD		6TH PASS					
				W2 WELD		7TH PASS					
				W2 WELD		8TH PASS					
Root	.106"	.172"	3.5"	W3 WELD		1ST PASS	98	20			78°
				W3 WELD		2ND PASS	"	21			"
				W3 WELD		3RD PASS					
				W3 WELD		4TH PASS					
				W3 WELD		5TH PASS					
				W3 WELD		6TH PASS					
				W3 WELD		7TH PASS					
				W3 WELD		8TH PASS					
Cover	.105"	.175"	3.5"	W4 WELD		1ST PASS	98	20			78°
				W4 WELD		2ND PASS	"	21			"
				W4 WELD		3RD PASS					
				W4 WELD		4TH PASS					
				W4 WELD		5TH PASS					
				W4 WELD		6TH PASS					
				W4 WELD		7TH PASS					
				W4 WELD		8TH PASS					
Root	.101"	.171"	3.5"	W5 WELD		1ST PASS	98	21			79°
				W5 WELD		2ND PASS	"	2-			"
				W5 WELD		3RD PASS					
				W5 WELD		4TH PASS					
				W5 WELD		5TH PASS					
				W5 WELD		6TH PASS					
				W5 WELD		7TH PASS					
				W5 WELD		8TH PASS					

PANEL # F009B (16R02B)

THICKNESS .200"

Date 6-23-97

Bead	Depth	Width	Length		Code	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.103"	.170"	3.5"	#1 WELD		1ST PASS	98	20		8-11	78°
				#1 WELD		2ND PASS	"	21			"
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
COVER	.101"	.177"	3.5"	#2 WELD		1ST PASS	98	20			78°
				#2 WELD		2ND PASS	"	20			"
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
ROOT	.107"	.175"	3.5"	#3 WELD		1ST PASS	98	20			78°
				#3 WELD		2ND PASS	"	21			"
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
COVER	.102"	.174"	3.5"	#4 WELD		1ST PASS	98	21			75°
				#4 WELD		2ND PASS	"	20			"
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
ROOT	.105"	.170"	3.5"	#5 WELD		1ST PASS	98	20			75°
				#5 WELD		2ND PASS	"	20			"
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

PANEL # F010A (16R03A)

THICKNESS .200"

Date 6-24-97

Weld	Deep	Wide	Length	Weld	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.105"	.177"	3.5"	101 WELD	1ST PASS	98	20		8-11	76°
CENTERED ON 8"				101 WELD	2ND PASS	98	20			76°
				101 WELD	3RD PASS					
				101 WELD	4TH PASS					
				101 WELD	5TH PASS					
				101 WELD	6TH PASS					
				101 WELD	7TH PASS					
				101 WELD	8TH PASS					
Weld	Deep	Wide	Length							
COVER	.103"	.176"	3.5"	102 WELD	1ST PASS	98	20			76°
CENTERED ON 6"				102 WELD	2ND PASS	98	20			76°
				102 WELD	3RD PASS					
				102 WELD	4TH PASS					
				102 WELD	5TH PASS					
				102 WELD	6TH PASS					
				102 WELD	7TH PASS					
				102 WELD	8TH PASS					
Weld	Deep	Wide	Length							
ROOT	.102"	.172"	3.5"	103 WELD	1ST PASS	98	20			76°
CENTERED ON 8"				103 WELD	2ND PASS	98	20			76°
				103 WELD	3RD PASS					
				103 WELD	4TH PASS					
				103 WELD	5TH PASS					
				103 WELD	6TH PASS					
				103 WELD	7TH PASS					
				103 WELD	8TH PASS					
Weld	Deep	Wide	Length							
COVER	.106"	.177"	3.5"	104 WELD	1ST PASS	98	20			76°
CENTERED ON 8"				104 WELD	2ND PASS	98	21			76°
				104 WELD	3RD PASS					
				104 WELD	4TH PASS					
				104 WELD	5TH PASS					
				104 WELD	6TH PASS					
				104 WELD	7TH PASS					
				104 WELD	8TH PASS					
Weld	Deep	Wide	Length							
ROOT	.103"	.173"	3.5"	105 WELD	1ST PASS	98	20			76°
CENTERED ON 8"				105 WELD	2ND PASS	98	20			76°
				105 WELD	3RD PASS					
				105 WELD	4TH PASS					
				105 WELD	5TH PASS					
				105 WELD	6TH PASS					
				105 WELD	7TH PASS					
				105 WELD	8TH PASS					

PANEL # F010 B (16R03B)

THICKNESS .200"

Date: 6-24-97

Bead	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.101"	.168"	3.5"	101 WELD		1ST PASS	98	20		8.71	76°
				101 WELD		2ND PASS	98	21			76°
				101 WELD		3RD PASS					
				101 WELD		4TH PASS					
				101 WELD		5TH PASS					
				101 WELD		6TH PASS					
				101 WELD		7TH PASS					
				101 WELD		8TH PASS					
Bead	Deep	Wide	Length								
COVER	.107"	.179"	3.6"	102 WELD		1ST PASS	98	20			76°
				102 WELD		2ND PASS	98	20			76°
				102 WELD		3RD PASS					
				102 WELD		4TH PASS					
				102 WELD		5TH PASS					
				102 WELD		6TH PASS					
				102 WELD		7TH PASS					
				102 WELD		8TH PASS					
Bead	Deep	Wide	Length								
ROOT	.103"	.173"	3.5"	103 WELD		1ST PASS	98	20			76°
				103 WELD		2ND PASS	98	21			76°
				103 WELD		3RD PASS					
				103 WELD		4TH PASS					
				103 WELD		5TH PASS					
				103 WELD		6TH PASS					
				103 WELD		7TH PASS					
				103 WELD		8TH PASS					
Bead	Deep	Wide	Length								
COVER	.102"	.172"	3.5"	104 WELD		1ST PASS	98	21			76°
				104 WELD		2ND PASS	98	21			76°
				104 WELD		3RD PASS					
				104 WELD		4TH PASS					
				104 WELD		5TH PASS					
				104 WELD		6TH PASS					
				104 WELD		7TH PASS					
				104 WELD		8TH PASS					
Bead	Deep	Wide	Length								
ROOT	.109"	.173"	3.5"	105 WELD		1ST PASS	98	20			76°
				105 WELD		2ND PASS	98	21			76°
				105 WELD		3RD PASS					
				105 WELD		4TH PASS					
				105 WELD		5TH PASS					
				105 WELD		6TH PASS					
				105 WELD		7TH PASS					
				105 WELD		8TH PASS					

PANEL # F-011A (16R04A)

THICKNESS .200"

Date: 6-24-87

Bead	Deep	Wide	Length	Weld	Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.106"	.171"	3.5"	11 WELD		1ST PASS	98	21		8.11	76°
				11 WELD		2ND PASS	98	20			76°
				11 WELD		3RD PASS					
				11 WELD		4TH PASS					
				11 WELD		5TH PASS					
				11 WELD		6TH PASS					
				11 WELD		7TH PASS					
				11 WELD		8TH PASS					
COVER	.100"	.173"	3.5"	12 WELD		1ST PASS	98	20			76°
				12 WELD		2ND PASS	98	20			76°
				12 WELD		3RD PASS					
				12 WELD		4TH PASS					
				12 WELD		5TH PASS					
				12 WELD		6TH PASS					
				12 WELD		7TH PASS					
				12 WELD		8TH PASS					
ROOT	.105"	.178"	3.5"	13 WELD		1ST PASS	98	21			76°
				13 WELD		2ND PASS	98	21			76°
				13 WELD		3RD PASS					
				13 WELD		4TH PASS					
				13 WELD		5TH PASS					
				13 WELD		6TH PASS					
				13 WELD		7TH PASS					
				13 WELD		8TH PASS					
COVER	.103"	.171"	3.5"	14 WELD		1ST PASS	98	20			76°
				14 WELD		2ND PASS	98	21			76°
				14 WELD		3RD PASS					
				14 WELD		4TH PASS					
				14 WELD		5TH PASS					
				14 WELD		6TH PASS					
				14 WELD		7TH PASS					
				14 WELD		8TH PASS					
ROOT	.103"	.175"	3.5"	15 WELD		1ST PASS	98°	21			76°
				15 WELD		2ND PASS	98°	21			76°
				15 WELD		3RD PASS					
				15 WELD		4TH PASS					
				15 WELD		5TH PASS					
				15 WELD		6TH PASS					
				15 WELD		7TH PASS					
				15 WELD		8TH PASS					

PANEL # F011 B (16R04B)

THICKNESS .200"

Date: 6-24-97

Bead	Deep	Wide	Length	Weld	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.104"	.178"	3.5"	11 WELD	1ST PASS	98	20		8-11	76°
				11 WELD	2ND PASS	98	20			76°
				11 WELD	3RD PASS					
				11 WELD	4TH PASS					
				11 WELD	5TH PASS					
				11 WELD	6TH PASS					
				11 WELD	7TH PASS					
				11 WELD	8TH PASS					
Cover	.106"	.177"	3.5"	12 WELD	1ST PASS	98	20			76°
				12 WELD	2ND PASS	98	21			76°
				12 WELD	3RD PASS					
				12 WELD	4TH PASS					
				12 WELD	5TH PASS					
				12 WELD	6TH PASS					
				12 WELD	7TH PASS					
				12 WELD	8TH PASS					
Root	.101"	.172"	3.5"	13 WELD	1ST PASS	98	20			76°
				13 WELD	2ND PASS	98	21			76°
				13 WELD	3RD PASS					
				13 WELD	4TH PASS					
				13 WELD	5TH PASS					
				13 WELD	6TH PASS					
				13 WELD	7TH PASS					
				13 WELD	8TH PASS					
Cover	.102"	.173"	3.5"	14 WELD	1ST PASS	98	21			76°
				14 WELD	2ND PASS	98	20			76°
				14 WELD	3RD PASS					
				14 WELD	4TH PASS					
				14 WELD	5TH PASS					
				14 WELD	6TH PASS					
				14 WELD	7TH PASS					
				14 WELD	8TH PASS					
Root	.103"	.174"	3.5"	15 WELD	1ST PASS	98	21			76°
				15 WELD	2ND PASS	98	21			76°
				15 WELD	3RD PASS					
				15 WELD	4TH PASS					
				15 WELD	5TH PASS					
				15 WELD	6TH PASS					
				15 WELD	7TH PASS					
				15 WELD	8TH PASS					

PANEL # F012A (16R05A)

THICKNESS .200"

Date: 6-25-97

Bead	Depth	Width	Length	Weld	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.102"	.171"	3.5"	11 WELD	1ST PASS	98	20			72°
				11 WELD	2ND PASS	98	20			72°
				11 WELD	3RD PASS					
				11 WELD	4TH PASS					
				11 WELD	5TH PASS					
				11 WELD	6TH PASS					
				11 WELD	7TH PASS					
				11 WELD	8TH PASS					
Cover	.105"	.176"	3.5"	10 WELD	1ST PASS	98	20			72°
				10 WELD	2ND PASS	98	21			73°
				10 WELD	3RD PASS					
				10 WELD	4TH PASS					
				10 WELD	5TH PASS					
				10 WELD	6TH PASS					
				10 WELD	7TH PASS					
				10 WELD	8TH PASS					
Root	.103"	.173"	3.5"	13 WELD	1ST PASS	98	21			74°
				13 WELD	2ND PASS	98	21			74°
				13 WELD	3RD PASS					
				13 WELD	4TH PASS					
				13 WELD	5TH PASS					
				13 WELD	6TH PASS					
				13 WELD	7TH PASS					
				13 WELD	8TH PASS					
Cover	.104"	.175"	3.5"	14 WELD	1ST PASS	98	20			74°
				14 WELD	2ND PASS	98	20			74°
				14 WELD	3RD PASS					
				14 WELD	4TH PASS					
				14 WELD	5TH PASS					
				14 WELD	6TH PASS					
				14 WELD	7TH PASS					
				14 WELD	8TH PASS					
Root	.101"	.172"	3.5"	15 WELD	1ST PASS	98	20			74°
				15 WELD	2ND PASS	98	21			74°
				15 WELD	3RD PASS					
				15 WELD	4TH PASS					
				15 WELD	5TH PASS					
				15 WELD	6TH PASS					
				15 WELD	7TH PASS					
				15 WELD	8TH PASS					

PANEL # F012B (16R05B)

THICKNESS .200"

Date 6-25-97

Pass	Weld	Code	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root, Deep .105", Wide .174", Length 3.5"	#11 WELD		1ST PASS	98	20		8-11	72°
	#11 WELD		2ND PASS	98	21			72°
	#11 WELD		3RD PASS					
	#11 WELD		4TH PASS					
	#11 WELD		5TH PASS					
	#11 WELD		6TH PASS					
	#11 WELD		7TH PASS					
	#11 WELD		8TH PASS					
Cover, Deep .103", Wide .177", Length 3.5"	#12 WELD		1ST PASS	98	20			72°
	#12 WELD		2ND PASS	98	21			73°
	#12 WELD		3RD PASS					
	#12 WELD		4TH PASS					
	#12 WELD		5TH PASS					
	#12 WELD		6TH PASS					
	#12 WELD		7TH PASS					
	#12 WELD		8TH PASS					
Root, Deep .104", Wide .173", Length 3.5"	#13 WELD		1ST PASS	98	20			74°
	#13 WELD		2ND PASS	98	21			74°
	#13 WELD		3RD PASS					
	#13 WELD		4TH PASS					
	#13 WELD		5TH PASS					
	#13 WELD		6TH PASS					
	#13 WELD		7TH PASS					
	#13 WELD		8TH PASS					
Cover, Deep .100", Wide .177", Length 3.5"	#14 WELD		1ST PASS	98	20			74°
	#14 WELD		2ND PASS	98	21			74°
	#14 WELD		3RD PASS					
	#14 WELD		4TH PASS					
	#14 WELD		5TH PASS					
	#14 WELD		6TH PASS					
	#14 WELD		7TH PASS					
	#14 WELD		8TH PASS					
Root, Deep .103", Wide .176", Length 3.5"	#15 WELD		1ST PASS	98	20			74°
	#15 WELD		2ND PASS	98	21			74°
	#15 WELD		3RD PASS					
	#15 WELD		4TH PASS					
	#15 WELD		5TH PASS					
	#15 WELD		6TH PASS					
	#15 WELD		7TH PASS					
	#15 WELD		8TH PASS					

PANEL # F012B (16R05B)

THICKNESS .200"

Date: 6-25-97

	Bead	Deep	Wide	Length		Code	Pass	Angle	Volts	Time (Seconds)	Travel (IPM)	Temp F
RC	Cover	.132"	.179"	3.5"	11 WELD		1ST PASS	98	20		8-11	74°
					11 WELD		2ND PASS	98	21			74°
					11 WELD		3RD PASS	98	21			77°
					11 WELD		4TH PASS					
					11 WELD		5TH PASS					
					11 WELD		6TH PASS					
					11 WELD		7TH PASS					
					11 WELD		8TH PASS					
R7	Root	.110"	.178"	3.5"	12 WELD		1ST PASS	98	20			74°
					12 WELD		2ND PASS	98	21			74°
					12 WELD		3RD PASS	98	21			74°
					12 WELD		4TH PASS					
					12 WELD		5TH PASS					
					12 WELD		6TH PASS					
					12 WELD		7TH PASS					
					12 WELD		8TH PASS					
					13 WELD		1ST PASS					
					13 WELD		2ND PASS					
					13 WELD		3RD PASS					
					13 WELD		4TH PASS					
					13 WELD		5TH PASS					
					13 WELD		6TH PASS					
					13 WELD		7TH PASS					
					13 WELD		8TH PASS					
					14 WELD		1ST PASS					
					14 WELD		2ND PASS					
					14 WELD		3RD PASS					
					14 WELD		4TH PASS					
					14 WELD		5TH PASS					
					14 WELD		6TH PASS					
					14 WELD		7TH PASS					
					14 WELD		8TH PASS					
					15 WELD		1ST PASS					
					15 WELD		2ND PASS					
					15 WELD		3RD PASS					
					15 WELD		4TH PASS					
					15 WELD		5TH PASS					
					15 WELD		6TH PASS					
					15 WELD		7TH PASS					
					15 WELD		8TH PASS					

PANEL # F003 A (16RP1A)

THICKNESS .200"

Date 6-17-97

Bead	Weld	Date	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Bead: ROOT, Deep: .101", Width: .165", Length: 3.5"	#1 WELD		1ST PASS	98	20			74°
	#1 WELD		2ND PASS	"	20			"
	#1 WELD		3RD PASS					
	#1 WELD		4TH PASS					
	#1 WELD		5TH PASS					
	#1 WELD		6TH PASS					
	#1 WELD		7TH PASS					
	#1 WELD		8TH PASS					
Bead: CAP/FIL, Deep: .103", Width: .186", Length: 3.5"	#2 WELD		1ST PASS	98	20			74°
	#2 WELD		2ND PASS	"	20			"
	#2 WELD		3RD PASS					
	#2 WELD		4TH PASS					
	#2 WELD		5TH PASS					
	#2 WELD		6TH PASS					
	#2 WELD		7TH PASS					
	#2 WELD		8TH PASS					
Bead: ROOT, Deep: .105", Width: .177", Length: 3.5"	#3 WELD		1ST PASS	98	20			74°
	#3 WELD		2ND PASS	"	20			"
	#3 WELD		3RD PASS	"	21			"
	#3 WELD		4TH PASS					
	#3 WELD		5TH PASS					
	#3 WELD		6TH PASS					
	#3 WELD		7TH PASS					
	#3 WELD		8TH PASS					
Bead: CAP/FIL, Deep: .101", Width: .166", Length: 3.5"	#4 WELD		1ST PASS	98	20			72°
	#4 WELD		2ND PASS	"	21			73°
	#4 WELD		3RD PASS	"	21			73°
	#4 WELD		4TH PASS					
	#4 WELD		5TH PASS					
	#4 WELD		6TH PASS					
	#4 WELD		7TH PASS					
	#4 WELD		8TH PASS					
Bead: ROOT, Deep: .105", Width: .170", Length: 3.5"	#5 WELD		1ST PASS	98	20			74°
	#5 WELD		2ND PASS	"	20			"
	#5 WELD		3RD PASS	"	20			"
	#5 WELD		4TH PASS					
	#5 WELD		5TH PASS					
	#5 WELD		6TH PASS					
	#5 WELD		7TH PASS					
	#5 WELD		8TH PASS					

PANEL # EW3B (16RP1B)

THICKNESS .200"

Date 6-17-97

Weld	Depth	Width	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.104"	.170"	3.5"	111 WELD		1ST PASS	58	20			74°
				111 WELD		2ND PASS	"	20			"
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
COVER	.101"	.172"	3.5"	112 WELD		1ST PASS	58	20			74°
				112 WELD		2ND PASS	"	20			"
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
ROOT	.103"	.179"	3.5"	113 WELD		1ST PASS	58	20			74°
				113 WELD		2ND PASS	"	21			"
				113 WELD		3RD PASS	"	20			"
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					"
				113 WELD		8TH PASS					
COVER	.102"	.170"	3.5"	114 WELD		1ST PASS	58	20			72°
				114 WELD		2ND PASS	"	20			73°
				114 WELD		3RD PASS	"	20			73°
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
ROOT	.103"	.171"	3.5"	115 WELD		1ST PASS	58	20			72F
				115 WELD		2ND PASS	"	21			"
				115 WELD		3RD PASS	"	20			"
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

Pass			

PANEL # FOCH A (16RP2A)

THICKNESS .200"

Date: 6-17-97

Weld	Deep	Wide	Length		Code	Pass	Amps	Volts	Time (Seconds)	Travel (I"M)	Temp F
Root	.110"	.175"	3.5"	111 WELD		1ST PASS	98	20			74°
				111 WELD		2ND PASS	"	20			"
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
Cover	Deep	Wide	Length	112 WELD		1ST PASS	98	20			74°
	.103"	.179"	3.5"	112 WELD		2ND PASS	"	21			"
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
Root	Deep	Wide	Length	113 WELD		1ST PASS	98	20			74°
	.101"	.177"	3.6"	113 WELD		2ND PASS	"	20			"
				113 WELD		3RD PASS	"	21			"
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					"
				113 WELD		8TH PASS					
Cover	Deep	Wide	Length	114 WELD		1ST PASS	98	20			72°
	.101"	.172"	3.5"	114 WELD		2ND PASS	"	20			72°
				114 WELD		3RD PASS	"	20			73°
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
Root	Deep	Wide	Length	115 WELD		1ST PASS	98	20			74°
	.102"	.168"	3.5"	115 WELD		2ND PASS	"	20			"
				115 WELD		3RD PASS	"	21			"
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

PANEL # Fay B (16RP2B)

THICKNESS .200"

Date 6-17-97

Bead	Deep	Wide	Length	Weld	Code	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.108"	.172"	3.5"	#1 WELD		1ST PASS	98	20			74°
				#1 WELD		2ND PASS	"	21			"
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Cover	.110"	.181"	3.5"	#2 WELD		1ST PASS	98	20			74°
				#2 WELD		2ND PASS	"	20			"
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Root	.104"	.[illegible]"	3.5"	#3 WELD		1ST PASS	98	20			74°
				#3 WELD		2ND PASS	"	20			"
				#3 WELD		3RD PASS	"	21			"
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					'
				#3 WELD		8TH PASS					
Cover	.103	.173"	3.5"	#4 WELD		1ST PASS	98	20			72°
				#4 WELD		2ND PASS	"	20			73°
				#4 WELD		3RD PASS	"	20			73°
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Root	.104"	.172"	3.5"	#5 WELD		1ST PASS	98	20			74°
				#5 WELD		2ND PASS	"	20			"
				#5 WELD		3RD PASS	"	21			"
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

PANEL # EDC-E (16RP3A)

THICKNESS .200"

Date 6-18-97

Pass	Deep	Wide	Length		Code	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.103"	.177"	3.5"	01 WELD		1ST PASS	58	20		8.1	74°
				01 WELD		2ND PASS	"	20			"
				01 WELD		3RD PASS					
				01 WELD		4TH PASS					
				01 WELD		5TH PASS					
				01 WELD		6TH PASS					
				01 WELD		7TH PASS					
				01 WELD		8TH PASS					
Cover	.104"	.173"	3.5"	02 WELD		1ST PASS	58	20			74°
				02 WELD		2ND PASS	"	21			"
				02 WELD		3RD PASS					
				02 WELD		4TH PASS					
				02 WELD		5TH PASS					
				02 WELD		6TH PASS					
				02 WELD		7TH PASS					
				02 WELD		8TH PASS					
Root	.101"	.170"	3.5"	03 WELD		1ST PASS	58	20			74°
				03 WELD		2ND PASS	"	21			"
				03 WELD		3RD PASS					
				03 WELD		4TH PASS					
				03 WELD		5TH PASS					
				03 WELD		6TH PASS					
				03 WELD		7TH PASS					"
				03 WELD		8TH PASS					
Cover	.104"	.168"	3.5"	04 WELD		1ST PASS	98	20			74°
				04 WELD		2ND PASS	"	20			"
				04 WELD		3RD PASS					
				04 WELD		4TH PASS					
				04 WELD		5TH PASS					
				04 WELD		6TH PASS					
				04 WELD		7TH PASS					
				04 WELD		8TH PASS					
Root	.101"	.166"	3.5"	05 WELD		1ST PASS	98	20			74°
				05 WELD		2ND PASS	"	21			"
				05 WELD		3RD PASS					
				05 WELD		4TH PASS					
				05 WELD		5TH PASS					
				05 WELD		6TH PASS					
				05 WELD		7TH PASS					
				05 WELD		8TH PASS					

PANEL # FOOT B (16RP3B)

THICKNESS .200"

Date 6-18-97

Bead	Deep	Wide	Length	Weld	Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.104"	.176"	3.5"	111 WELD		1ST PASS	98	20		8 11	74°
				111 WELD		2ND PASS	"	20			"
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
Cover	.102"	.173"	3.5"	112 WELD		1ST PASS	98	20			74°
				112 WELD		2ND PASS	"	20			"
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
Root	.101"	.171"	3.5"	113 WELD		1ST PASS	98	20			74°
				113 WELD		2ND PASS	"	21			"
				113 WELD		3RD PASS					
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					"
				113 WELD		8TH PASS					
Cover	.103"	.170"	3.5"	114 WELD		1ST PASS	98	20			74°
				114 WELD		2ND PASS	"	2			"
				114 WELD		3RD PASS					
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
Root	.101"	.173"	3.5"	115 WELD		1ST PASS	98	20			74°
				115 WELD		2ND PASS	"	20			"
				115 WELD		3RD PASS					
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

PANEL # E006 A (16RP4A)

THICKNESS .200"

Date: 6-18-97

Bead	Deep	Wide	Length		Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.101"	.180"	3.5"	111 WELD	1ST PASS	98	20		8.11	74°
				111 WELD	2ND PASS	"	21			"
				111 WELD	3RD PASS					
				111 WELD	4TH PASS					
				111 WELD	5TH PASS					
				111 WELD	6TH PASS					
				111 WELD	7TH PASS					
				111 WELD	8TH PASS					
Bead	Deep	Wide	Length							
Cover	.104"	.175"	3.5"	112 WELD	1ST PASS	98	20			74°
				112 WELD	2ND PASS	"	21			"
				112 WELD	3RD PASS					
				112 WELD	4TH PASS					
				112 WELD	5TH PASS					
				112 WELD	6TH PASS					
				112 WELD	7TH PASS					
				112 WELD	8TH PASS					
Bead	Deep	Wide	Length							
Root	.103"	.173"	3.5"	113 WELD	1ST PASS	98	20			74°
				113 WELD	2ND PASS	"	20			"
				113 WELD	3RD PASS					
				113 WELD	4TH PASS					
				113 WELD	5TH PASS					
				113 WELD	6TH PASS					
				113 WELD	7TH PASS					
				113 WELD	8TH PASS					
Bead	Deep	Wide	Length							
Cover	.105"	.176"	3.5"	114 WELD	1ST PASS	98	20			74°
				114 WELD	2ND PASS	"	20			"
				114 WELD	3RD PASS					
				114 WELD	4TH PASS					
				114 WELD	5TH PASS					
				114 WELD	6TH PASS					
				114 WELD	7TH PASS					
				114 WELD	8TH PASS					
Bead	Deep	Wide	Length							
Root	.108"	.177"	3.5"	115 WELD	1ST PASS	98	20			74°
				115 WELD	2ND PASS	98	20			"
				115 WELD	3RD PASS					
				115 WELD	4TH PASS					
				115 WELD	5TH PASS					
				115 WELD	6TH PASS					
				115 WELD	7TH PASS					
				115 WELD	8TH PASS					

PANEL # F006B (16RP4B)

THICKNESS .200"

Date 6-18-97

Bead	Weld	Deep	Wide	Length	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	W1	.106"	.178"	3.5"	1ST PASS	98	20		8-11	74°
	W1				2ND PASS	"	21			"
	W1				3RD PASS					
	W1				4TH PASS					
	W1				5TH PASS					
	W1				6TH PASS					
	W1				7TH PASS					
	W1				8TH PASS					
Cover	W2	.105"	.172"	3.5"	1ST PASS	98	20			74°
	W2				2ND PASS	"	21			"
	W2				3RD PASS					
	W2				4TH PASS					
	W2				5TH PASS					
	W2				6TH PASS					
	W2				7TH PASS					
	W2				8TH PASS					
Root	W3	.102"	.174"	3.5"	1ST PASS	98	20			74°
	W3				2ND PASS	"	20			"
	W3				3RD PASS					
	W3				4TH PASS					
	W3				5TH PASS					
	W3				6TH PASS					
	W3				7TH PASS					
	W3				8TH PASS					
Cover	W4	.101"	.173"	3.5"	1ST PASS	98	20			74°
	W4				2ND PASS	"	21			"
	W4				3RD PASS					
	W4				4TH PASS					
	W4				5TH PASS					
	W4				6TH PASS					
	W4				7TH PASS					
	W4				8TH PASS					
Root	W5	.102"	.174"	3.5"	1ST PASS	98	20			74°
	W5				2ND PASS	"	20			"
	W5				3RD PASS					
	W5				4TH PASS					
	W5				5TH PASS					
	W5				6TH PASS					
	W5				7TH PASS					
	W5				8TH PASS					

PANEL # ~~.200"~~ F007A (16RP5A)

THICKNESS .200"

Date: 6-19-97

Bead	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.102"	.170"	3.5"	111 WELD		1ST PASS	98	20		8-11	74°
				111 WELD		2ND PASS	98	20			"
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
Bead	Deep	Wide	Length								
COVER	.103"	.171"	3.5"	112 WELD		1ST PASS	98	20			74°
				112 WELD		2ND PASS	98	21			"
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
Bead	Deep	Wide	Length								
ROOT	.102"	.170"	3.5"	113 WELD		1ST PASS	98	20			74°
				113 WELD		2ND PASS	98	21			"
				113 WELD		3RD PASS					
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					
				113 WELD		8TH PASS					
Bead	Deep	Wide	Length								
COVER	.103"	.169"	3.5"	114 WELD		1ST PASS	98	20			74°
				114 WELD		2ND PASS	98	21			"
				114 WELD		3RD PASS					
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
Bead	Deep	Wide	Length								
ROOT	.104"	.168	3.5"	115 WELD		1ST PASS	98	20			74°
				115 WELD		2ND PASS	98	21			"
				115 WELD		3RD PASS					
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

PANEL # F0073 (16RP5B)

THICKNESS .200"

Date: 6-19-97

Weld	Deep	Wide	Length	Weld	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.103"	.173"	3.5"	01 WELD	1ST PASS	98	20		8-11	74°
				01 WELD	2ND PASS	98	21			"
				01 WELD	3RD PASS					
				01 WELD	4TH PASS					
				01 WELD	5TH PASS					
				01 WELD	6TH PASS					
				01 WELD	7TH PASS					
				01 WELD	8TH PASS					
COVER	.103"	.170"	3.5	02 WELD	1ST PASS	98	21			74°
				02 WELD	2ND PASS	98	21			"
				02 WELD	3RD PASS					
				02 WELD	4TH PASS					
				02 WELD	5TH PASS					
				02 WELD	6TH PASS					
				02 WELD	7TH PASS					
				02 WELD	8TH PASS					
ROOT	.101"	.172"	3.5"	03 WELD	1ST PASS	98	20			74°
				03 WELD	2ND PASS	98	20			"
				03 WELD	3RD PASS					
				03 WELD	4TH PASS					
				03 WELD	5TH PASS					
				03 WELD	6TH PASS					
				03 WELD	7TH PASS					"
				03 WELD	8TH PASS					
COVER	.103"	.173"	3.6"	04 WELD	1ST PASS	98	20			74°
				04 WELD	2ND PASS	98	21			"
				04 WELD	3RD PASS					
				04 WELD	4TH PASS					
				04 WELD	5TH PASS					
				04 WELD	6TH PASS					
				04 WELD	7TH PASS					
				04 WELD	8TH PASS					
ROOT	.104"	.170"	3.5"	05 WELD	1ST PASS	98	20			74°
				05 WELD	2ND PASS	98	21			"
				05 WELD	3RD PASS					
				05 WELD	4TH PASS					
				05 WELD	5TH PASS					
				05 WELD	6TH PASS					
				05 WELD	7TH PASS					
				05 WELD	8TH PASS					

PANEL # F013 A (17R01A)

THICKNESS .200"

Date 6-26-57

Weld	Depth	Width	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.101"	.173"	3.6"	111 WELD		1ST PASS	98	20		9-11	71°
				111 WELD		2ND PASS	98	20			71°
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
Cover	.103"	.175"	3.5"	112 WELD		1ST PASS	98	19			72°
				112 WELD		2ND PASS	98	20			72°
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
Root	.101"	.172"	3.5"	113 WELD		1ST PASS	98	20			72°
				113 WELD		2ND PASS	98	20			72°
				113 WELD		3RD PASS					
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					
				113 WELD		8TH PASS					
Cover	.107"	.181"	3.5"	114 WELD		1ST PASS	98	20			73°
				114 WELD		2ND PASS	98	20			74°
				114 WELD		3RD PASS					
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
Root	.109"	.176"	3.5"	115 WELD		1ST PASS	98	20			74°
				115 WELD		2ND PASS	98	20			74°
				115 WELD		3RD PASS	98	20			74°
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

PANEL # F013 A (17R01A)

THICKNESS .200"

Date 6-26-97

Bead	Deep	Weld	Length		Side	Pass	Angle	Volts	Time (Seconds)	Travel (IPM)	Temp !
RC COVER	.150"	.191"	1"	#1 WELD	1"	1ST PASS	98				74°
				#1 WELD	1"	2ND PASS	98				74°
				#1 WELD	1"	3RD PASS	98				71°
				#1 WELD	35"	4TH PASS	98				71°
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Bead	Deep	Weld	Length	#2 WELD		1ST PASS					
				#2 WELD		2ND PASS					
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Bead	Deep	Weld	Length	#3 WELD		1ST PASS					
				#3 WELD		2ND PASS					
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					'
				#3 WELD		8TH PASS					
Bead	Deep	Weld	Length	#4 WELD		1ST PASS					
				#4 WELD		2ND PASS					
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Bead	Deep	Weld	Length	#5 WELD		1ST PASS					
				#5 WELD		2ND PASS					
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

CENTER of GRIND ON mark 4.
4 PASSES to fill
final PASS full Length of REPAIR

PANEL # F013B (17R01B)

THICKNESS .200"

Date: 6-26-97

Bead	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.103"	.173"	3.5"	#11 WELD		1ST PASS	98	20		9-11	70°
				#11 WELD		2ND PASS	98	20			71°
				#11 WELD		3RD PASS					
				#11 WELD		4TH PASS					
				#11 WELD		5TH PASS					
				#11 WELD		6TH PASS					
				#11 WELD		7TH PASS					
				#11 WELD		8TH PASS					
Bead	Deep	Wide	Length								
COVER	.103"	.170"	3.5"	#12 WELD		1ST PASS	98	19			71°
				#12 WELD		2ND PASS	98	20			72°
				#12 WELD		3RD PASS					
				#12 WELD		4TH PASS					
				#12 WELD		5TH PASS					
				#12 WELD		6TH PASS					
				#12 WELD		7TH PASS					
				#12 WELD		8TH PASS					
Bead	Deep	Wide	Length								
Root	.106"	.179"	3.5"	#13 WELD		1ST PASS	98	19			72°
				#13 WELD		2ND PASS	98	20			72°
				#13 WELD		3RD PASS					
				#13 WELD		4TH PASS					
				#13 WELD		5TH PASS					
				#13 WELD		6TH PASS					
				#13 WELD		7TH PASS					
				#13 WELD		8TH PASS					
Bead	Deep	Wide	Length								
COVER	.101"	.173"	3.5"	#14 WELD		1ST PASS	98	19			73°
				#14 WELD		2ND PASS	98	20			74°
				#14 WELD		3RD PASS					
				#14 WELD		4TH PASS					
				#14 WELD		5TH PASS					
				#14 WELD		6TH PASS					
				#14 WELD		7TH PASS					
				#14 WELD		8TH PASS					
Bead	Deep	Wide	Length								
Root	.104	.184"	3.5"	#15 WELD		1ST PASS	98	19			74°
				#15 WELD		2ND PASS	98	20			74°
				#15 WELD		3RD PASS	98	20			74°
				#15 WELD		4TH PASS					
				#15 WELD		5TH PASS					
				#15 WELD		6TH PASS					
				#15 WELD		7TH PASS					
				#15 WELD		8TH PASS					

PANEL # E014A (17R02A)

THICKNESS .200"

Date: 6-26-97

Bead	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.101"	.172"	3.5"	#1 WELD		1ST PASS	98	20		5-11	71°
				#1 WELD		2ND PASS	98	20			71°
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Cover	.104"	.174"	3.5"	#2 WELD		1ST PASS	98	20			71°
				#2 WELD		2ND PASS	98	20			71°
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Root	.105"	.173"	3.5"	#3 WELD		1ST PASS	98	19			72°
				#3 WELD		2ND PASS	98	19			72°
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Cover	.103"	.175"	3.5"	#4 WELD		1ST PASS	98	19			73°
				#4 WELD		2ND PASS	98	20			74°
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Root	.107"	.180"	3.5"	#5 WELD		1ST PASS	98	19			74°
				#5 WELD		2ND PASS	98	20			74°
				#5 WELD		3RD PASS	98	20			74°
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

PANEL # F014A (17R02B)

THICKNESS .200"

Date 6-26-97

Bead	Depth	Width	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.101"	.177"	3.5"	#1 WELD		1ST PASS	98	20		5-11	71°
				#1 WELD		2ND PASS	98	20			74°
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Cover	.104"	.176"	3.5"	#2 WELD		1ST PASS	98	19			71
				#2 WELD		2ND PASS	98	20			71°
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Root	.101"	.175"	3.5"	#3 WELD		1ST PASS	98	20			72°
				#3 WELD		2ND PASS	98	20			72°
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Cover	.110"	.181"	3.5"	#4 WELD		1ST PASS	98	20			73°
				#4 WELD		2ND PASS	98	19			74°
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Root	.111"	.185"	3.5"	#5 WELD		1ST PASS	98	20			74°
				#5 WELD		2ND PASS	98	19			74°
				#5 WELD		3RD PASS	98	20			74°
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

PANEL # FOISA (17R03A)

THICKNESS .200"

Date: 6-22-97

Bead	Depth	Width	Length		Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
ROOT	.102"	.176"	3.5"	1 WELD	1ST PASS	98	19		9-11	72°
				1 WELD	2ND PASS	98	20			72°
				1 WELD	3RD PASS					
				1 WELD	4TH PASS					
				1 WELD	5TH PASS					
				1 WELD	6TH PASS					
				1 WELD	7TH PASS					
				1 WELD	8TH PASS					
COVER	.103"	.171"	3.5"	2 WELD	1ST PASS	98	19			72°
				2 WELD	2ND PASS	98	20			72°
				2 WELD	3RD PASS					
				2 WELD	4TH PASS					
				2 WELD	5TH PASS					
				2 WELD	6TH PASS					
				2 WELD	7TH PASS					
				2 WELD	8TH PASS					
ROOT	.104"	.171"	3.5"	3 WELD	1ST PASS	98	20			73°
				3 WELD	2ND PASS	98	20			73°
				3 WELD	3RD PASS					
				3 WELD	4TH PASS					
				3 WELD	5TH PASS					
				3 WELD	6TH PASS					
				3 WELD	7TH PASS					
				3 WELD	8TH PASS					
COVER	.103"	.169"	3.5"	4 WELD	1ST PASS	98	20			73°
				4 WELD	2ND PASS	98	20			72°
				4 WELD	3RD PASS					
				4 WELD	4TH PASS					
				4 WELD	5TH PASS					
				4 WELD	6TH PASS					
				4 WELD	7TH PASS					
				4 WELD	8TH PASS					
ROOT	.106"	.177"	3.5"	5 WELD	1ST PASS	98	19			72°
				5 WELD	2ND PASS	98	20			72°
				5 WELD	3RD PASS					
				5 WELD	4TH PASS					
				5 WELD	5TH PASS					
				5 WELD	6TH PASS					
				5 WELD	7TH PASS					
				5 WELD	8TH PASS					

PANEL # F015B (17R03B)

THICKNESS .200"

Date: 6-22-97

Bead	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp °
Root	.101"	.176"	3.5"	#1 WELD		1ST PASS	98	19		9-11	72°
				#1 WELD		2ND PASS	98	20			72°
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Cover	.103"	.173"	3.5"	#2 WELD		1ST PASS	98	19			72°
				#2 WELD		2ND PASS	98	20			72°
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Root	.102"	.179"	3.5"	#3 WELD		1ST PASS	98	20			73°
				#3 WELD		2ND PASS	98	20			73°
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Cover	.105"	.171"	3.5"	#4 WELD		1ST PASS	98	20			72°
				#4 WELD		2ND PASS	98	20			72°
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Root	.106"	.174"	3.5"	#5 WELD		1ST PASS	98	19			72°
				#5 WELD		2ND PASS	98	20			72°
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

PANEL # F016A (17R04A)

THICKNESS .200"

Date 6-27-97

Bead	Depth	Width	Length		Code	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.103"	.175"	3.5"	#1 WELD		1ST PASS	98	20		9-11	72°
				#1 WELD		2ND PASS	98	20			72°
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Bead	Depth	Width	Length								
Cover	.106"	.177"	3.5"	#2 WELD		1ST PASS	98	19			72°
				#2 WELD		2ND PASS	98	20			72°
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Bead	Depth	Width	Length								
Root	.101"	.170"	3.5"	#3 WELD		1ST PASS	98	19			73°
				#3 WELD		2ND PASS	98	20			73°
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Bead	Depth	Width	Length								
Cover	.104"	.172"	3.5"	#4 WELD		1ST PASS	98	19			72°
				#4 WELD		2ND PASS	98	20			72°
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Bead	Depth	Width	Length								
Root	.105"	.174"	3.5"	#5 WELD		1ST PASS	98	19			72°
				#5 WELD		2ND PASS	98	19			72°
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

PANEL # F016B (17R04B)

THICKNESS .200"

Date: 6-27-97

Bead	Deep	Wide	Length	Weld	Code	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
Root	.106"	.172"	3-5"	#1 WELD		1ST PASS	58	19		9-11	72°
				#1 WELD		2ND PASS	58	20			72°
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Cover	.101"	.178"	3.5"	#2 WELD		1ST PASS	58	19			72°
				#2 WELD		2ND PASS	58	20			72°
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Root	.101"	.176"	3-5"	#3 WELD		1ST PASS	58	19			73°
				#3 WELD		2ND PASS	58	20			73°
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Cover	.102"	.171"	3.5"	#4 WELD		1ST PASS	58	19			72°
				#4 WELD		2ND PASS	58	20			72°
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Root	.103"	.172"	3-5"	#5 WELD		1ST PASS	58	19			72°
				#5 WELD		2ND PASS	58	20			72°
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

BJorkman

Shave | | | |

PANEL # 17-R05A THICKNESS 0.200"

Date. 10-23-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	#11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#11 WELD		3RD PASS					
				#11 WELD		4TH PASS					
				#11 WELD		5TH PASS					
				#11 WELD		6TH PASS					
				#11 WELD		7TH PASS					
				#11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	#12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#12 WELD		3RD PASS					
				#12 WELD		4TH PASS					
				#12 WELD		5TH PASS					
				#12 WELD		6TH PASS					
				#12 WELD		7TH PASS					
				#12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	#13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#13 WELD		3RD PASS					
				#13 WELD		4TH PASS					
				#13 WELD		5TH PASS					
				#13 WELD		6TH PASS					
				#13 WELD		7TH PASS					
				#13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.75	#14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#14 WELD		3RD PASS					
				#14 WELD		4TH PASS					
				#14 WELD		5TH PASS					
				#14 WELD		6TH PASS					
				#14 WELD		7TH PASS					
				#14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.8	#15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#15 WELD		3RD PASS					
				#15 WELD		4TH PASS					
				#15 WELD		5TH PASS					
				#15 WELD		6TH PASS					
				#15 WELD		7TH PASS					
				#15 WELD		8TH PASS					

BJORKMAN

Shave			

PANEL # L7-R05B

THICKNESS 0.200"

Date 10-23-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
R2	0.100	0.150	3.5	#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
R3	0.100	0.150	3.5	#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
R4	0.100	0.150	3.7	#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
R5	0.100	0.150	3.8	#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

B Jackman

Shave			

PANEL # 17-RP1A THICKNESS 0.700"

Date 10-23-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.8	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.9	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.8	#3 WELD	ROOT.	1ST PASS	100	19.0		9-11	70
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	4.0	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD	COVER	3RD PASS	100	19.0		9-11	70
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	4.3	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

BJORKMAN

Shape | | | |

PANEL # 17-RHB THICKNESS 0.200"

Date 10-23-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.8	111 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				111 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
R2	0.100	0.150	3.9	112 WELD	COVER	1ST PASS	100	19.0		9-11	70
				112 WELD	COVER	2ND PASS	100	19.0		9-11	70
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
R3	0.100	0.150	3.9	113 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				113 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				113 WELD		3RD PASS					
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					
				113 WELD		8TH PASS					
R4	0.100	0.150	4.0	114 WELD	COVER	1ST PASS	100	19.0		9-11	70
				114 WELD	COVER	2ND PASS	100	19.0		9-11	70
				114 WELD	COVER	3RD PASS	100	19.0		9-11	70
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
R5	0.100	0.150	4.3	115 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				115 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				115 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

BJORKMAN

Phase | | | |

PANEL # 17RP2A THICKNESS 0.200"t

Date 10-28-96

Weld	Depth	Width	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
R1	0.100	0.150	3.8	W1 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				W1 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				W1 WELD		3RD PASS						
				W1 WELD		4TH PASS						
				W1 WELD		5TH PASS						
				W1 WELD		6TH PASS						
				W1 WELD		7TH PASS						
				W1 WELD		8TH PASS						
R2	0.100	0.150	3.7	W2 WELD	~~COVER~~ ROOT	1ST PASS	100	19.0		9-11	70	
				W2 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				W2 WELD		3RD PASS						
				W2 WELD		4TH PASS						
				W2 WELD		5TH PASS						
				W2 WELD		6TH PASS						
				W2 WELD		7TH PASS						
				W2 WELD		8TH PASS						
R3	0.100	0.150	3.7	W3 WELD	ROOT.	1ST PASS	100	19.0		9-11	70	
				W3 WELD	ROOT.	2ND PASS	100	19.0		9-11	70	
				W3 WELD		3RD PASS						
				W3 WELD		4TH PASS						
				W3 WELD		5TH PASS						
				W3 WELD		6TH PASS						
				W3 WELD		7TH PASS						
				W3 WELD		8TH PASS						
R4	0.100	0.150	3.8	W4 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				W4 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				W4 WELD	COVER	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				W4 WELD		4TH PASS						
				W4 WELD		5TH PASS						
				W4 WELD		6TH PASS						
				W4 WELD		7TH PASS						
				W4 WELD		8TH PASS						
R5	0.100	0.150	4.2	W5 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				W5 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				W5 WELD	ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				W5 WELD		4TH PASS						
				W5 WELD		5TH PASS						
				W5 WELD		6TH PASS						
				W5 WELD		7TH PASS						
				W5 WELD		8TH PASS						

BJORKMAN

PANEL # 17-RP2B THICKNESS 0.200"t

Date 10-28-96

Weld	Depth	Width	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
121	0.100	0.150	3.8	111 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				111 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				111 WELD		3RD PASS						
				111 WELD		4TH PASS						
				111 WELD		5TH PASS						
				111 WELD		6TH PASS						
				111 WELD		7TH PASS						
				111 WELD		8TH PASS						
122	0.100	0.150	3.6	112 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				112 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				112 WELD		3RD PASS						
				112 WELD		4TH PASS						
				112 WELD		5TH PASS						
				112 WELD		6TH PASS						
				112 WELD		7TH PASS						
				112 WELD		8TH PASS						
123	0.100	0.150	3.7	113 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				113 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				113 WELD		3RD PASS						
				113 WELD		4TH PASS						
				113 WELD		5TH PASS						
				113 WELD		6TH PASS						
				113 WELD		7TH PASS						
				113 WELD		8TH PASS						
124	0.100	0.150	4.0	114 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				114 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				114 WELD	COVER	3RD PASS	100	19.0		9-11	70	PLANISH REINFORCEMENT.
				114 WELD		4TH PASS						
				114 WELD		5TH PASS						
				114 WELD		6TH PASS						
				114 WELD		7TH PASS						
				114 WELD		8TH PASS						
125	0.100	0.150	4.2	115 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				115 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				115 WELD	ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				115 WELD		4TH PASS						
				115 WELD		5TH PASS						
				115 WELD		6TH PASS						
				115 WELD		7TH PASS						
				115 WELD		8TH PASS						

BJORKMAN

Phase | | | |

PANEL # 17-RP3A THICKNESS 0.700"

Date. 10-28-96

Grind	Depp	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
R1	0.100	0.150	3.8	111 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				111 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				111 WELD		3RD PASS						
				111 WELD		4TH PASS						
				111 WELD		5TH PASS						
				111 WELD		6TH PASS						
				111 WELD		7TH PASS						
				111 WELD		8TH PASS						
					COVER							
Grind	Depp	Wide	Length	112 WELD	ROOT.	1ST PASS	100	19.0		9-11	70	
R2	0.100	0.150	3.7	112 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				112 WELD		3RD PASS						
				112 WELD		4TH PASS						
				112 WELD		5TH PASS						
				112 WELD		6TH PASS						
				112 WELD		7TH PASS						
				112 WELD		8TH PASS						
Grind	Depp	Wide	Length	113 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
R3	0.100	0.150	3.6	113 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				113 WELD		3RD PASS						
				113 WELD		4TH PASS						
				113 WELD		5TH PASS						
				113 WELD		6TH PASS						
				113 WELD		7TH PASS						
				113 WELD		8TH PASS						
Grind	Depp	Wide	Length	114 WELD	COVER	1ST PASS	100	19.0		9-11	70	
R4	0.100	0.150	3.8	114 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				114 WELD	COVER	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				114 WELD		4TH PASS						
				114 WELD		5TH PASS						
				114 WELD		6TH PASS						
				114 WELD		7TH PASS						
				114 WELD		8TH PASS						
Grind	Depp	Wide	Length	115 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
R5	0.100	0.150	4.2	115 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				115 WELD	ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				115 WELD		4TH PASS						
				115 WELD		5TH PASS						
				115 WELD		6TH PASS						
				115 WELD		7TH PASS						
				115 WELD		8TH PASS						

B JORKMAN

Phase

PANEL # 17-RP3B

THK KNUCK 0.700"

Date 10-28-96

Weld	Depth	Width	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
R1	0.100	0.150	3.8	W1 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				W1 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				W1 WELD		3RD PASS						
				W1 WELD		4TH PASS						
				W1 WELD		5TH PASS						
				W1 WELD		6TH PASS						
				W1 WELD		7TH PASS						
				W1 WELD		8TH PASS						
R2	0.100	0.150	3.7	W2 WELD	~~COVER~~ ROOT.	1ST PASS	100	19.0		9-11	70	
				W2 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				W2 WELD		3RD PASS						
				W2 WELD		4TH PASS						
				W2 WELD		5TH PASS						
				W2 WELD		6TH PASS						
				W2 WELD		7TH PASS						
				W2 WELD		8TH PASS						
R3	0.100	0.150	3.6	W3 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				W3 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				W3 WELD	/	3RD PASS						
				W3 WELD		4TH PASS						
				W3 WELD		5TH PASS						
				W3 WELD		6TH PASS						
				W3 WELD		7TH PASS						
				W3 WELD		8TH PASS						
R4	0.100	0.150	3.8	W4 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				W4 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				W4 WELD	COVER	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				W4 WELD		4TH PASS						
				W4 WELD		5TH PASS						
				W4 WELD		6TH PASS						
				W4 WELD		7TH PASS						
				W4 WELD		8TH PASS						
R5	0.100	0.150	4.2	W5 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				W5 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				W5 WELD	ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT
				W5 WELD		4TH PASS						
				W5 WELD		5TH PASS						
				W5 WELD		6TH PASS						
				W5 WELD		7TH PASS						
				W5 WELD		8TH PASS						

Base

BJORKMAN

PANEL # 17-RP4A THICKNESS 0.200"

Date 10-28-96

Weld	Grind	Depth	Width	Length	Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
W1	R1	0.100	0.150	3.5	ROOT	1ST PASS	100	19.0		9-11	70	
W1					ROOT	2ND PASS	100	19.0		9-11	70	
W1						3RD PASS						
W1						4TH PASS						
W1						5TH PASS						
W1						6TH PASS						
W1						7TH PASS						
W1						8TH PASS						
W2	R2	0.100	0.150	3.8	COVER	1ST PASS	100	19.0		9-11	70	
W2					COVER	2ND PASS	100	19.0		9-11	70	
W2						3RD PASS						
W2						4TH PASS						
W2						5TH PASS						
W2						6TH PASS						
W2						7TH PASS						
W2						8TH PASS						
W3	R3	0.100	0.150	4.0	ROOT	1ST PASS	100	19.0		9-11	70	
W3					ROOT	2ND PASS	100	19.0		9-11	70	
W3						3RD PASS						
W3						4TH PASS						
W3						5TH PASS						
W3						6TH PASS						
W3						7TH PASS						
W3						8TH PASS						
W4	R4	0.100	0.150	4.0	COVER	1ST PASS	100	19.0		9-11	70	
W4					COVER	2ND PASS	100	19.0		9-11	70	
W4					COVER	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
W4						4TH PASS						
W4						5TH PASS						
W4						6TH PASS						
W4						7TH PASS						
W4						8TH PASS						
W5	R5	0.100	0.150	4.2	ROOT	1ST PASS	100	19.0		9-11	70	
W5					ROOT	2ND PASS	100	19.0		9-11	70	
W5					ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT
W5						4TH PASS						
W5						5TH PASS						
W5						6TH PASS						
W5						7TH PASS						
W5						8TH PASS						

BJORKMAN

PANEL # 17-RP4B THICKNESS 0.200"

Date 10-28-96

Grind	Deep	Weld	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
R1	0.100	0.150	3.5	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#1 WELD		3RD PASS						
				#1 WELD		4TH PASS						
				#1 WELD		5TH PASS						
				#1 WELD		6TH PASS						
				#1 WELD		7TH PASS						
				#1 WELD		8TH PASS						
R2	0.100	0.150	3.8	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				#2 WELD		3RD PASS						
				#2 WELD		4TH PASS						
				#2 WELD		5TH PASS						
				#2 WELD		6TH PASS						
				#2 WELD		7TH PASS						
				#2 WELD		8TH PASS						
R3	0.100	0.150	4.0	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#3 WELD		3RD PASS						
				#3 WELD		4TH PASS						
				#3 WELD		5TH PASS						
				#3 WELD		6TH PASS						
				#3 WELD		7TH PASS						
				#3 WELD		8TH PASS						
R4	0.100	0.150	4.0	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				#4 WELD	COVER	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				#4 WELD		4TH PASS						
				#4 WELD		5TH PASS						
				#4 WELD		6TH PASS						
				#4 WELD		7TH PASS						
				#4 WELD		8TH PASS						
R5	0.100	0.150	4.2	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#5 WELD	ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				#5 WELD		4TH PASS						
				#5 WELD		5TH PASS						
				#5 WELD		6TH PASS						
				#5 WELD		7TH PASS						
				#5 WELD		8TH PASS						

B JORKMAN

Base | | | |

PANEL # 17-RP5A THICKNESS 0.200"

Date 10-28-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
R1	0.100	0.150	3.5	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#1 WELD		3RD PASS						
				#1 WELD		4TH PASS						
				#1 WELD		5TH PASS						
				#1 WELD		6TH PASS						
				#1 WELD		7TH PASS						
				#1 WELD		8TH PASS						
R2	0.100	0.150	3.8	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				#2 WELD		3RD PASS						
				#2 WELD		4TH PASS						
				#2 WELD		5TH PASS						
				#2 WELD		6TH PASS						
				#2 WELD		7TH PASS						
				#2 WELD		8TH PASS						
R3	0.100	0.150	4.0	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#3 WELD		3RD PASS						
				#3 WELD		4TH PASS						
				#3 WELD		5TH PASS						
				#3 WELD		6TH PASS						
				#3 WELD		7TH PASS						
				#3 WELD		8TH PASS						
R4	0.100	0.150	4.0	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				#4 WELD	COVER	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT
				#4 WELD		4TH PASS						
				#4 WELD		5TH PASS						
				#4 WELD		6TH PASS						
				#4 WELD		7TH PASS						
				#4 WELD		8TH PASS						
R5	0.100	0.150	4.2	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#5 WELD	ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				#5 WELD		4TH PASS						
				#5 WELD		5TH PASS						
				#5 WELD		6TH PASS						
				#5 WELD		7TH PASS						
				#5 WELD		8TH PASS						

BJORKMAN

PANEL # 17-RPSB THICKNESS 0.200"

Date 10-28-96

Grind	Deep	Weld	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F	
R1	0.100	0.150	3.5	#11 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#11 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#11 WELD		3RD PASS						
				#11 WELD		4TH PASS						
				#11 WELD		5TH PASS						
				#11 WELD		6TH PASS						
				#11 WELD		7TH PASS						
				#11 WELD		8TH PASS						
R2	0.100	0.150	3.8	#12 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				#12 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				#12 WELD		3RD PASS						
				#12 WELD		4TH PASS						
				#12 WELD		5TH PASS						
				#12 WELD		6TH PASS						
				#12 WELD		7TH PASS						
				#12 WELD		8TH PASS						
R3	0.100	0.150	4.0	#13 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#13 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#13 WELD		3RD PASS						
				#13 WELD		4TH PASS						
				#13 WELD		5TH PASS						
				#13 WELD		6TH PASS						
				#13 WELD		7TH PASS						
				#13 WELD		8TH PASS						
R4	0.100	0.150	4.0	#14 WELD	COVER	1ST PASS	100	19.0		9-11	70	
				#14 WELD	COVER	2ND PASS	100	19.0		9-11	70	
				#14 WELD	COVER	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				#14 WELD		4TH PASS						
				#14 WELD		5TH PASS						
				#14 WELD		6TH PASS						
				#14 WELD		7TH PASS						
				#14 WELD		8TH PASS						
R5	0.100	0.150	4.2	#15 WELD	ROOT	1ST PASS	100	19.0		9-11	70	
				#15 WELD	ROOT	2ND PASS	100	19.0		9-11	70	
				#15 WELD	ROOT	3RD PASS	100	19.0		9-11	70	PLAN. REINFORCEMENT.
				#15 WELD		4TH PASS						
				#15 WELD		5TH PASS						
				#15 WELD		6TH PASS						
				#15 WELD		7TH PASS						
				#15 WELD		8TH PASS						

BJORKMAN

Shave | | | |

PANEL # 18-R01A THICKNESS 0.200"

Date 10-17-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
R2	0.100	0.150	3.5	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
R3	0.100	0.150	3.5	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
R4	0.100	0.150	3.5	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
R5	0.100	0.150	3.5	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

BJORKMAN

Shave | | | |

PANEL # 18-1201B THICKNESS 0.200"

Date 10-17-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	111 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				111 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	112 WELD	COVER	1ST PASS	100	19.0		9-11	70
				112 WELD	COVER	2ND PASS	100	19.0		9-11	70
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	113 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				113 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				113 WELD		3RD PASS					
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					
				113 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.5	114 WELD	COVER	1ST PASS	100	19.0		9-11	70
				114 WELD	COVER	2ND PASS	100	19.0		9-11	70
				114 WELD		3RD PASS					
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.5	115 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				115 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				115 WELD		3RD PASS					
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

B Torkelman.

Shave			

PANEL # 18-R02A THICKNESS 0.800"

Date 10-17-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	I11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I11 WELD		3RD PASS					
				I11 WELD		4TH PASS					
				I11 WELD		5TH PASS					
				I11 WELD		6TH PASS					
				I11 WELD		7TH PASS					
				I11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	I12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				I12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I12 WELD		3RD PASS					
				I12 WELD		4TH PASS					
				I12 WELD		5TH PASS					
				I12 WELD		6TH PASS					
				I12 WELD		7TH PASS					
				I12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	I13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I13 WELD		3RD PASS					
				I13 WELD		4TH PASS					
				I13 WELD		5TH PASS					
				I13 WELD		6TH PASS					
				I13 WELD		7TH PASS					
				I13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.5	I14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				I14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I14 WELD		3RD PASS					
				I14 WELD		4TH PASS					
				I14 WELD		5TH PASS					
				I14 WELD		6TH PASS					
				I14 WELD		7TH PASS					
				I14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.5	I15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I15 WELD		3RD PASS					
				I15 WELD		4TH PASS					
				I15 WELD		5TH PASS					
				I15 WELD		6TH PASS					
				I15 WELD		7TH PASS					
				I15 WELD		8TH PASS					

B TORKMAN

Shave			

PANEL # 18-R0B

THICKNESS 0.200"

Date: 10-17-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.5	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.5	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

B JORKMAN
10/16/96

Shave			

PANEL # 18-R03A

THICKNESS 0200

Date:

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0150	3.5	#1 WELD	ROOT.	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	76
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0150	3.5	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.5	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.5	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

BJORKMAN

Shave			

PANEL # 18-R03B THICKNESS 0.200

Date 10-16-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
121	0.100	0.150	3.5	#11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#11 WELD		3RD PASS					
				#11 WELD		4TH PASS					
				#11 WELD		5TH PASS					
				#11 WELD		6TH PASS					
				#11 WELD		7TH PASS					
				#11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	#12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#12 WELD		3RD PASS					
				#12 WELD		4TH PASS					
				#12 WELD		5TH PASS					
				#12 WELD		6TH PASS					
				#12 WELD		7TH PASS					
				#12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	#13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#13 WELD		3RD PASS					
				#13 WELD		4TH PASS					
				#13 WELD		5TH PASS					
				#13 WELD		6TH PASS					
				#13 WELD		7TH PASS					
				#13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.5	#14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#14 WELD		3RD PASS					
				#14 WELD		4TH PASS					
				#14 WELD		5TH PASS					
				#14 WELD		6TH PASS					
				#14 WELD		7TH PASS					
				#14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.5	#15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#15 WELD		3RD PASS					
				#15 WELD		4TH PASS					
				#15 WELD		5TH PASS					
				#15 WELD		6TH PASS					
				#15 WELD		7TH PASS					
				#15 WELD		8TH PASS					

Bjorkman
10/16/96

Shave			

PANEL # 18-R04A THICKNESS 0.200

Date

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	I11 WELD	ROOT	1ST PASS	100	19.0		9-11	RT
				I11 WELD	ROOT	2ND PASS	100	19.0		9-11	RT.
				I11 WELD		3RD PASS					
				I11 WELD		4TH PASS					
				I11 WELD		5TH PASS					
				I11 WELD		6TH PASS					
				I11 WELD		7TH PASS					
				I11 WELD		8TH PASS					
Grind	Deep	Wide	Length	I12 WELD	COVER	1ST PASS	100	19.0		9-11	RT.
R2	0.100	0.150	3.5	I12 WELD	COVER	2ND PASS	100	19.0		9-11	RT.
				I12 WELD		3RD PASS					
				I12 WELD		4TH PASS					
				I12 WELD		5TH PASS					
				I12 WELD		6TH PASS					
				I12 WELD		7TH PASS					
				I12 WELD		8TH PASS					
Grind	Deep	Wide	Length	I13 WELD	ROOT	1ST PASS	100	19.0		9-11	RT.
R3	0.100	0.150	3.5	I13 WELD	ROOT	2ND PASS	100	19.0		9-11	RT.
				I13 WELD		3RD PASS					
				I13 WELD		4TH PASS					
				I13 WELD		5TH PASS					
				I13 WELD		6TH PASS					
				I13 WELD		7TH PASS					
				I13 WELD		8TH PASS					
Grind	Deep	Wide	Length	I14 WELD	COVER	1ST PASS	100	19.0		9-11	RT.
R4	0.100	0.150	3.5	I14 WELD	COVER	2ND PASS	100	19.0		9-11	RT.
				I14 WELD		3RD PASS					
				I14 WELD		4TH PASS					
				I14 WELD		5TH PASS					
				I14 WELD		6TH PASS					
				I14 WELD		7TH PASS					
				I14 WELD		8TH PASS					
Grind	Deep	Wide	Length	I15 WELD	ROOT	1ST PASS	100	19.0		9-11	RT.
R5	0.100	0.150	3.5	I15 WELD	ROOT	2ND PASS	100	19.0		9-11	RT.
				I15 WELD		3RD PASS					
				I15 WELD		4TH PASS					
				I15 WELD		5TH PASS					
				I15 WELD		6TH PASS					
				I15 WELD		7TH PASS					
				I15 WELD		8TH PASS					

RT - Tool

BJORKMAN
16/16/96

Shave			

PANEL # 18-R04B THICKNESS 0.200

Date

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	11 WELD	ROOT	1ST PASS	100	19.0		9-11	RT
				11 WELD	ROOT	2ND PASS	100	19.0		9-11	RT
				11 WELD		3RD PASS					
				11 WELD		4TH PASS					
				11 WELD		5TH PASS					
				11 WELD		6TH PASS					
				11 WELD		7TH PASS					
				11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0150	3.5	12 WELD	COVER	1ST PASS	100	19.0		9-11	RT.
				12 WELD	COVER	2ND PASS	100	19.0		9-11	RT.
				12 WELD		3RD PASS					
				12 WELD		4TH PASS					
				12 WELD		5TH PASS					
				12 WELD		6TH PASS					
				12 WELD		7TH PASS					
				12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0 100	0.150	3 5	13 WELD	ROOT	1ST PASS	100	19.0		9-11	RT.
				13 WELD	ROOT	2ND PASS	100	19.0		9-11	RT.
				13 WELD		3RD PASS					
				13 WELD		4TH PASS					
				13 WELD		5TH PASS					
				13 WELD		6TH PASS					
				13 WELD		7TH PASS					
				13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0 100	0.150	3.5	14 WELD	COVER	1ST PASS	100	19.0		9-11	RT
				14 WELD	COVER	2ND PASS	100	19.0		9-11	RT.
				14 WELD		3RD PASS					
				14 WELD		4TH PASS					
				14 WELD		5TH PASS					
				14 WELD		6TH PASS					
				14 WELD		7TH PASS					
				14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.5	15 WELD	ROOT	1ST PASS	100.	19.0		9-11	RT.
				15 WELD	ROOT	2ND PASS	100	19.0		9-11	RT.
				15 WELD		3RD PASS					
				15 WELD		4TH PASS					
				15 WELD		5TH PASS					
				15 WELD		6TH PASS					
				15 WELD		7TH PASS					
				15 WELD		8TH PASS					

RT = TROL

BJORKMAN

Shave			

PANEL # 18-205A THICKNESS 0.200

Date 10-16-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
R2	0.100	0.150	3.5	#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
R3	0.100	0150	3.5	#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
R4	0.100	0150	3.5	#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
R5	0.100	0.150	3.5	#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

BJORKMAN

Shave			

PANEL # 18-R05B THICKNESS 0.200

Date. 10-16-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	I11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I11 WELD		3RD PASS					
				I11 WELD		4TH PASS					
				I11 WELD		5TH PASS					
				I11 WELD		6TH PASS					
				I11 WELD		7TH PASS					
				I11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	I12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				I12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I12 WELD		3RD PASS					
				I12 WELD		4TH PASS					
				I12 WELD		5TH PASS					
				I12 WELD		6TH PASS					
				I12 WELD		7TH PASS					
				I12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	I13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I13 WELD		3RD PASS					
				I13 WELD		4TH PASS					
				I13 WELD		5TH PASS					
				I13 WELD		6TH PASS					
				I13 WELD		7TH PASS					
				I13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.5	I14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				I14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I14 WELD		3RD PASS					
				I14 WELD		4TH PASS					
				I14 WELD		5TH PASS					
				I14 WELD		6TH PASS					
				I14 WELD		7TH PASS					
				I14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.5	I15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I15 WELD		3RD PASS					
				I15 WELD		4TH PASS					
				I15 WELD		5TH PASS					
				I15 WELD		6TH PASS					
				I15 WELD		7TH PASS					
				I15 WELD		8TH PASS					

BJORKMAN

Shave			

PANEL # 18-RP1A THICKNESS 0.200"

Date 10-22-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.8	I11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I11 WELD		3RD PASS					
				I11 WELD		4TH PASS					
				I11 WELD		5TH PASS					
				I11 WELD		6TH PASS					
				I11 WELD		7TH PASS					
				I11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.6	I12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				I12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I12 WELD		3RD PASS					
				I12 WELD		4TH PASS					
				I12 WELD		5TH PASS					
				I12 WELD		6TH PASS					
				I12 WELD		7TH PASS					
				I12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.8	I13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I13 WELD		3RD PASS					
				I13 WELD		4TH PASS					
				I13 WELD		5TH PASS					
				I13 WELD		6TH PASS					
				I13 WELD		7TH PASS					
				I13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.8	I14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				I14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I14 WELD	COVER	3RD PASS	100	19.0		9-11	70
				I14 WELD		4TH PASS					
				I14 WELD		5TH PASS					
				I14 WELD		6TH PASS					
				I14 WELD		7TH PASS					
				I14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.8	I15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I15 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				I15 WELD		4TH PASS					
				I15 WELD		5TH PASS					
				I15 WELD		6TH PASS					
				I15 WELD		7TH PASS					
				I15 WELD		8TH PASS					

BJORKMAN

Shave			

PANEL # 18-RHB THICKNESS 0.200"

Date 10-22-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.8	111 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				111 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				111 WELD		3RD PASS					
				111 WELD		4TH PASS					
				111 WELD		5TH PASS					
				111 WELD		6TH PASS					
				111 WELD		7TH PASS					
				111 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.6	112 WELD	COVER	1ST PASS	100	19.0		9-11	70
				112 WELD	COVER	2ND PASS	100	19.0		9-11	70
				112 WELD		3RD PASS					
				112 WELD		4TH PASS					
				112 WELD		5TH PASS					
				112 WELD		6TH PASS					
				112 WELD		7TH PASS					
				112 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.8	113 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				113 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				113 WELD		3RD PASS					
				113 WELD		4TH PASS					
				113 WELD		5TH PASS					
				113 WELD		6TH PASS					
				113 WELD		7TH PASS					
				113 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	4.0	114 WELD	COVER	1ST PASS	100	19.0		9-11	70
				114 WELD	COVER	2ND PASS	100	19.0		9-11	70
				114 WELD	COVER	3RD PASS	100	19.0		9-11	70
				114 WELD		4TH PASS					
				114 WELD		5TH PASS					
				114 WELD		6TH PASS					
				114 WELD		7TH PASS					
				114 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.8	115 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				115 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				115 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				115 WELD		4TH PASS					
				115 WELD		5TH PASS					
				115 WELD		6TH PASS					
				115 WELD		7TH PASS					
				115 WELD		8TH PASS					

BJORKMAN

Shave			

PANEL # 18-RP2A THICKNESS 0.200

Date 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	4.0	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.8	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.8	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.9	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD	COVER	3RD PASS	100	19.0		9-11	70
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	4.0	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

BJORKMAN

Shave			

PANEL # 18-RP23 THICKNESS 0.200"

Date 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	4.0	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.8	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	4.0	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.9	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD	COVER	3RD PASS	100	19.0		9-11	70
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	4.0	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

BJOEKMAN

Shave			

PANEL # 18-RP3A THICKNESS 0.200"

Date 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	4.0	#11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#11 WELD		3RD PASS					
				#11 WELD		4TH PASS					
				#11 WELD		5TH PASS					
				#11 WELD		6TH PASS					
				#11 WELD		7TH PASS					
				#11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	4.0	#12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#12 WELD		3RD PASS					
				#12 WELD		4TH PASS					
				#12 WELD		5TH PASS					
				#12 WELD		6TH PASS					
				#12 WELD		7TH PASS					
				#12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	4.0	#13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#13 WELD		3RD PASS					
				#13 WELD		4TH PASS					
				#13 WELD		5TH PASS					
				#13 WELD		6TH PASS					
				#13 WELD		7TH PASS					
				#13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	4.0	#14 WELD	COVER.	1ST PASS	100	19.0		9-11	70
				#14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#14 WELD	COVER	3RD PASS	100	19.0		9-11	70
				#14 WELD		4TH PASS					
				#14 WELD		5TH PASS					
				#14 WELD		6TH PASS					
				#14 WELD		7TH PASS					
				#14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	4.0	#15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#15 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#15 WELD		4TH PASS					
				#15 WELD		5TH PASS					
				#15 WELD		6TH PASS					
				#15 WELD		7TH PASS					
				#15 WELD		8TH PASS					

K Workman

Shave			

PANEL # 18-RP3B. THICKNESS ~~3~~ 0.200

Date 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	4.0	#11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#11 WELD		3RD PASS					
				#11 WELD		4TH PASS					
				#11 WELD		5TH PASS					
				#11 WELD		6TH PASS					
				#11 WELD		7TH PASS					
				#11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.8	#12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#12 WELD		3RD PASS					
				#12 WELD		4TH PASS					
				#12 WELD		5TH PASS					
				#12 WELD		6TH PASS					
				#12 WELD		7TH PASS					
				#12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	4.0	#13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#13 WELD		3RD PASS					
				#13 WELD		4TH PASS					
				#13 WELD		5TH PASS					
				#13 WELD		6TH PASS					
				#13 WELD		7TH PASS					
				#13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	4.0	#14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#14 WELD	COVER	3RD PASS	100	19.0		9-11	70
				#14 WELD		4TH PASS					
				#14 WELD		5TH PASS					
				#14 WELD		6TH PASS					
				#14 WELD		7TH PASS					
				#14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	4.0	#15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#15 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#15 WELD		4TH PASS					
				#15 WELD		5TH PASS					
				#15 WELD		6TH PASS					
				#15 WELD		7TH PASS					
				#15 WELD		8TH PASS					

BJORKMAN

Shave

PANEL # 18-RP4A

THICKNESS 0.200"

Date. 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	.150	3.5	11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				11 WELD		3RD PASS					
				11 WELD		4TH PASS					
				11 WELD		5TH PASS					
				11 WELD		6TH PASS					
				11 WELD		7TH PASS					
				11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				12 WELD		3RD PASS					
				12 WELD		4TH PASS					
				12 WELD		5TH PASS					
				12 WELD		6TH PASS					
				12 WELD		7TH PASS					
				12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				13 WELD	ROOT	2ND PASS	100	19.0		9-11	
				13 WELD		3RD PASS					
				13 WELD		4TH PASS					
				13 WELD		5TH PASS					
				13 WELD		6TH PASS					
				13 WELD		7TH PASS					
				13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.75	14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				14 WELD	COVER	3RD PASS	100	19.0		9-11	70
				14 WELD		4TH PASS					
				14 WELD		5TH PASS					
				14 WELD		6TH PASS					
				14 WELD		7TH PASS					
				14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.75	15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				15 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				15 WELD		4TH PASS					
				15 WELD		5TH PASS					
				15 WELD		6TH PASS					
				15 WELD		7TH PASS					
				15 WELD		8TH PASS					

BJORKMAN

Phase

PANEL # 18-RP4A.

THICKNESS 0.200"

Date 10-25-96

Grind	Deep	Wide	Length
R6	0.100	0.200	1.3

	Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
#1 WELD	ROOT	3RD PASS	100	19.0		9-11	70
#1 WELD		4TH PASS					
#1 WELD		5TH PASS					
#1 WELD		6TH PASS					
#1 WELD		7TH PASS					
#1 WELD		8TH PASS					
#2 WELD		1ST PASS					
#2 WELD		2ND PASS					
#2 WELD		3RD PASS					
#2 WELD		4TH PASS					
#2 WELD		5TH PASS					
#2 WELD		6TH PASS					
#2 WELD		7TH PASS					
#2 WELD		8TH PASS					
#3 WELD		1ST PASS					
#3 WELD		2ND PASS					
#3 WELD		3RD PASS					
#3 WELD		4TH PASS					
#3 WELD		5TH PASS					
#3 WELD		6TH PASS					
#3 WELD		7TH PASS					
#3 WELD		8TH PASS					
#4 WELD		1ST PASS					
#4 WELD		2ND PASS					
#4 WELD		3RD PASS					
#4 WELD		4TH PASS					
#4 WELD		5TH PASS					
#4 WELD		6TH PASS					
#4 WELD		7TH PASS					
#4 WELD		8TH PASS					
#5 WELD		1ST PASS					
#5 WELD		2ND PASS					
#5 WELD		3RD PASS					
#5 WELD		4TH PASS					
#5 WELD		5TH PASS					
#5 WELD		6TH PASS					
#5 WELD		7TH PASS					
#5 WELD		8TH PASS					

Grind	Deep	Wide	Length

Grind	Deep	Wide	Length

Grind	Deep	Wide	Length

OK 10-25

B JOCKMAN

Shape | | | |

PANEL # 18-RP4B THICKNESS 0.200"

Date 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD		3RD PASS					
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	#2 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#2 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	#3 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#3 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.75	#4 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#4 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#4 WELD	COVER	3RD PASS	100	19.0		9-11	70
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.75	#5 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#5 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#5 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

Shave			

PANEL # 18-RP4B. THICKNESS 0.200"

Date. 10-25-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
RG	0100	0200	1.2	#1 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#1 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#1 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#1 WELD		4TH PASS					
				#1 WELD		5TH PASS					
				#1 WELD		6TH PASS					
				#1 WELD		7TH PASS					
				#1 WELD		8TH PASS					
Grind	Deep	Wide	Length	#2 WELD		1ST PASS					
				#2 WELD		2ND PASS					
				#2 WELD		3RD PASS					
				#2 WELD		4TH PASS					
				#2 WELD		5TH PASS					
				#2 WELD		6TH PASS					
				#2 WELD		7TH PASS					
				#2 WELD		8TH PASS					
Grind	Deep	Wide	Length	#3 WELD		1ST PASS					
				#3 WELD		2ND PASS					
				#3 WELD		3RD PASS					
				#3 WELD		4TH PASS					
				#3 WELD		5TH PASS					
				#3 WELD		6TH PASS					
				#3 WELD		7TH PASS					
				#3 WELD		8TH PASS					
Grind	Deep	Wide	Length	#4 WELD		1ST PASS					
				#4 WELD		2ND PASS					
				#4 WELD		3RD PASS					
				#4 WELD		4TH PASS					
				#4 WELD		5TH PASS					
				#4 WELD		6TH PASS					
				#4 WELD		7TH PASS					
				#4 WELD		8TH PASS					
Grind	Deep	Wide	Length	#5 WELD		1ST PASS					
				#5 WELD		2ND PASS					
				#5 WELD		3RD PASS					
				#5 WELD		4TH PASS					
				#5 WELD		5TH PASS					
				#5 WELD		6TH PASS					
				#5 WELD		7TH PASS					
				#5 WELD		8TH PASS					

OXIDES

BJORKMAN

Shave			

PANEL # 18-RP5A THICKNESS 0.200"

Date: 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	#11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#11 WELD		3RD PASS					
				#11 WELD		4TH PASS					
				#11 WELD		5TH PASS					
				#11 WELD		6TH PASS					
				#11 WELD		7TH PASS					
				#11 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R2	0.100	0.150	3.5	#12 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#12 WELD		3RD PASS					
				#12 WELD		4TH PASS					
				#12 WELD		5TH PASS					
				#12 WELD		6TH PASS					
				#12 WELD		7TH PASS					
				#12 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R3	0.100	0.150	3.5	#13 WELD	ROOT COVER	1ST PASS	100	19.0		9-11	70
				#13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#13 WELD		3RD PASS					
				#13 WELD		4TH PASS					
				#13 WELD		5TH PASS					
				#13 WELD		6TH PASS					
				#13 WELD		7TH PASS					
				#13 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R4	0.100	0.150	3.75	#14 WELD	COVER	1ST PASS	100	19.0		9-11	70
				#14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				#14 WELD	COVER	3RD PASS	100	19.0		9-11	70
				#14 WELD		4TH PASS					
				#14 WELD		5TH PASS					
				#14 WELD		6TH PASS					
				#14 WELD		7TH PASS					
				#14 WELD		8TH PASS					
Grind	Deep	Wide	Length								
R5	0.100	0.150	3.75	#15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				#15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				#15 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				#15 WELD		4TH PASS					
				#15 WELD		5TH PASS					
				#15 WELD		6TH PASS					
				#15 WELD		7TH PASS					
				#15 WELD		8TH PASS					

BJorkman

Shave			

PANEL # 18-RP5B THICKNESS 0.200"

Date 10-21-96

Grind	Deep	Wide	Length		Side	Pass	Amps	Volts	Time (Seconds)	Travel (IPM)	Temp F
R1	0.100	0.150	3.5	I11 WELD	ROOT	1ST PASS	100	19.0		9-11	70
				I11 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I11 WELD		3RD PASS					
				I11 WELD		4TH PASS					
				I11 WELD		5TH PASS					
				I11 WELD		6TH PASS					
				I11 WELD		7TH PASS					
				I11 WELD		8TH PASS					
Grind	Deep	Wide	Length	I12 WELD	COVER	1ST PASS	100	19.0		9-11	70
R2	0.100	0.150	3.5	I12 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I12 WELD		3RD PASS					
				I12 WELD		4TH PASS					
				I12 WELD		5TH PASS					
				I12 WELD		6TH PASS					
				I12 WELD		7TH PASS					
				I12 WELD		8TH PASS					
Grind	Deep	Wide	Length	I13 WELD	ROOT	1ST PASS	100	19.0		9-11	70
R3	0.100	0.150	3.5	I13 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I13 WELD		3RD PASS					
				I13 WELD		4TH PASS					
				I13 WELD		5TH PASS					
				I13 WELD		6TH PASS					
				I13 WELD		7TH PASS					
				I13 WELD		8TH PASS					
Grind	Deep	Wide	Length	I14 WELD	COVER	1ST PASS	100	19.0		9-11	70
R4	0.100	0.150	3.75	I14 WELD	COVER	2ND PASS	100	19.0		9-11	70
				I14 WELD	COVER	3RD PASS	100	19.0		9-11	70
				I14 WELD		4TH PASS					
				I14 WELD		5TH PASS					
				I14 WELD		6TH PASS					
				I14 WELD		7TH PASS					
				I14 WELD		8TH PASS					
Grind	Deep	Wide	Length	I15 WELD	ROOT	1ST PASS	100	19.0		9-11	70
R5	0.100	0.150	3.75	I15 WELD	ROOT	2ND PASS	100	19.0		9-11	70
				I15 WELD	ROOT	3RD PASS	100	19.0		9-11	70
				I15 WELD		4TH PASS					
				I15 WELD		5TH PASS					
				I15 WELD		6TH PASS					
				I15 WELD		7TH PASS					
				I15 WELD		8TH PASS					

APPENDIX E
NON-DESTRUCTIVE EVALUATION

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16R01

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195- 0 200",2195P/2195P,VPPA, VERTICAL, R5-5", SHAVED

Welded Panel ID: F008 **Split Panel:** N/A **Test Date:** 6/24/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 78 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A & B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-24-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R01

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P,VPPA, VERTICAL,R5-5",SHAVED

Test Date: 6/24/97 **Specification Used:** For Information Only

Welded Panel ID: F008 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREA A & B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATIONS FROM 4 1/4" - 8 1/4". (LT)- 6" - 7 1/2". REPAIR B (RT)- CRACKLIKE INDICATIONS FROM 17 1/4" - 20 1/4". (LT)- 16 1/2" - 20 1/4".

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR AREA A (RT)- CRACKLIKE INDICATIONS FROM 4 1/4" - 8".(LT)- 4 1/4" - 8". REPAIR B(RT)- CRACKLIKE INDICATIONS FROM 16 3/4" - 19 1/2". (LT)- 16 1/2" - 19 1/2".

Technician J. Smith **Date** 6-24-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R01

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195- 0.200",2195P/2195P, VPPA, VERTICAL, R5-5",FL, 70%P,SHAVED

Test Date: 6/24/97 **Specification Used:** For Information Only

Welded Panel ID: F008 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** SE

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

Technician J W Smith **Date** 6-24-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16R02

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE, 0 200", 95P/95P, VPPA, VERT., R5-5", FL, 70%P, SHAVED

Welded Panel ID: F009 **Split Panel:** N/A **Test Date:** 6/23/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: D. Newman **Film No:** 6

X-Ray Interpreted By: D. Newman **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 80 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A & B ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED.
A	2	INFO ONLY	NO INDICATIONS NOTED.
A	3	INFO ONLY	NO INDICATIONS NOTED.
B	1	INFO ONLY	NO INDICATIONS NOTED.
B	2	INFO ONLY	NO INDICATIONS NOTED.
B	3	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician David Newman **Date** 6-23-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R02

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE, 0.200", 95P/95P, VPPA, VERT., R5-5", FL, 70%P, SHAVED

Test Date: 6/24/97 **Specification Used:** For Information Only

Welded Panel ID: F009 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** D. Newman

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: INSPECTED REPAIR AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED AT 8.75" - 10.5", 16.125" - 16.75" & 19.75" - 20.25", LEFT SIDE OF WELD.

CRACK LIKE INDICATIONS NOTED AT 8.0" - 9.75", 16.25" - 17.75" & 18.75" - 19.75", RIGHT SIDE OF WELD.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED AT 6.5" - 6.75", 8.125" - 9.75", 14.5" - 15.75" & 16.75" - 20.0" LEFT SIDE OF WELD.

CRACK LIKE INDICATIONS NOTED AT 6.5" - 8.0" - 9.75" - 10.25" & 16 5" - 18.0", RIGHT SIDE OF WELD.

Technician David Newman **Date** 6-24-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R02

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE ,0.200",95P/95P, VPPA, VERT., R5-5", FL, 70%P, SHAVED

Test Date: 6/24/97 **Specification Used:** For Information Only

Welded Panel ID: F009 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** SE

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREA A & B SANDED AREAS.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND.

Technician J. Smith **Date** 6-24-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #16R03

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%,SHAVED

Welded Panel ID: F010 **Split Panel:** N/A **Test Date:** 6/25/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 78 **FFD:** 42 in. **Time:** 30 sec.

Comments: REAPAIR AREAS A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J. Smith **Date** 6-25-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R03

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195P - 0.200",2195P/2195P,VPPA,, VERTICAL,R5-5",FL,70%,SHAVED

Test Date: 6/25/97 **Specification Used:** For Information Only

Welded Panel ID: F010 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR A AND B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATIONS FROM 7 1/4" - 9" AND FROM 9 1/2" - 10". (LT) 6 1/2" - 9 1/2". REPAIR B- (RT) - CRACKLIKE INDICATIONS FROM 18" - 19 1/2". (LT)- FROM 16" - 19 1/2".

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATIONS FROM 6 1/4" - 9 1/4". (LT) - FROM 6 1/4" - 9 1/2". REPAIR B (RT)- CRACKLIKE INDICATIONS FROM 16" - 17" AND FROM 18 1/4" - 19 1/2". (LT) - 16 1/4" - 19 1/2".

Technician J W Smith **Date** 6-25-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R03

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195P - 0.200", 2195P/2195P, VPPA, VERTICAL, R5-5", FL, 70%, SHAVED

Test Date: 6/26/97 **Specification Used:** For Information Only

Welded Panel ID: F010 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** D. Newman

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: INSPECTED SANDED AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

Technician David Newman **Date** 6-26-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #16R04

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P,VPPA,VERTICAL,R5-5", FL,70%P,SHAVED

Welded Panel ID: F011 **Split Panel:** N/A **Test Date:** 6/25/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: *For Information Only* **X-Ray Unit:** *Phillips 220*

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 78 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician _____ **Date** 6-25-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R04

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195P-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%,SHAVED

Test Date: 6/25/97 **Specification Used:** For Information Only

Welded Panel ID: F011 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREA A AND B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT) CRACKLIKE INDICATIONS FROM 4 1/2" - 7 1/4". (LT)- 5" - 7 1/2". REPAIR B (RT)- CRACKLIKE INDICATIONS FROM 17" - 19 3/4". (LT) 17 1/2" - 20".

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATIONS FROM 5" - 7 1/2". (LT)- 4 1/2" - 6" AND FROM 7 1/4" - 8 1/4". REPAIR B (RT)- CRACKLIKE INDICATIONS FROM 16 3/4" - 20". (LT)- 16 1/2" - 17 1/2".

Technician JW Smith **Date** 6-25-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R04

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195P - 0.200", 2195P/2195P, VPPA, VERTICAL, R5-5", FL, 70%, SHAVED

Test Date: 6/26/97 **Specification Used:** For Information Only

Welded Panel ID: F011 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** D. Newman

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: INSPECTED SANDED AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

Technician David Newman **Date** 6-26-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16R05

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P, VPPA, VERTICAL, R5-5",FL, 70%P,SHAVED

Welded Panel ID: F012 **Split Panel:** N/A **Test Date:** 6/25/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 78 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A & B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	OXIDE LINE 0.100" AT 17 1/2" LOCATION. OXIDE LINE 0.120" AT LOCATION 18 3/4" IN EXCESS OF STP5508.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-25-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16R05

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200", 2195P/2195P, VPPA, VERTICAL, R5-5",FL, 70%, SHAVED

Welded Panel ID: F012 **Split Panel:** N/A **Test Date:** 6/25/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 6 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 76 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A & B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	ISOLATED OXIDES/ POROSITY NOT IN EXCESS OF STP5508.
B	2	INFO ONLY	SAME AS VIEW 1
B	3	INFO ONLY	SAME AS VIEW 1

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician JW Lmo **Date** 6-25-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16R05

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2105P/2195P,VPPA, VERTICAL, R5-5",FL, 70%, SHAVED

Welded Panel ID: F012 **Split Panel:** N/A **Test Date:** 6/25/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 7 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 3

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 8" X 10"

MA: 10 **KV:** 78 **FFD:** 42 *in.* **Time:** 30 *sec.*

Comments: REPAIR AREA B ONLY

Frame	View	Status	Discrepancy
B	1	INFO ONLY	ISOLATED POROSITY/OXIDES NOT IN EXCESS OF STP5508.
B	2	INFO ONLY	SAME AS VIEW 1
B	3	INFO ONLY	SAME AS VIEW 1

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician _____ **Date** 6-25-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R05

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P, VPPA, VERTICAL,R5-5", 70%, SHAVED

Test Date: 6/26/97 **Specification Used:** For Information Only

Welded Panel ID: F012 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 7 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: *REPAIR AREA A & B*

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT) - CRACKLIKE INDICATION FROM 6" 7 1/2". (LT) - 5 1/2" - 7 1/2". REPAIR B (RT) - CRACKLIKE INDICATIONS FROM 16" - 19 3/4". (LT) - 16 1/4" - 19 1/2".

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATIONS FROM 4 1/4" - 8". (LT) - 4 1/4" - 5 1/2". REPAIR B (RT)- CRACKLIKE INDICATIONS FROM 16 1/4" - 191/2". (LT) - 16" - 17".

Technician J. Smith **Date** 6-26-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16R05

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P, VPPA, VERTICAL,R5-5", FL, SHAVED

Test Date: 6/30/97 **Specification Used:** For Information Only

Welded Panel ID: F012 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** SE

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 6 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER SECOND SAND

Technician _____ **Date** 6-30-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

16RP1

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195- O.200", 2195P/2195P,VPPA, VERTICAL,R5-5",FL, 70%P,SHAVED

Welded Panel ID: F003 **Split Panel:** N/A **Test Date:** 6/18/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** [redacted]

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 2

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 77 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A AND B ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-18-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP1

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%P,SHAVED

Welded Panel ID: F003 **Split Panel:** N/A **Test Date:** 6/19/97

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 79 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J. Smith **Date** 6-19-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP1

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%P,SHAVED

Test Date: 6/19/97 **Specification Used:** For Information Only

Welded Panel ID: F003 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Gerry Bjorkman

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREAS A AND B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACKLIKE INDICATIONS REPAIR AREAS A AND B

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACKLIKE INDICATIONS REPAIR AREAS A AND B

Technician J. Smith **Date** 6-19-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP1

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P,VPPA,VERTICAL,R5-5",70%P,SHAVED

Test Date: 6/19/97 **Specification Used:** For Information Only

Welded Panel ID: F003 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S2

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Gerry Bjorkman

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER SECOND SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

Technician J W Smith **Date** 6-19-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP2

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL, R5-5",FL,70%P, SHAVED

Welded Panel ID: F004 **Split Panel:** N/A **Test Date:** 6/18/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** [redacted]

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 2

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 78 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A AND B ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician JW Smith **Date** 6-18-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP2

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%P,SHAVED

Welded Panel ID: F004 **Split Panel:** N/A **Test Date:** 6/19/97

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 77 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-19-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP2

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%P,SHAVED

Test Date: 6/19/97 **Specification Used:** For Information Only

Welded Panel ID: F004 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Gerry Bjorkman

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREA A AND B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACKLIKE INDICATIONS REPAIR AREA A AND B

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACKLIKE INDICATIONS REPAIR AREA A AND B

Technician J. Smith **Date** 6-17-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP2

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195-0.200,2195P2195P,VPPA,VERTICAL,R5-5",FL,70%P,SHAVED

Test Date: 6/19/97 **Specification Used:** For Information Only

Welded Panel ID: F004 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** SE

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Gerry Bjorkman

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

Technician J. Smith **Date** 6-19-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16 RP3

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%P,SHAVED

Welded Panel ID: F005 **Split Panel:** N/A **Test Date:** 6/19/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** 4043

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 2

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 76 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Sims **Date** 6-19-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP3

Program Name: Wide Panel Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P,VPPA,VERTICAL,R5-5",70%P,SHAVED

Welded Panel ID: F005 **Split Panel:** N/A **Test Date:** 6/23/97

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** 4043

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 79 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J. Smith **Date** 6-23-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP3

Project: Misc Test

Project Description: 0.200", 95P/95P, VPPA, VERTICAL, R5-5", FL, 70%P, SHAVED

Test Date: 6/23/97 **Specification Used:** For Information Only

Welded Panel ID: F005 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** D. Newman

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREAS A & B ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED AT 6.5" - 8.0" & 16.5" - 19.75", LEFT SIDE OF WELD.

CRACK LIKE INDICATIONS NOTED AT 6.0" - 8.0" & 18.5" - 20.0", RIGHT SIDE OF WELD.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED AT 5.5" - 7.75", 16.375" - 16.9" & 18.0" - 19.75" LEFT SIDE OF WELD.

CRACK LIKE INDICATIONS NOTED AT 4 0" - 8.25" & 16.0" - 20.0", RIGHT SIDE OF WELD.

Technician David Newman **Date** 6-23-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP3

Project: Misc Test

Project Description: 0.200",95P/95P, VPPA, VERTICAL, R5-5", FL, 70%P, SHAVED

Test Date: 6/24/97 **Specification Used:** For Information Only

Welded Panel ID: F005 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** SE

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER TWO SANDS.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATION AFTER ONE SAND.

Technician J W Smith **Date** 6-24-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP4

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%P,SHAVED

Welded Panel ID: F006 **Split Panel:** N/A **Test Date:** 6/19/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** 4043

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 2

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 76 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-19-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP4

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,70%P

Welded Panel ID: F006 **Split Panel:** N/A **Test Date:** 6/23/97

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** 4043

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 79 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A AND B ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	AREA OFABRUPT DARKER DENSITY CHANGE AT 4 1/4" LOCATION (UNKNOWN)
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	SAME AS FRAME A VIEW 2 BUT AT 16" AND 19 1/2"
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-23-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP4

Project: Misc Test

Project Description: 0.200", 95P95P, VPPA, VERTICAL, R5-5", FL, 70%P, SHAVED

Test Date: 6/23/97 **Specification Used:** For Information Only

Welded Panel ID: F006 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** D. Newman

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREAS A AND B ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED AT 6.5" - 7.5" & 18.5" - 19.75", LEFT SIDE OF PANEL.

CRACK LIKE INDICATIONS NOTED AT 6.0" - 7.5" & 17.5" - 19.5", RIGHT SIDE OF PANEL.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS AT 4 0" - 5.0", 6.5" - 7.75" & 19.0" - 20.0", LEFT SIDE OF PANEL.

CRACK LIKE INDICATIONS AT 4.0" - 7.75" & 16.0" - 20.0", RIGHT SIDE OF PANEL.

Technician David Newman **Date** 6-23-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP4

Project: Misc Test

Project Description: 0.200", 95P95P, VPPA, VERTICAL, R5-5", FL, 70%P, SHAVED

Test Date: 6/23/97 **Specification Used:** For Information Only

Welded Panel ID: F006 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** D. Newman

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: INSPECTED REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

Technician David Newman **Date** 6-23-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP5

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195, 0.200", 2195P/2195P, VPPA, VERTICAL, R5-5", FL, 70%P, SHAVED

Welded Panel ID: F007 **Split Panel:** N/A **Test Date:** 6/20/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 2

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 77 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-20-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16 RP5

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195, 0.200, 2195P/2195P,VPPA, VERTICAL, R5-5",FL,70%P,SHAVED

Welded Panel ID: F007 **Split Panel:** N/A **Test Date:** 6/20/97

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 77 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A AND B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	AREA OF DARKER DENSITY SHIFT AT 4 1/2"(UNKNOWN CAUSE).
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J W Smith **Date** 6-20-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP5

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P, VPPA,VERTICAL, R5-5",FL, 70%P,SHAVED

Test Date: 6/20/97 **Specification Used:** For Information Only

Welded Panel ID: F007 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Gerry Bjorkman

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREAS A AND B

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

CRACKLIKE INDICATIONS FULL LENGTH OF REPAIR AREAS A AND B

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

CRACKLIKE INDICATIONS FULL LENGTH OF REPAIR AREAS A AND B

Technician _____ **Date** 6-20-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#16 RP5

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200", 2195P/2195P, VPPA, VERTICAL, R5-5", FL, 70%P, SHAVED

Test Date: 6/23/97 **Specification Used:** For Information Only

Welded Panel ID: F007 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** D. Newman

Penetrant System Used: MANUAL **Contact:** Gerry Bjorkman

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: INSPECTED REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED AFTER SANDING ONCE.

Technician David Newman **Date** 6-23-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F019 **Split Panel:** N/A **Test Date:** 9/24/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-16

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 4 5" X 17"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED FROM 1 5"- 23.5".

Frame	View	Status	Discrepancy
1.5"- 23.5"	1	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician K. Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#16 RP6

Project: Misc Test

Project Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/24/98 **Specification Used:** For Information Only

Welded Panel ID: F019 **Split Panel:** N/A

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Billy Melson

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED FROM 1 5"- 23.5".

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED.

Technician K. Williams **Date** 9-24-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F019 **Split Panel:** N/A **Test Date:** 9/28/98

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-16

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	POROSITY NOTED, WITHIN SPECS.
B	1	INFO ONLY	CLUSTER POROSITY NOTED AT 20.5", IN EXCESS OF SPECS.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Rich Williams **Date** 9-28-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP6

Program Name: Misc Test

Program Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F019 **Split Panel:** N/A **Test Date:** 9/29/98

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-16

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K Williams **Film No:** 6

X-Ray Interpreted By: K Williams **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	LINEAR INDICATION NOTED AT 7.0", 0.095" IN LENGTH LINEAR INDICATION NOTED AT 7.5", 0.280" IN LENGTH LINEAR INDICATION NOTED AT 8.0", 0.120" IN LENGTH.
A	2	INFO ONLY	NO INDICATIONS NOTED.
A	3	INFO ONLY	SAME AS VIEW 1
B	1	INFO ONLY	CLUSTER POROSITY NOTED AT 20.5", IN EXCESS OF SPECS
B	2	INFO ONLY	SAME AS VIEW 1
B	3	INFO ONLY	SAME AS VIEW 1

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Keith Williams **Date** 9-29-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP6

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/30/98 **Specification Used:** For Information Only

Welded Panel ID: F019 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Billy Melson

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3.5"- 5.25", 5.75"- 8.0", & 16.0"- 20.0", P-122 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3.25"- 6.0", 6.5"- 8.5", 15.0"- 16.5", & 18.0"- 20.75", P-123 SIDE.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3 0"- 4 5", 5 5"- 8 0", & 17.5"- 20.5", P-122 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3 0"- 9 0" & 15.0"- 20.5", P-123 SIDE.

Technician Rich Williams **Date** 9-30-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP6

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 10/1/98 **Specification Used:** For Information Only

Welded Panel ID: F019 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Billy Melson

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE.

Technician Kevin Williams **Date** 10-1-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP7

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F020 **Split Panel:** N/A **Test Date:** 9/24/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-16

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K Williams **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4 5" X 17"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED FROM 0.0"- 23.5".

Frame	View	Status	Discrepancy
0.0"- 23.5	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Keith Williams **Date** 9-24-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP7

Project: Misc Test

Project Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/24/98 **Specification Used:** For Information Only

Welded Panel ID: F020 **Split Panel:** N/A

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** K Williams

Penetrant System Used: MANUAL **Contact:** Billy Melson

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED FROM 0.0"- 23.5".

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED

Technician K Williams **Date** 9-24-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP7

Program Name: Misc Test

Program Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F020 **Split Panel:** N/A **Test Date:** 9/29/98

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-16

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	POROSITY NOTED, WITHIN SPECS.
B	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 9-29-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RP7

Program Name: Misc Test

Program Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F020 **Split Panel:** N/A **Test Date:** 10/1/98

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-16

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 6

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED.
A	3	INFO ONLY	NO INDICATIONS NOTED.
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Keith Williams **Date** 10-1-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP7

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 10/1/98 **Specification Used:** For Information Only

Welded Panel ID: F020 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** K Williams

Penetrant System Used: MANUAL **Contact:** Billy Melson

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3.0"- 8.0" & 15.0"- 20.5", P-240 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 2.75"- 8 25" & 14.75"- 20.5", P-116 SIDE.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3.0"- 8 25", 15.0"- 16.0", & 18.5"- 20.0", P-240 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 2.25"- 3.0", 5 25"- 9.0", & 15.0"- 20.75", P-116 SIDE

Technician Kirk Williams **Date** 10-1-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#16RF7

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 10/1/98 **Specification Used:** For Information Only

Welded Panel ID: F020 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S2

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Billy Melson

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING TWICE.

Technician Kirk Williams **Date** 10-1-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #17R01

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P, VPPA, VERTICAL, R5-5", 70%P, SHAVED

Welded Panel ID: F013 **Split Panel:** N/A **Test Date:** 6/26/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 2

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 79 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREAS A & B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	CRACK 0.225" AT 6 3/4" LOCATION.
B	1	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician JW Smith **Date** 6-26-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17R01

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195- 0.200",2195P/2195P, VPPA, VERTICAL, R5-5", SHAVED

Welded Panel ID: F013 **Split Panel:** N/A **Test Date:** 6/27/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 6 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4 5" X 17"

MA: 10 **KV:** 80 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR ARE A & B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	ISOLATED POROSITY NOT IN EXCESS 0F STP5508
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATION NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J.W. Smith **Date** 6-27-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17R01

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P, VPPA, VERTICAL, R5-5", SHAVED

Test Date: 6/27/97 **Specification Used:** For Information Only

Welded Panel ID: F013 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 6 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREA A & B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATION FROM 4" - 8". (LT)- 4 3/4" - 5 1/2".
REPAIR B-(RT)- CRACKLIKE INDICATION FROM 17 - 19 3/4" (LT) 16 3/4" - 20".

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATION FROM 4 1/4" - 7 1/2".(LT)- 4 1/2" - 7 1/2". REPAIR B(RT)- CRACKLIKE INDICATION FROM 16 1/4" - 17 1/2" AND FROM 18 1/4" - 20".(LT)- 16" - 18" AND FROM 18 1/2" - 19 1/4".

Technician _____ **Date** 6-22-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17R01

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200", 2195P/2195P,VPPA,VERTICAL,R5-5",FL, SHAVED

Test Date: 7/1/97 **Specification Used:** For Information Only

Welded Panel ID: F013 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** S2

Area Repaired: N/A **Repair Level A:** 6 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER SECOND SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER SECOND SAND

Technician J W Smith **Date** 7-1-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

17R02

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,SHAVED

Welded Panel ID: F014 **Split Panel:** N/A **Test Date:** 6/27/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** COMP

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 80 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A &B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	ISOLATED OXIDES/POROSITY NOT IN EXCESS OF STP5508
A	2	INFO ONLY	SAME AS VIEW 1
A	3	INFO ONLY	SAME AS VIEW 1
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician _____ **Date** 6-27-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17R02

Project: Misc Test

Project Description: 0.200",2195P/21295P, VPPA,VERTICAL,R5-5",FL,SHAVED

Test Date: 6/27/97 **Specification Used:** For Information Only

Welded Panel ID: FO14 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR AREA A & B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A(RT) CRACKLIKE INDICATION FROM 4 1/2" - 8 1/4".(LT) 4 3/4" - 8 1/4". REPAIR B (RT)- CRACKLIKE INDICATION FROM 16 1/2" - 19 3/4". (LT)- 17" - 19 3/4".

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT) - CRACKLIKE INDICATIONS FROM 4 1/2" - 5 3/4", AND FROM 6 1/4" - 8". (LT) - 4 1/4" - 5 1/2" AND FROM 7 1/2 - 8 1/2". REPAIR AREA B (RT) - CRACKLIKE INDIDICATIONS FROM 16" - 17" AND FROM 18 1/4" - 20". (LT) - 16" - 17 1/4" AND FROM 19 1/4" - 20 1/4".

Technician _____ **Date** 6-27-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17R02

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195-0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,SHAVED

Test Date: 6/30/97 **Specification Used:** For Information Only

Welded Panel ID: F014 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** S2

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER SECOND SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER SECOND SAND

Technician J W Smith **Date** 7-1-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #17R03

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P,VPPA,VERTICAL,R5-5",FL,SHAVED

Welded Panel ID: F015 **Split Panel:** N/A **Test Date:** 6/30/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J Smith **Film No:** 6

X-Ray Interpreted By: J Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 78 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A & B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	ISOLATED OXIDES NOT IN EXCESS OF STP5508
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	ISOLATED HI NOT IN EXCESS OF STP5508
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	SAME AS VIEW 1

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J Smith **Date** 6-30-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17R03

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200", 2195P/2195P, VPPA, VERTICAL, R5-5",FL, SHAVED

Test Date: 6/30/97 **Specification Used:** For Information Only

Welded Panel ID: F015 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR A & B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR AREA A (RT)- CRACKLIKE INDICATION FROM 6 3/4" - 8". (LT)- 6" - 8". REPAIR AREA B(RT)- CRACKLIKE INDICATION FROM 16 3/4" - 19 3/4". (LT)- 17" - 20".

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR A (RT)- CRACKLIKE INDICATION FROM 7" - 8" (LT)- 7 1/4" - 8 1/4".

Technician J W Smith **Date** 6-30-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17R03

Project: Misc Test

Project Description: ALTERNATE WIRE FOR 2195 - 0.200", 2195P/2195P, VPPA, VERTICAL, R5-5", FL, SHAVED

Test Date: 7/1/97 **Specification Used:** For Information Only

Welded Panel ID: F015 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

Technician J W Smith **Date** 7-1-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17R04

Program Name: Misc Test

Program Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200", 2195P/2195P/VPPA, VERTICAL, R5-5",SHAVED

Welded Panel ID: F016 **Split Panel:** N/A **Test Date:** 6/30/97

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** N/A

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: J. Smith **Film No:** 6

X-Ray Interpreted By: J. Smith **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 79 **FFD:** 42 in. **Time:** 30 sec.

Comments: REPAIR AREA A & B

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	NO INDICATIONS NOTED

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician J. C. Smith **Date** 6-30-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17R04

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P,VPPA, VERTICAL,R5-5",SHAVED

Test Date: 6/30/97 **Specification Used:** For Information Only

Welded Panel ID: F016 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J. Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: REPAIR A &B

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

REPAIR B (RT) -CRACKLIKE INDICATION FROM 17 1/4" - 18 1/2". REPAIR AREA A (LT)- CRACKLIKE INDICATION FROM 4 1/2" - 7 3/4". REPAIR B (LT)- CRACKLIKE INDICATION FROM 16 1/2" - 19 3/4".

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS NOTED

Technician JW Shore **Date** 6-30-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#17R04

Project: Misc Test

Project Description: ALTERNATE FILLER WIRE FOR 2195 - 0.200",2195P/2195P, VPPA, VERTICAL, R5-5", SHAVED

Test Date: 7/1/97 **Specification Used:** For Information Only

Welded Panel ID: F016 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☐ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** J Smith

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P6F4

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO INDICATIONS AFTER ONE SAND

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

N/A

Technician J Smith **Date** 7-1-97

NONDESTRUCTIVE EVALUATION BRANCH

RADIOGRAPHIC INSPECTION REPORT

Program Name: EH23 Weld Panel Traceability

Program Description: F/Wire

ID: 17RP1 **Report Date:** 12-18-96

Material Type: AL 2195-T8

Material Thickness: .200" **X-ray unit:** Philips 320KV

Acceptance Specification: None **Film no.:** 6

Radiographer: Dexter Strong **Film type:** Kodak M

Interpreted by: Dexter Strong/Linda Clark **Film size:** 4.5" x 17"

MA: 10 **KV:** 74 **FFD:** 48" **Time:** 0.6 min.

Frame	View	Status	Discrepancy
A	1		No indications noted
B	1		No indications noted
A	2		No indications noted
B	2		No indications noted
A	3		scratch on film in center of weld (non-relevant)
B	3		No indications noted

Technician Dexter H. Strong **Date** 12/18/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name	MISC. TEST		
Program Description:	ALTERNATE WIRE TEST		
Tets Date:	05/06/97	Specification Used:	Information Only
Weld Area:	Repair Planished: ☒	Other Process:	
Welded Panel ID:	17 RP1	Repair Area A:	5
Material Type	2195 AL-LI	Repair Area B:	5
Requesting Organizaation:	LMC/NASA	Repair Area C	
Penetrant Type/Method:	I/A	Test Technician:	J. Smith
Penetrant System Used:	Manual		
Material Thickness	0.200''	Contact:	J. DINGLER
Sensitivity Group:	III	Penetrant:	Ardrox P6F4
Wash: Water		Developer.	N/A

Comments. REPAIR AREAS A AND B

DISCREPANCY

COVER PASS

Discrepancy: ☒ Information Only

NUMEROUS CRACKLIKE INDICATIONS ON REPAIR AREAS A AND B.

ROOT PASS

Discrepancy. ☒ Information Only

NUMEROUS CRACKLIKE INDICATIONS ON REPAIR AREAS A AND B.

Technician JW Sims Date 5-6-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name	MISC. TEST		
Program Description:	ALTERNATE WIRE TEST		
Tets Date:	05/07/97	Specification Used·	Information Only
Weld Area:	Repair Planished: ☒	Other Process:	SAND AND ETCH ONCE
Welded Panel ID:	17 RP1	Repair Area A:	5
Material Type:	2195 AL-LI	Repair Area B:	5
Requesting Organizaation:	LMC/NASA	Repair Area C:	
Penetrant Type/Method:	I/A	Test Technician:	J. Smith
Penetrant System Used:	Manual		
Material Thickness.	0 200''	Contact:	J. DINGLER
Sensitivity Group:	III	Penetrant:	Ardrox P6F4
Wash. Water		Developer	N/A

Comments: SANDED AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ Information Only

NO INDICATIONS NOTED AFTER ONE SAND

ROOT PASS

Discrepancy: ☐ Information Only

NO INDICATIONS NOTED AFTER ONE SAND

Technician _____ Date 5-7-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name	FILLER WIRE REPAIR PROGRAM		
Program Description			
Test Date:	01/15/97 Planished: ☐	Other Process:	
Welded Panel ID:	17-RP2	Weld Area	Initial
Material Type:	2195 AL-LI	Repair Area A:	R5
Material Thickness:	0.200"	Repair Area B:	R5
Wire Type:	N/A	Repair Area C:	
Acceptance Specification:	For Information Only	X-Ray Unit:	Philips
X-Rayed By:	D Newman	Film Number:	2
X-Ray Interpreted By:	D. Newman	Film Type	Kodak M
Density	2.0 - 4 0	Film Size:	4.5" X 17"

MA: 10 KV: 80 FFD: 42" Time: 30

Comments: REPAIR AREAS A AND B ONLY

Frame:	View	Status	Discrepancy
A	1	Info Only	NO INDICATIONS NOTED.
B	1	Info Only	SMALL AMOUNT OF SCATTERED OXIDES.
		Info Only	
		Info Only	
		Info Only	
		Info Only	

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porisity	EP = Excessive Penetration	SH = Shrinkage

Technician David Newman Date 01-15-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #17RP3

Program Name: F/WIRE

Program Description: SLWT

Welded Panel ID: 2195-T8 IW Split Panel: Test Date:

Weld Area: Planished: ▩ Other Process:

Area Repaired: Repair Level A: Level B: Level C:

Material Type: 2195-T8

Material Thickness: .200 Wire Type: Chem 17

Acceptance Specification: 504 C X-Ray Unit: Bldg 4711

X-Rayed By: D. STRONG Film No:

X-Ray Interpreted By: " Film Type: M

Density: C 2.0-4.0 Film Size: 4½ X 17

MA: 15 KV: 76 FFD: in. 52 Time: sec. 30

Comments:

Frame	View	Status	Discrepancy
	IW		CK and POR. AT 2" / A NON relevant At 18"
R5	V1	OK	

LP = Lack of Penetration
LF = Lack of Fusion
C = Crack
CC = Crater Crack
Por = Porosity

L Por = Linear Porosity
UC = Undercut
UF = Underfill
BT = Burn Through
EP = Excessive Penetration

PI = Penetration Line
OI = Oxide Inclusion
HI = Heavy Inclusion
CS = Cold Shut
Sh = Shrinkage

Technician D. Strong Date 10/25/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F/WIRE

Program Description: SLWT

Welded Panel ID: 17-RP4 IW **Split Panel:** **Test Date:**

Weld Area: **Planished:** ▩ **Other Process:**

Area Repaired: **Repair Level A:** **Level B:** **Level C:**

Material Type: 2195-T8

Material Thickness: .200 **Wire Type:** Chem 17

Acceptance Specification: 504C **X-Ray Unit:** Bldg 4711

X-Rayed By: D. STRONG **Film No:**

X-Ray Interpreted By: " **Film Type:** M

Density: 2.0 - 4.0 **Film Size:** 4½ X 17

MA: 15 **KV:** 70 **FFD:** **in.** 52 **Time:** **sec.** 30

Comments:

Frame	View	Status	Discrepancy
IW		OK	NONE

LP = Lack of Penetration
LF = Lack of Fusion
C = Crack
CC = Crater Crack
Por = Porosity

L Por = Linear Porosity
UC = Undercut
UF = Underfill
BT = Burn Through
EP = Excessive Penetration

PI = Penetration Line
OI = Oxide Inclusion
HI = Heavy Inclusion
CS = Cold Shut
Sh = Shrinkage

Technician [signature] **Date** 10/28/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name	FILLER WIRE REPAIR PROGRAM		
Program Description:			
Test Date:	01/15/97 Planished: ☐	Other Process:	
Welded Panel ID:	17-RP4	Weld Area	Initial
Material Type:	2195 AL-LI	Repair Area A:	R5
Material Thickness:	0.200"	Repair Area B:	R5
Wire Type:	N/A	Repair Area C:	
Acceptance Specification:	For Information Only	X-Ray Unit:	Philips
X-Rayed By:	D. Newman	Film Number:	2
X-Ray Interpreted By:	D. Newman	Film Type	Kodak M
Density:	2.0 - 4.0	Film Size:	4.5" X 17"

MA: 10 KV: 80 FFD: 42" Time: 30

Comments: REPAIR AREAS A AND B ONLY

Frame:	View	Status	Discrepancy
A	1	Info Only	SMALL AMOUNT OF SCATTERED OXIDES/POROSITY.
B	1	Info Only	SMALL AMOUNT OF SCATTERED OXIDES/POROSITY.
		Info Only	
		Info Only	
		Info Only	
		Info Only	

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porisity	EP = Excessive Penetration	SH = Shrinkage

Technician Darl Newman Date 01-15-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name	FILLER WIRE REPAIR PROGRAM		
Program Description:			
Test Date:	01/15/97 Planished: ☐	Other Process:	
Welded Panel ID:	17-RP5	Weld Area	Initial
Material Type:	2195 AL-LI	Repair Area A:	R5
Material Thickness:	0.200"	Repair Area B:	R5
Wire Type:	N/A	Repair Area C:	
Acceptance Specification:	For Information Only	X-Ray Unit:	Philips
X-Rayed By:	D. Newman	Film Number:	2
X-Ray Interpreted By:	D. Newman	Film Type	Kodak M
Density:	2.0 - 4.0	Film Size:	4.5" X 17"

MA: 10 KV: 80 FFD: 42" Time: 30

Comments: REPAIR AREAS A AND B ONLY

Frame:	View	Status	Discrepancy
A	1	Info Only	SMALL AMOUNT OF SCATTERED POROSITY.
B	1	Info Only	SMALL AMOUNT OF SCATTERED POROSITY.
		Info Only	
		Info Only	
		Info Only	
		Info Only	

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porisity	EP = Excessive Penetration	SH = Shrinkage

Technician David Newman Date 01-15-97

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #17RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F021 **Split Panel:** N/A **Test Date:** 9/25/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 86 **FFD:** 49 *in.* **Time:** 30 *sec.*

Comments: WELD INSPECTED FROM 0.0"- 23.5"

Frame	View	Status	Discrepancy
0.0"- 23.5"	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17RP6

Project: Misc Test

Project Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/25/98 **Specification Used:** For Information Only

Welded Panel ID: F021 **Split Panel:** N/A

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED FROM 0 0"- 23.0".

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

0.250" LINEAR INDICATION NOTED ALONG TOE OF ROOT PASS, P-227 SIDE @ 8.75", WILL USE AS IS.

Technician Kirk L. Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #17RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F021 **Split Panel:** N/A **Test Date:** 9/25/98

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 8" X 10"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F021 **Split Panel:** N/A **Test Date:** 9/29/98

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 6

X-Ray Interpreted By: K Williams **Film Type:** KODAK M

Density: 2 0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	(2) LINEAR INDICATIONS NOTED AT 8.5", LONGEST IS 0.500" IN LENGTH.
A	2	INFO ONLY	NO INDICATIONS NOTED.
A	3	INFO ONLY	SAME AS VIEW 1.
B	1	INFO ONLY	LINEAR INDICATION NOTED AT 17 5", 0.250" IN LENGTH. LINEAR INDICATION NOTED AT 19.5", 1.125" IN LENGTH.
B	2	INFO ONLY	NO INDICATIONS NOTED
B	3	INFO ONLY	SAME AS VIEW 1.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician K Williams **Date** 9-29-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17RP6

Program Name: Misc Test

Program Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F021 **Split Panel:** N/A **Test Date:** 10/1/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 6 **Level B:** 6 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K Williams **Film Type:** KODAK M

Density: 2 0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	POROSITY NOTED, WITHIN SPECS.
B	1	INFO ONLY	POROSITY NOTED, WITHIN SPECS.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 10-1-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F021 **Split Panel:** N/A **Test Date:** 10/5/98

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 6 **Level B:** 6 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K Williams **Film No:** 6

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	POROSITY NOTED, WITHIN SPECS.
A	2	INFO ONLY	POROSITY NOTED, WITHIN SPECS
A	3	INFO ONLY	POROSITY NOTED, WITHIN SPECS.
B	1	INFO ONLY	FAINT LINEAR INDICATION NOTED AT 17 75", 0.175" IN LENGTH. POROSITY NOTED, WITHIN SPECS
B	2	INFO ONLY	POROSITY NOTED, WITHIN SPECS.
B	3	INFO ONLY	POROSITY NOTED, WITHIN SPECS

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 10-5-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17RP6

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 10/5/98 **Specification Used:** For Information Only

Welded Panel ID: F021 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 6 **Level B:** 6 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K Williams

Penetrant System Used: MANUAL **Contact:**

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 5.0"- 7.0", 8.0"- 8.75", P-227 SIDE.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 4.5"- 10 25" & 15.25"- 20.5", P-224 SIDE CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 4 0"- 5.0", 7.25"- 10.0", & 15.0"- 20.5", P-227 SIDE.

Technician K Williams **Date** 10-5-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#17 RP6

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 10/5/98 **Specification Used:** For Information Only

Welded Panel ID: F021 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S3

Area Repaired: N/A **Repair Level A:** 6 **Level B:** 6 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING THREE TIMES.

Technician Kirk Williams **Date** 10-5-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17RP7

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F022 **Split Panel:** N/A **Test Date:** 9/25/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED FROM 0.0"- 23.5".

Frame	View	Status	Discrepancy
0.0"- 23.5"	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kurt Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17RP7

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/25/98 **Specification Used:** For Information Only

Welded Panel ID: F022 **Split Panel:** N/A

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED FROM 0.0"- 23.5".

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED

Technician K. Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17RP7

Program Name: Misc Test

Program Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F022 **Split Panel:** N/A **Test Date:** 9/26/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 8" X 10"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED.
B	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Rick Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#17RP7

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F022 **Split Panel:** N/A **Test Date:** 9/29/98

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-17

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K Williams **Film No:** 6

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED.
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED.
B	1	INFO ONLY	LINEAR INDICATION NOTED AT 19 5", 0.300" IN LENGTH.
B	2	INFO ONLY	NO INDICATIONS NOTED.
B	3	INFO ONLY	SAME AS VIEW 1

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 9-29-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #16RP7

Project: Misc Test

Project Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/29/98 **Specification Used:** For Information Only

Welded Panel ID: F022 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 5.0"- 5 25", 6.5"- 8.5", 18.5"- 19.5", & 20 25"- 20.5", P-213 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 4 0"- 5.5", 7 75"- 8.25", 15.75"- 17.0", & 18 25"- 20 0", P-128 SIDE.

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 4.0"- 6.5", 7.0"- 8.75", & 16.0"- 20.0", P-213 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 7.5"- 7.75", & 17.5"- 17.75", P-128 SIDE.

Technician Rick Williams **Date** 9-29-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #17RP7

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/30/98 **Specification Used:** For Information Only

Welded Panel ID: F022 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K Williams

Penetrant System Used: MANUAL **Contact:** Johnny Dingler

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE

Technician K Williams **Date** 9-30-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F/wire

Program Description: SLWT

Welded Panel ID: 18-R01-IW Split Panel: Test Date:

Weld Area: Planished: ▩ Other Process: VPPA

Area Repaired: Repair Level A: Level B: Level C:

Material Type: AL 2195 T8

Material Thickness: .200 Wire Type: Chem 18

Acceptance Specification: 504 C X-Ray Unit: 4702/4711 Bldg

X-Rayed By: D. STRONG Film No: 2

X-Ray Interpreted By: Film Type: M

Density: 2.0 - 4.0 Film Size: 4.5 x 17

MA: 15/100 KV: 70 FFD: in. 57/39" Time: sec. 30

Comments:

Frame	View	Status	Discrepancy
R01	IW		NONE
R5	R01	V1(A)(B)	NONE
R5	R01	V1(A)(B)	NONE
R5			

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician D. Strong Date 10/13/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F-WIRE

Program Description: SLWT

Welded Panel ID: 18-R02-IW Split Panel: Test Date:

Weld Area: Planished: ▩ Other Process:

Area Repaired: Repair Level A: Level B: Level C:

Material Type: AL 2195 -T8

Material Thickness: .200 Wire Type:

Acceptance Specification: 504C X-Ray Unit: Bldg 4702 / 4711

X-Rayed By: STRONG Film No: Z

X-Ray Interpreted By: STRONG Film Type: M

Density: 2.0-4.0 Film Size: 4.5 x 17

MA: 15/10 KV: 70/69 FFD: in. 52/39 Time: sec. 30

Comments:

Frame	View	Status	Discrepancy	
	18 R02-IW		NONE	
R5	R02-V1A	unacceptable	9¼" PoR and A crack / R02 V1B O.K.	@ ends of Repair. J.B. 10/23/96
R5	R02-V2A	"	5½" PoR R	9¼" PoR and A CK.
R5	R02 V3A	"	CK. AT 9¼" / R02 V3B 19½" CK.	

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Dexter Strong Date 10/23/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F/WIRE

Program Description: SLWT

Welded Panel ID: 18 R03 - IW Split Panel: Test Date:

Weld Area: Planished: ▩ Other Process:

Area Repaired: Repair Level A: Level B: Level C:

Material Type: Al 2195 T8

Material Thickness: .200 Wire Type: Chem 18

Acceptance Specification: 504 X-Ray Unit:

X-Rayed By: D. STRONG Film No: 2

X-Ray Interpreted By: Film Type: M

Density: 2.0 - 4.0 Film Size: 4.5 x 17

MA: 15 KV: 70 FFD: in. 52 Time: sec. 30

Comments:

Frame	View	Status	Discrepancy
		O.K.	POR. AT 13" SIZE ABOUT .020 - .025 / H.I AT 30" SIZE .010.

LP = Lack of Penetration
LF = Lack of Fusion
C = Crack
CC = Crater Crack
Por = Porosity

L Por = Linear Porosity
UC = Undercut
UF = Underfill
BT = Burn Through
EP = Excessive Penetration

PI = Penetration Line
OI = Oxide Inclusion
HI = Heavy Inclusion
CS = Cold Shut
Sh = Shrinkage

Technician Dayton Strong Date

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F/W:RC

Program Description:

Welded Panel ID: 18-R04-IW Split Panel: Test Date: 10/13/96

Weld Area: O-24" ~~Planished:~~ ▩ Other Process: VPPA

Area Repaired: Repair Level A: Level B: Level C:

Material Type: AL 2195-T8

Material Thickness: .200 Wire Type:

Acceptance Specification: MSFC-504C X-Ray Unit:

X-Rayed By: D. STRONG Film No:

X-Ray Interpreted By: D. STRONG Film Type: M

Density: 2.0-4.0 Film Size: 4.5 x 17

MA: 15/10 KV: 70/69 FFD: 52/39 in. Time: . sec. .30

Comments:

Frame	View	Status	Discrepancy
"O-24"			NONE

R5 18-R04-V1 A&B CK. AT 8" center of Weld, POR AT 7½" .030 / POR. AT 16¼" & 16½" size .050

R5 18-R04 V2 A&B POR. AT 7¼" size .040 AND POR. & CK AT 8"

R5 18-R04-V2 A&B POR. AT 16¼ & 16½ size about .060/.050

R5 18-R04-V3 A&B, POR AT 7¼ size .030 and POR. AT 8" / V3B POR. AT 16"

CUT AROUND J.B 10/13/96

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Dayton D. Strong Date 10/13/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F/WIRE

Program Description:

Welded Panel ID: 18 ROS IW Split Panel: Test Date: 10/4/96

Weld Area: ~~Planished:~~ ▩ Other Process: VPPA

Area Repaired: Repair Level A: Level B: Level C:

Material Type: AL, 2195 T8

Material Thickness: .200 Wire Type: Chem 18

Acceptance Specification: 504C X-Ray Unit:

X-Rayed By: D. STRONG Film No: 2

X-Ray Interpreted By: Film Type: M

Density: 2.0 - 4.0 Film Size: 4.5 x 17

MA: 15 KV: 70 FFD: in. 52 Time: sec. 30

Comments:

Frame	View	Status	Discrepancy
			NONE

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician [signature] Date 10/18/96

NONDESTRUCTIVE EVALUATION BRANCH

RADIOGRAPHIC INSPECTION REPORT

Program Name: EH23 Weld Panel Traceability

Program Description: F/Wire

ID: 18R05R5 **Report Date:** 12-18-96

Material Type: AL 2195-T8

Material Thickness: .200" **X-ray unit:** Philips 320KV

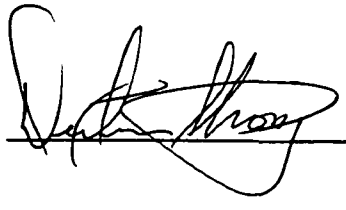
Acceptance Specification: None **Film no.:** 6

Radiographer: Dexter Strong **Film type:** Kodak M

Interpreted by: Dexter Strong/Linda Clark **Film size:** 4.5" x 17"

MA: 10 **KV:** 74 **FFD:** 48" **Time:** 0.6 min.

Frame	View	Status	Discrepancy
A	1		No indications noted
B	1		No indications noted
A	2		No indications noted
B	2		No indications noted
A	3		No indications noted
B	3		No indications noted

Technician  Date 12/18/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F/WIRE

Program Description: SLWT

Welded Panel ID: 18RR1-IW Split Panel: Test Date: 10/13/96

Weld Area: Planished: ▩ Other Process: VPPA

Area Repaired: Repair Level A: Level B: Level C:

Material Type: AL 2195-T8

Material Thickness: .200 Wire Type:

Acceptance Specification: 504 X-Ray Unit:

X-Rayed By: D STRONG Film No: 2

X-Ray Interpreted By: Film Type: M

Density: 2-4.0 Film Size: 4.5 X 17

MA: 15 KV: 70 FFD: in. 52 Time: sec. 30

Comments:

Frame	View	Status	Discrepancy
I.W. L.F AT 2¾ to 4½			Status UNACCEPTABLE.
R5P	V1	OK	
R5P	V2	OK	
R5P	V3	OK	

LP = Lack of Penetration
LF = Lack of Fusion
C = Crack
CC = Crater Crack
Por = Porosity
L Por = Linear Porosity
UC = Undercut
UF = Underfill
BT = Burn Through
EP = Excessive Penetration
PI = Penetration Line
OI = Oxide Inclusion
HI = Heavy Inclusion
CS = Cold Shut
Sh = Shrinkage

Technician W. Strong Date 10/13/96

NONDESTRUCTIVE EVALUATION BRANCH

RADIOGRAPHIC INSPECTION REPORT

Program Name: EH23 Weld Panel Traceability

Program Description: F/Wire

ID: 18RP1R5P **Report Date:** 12-18-96

Material Type: AL 2195-T8

Material Thickness: .200" **X-ray unit:** Philips 320KV

Acceptance Specification: None **Film no.:** 6

Radiographer: Dexter Strong **Film type:** Kodak M

Interpreted by: Dexter Strong/Linda Clark **Film size:** 4.5" x 17"

MA: 10 **KV:** 74 **FFD:** 48" **Time:** 0.6 min.

Frame	View	Status	Discrepancy
A	1		No indications noted
B	1		No indications noted
A	2		No indications noted
B	2	acceptable	HDI at 15" ~ .005"
A	3		No indications noted
B	3	acceptable	HDI at 15" ~ .005"

HDI - high density indication

Technician _____ Date 12/18/96

NONDESTRUCTIVE EVALUATION BRANCH

RADIOGRAPHIC INSPECTION REPORT

Program Name: EH23 Weld Panel Traceability

Program Description: F/Wire

ID: 18RP2R5P **Report Date:** 12-18-96

Material Type: AL 2195-T8

Material Thickness: .200" **X-ray unit:** Philips 320KV

Acceptance Specification: None **Film no.:** 6

Radiographer: Dexter Strong **Film type:** Kodak M

Interpreted by: Dexter Strong/Linda Clark **Film size:** 4.5" x 17"

MA: 10 **KV:** 74 **FFD:** 48" **Time:** 0.6 min.

Frame	View	Status	Discrepancy
A	1		No indications noted
B	1		No indications noted
A	2		No indications noted
B	2		No indications noted
A	3	acceptable	scratch on film at ~ 10" (non-relevant)
B	3		No indications noted

Technician Dexter D. Strong Date 12/18/96

NONDESTRUCTIVE EVALUATION BRANCH

RADIOGRAPHIC INSPECTION REPORT

Program Name: EH23 Weld Panel Traceability

Program Description: F/Wire

ID: 18RP3R5P **Report Date: 12-18-96**

Material Type: AL 2195-T8

Material Thickness: .200" **X-ray unit: Philips 320KV**

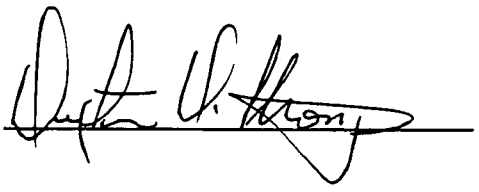
Acceptance Specification: None **Film no.: 6**

Radiographer: Dexter Strong **Film type: Kodak M**

Interpreted by: Dexter Strong/Linda Clark **Film size: 4.5" x 17"**

MA: 10 **KV: 74** **FFD: 48"** **Time: 0.6 min.**

Frame	View	Status	Discrepancy
A	1		No indications noted
B	1		No indications noted
A	2	acceptable	scratches on film from 5"-6" (non-relevant)
B	2		No indications noted
A	3		No indications noted
B	3		No indications noted

Technician  Date 12/18/96

NONDESTRUCTIVE EVALUATION BRANCH

RADIOGRAPHIC INSPECTION REPORT

Program Name: EH23 Weld Panel Traceability

Program Description: F/Wire

ID: 18RP4R6 **Report Date:** 12-18-96

Material Type: AL 2195-T8

Material Thickness: .200" **X-ray unit:** Philips 320KV

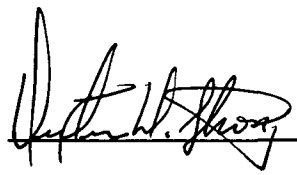
Acceptance Specification: None **Film no.:** 2

Radiographer: Dexter Strong **Film type:** Kodak M

Interpreted by: Dexter Strong/Linda Clark **Film size:** 4.5" x 17"

MA: 10 **KV:** 74 **FFD:** 48" **Time:** 0.6 min.

Frame	View	Status	Discrepancy
A	1	acceptable	slag inclusion at ~ 10"
B	1	acceptable	porosity at ~ 19", 2 pieces .020 diameter

Technician  Date 12/18/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

Program Name: F/WIRE

Program Description: SLWT

Welded Panel ID: 18R5-IW Split Panel: Test Date:

Weld Area: Planished: ▩ Other Process: VPPA

Area Repaired: Repair Level A: Level B: Level C:

Material Type: AL 2195-T8

Material Thickness: .200 Wire Type: Chem 18

Acceptance Specification: 564C X-Ray Unit:

X-Rayed By: D. STRONG Film No: 2

X-Ray Interpreted By: Film Type: M

Density: 2.0-4.0 Film Size: 4.5 x 17

MA: 15 KV: 70 FFD: - in. 52 Time: sec. 30

Comments:

Frame	View	Status	Discrepancy
			NONE
•R5			NONE

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Dexter D. Strong Date 10/13/96

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#18RP7

Program Name: Misc Test

Program Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F018 **Split Panel:** N/A **Test Date:** 9/25/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-18

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2 0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED FROM 0.0"- 23.5".

Frame	View	Status	Discrepancy
0.0"- 23.5"	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician K. Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#18RP7

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED

Test Date: 9/25/98 **Specification Used:** For Information Only

Welded Panel ID: F018 **Split Panel:** N/A

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0.200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Andre' Paseur

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED FROM 0.0"- 23.0"

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED.

Technician Kirk Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#18RP7

Program Name: Misc Test

Program Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F018 **Split Panel:** N/A **Test Date:** 9/26/98

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-18

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 8" X 10"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED.
B	1	INFO ONLY	RANDOM POROSITY NOTED, NOT IN EXCESS OF SPECS

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Keith Williams **Date** 9-26-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#18RP7

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F018 **Split Panel:** N/A **Test Date:** 9/28/98

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-18

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 6

X-Ray Interpreted By: K Williams **Film Type:** KODAK M

Density: 2.0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	NO INDICATIONS NOTED.
A	2	INFO ONLY	NO INDICATIONS NOTED
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	POROSITY NOTED, WITHIN SPECS
B	2	INFO ONLY	POROSITY NOTED, WITHIN SPECS
B	3	INFO ONLY	POROSITY NOTED, WITHIN SPECS.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Keith Williams **Date** 9-28-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #18RP7

Project: Misc Test

Project Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED

Test Date: 9/29/98 **Specification Used:** For Information Only

Welded Panel ID: F018 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Andre' Paseur

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 4.5"- 7.5", 15.5"- 17.0", & 17 5"- 20.0", P229 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 7 0"- 7.75", 15 0"- 16.0", & 18.75"- 20 0", P-239 SIDE

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3.0"- 3.25", 4 0"- 4.75", 7.25"- 9 0", 16.0"- 17 0", & 19.0"- 20.5", P-229 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3.0"- 3.75", 6.75"- 8.5", & 19 0"- 20 5", P-239 SIDE.

Technician K. Williams **Date** 9-29-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #18RP7

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED

Test Date: 9/30/98 **Specification Used:** For Information Only

Welded Panel ID: F018 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S1

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Andre' Paseur

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING ONCE.

Technician Keith Williams **Date** 9-30-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #18RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F017 **Split Panel:** N/A **Test Date:** 9/25/98

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0.200 " **Wire Type:** C-18

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K Williams **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 4.5" X 17"

MA: 10 **KV:** 86 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED FROM 0 0"- 23.5".

Frame	View	Status	Discrepancy
0.0"- 23.5"	1	INFO ONLY	NO INDICATIONS NOTED.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION #18RF6

Project: Misc Test

Project Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/25/98 **Specification Used:** For Information Only

Welded Panel ID: F017 **Split Panel:** N/A

Weld Area: INITIAL **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 0 **Level B:** 0 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K. Williams

Penetrant System Used: MANUAL **Contact:** Andre' Paseur

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED FROM 0.0"- 23 5"

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED

Technician Kirk Williams **Date** 9-25-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION #18RP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F017 **Split Panel:** N/A **Test Date:** 9/26/98

Weld Area: REPAIR **Planished:** ☐ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-18

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 2

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2.0 - 4.0 **Film Size:** 8" X 10"

MA: 10 **KV:** 88 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY.

Frame	View	Status	Discrepancy
A	1	INFO ONLY	RANDOM POROSITY NOTED, WITHIN SPECS.
B	1	INFO ONLY	RANDOM POROSITY NOTED, WITHIN SPECS.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician K. Williams **Date** 9-26-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT RADIOGRAPHIC INSPECTION REPORT

LMMSS, MSFC DIVISION

#18PP6

Program Name: Misc Test

Program Description: 0 200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Welded Panel ID: F017 **Split Panel:** N/A **Test Date:** 9/28/98

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI

Material Thickness: 0 200 " **Wire Type:** C-18

Acceptance Specification: For Information Only **X-Ray Unit:** Phillips 220

X-Rayed By: K. Williams **Film No:** 6

X-Ray Interpreted By: K. Williams **Film Type:** KODAK M

Density: 2 0 - 4 0 **Film Size:** 8" X 10"

MA: 10 **KV:** 85 **FFD:** 49 in. **Time:** 30 sec.

Comments: WELD INSPECTED IN REPAIR AREAS ONLY

Frame	View	Status	Discrepancy
A	1	INFO ONLY	FAINT LINEAR INDICATION NOTED FROM 6.5"-7 0" IN CENTER OF REPAIR AREA
A	2	INFO ONLY	NO INDICATIONS NOTED.
A	3	INFO ONLY	NO INDICATIONS NOTED
B	1	INFO ONLY	POROSITY NOTED, WITHIN SPECS.
B	2	INFO ONLY	POROSITY NOTED, WITHIN SPECS
B	3	INFO ONLY	POROSITY NOTED, WITHIN SPECS.

LP = Lack of Penetration	L Por = Linear Porosity	PI = Penetration Line
LF = Lack of Fusion	UC = Undercut	OI = Oxide Inclusion
C = Crack	UF = Underfill	HI = Heavy Inclusion
CC = Crater Crack	BT = Burn Through	CS = Cold Shut
Por = Porosity	EP = Excessive Penetration	Sh = Shrinkage

Technician Kirk Williams **Date** 9-28-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#18RP6

Project: Misc Test

Project Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/30/98 **Specification Used:** For Information Only

Welded Panel ID: F017 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** N/A

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K Williams

Penetrant System Used: MANUAL **Contact:** Andre' Paseur

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGED FROM 3.5"- 7.0", 7.5"- 8.0", & 16 0"- 17.0", P-226 SIDE. CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3 5"- 3.75", 7.5"- 8.5", & 20.0"- 20.5", P-219 SIDE

ROOT PASS

Discrepancy: ☒ INFORMATION ONLY

CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGED FROM 3.25"- 5 0", 7 25"- 8 0", & 15.5"- 17.25", P-226 SIDE CRACK LIKE INDICATIONS NOTED ALONG PLANISHED EDGE FROM 3 5"- 4.5", 5.5"- 6.5", 8.0"- 9.0", 16 0"- 17.25", & 19 0"- 20.5", P-219 SIDE

Technician Kirk Williams **Date** 9-30-98

NONDESTRUCTIVE EVALUATION BRANCH

SLWT PENETRANT INSPECTION REPORT

LMMSS, MSFC DIVISION

#18RP6

Project: Misc Test

Project Description: 0.200", 2195P/ 2195P, STANDARD PANEL, VPPA, VERTICAL, FL-R5-3", 70%P, SHAVED.

Test Date: 9/30/98 **Specification Used:** For Information Only

Welded Panel ID: F017 **Split Panel:** N/A

Weld Area: REPAIR **Planished:** ☒ **Other Process:** S2

Area Repaired: N/A **Repair Level A:** 5 **Level B:** 5 **Level C:** 0

Material Type: 2195 AL-LI **Material Thickness:** 0 200 "

Penetrant Type/Method: I/A **Test Technician:** K Williams

Penetrant System Used: MANUAL **Contact:** Andre' Paseur

Requesting Organization: MMC/NASA **Penetrant:** Ardrox P135E

Sensitivity Group: III **Developer:** N/A

Wash: Water

General Comments: WELD INSPECTED IN REPAIR AREAS ONLY

DISCREPANCY

COVER PASS

Discrepancy: ☐ INFORMATION ONLY

NO DISCREPANCIES NOTED AFTER SANDING TWICE.

ROOT PASS

Discrepancy: ☐ INFORMATION ONLY

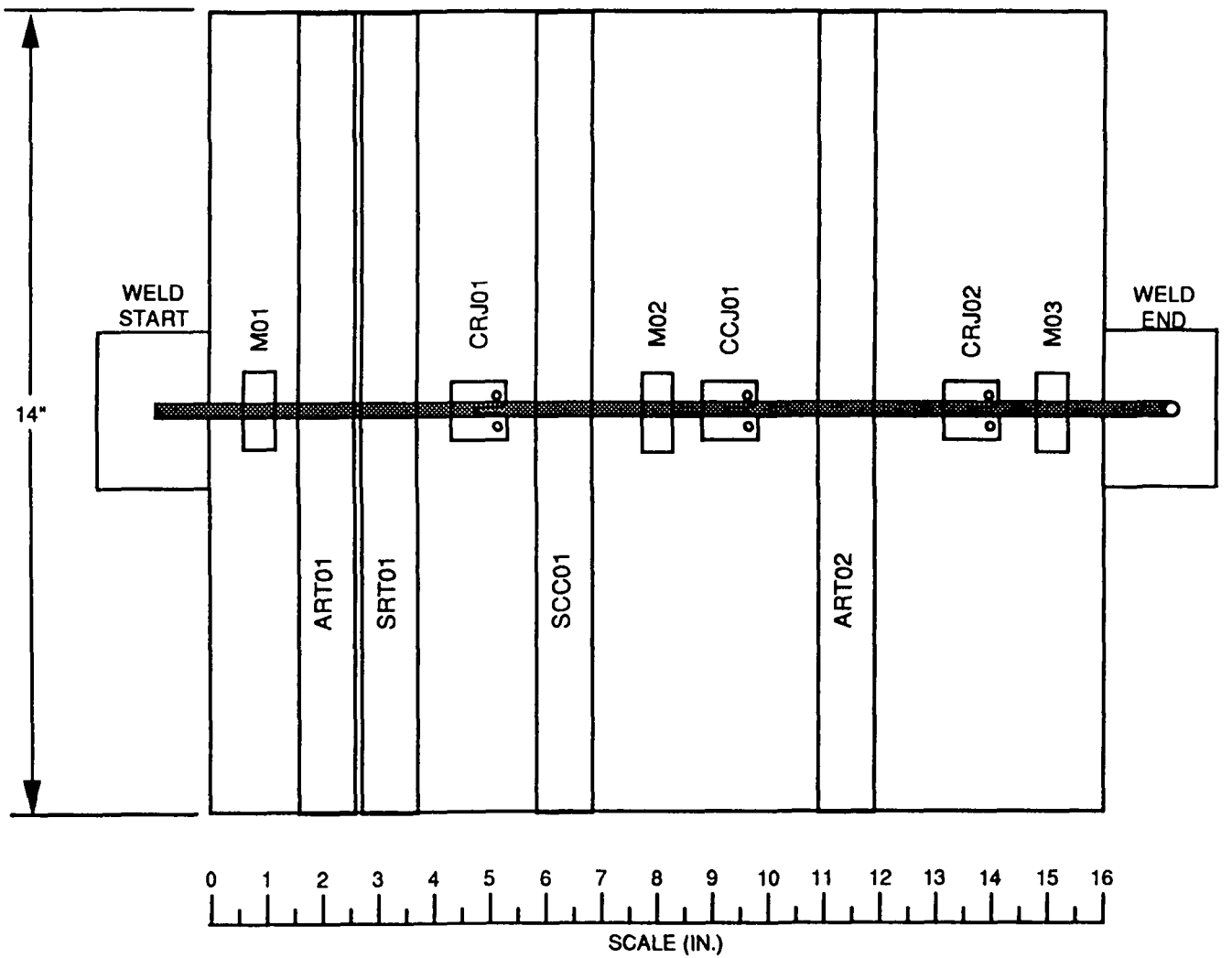
NO DISCREPANCIES NOTED AFTER SANDING ONCE.

Technician K Williams **Date** 9-30-98

APPENDIX F
WELD PANEL LAYOUT

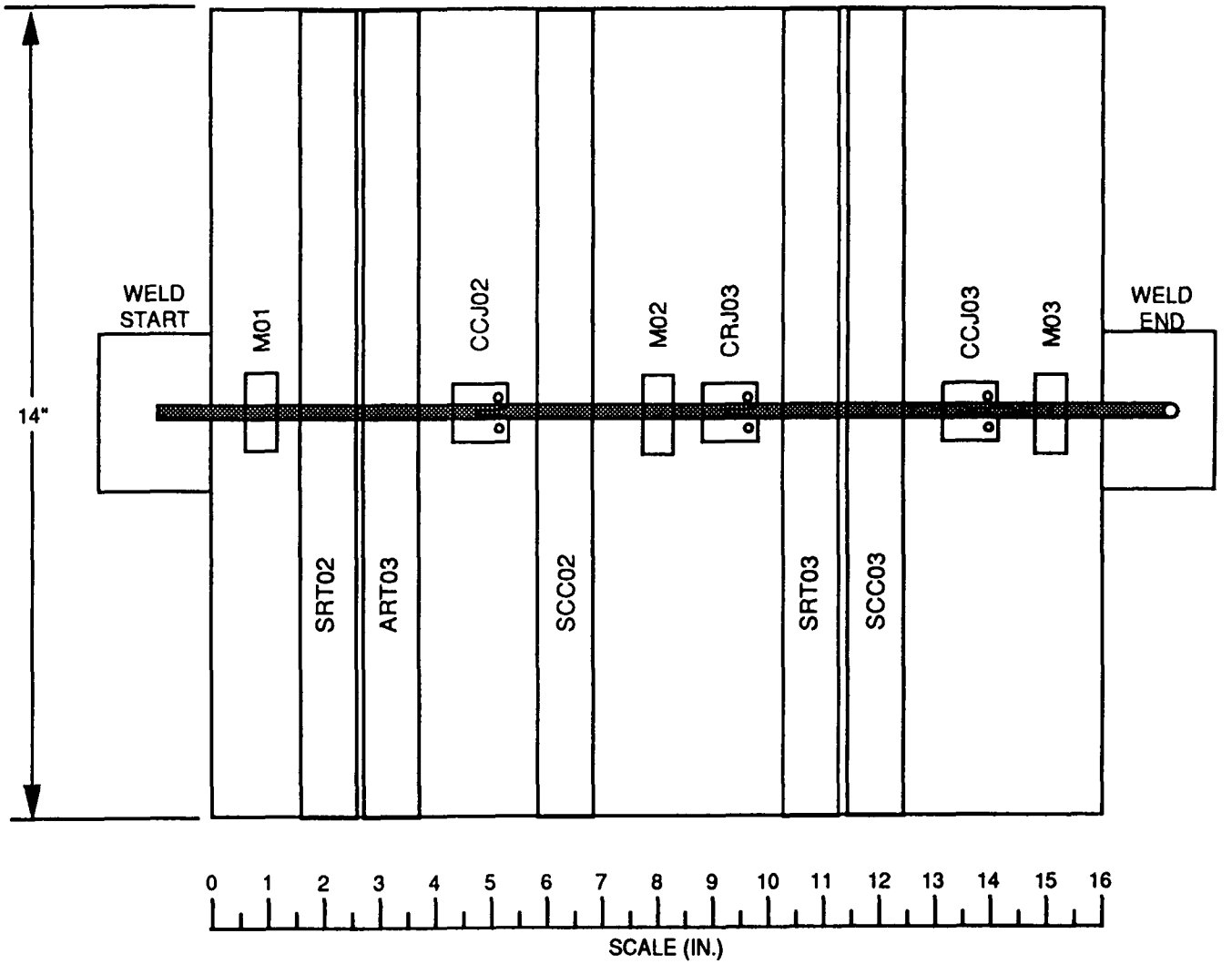
PART II FILLER WIRE DEVELOPMENT PROGRAM
INITIAL WELD PANEL LAYOUT
0.320"t 2195-T8

PANEL ID: XX-A



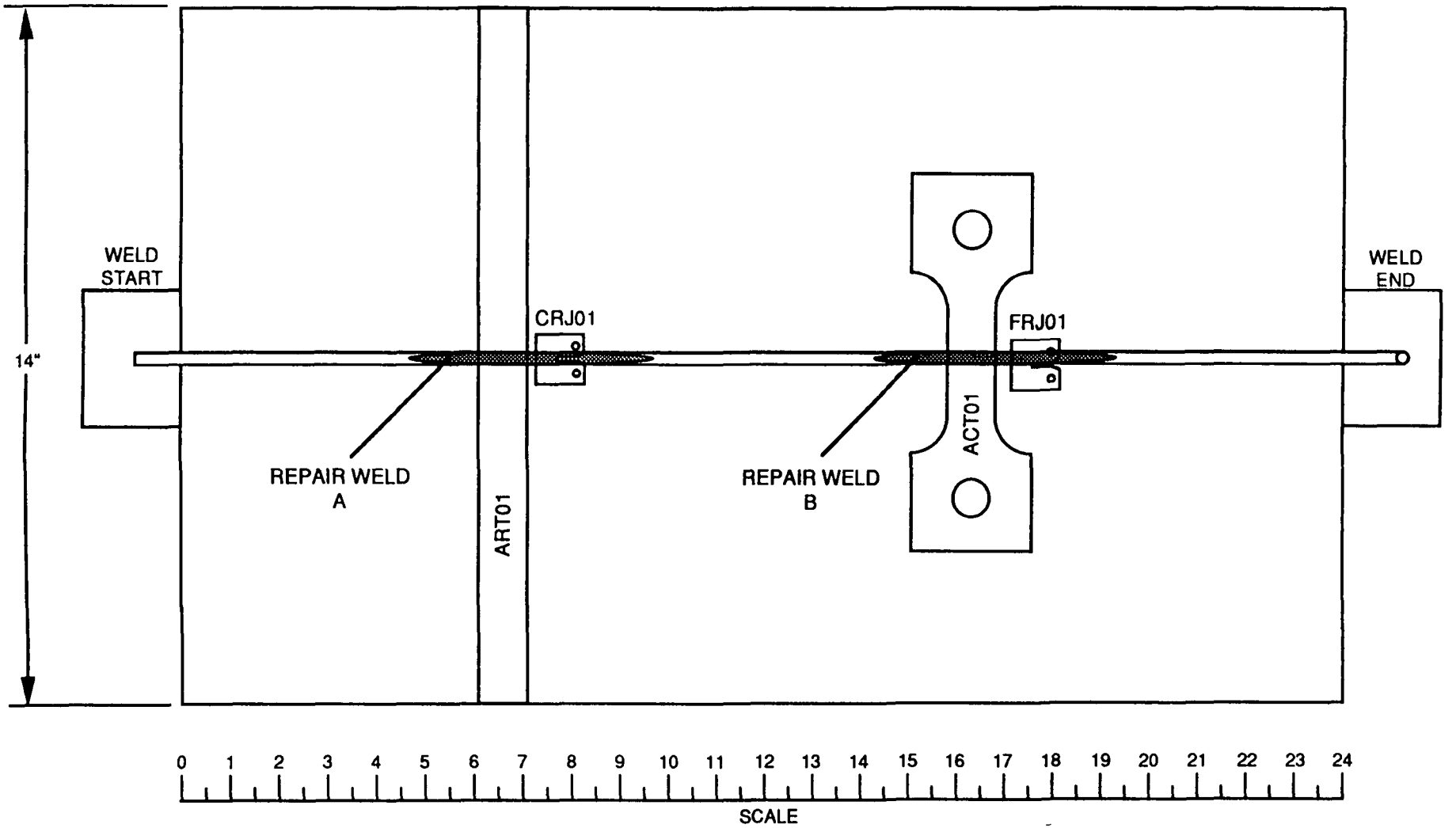
PART II FILLER WIRE DEVELOPMENT PROGRAM
INITIAL WELD PANEL LAYOUT
0.320"t 2195-T8

PANEL ID: XX - B



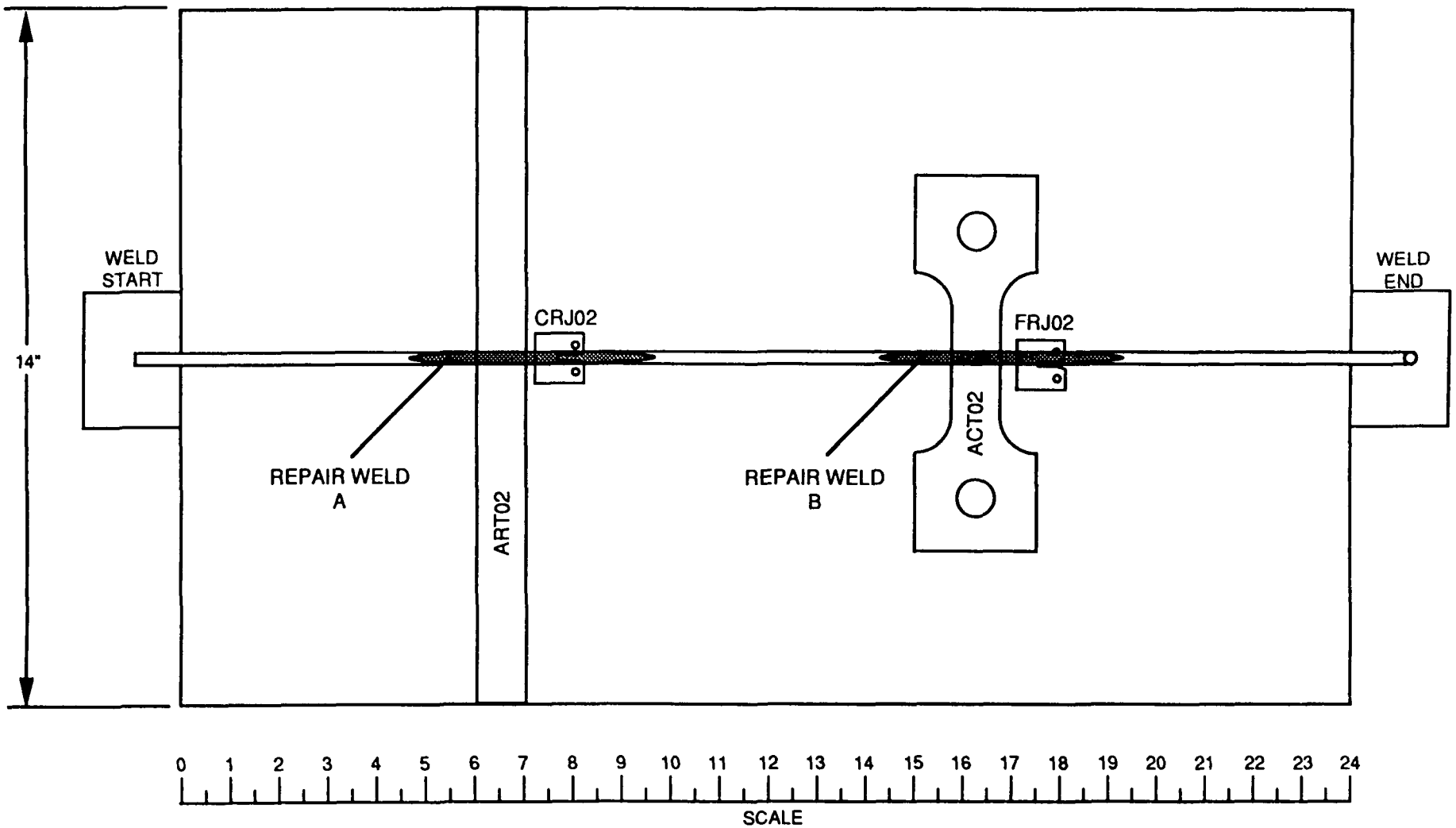
PART II FILLER WIRE DEVELOPMENT PROGRAM
REPAIR WELD PANEL LAYOUT
0.200"t 2195-T8

PANEL ID: XXR01+XXRP1



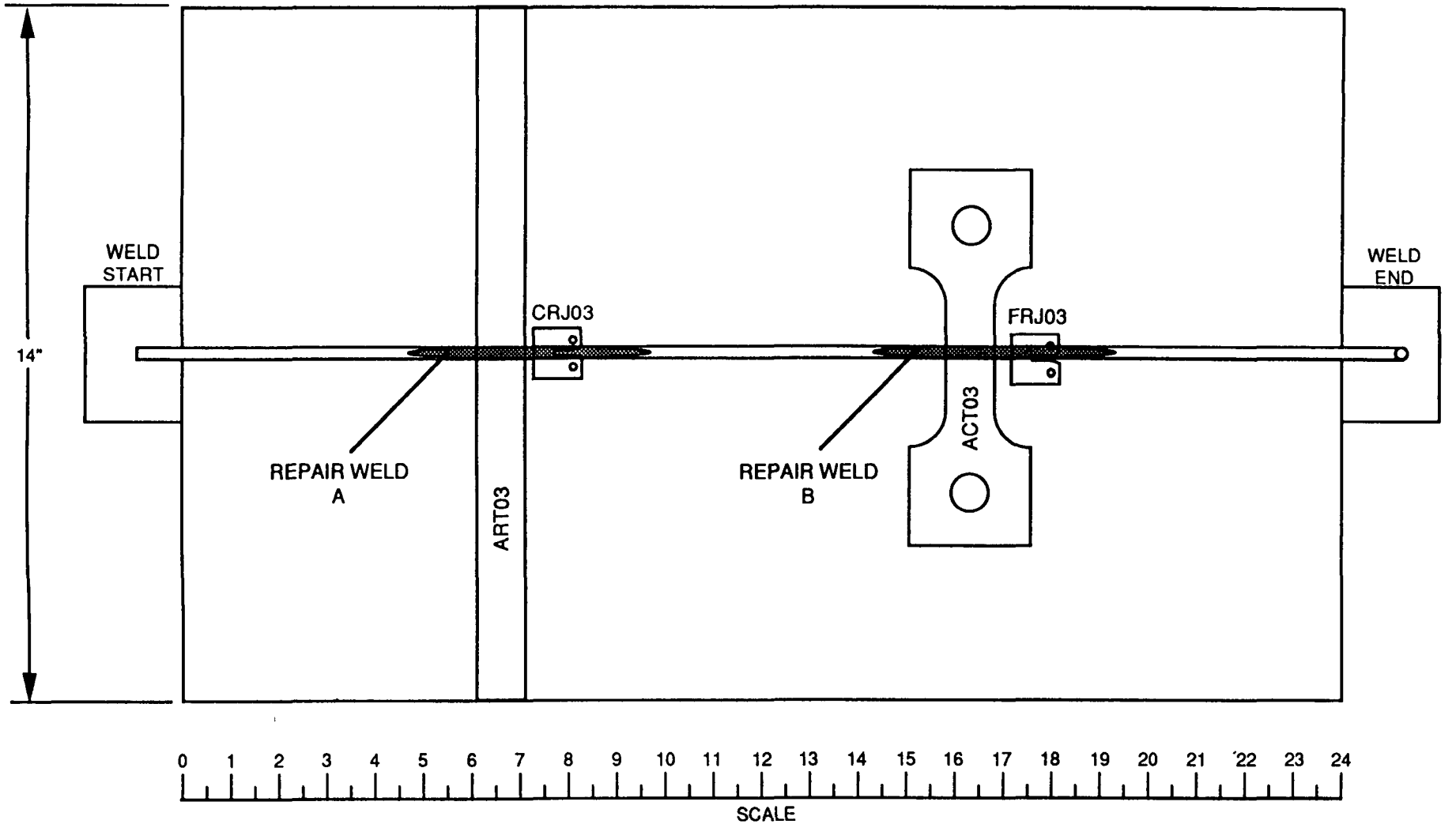
PART II FILLER WIRE DEVELOPMENT PROGRAM
REPAIR WELD PANEL LAYOUT
0.200"t 2195-T8

PANEL ID: XXR02 + XXRP2



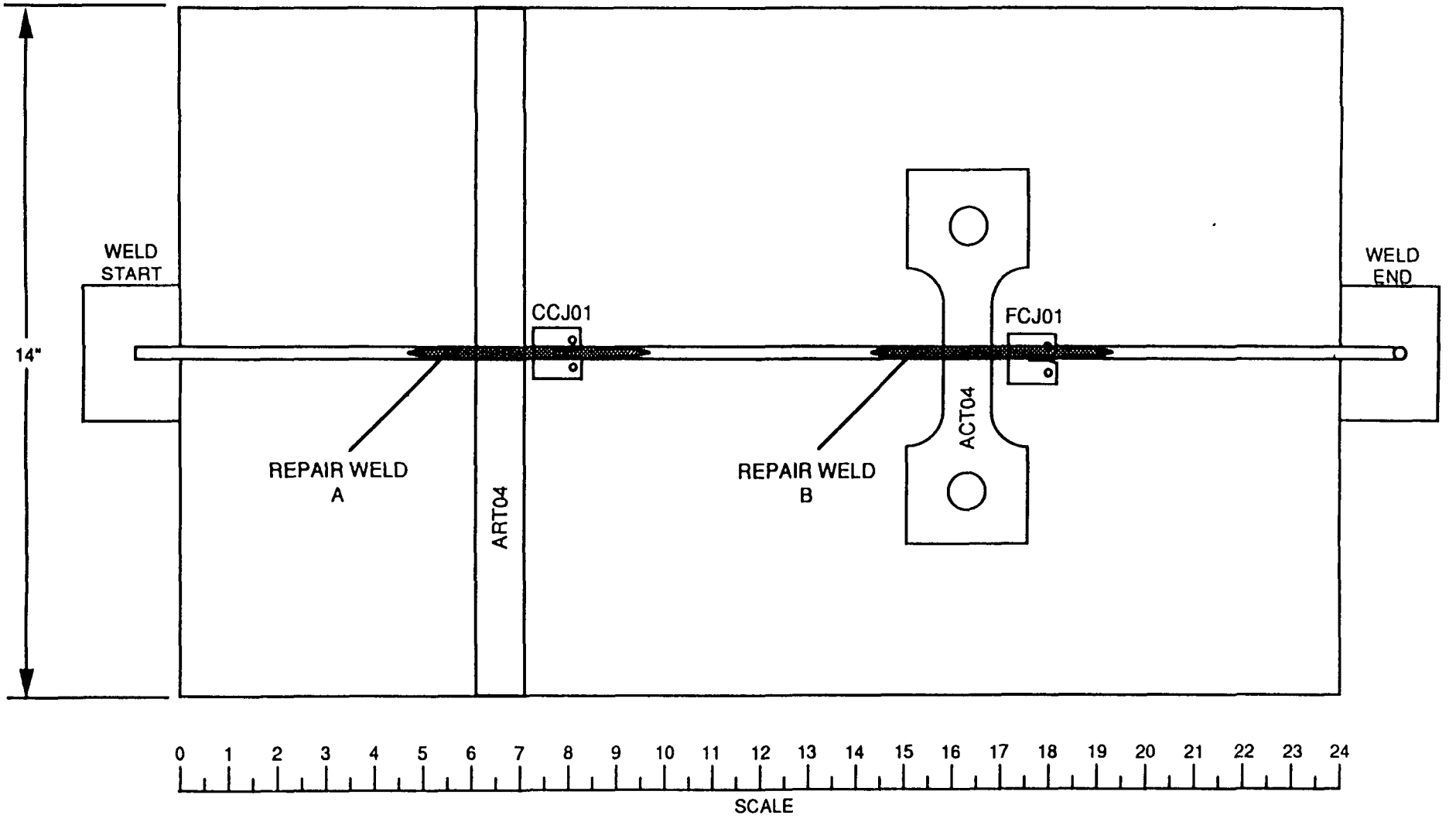
PART II FILLER WIRE DEVELOPMENT PROGRAM
REPAIR WELD PANEL LAYOUT
0.200"t 2195-T8

PANEL ID: XXR03+XXRP3



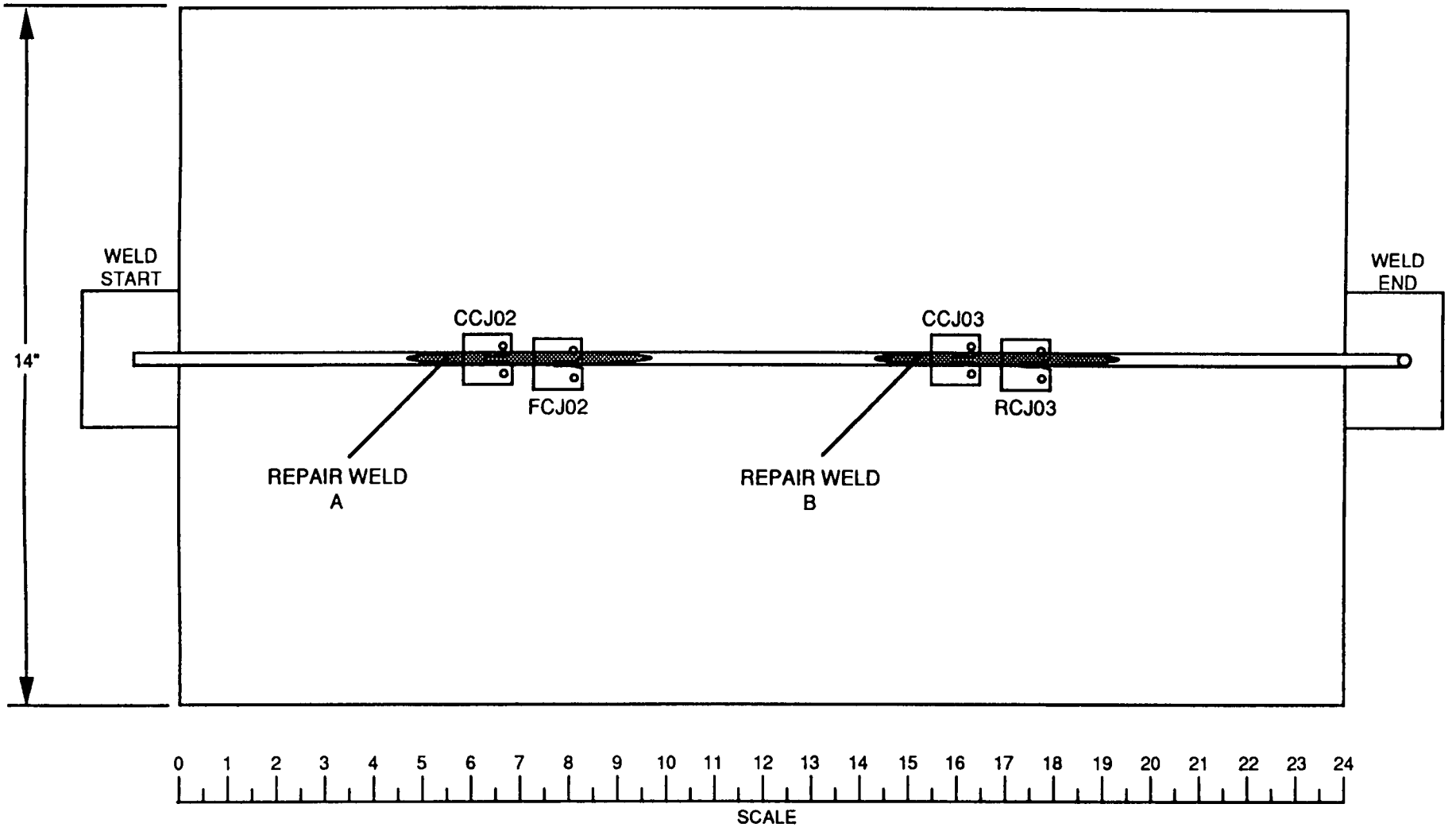
PART II FILLER WIRE DEVELOPMENT PROGRAM
REPAIR WELD PANEL LAYOUT
0.200"t 2195-T8

PANEL ID: XXR04 + XXRP4



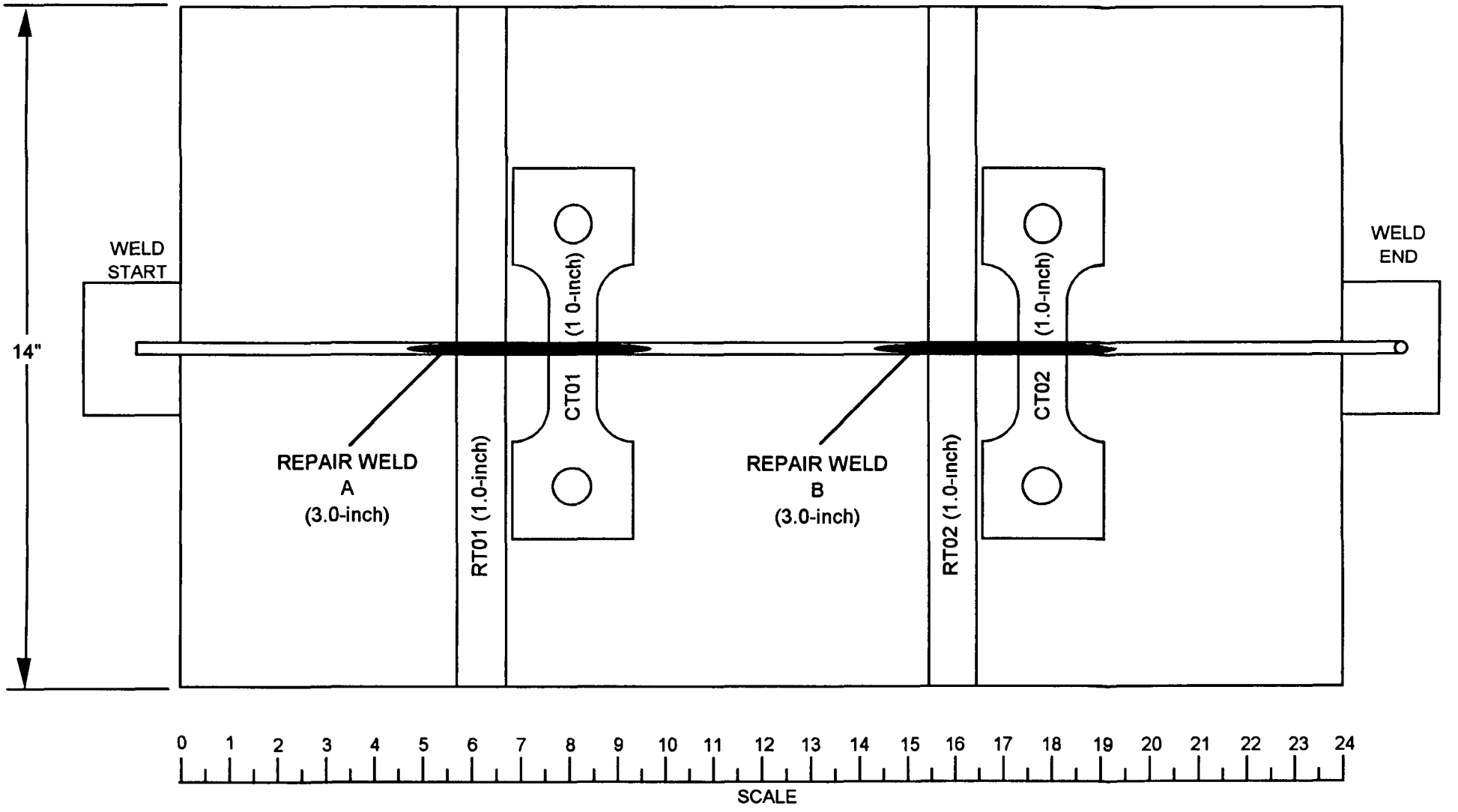
PART II FILLER WIRE DEVELOPMENT PROGRAM
REPAIR WELD PANEL LAYOUT
0.200"t 2195-T8

PANEL ID: XXR05 +XXRP5

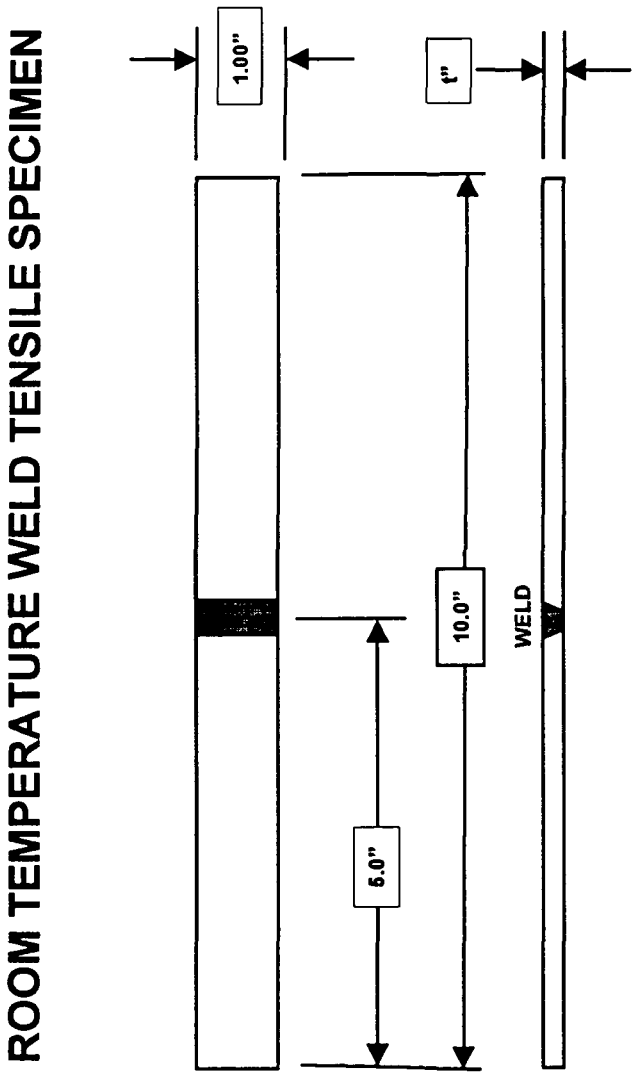


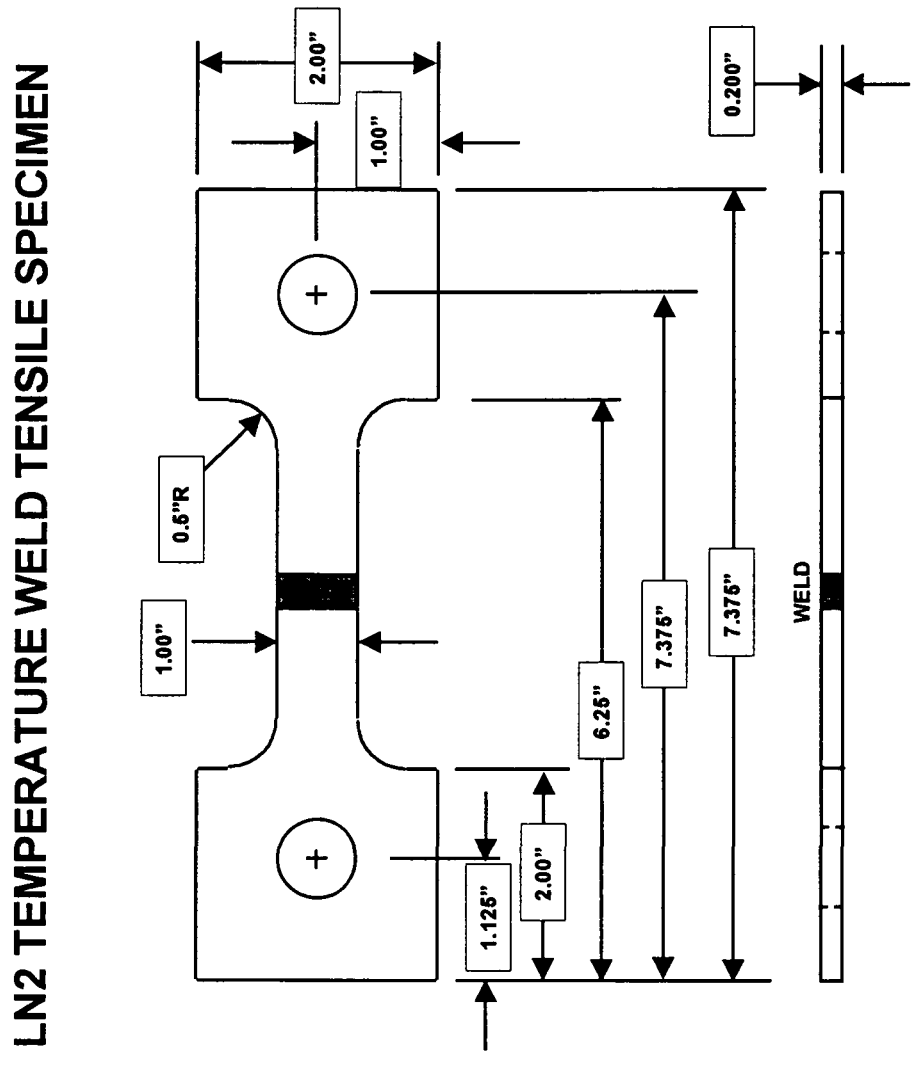
PART II FILLER WIRE DEVELOPMENT PROGRAM
REPAIR WELD PANEL LAYOUT
0.200"t 2195-T8

PANEL ID: XXRP6+XXRP7

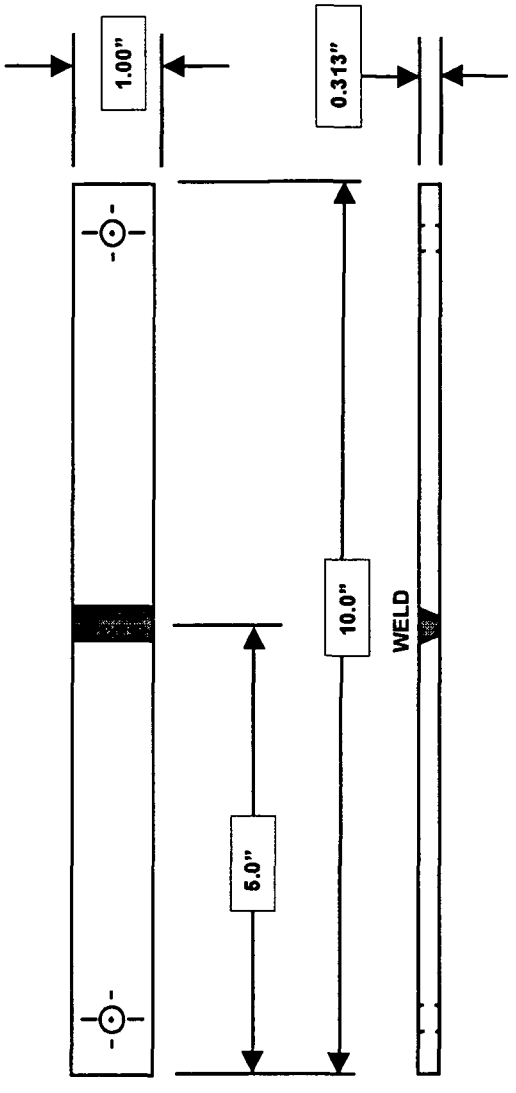


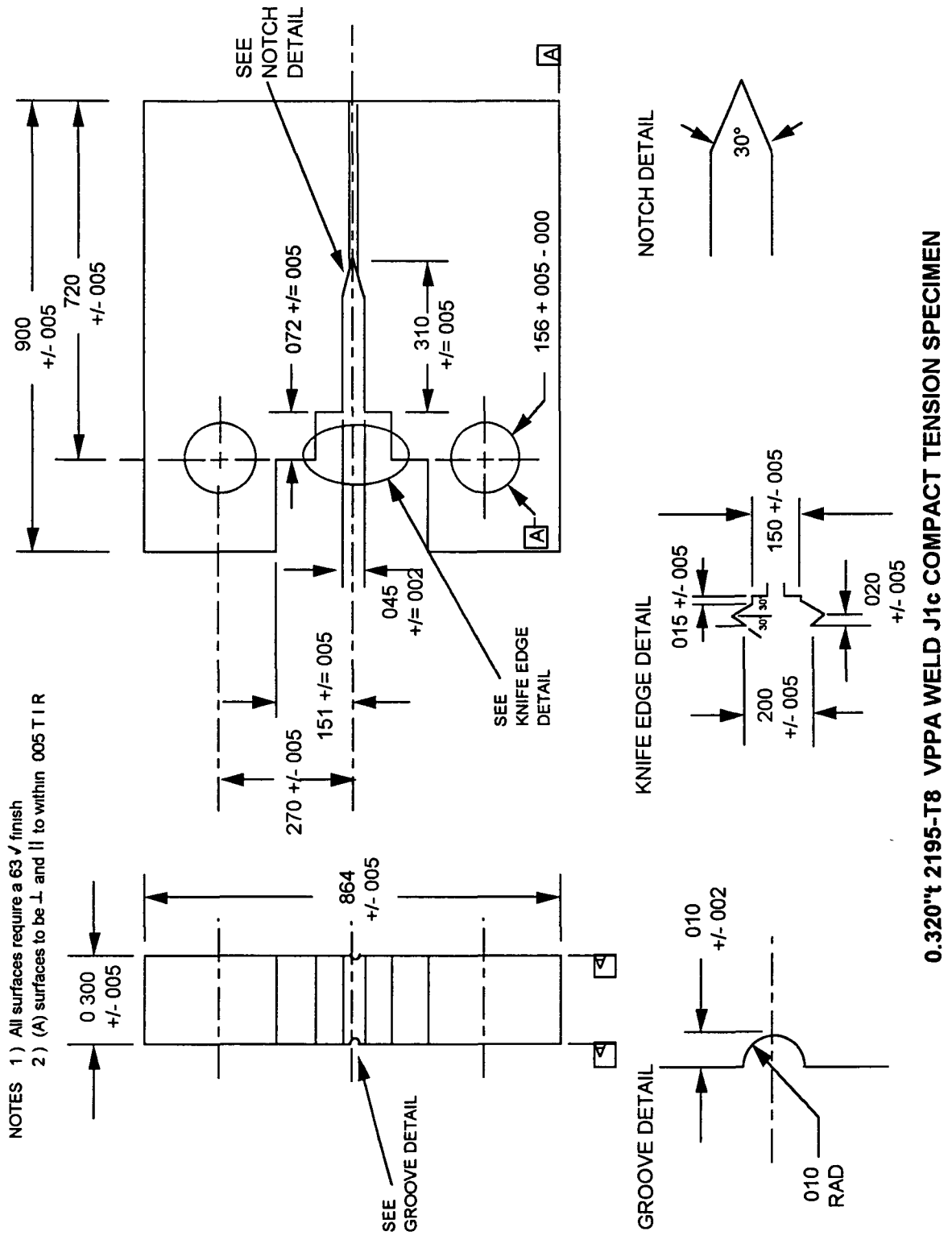
APPENDIX G
WELD TEST SPECIMENS


ROOM TEMPERATURE WELD TENSILE SPECIMEN
1.00"
1"
10.0"
5.0"
WELD

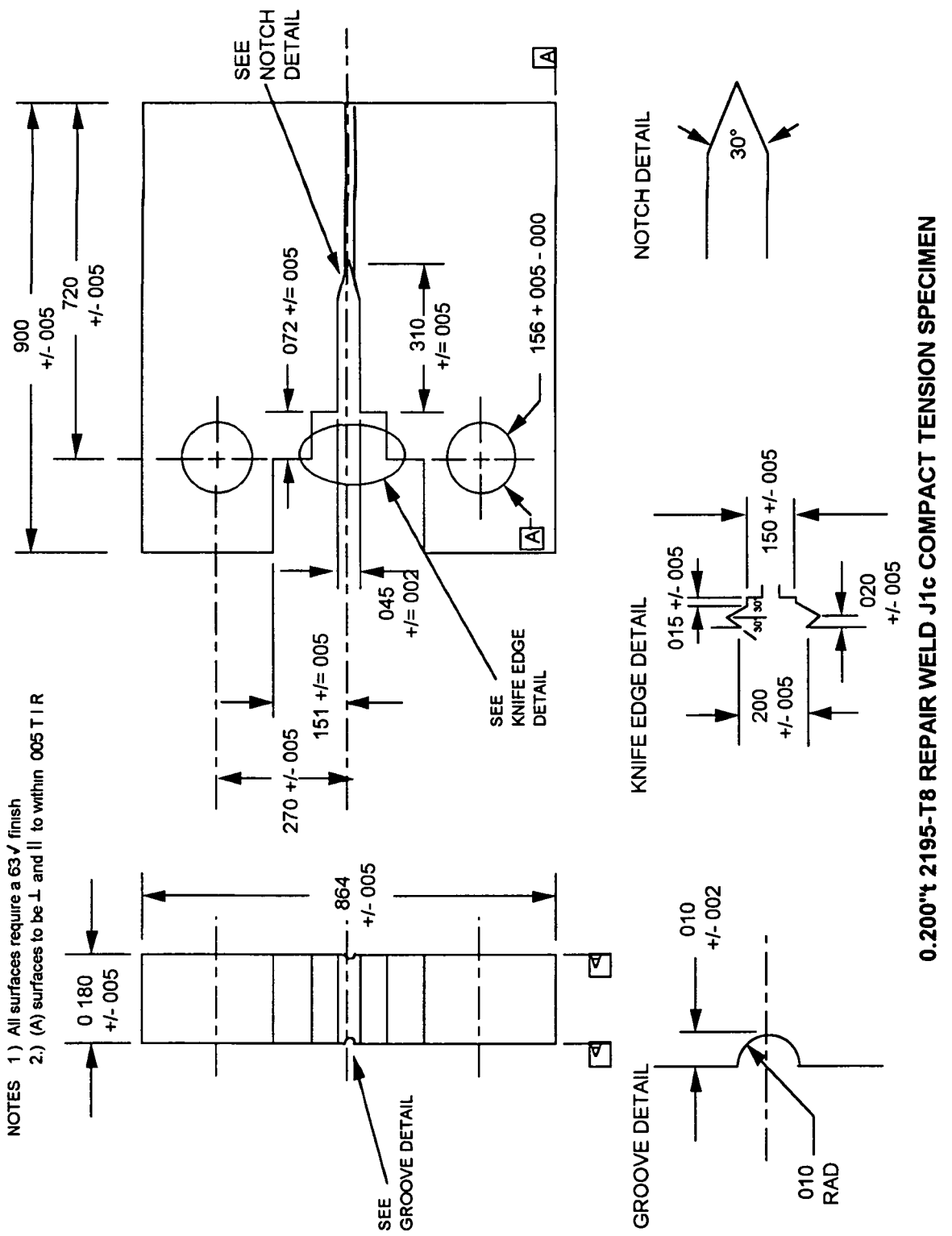

LN2 TEMPERATURE WELD TENSILE SPECIMEN
2.00"
1.00"
0.200"
0.6"R
1.00"
6.25"
7.375"
7.375"
WELD
1.126"
2.00"

STRESS CORROSION CRACKING WELD TEST SPECIMEN





0.320"t 2195-T8 VPPA WELD J1c COMPACT TENSION SPECIMEN



0.200"t 2195-T8 REPAIR WELD J1c COMPACT TENSION SPECIMEN

APPENDIX H
VPPA WELD TENSILE DATA

PART II FILLER WIRE DEVELOPMENT PROGRAM

0.320t 2195PLATE/2195PLATE VPPA WELD
TENSILE TEST DATA

FILLER CHEM	TEST PANELS*	WELD CONDITION	TEST TEMP	YIELD (KSI)	ULTIMATE (KSI)	%ELONG. (1.0 IN GAGE)	%ELONG. (2.0 IN GAGE)	UTLIMATE STD DEV
#15	15A-SRT01	SHAVED	RT	Mis test				
	15B-SRT02	SHAVED	RT	32 00	48 60	6 50	3 12	
6.0 Cu	15B-SRT03	SHAVED	RT	33 20	49 80	7 72	3 78	
0.4 Mg			AVG	32 60	49.20	7.11	3.45	0.85
0.4 Zn	15A-ART01	AS-WELDED	RT	38 20	54 60	4 57	2 32	
0.15 Ti	15A-ART02	AS-WELDED	RT	37 40	53 10	3 96	2 12	
0 16 Zr	15B-ART03	AS-WELDED	RT	39 40	55 90	4 37	2 42	
			AVG	38.33	54.53	4 30	2 29	1.40
#16	16A-SRT01	SHAVED	RT	32 40	49 00	8 02	3 78	
	16B-SRT02	SHAVED	RT	34.20	50 50	7 41	3 73	
6.0 Cu	16B-SRT03	SHAVED	RT	32.30	49 70	9 34	4 63	
0.4 Zn			AVG	32.97	49.73	8.26	4 05	0 75
0.4 Ag	16A-ART01	AS-WELDED	RT	36 90	55 90	5 58	3 07	
0 25 Ti	16A-ART02	AS-WELDED	RT	36 20	55 20	6 60	3 27	
0.25 Zr	16B-ART03	AS-WELDED	RT	38 30	53 70	5 48	2 82	
			AVG	37.13	54 93	5.89	3.05	1.12
#17	17A-SRT01	SHAVED	RT	32.50	49 90	6 60	3 27	
	17B-SRT02	SHAVED	RT	33.10	50 10	8 83	4 38	
6.0 Cu	17B-SRT03	SHAVED	RT	34.00	48 20	5 08	2 42	
0.4 Ag			AVG	33.20	49.40	6.84	3.36	1.04
0.4 Mg	17A-ART01	AS-WELDED	RT	37.80	56 20	6 19	3 17	
0.25 Ti	17A-ART02	AS-WELDED	RT	38.20	56 30	5 69	3 07	
0 25 Zr	17B-ART03	AS-WELDED	RT	38 80	56 80	5 38	2 57	
			AVG	38.27	56 43	5.75	2.94	0.32
#18	18A-SRT01	SHAVED	RT	32 70	48 90	7 31	3 38	
	18B-SRT02	SHAVED	RT	32 30	50 30	8 93	4 33	
6.0 Cu	18B-SRT03	SHAVED	RT	33 70	49 50	9 24	4 58	
0.4 Ag			AVG	32.90	49 57	8.49	4 10	0.70
0.25 Ti	18A-ART01	AS-WELDED	RT	38 40	55 90	4 87	2 32	
0.25 Zr	18A-ART02	AS-WELDED	RT	37 20	55 70	5 69	2 77	
	18B-ART03	AS-WELDED	RT	35 40	55 90	6 29	3 17	
			AVG	37.00	55.83	5 62	2.75	0.12
#19	19A-SRT01	SHAVED	RT	32.10	49 00	8 43	3 88	
	19A-SRT02	SHAVED	RT	32.10	50 90	9 04	4 38	
6.0 Cu	19A-SRT03	SHAVED	RT	32.40	49 30	8 73	4 48	
0 4 Ag			AVG	32.20	49.73	8.73	4 25	1.02
0 25 Ti	19A-ART01	AS-WELDED	RT	37 80	56 70	5 48	2 92	
	19A-ART02	AS-WELDED	RT	36 20	52 20	4 37	2 02	
	19A-ART03	AS-WELDED	RT	37 10	56 30	5 89	2 67	
			AVG	37.03	55.07	5.25	2.54	2.49
#20	20A-SRT01	SHAVED	RT	33 00	50 50	7 92	4 03	
	20A-SRT02	SHAVED	RT	33.40	50 50	7 01	3 27	
6.0 Cu	20A-SRT03	SHAVED	RT	32 10	50 50	8 53	3 88	
0.4 Ag			AVG	32.83	50.50	7 82	3.73	0 00
0.4 Mn	20A-ART01	AS-WELDED	RT	38 30	57 30	5 79	2 82	
0.25 Ti	20A-ART02	AS-WELDED	RT	36.10	56 10	6 90	3 22	
	20A-ART03	AS-WELDED	RT	38 20	55 90	5 18	2 72	
			AVG	37.53	56 43	5 96	2.92	0.76

PART II FILLER WIRE DEVELOPMENT PROGRAM

0.320t 2195PLATE/2195PLATE VPPA WELD
TENSILE TEST DATA

FILLER CHEM	TEST PANELS*	WELD CONDITION	TEST TEMP	YIELD (KSI)	ULTIMATE (KSI)	%ELONG. (1.0 IN GAGE)	%ELONG. (2 0 IN GAGE)	UTLIMATE STD DEV
4043**	C1***	SHAVED	RT	36 60	44 00	3 76	1 76	
	C3	SHAVED	RT	35 60	45 00	4 26	2 02	
5.2 Si	C5	SHAVED	RT	36 30	46 80	3 76	1 91	
	C7	SHAVED	RT	34 60	43 10	3 65	1 66	
	C9	SHAVED	RT	35 40	43 40	3 65	1 76	
			AVG:	35.70	44.46	3.82	1.82	1.50
	C2	AS-WELDED	RT	37 40	50 30	3 66	1 91	
	C4	AS-WELDED	RT	35 50	46 90	2 44	0 96	
	C6	AS-WELDED	RT	37 10	49 30	3 35	1 51	
	C8	AS-WELDED	RT	38 00	49 00	2.84	1 46	
	C10	AS-WELDED	RT	39 10	50 30	3 76	1 66	
			AVG:	37.42	49 16	3.21	1 50	1.39

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 OFFSET YIELD

LOAD RANGE, LBS	2-000	FILENAME FOR DIS	MARST
PRE / POST-YD STRAIN RNG.	E / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.995	PANEL I.D.	15-ART
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

*CHEM #15 AS-WELDED TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97572	T01	.999	.315	.315	11.3	12040	38.2	17180	54.6	2.32	4.57
97572	T02	1.002	.314	.315	11.28	11770	37.4	16720	53.1	2.12	3.96
97572	T03	1.003	.313	.314	11.45	12370	39.4	17540	55.9	2.42	4.37
AVERAGE		1.001	.314	.314	11.51		38.4		54.5	2.28	4.30
SD. DEV		0	0	0	.266		.991		.383	.1539	0.310

03-04-1997 13:20:40

TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
MSFC
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	2-000	FILENAME FOR DISK	MARAT
ARE POST-WD STRAIN RNO.	2 " _	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.935	PANEL I.D.	15-SRT
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

*CHEM #15 SHAVED WELD TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ. IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	T. /
97573	T01	.998	.34	.339	9.97	0	0	10280	30.3*	1.358	2.4
97573	T02	.999	.343	.343	10.14	10970	32	16660	-8.6	3.12	6.5
97573	T03	1.002	.341	.342	9.5	11330	33.2	17000	49.8	3.78	7.7
AVERAGE		1	.341	.341	9.87		21.7		42.9	2.65	5.5
SD. DEV		0	0	0	.333		18.23		10.93	1.42	2.76

03-04-1997 13:52:31

TEST CONDUCTED BY GE

* SAMPLE WAS TAKEN AT THE PANEL START WHERE LOF WAS LOCATED.

16-ART

*CHEM #16 AS-WELDED TENSILE DATA

										2" TE %	1" TE %
											5.58
											6.60
											5.48
											5.89
											0.618

16-SRT

*CHEM#16 SHAVED WELD TENSILE DATA

										2"	1/TE %
											7.41
											9.34
											8.02
											8.26
											0.986

MATERIALS AND PROCESSES LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	3-200	FILENAME FOR DISK	MAR97
PRE POST-YLD STRAIN AVG. %	3 3	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.995	PANEL I.D.	17-ART
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTF
		WELD PROCESS	VPPA
		MATERIAL	2195

*CHEM# 17 AS-WELDED TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97574	T01	1.003	.317	.316	10.24	12010	37.8	17870	56.2	3.17	6.19
97574	T02	1.003	.318	.319	10.46	12193	38.2	17960	56.3	3.07	5.69
97574	T03	1	.318	.319	11.29	12350	38.8	18050	56.8	2.57	5.38
AVERAGE		1.002	.319	.318	10.66		38.3		56.4	2.94	5.75
SD. DEV		0	0	0	.554		.538		.292	.324	0.410

03-04-1997 14:07:51

TEST CONDUCTED BY SS

MATERIALS AND PROCESS LAB
METALS PROCESS DEVELOPMENT
WELD EVALUATION LAB

TENSILE TEST 0.2 % OFFSET YIELD

LOAD RANGE, LBS	0+0000	FILENAME FOR DISK	MARST
PRE POST-YD STRAIN % O. %	0 0	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.950	PANEL I.D.	17-SRT
SERVO CONTROL FILENAME	STANDARD	PROGRAM	DTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

*CHEM #17 SHAVED WELD TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS *PSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97575	T01	1.002	.342	.343	9.32	11133	32.5	17100	49.9	3.27	6.60
97575	T02	1.003	.343	.344	8.78	11380	33.1	17220	50.1	4.38	8.83
97575	T03	1.002	.343	.344	9.68	11660	34	16570	48.2	2.42	5.08
AVERAGE		1.002	.343	.343	9.28		33.2		49.4	3.36	6.84
SD. DEV.		0	0	0	.459		.761		1.015	.985	1.889

03-04-1997 14:13:54

TEST CONDUCTED BY GS

18-ART

* CHEM #18 AS-WELDED TENSILE DATA

										2" TE %	1" TE %
											6.29
											4.87
											5.69
											5.62
											0.713

18-SRT

* CHEM # 18 SHAVED WELD TENSILE DATA

											2" TE %	1" TE %
												7.31
												8.93
												9.24
												8.49
												1.037

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	2-000	FILENAME FOR DISK	FEB97
PRE / POST-YD STRAIN RNG, %	2 , 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.935	PANEL I.D.	19 - ART
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

* CHEM #19 AS-WELDED TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YT KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97544	T01	.999	.315	.315	10.65	11920	37.8	17840	56.7	2.92	5.48
97544	T02	.977	.315	.328	11.63	11150	36.2	16080	52.2	2.32	4.37
97544	T03	.997	.313	.312	10.83	11580	37.1	17570	56.3	2.67	5.89
AVERAGE		.991	.314	.312	11.03		37.1		55.1	2.54	5.25
SD. DEV		.01215	0	.0035	.525		.794		2.47	.468	0.789

02-22-1997
TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	3-CCD	FILENAME FOR DISK	FE397
PRE , POST-LD STRAIN ENG. %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.988	PANEL I.D.	19-SRT
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

* CHEM #19 SHAVED WELD TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ. IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97545	T01	.999	.329	.328	10.31	10510	32.1	16050	49	3.89	8.43
97545	T02	.998	.325	.324	9.63	10430	32.1	16520	50.9	4.38	9.04
97545	T03	.999	.326	.326	10.74	10560	32.4	16060	49.3	4.48	8.73
AVERAGE		.999	.326	.326	10.23		32.2		49.7	4.25	8.73
SD. DEV		0	0	0	.558		.21		1.053	.324	0.305

02-22-1997
TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	FEB97
PRE POST-YD STRAIN RNG, %	2 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.935	PANEL I.D.	20-ART
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTF
		WELD PROCESS	VPPA
		MATERIAL	2195

*CHEM #20 AS-WELDED TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97546	T01	.958	.315	.302	11.51	11570	38.3	17260	57.3	2.82	5.79
97546	T02	.956	.318	.304	10.79	10960	36.1	17070	56.1	3.22	6.90
97546	T03	.963	.315	.303	11.04	11570	38.2	16960	55.9	2.72	5.18
AVERAGE		.959	.316	.303	11.11		37.5		56.4	2.92	5.96
SD. DEV		.00359	0	0	.364		1.265		.726	.267	0.875

02-22-1997 14:57:46

TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	2-10K	FILENAME FOR DISK	FEB97
PRE - POST-YD STRAIN RNG. %	2 , 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.955	PANEL I.D.	20-SRT
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

* CHEM #20 SHAVED WELD TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ. IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97547	T01	.957	.328	.314	10.84	10370	33	15853	50.5	4.33	7.92
97547	T02	.97	.327	.317	9.37	10600	33.4	16030	50.5	3.27	7.01
97547	T03	.969	.325	.315	9.52	10110	32.1	15910	50.5	3.88	8.53
AVERAGE		.965	.327	.315	9.91		32.8		50.5	3.73	7.82
SD. DEV		.00725	0	0	.806		.67		0	.4	0.766

02-22-1997
TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	SEP98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F024-003
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

*PREWELD TEST PANEL FOR 16RP6+16RP7
AS-WELDED TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981072	RT2	.995	.201	.2	9.96	7010	35.1	10850	54.3	3.68	6.80
981072	RT4	.993	.201	.1996	8.43	6700	33.6	10670	53.4	3.53	6.80
981072	RT6	.992	.2	.1984	8.93	6670	33.6	10680	53.8	3.63	7.01
981072	RT8	.995	.201	.2	9.29	6860	34.3	11120	55.6	3.63	7.21
981072	RT10	.986	.2	.1972	8.74	6740	34.2	10600	53.8	3.73	7.01
AVERAGE		.992	.201	.199	9.07		34.1		54.2	3.64	6.96
SD. DEV		.0037	0	0	.587		.605		.854	.0747	0.170

09-29-1998
TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	SEP98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F024-003
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

*PREWELD TEST PANEL FOR 16RP6+16RP7 SHAVED TENSILE DATA.

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981071	RT1	.992	.201	.1994	9.36	6160	30.9	9700	48.7	4.58	8.93
981071	RT3	.991	.201	.1992	8.45	6000	30.1	9500	47.7	4.89	9.64
981071	RT5	.991	.201	.1992	8.22	6070	30.5	9610	48.2	4.94	9.44
981071	RT7	.988	.2	.1976	8.49	6220	31.5	9610	48.6	5.04	9.85
981071	RT9	.989	.201	.1988	8.11	5990	30.1	9700	48.8	4.79	9.75
AVERAGE		.99	.201	.1988	8.53		30.6		48.4	4.85	9.52
SD. DEV		0	0	0	.493		.566		.451	.1723	0.362

09-29-1998
TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	SEP98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F025-003
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

*PREWELD PANEL FOR 17RP6+17RP7
AS-WELDED TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981070	RT2	.996	.202	.201	10.51	7100	35.3	10900	54.2	3.78	7.11
981070	RT4	1.001	.202	.202	10.51	7100	35.1	10600	52.4	3.27	5.89
981070	RT6	.997	.202	.201	10.63	7090	35.2	11150	55.4	3.88	7.61
981070	RT8	.997	.202	.201	9.3	7130	35.4	11320	56.2	4.03	7.92
981070	RT10	.999	.202	.202	10.12	7190	35.6	10740	53.2	3.32	6.09
AVERAGE		.998	.202	.202	10.21		35.3		54.3	3.66	6.92
SD. DEV		0	0	0	.543		.202		1.538	.339	0.903

09-29-1998
TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	SEP98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F025-003
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

* PREWELD TEST PANEL FOR 17RP6+17RP7 SHAVED WELD TENSILE DATA.

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981069	RT1	.997	.202	.201	9.15	6280	31.2	9620	47.8	3.68	7.51
981069	RT3	.996	.202	.201	7.74	6670	33.2	9590	47.7	4.74	8.83
981069	RT5	.995	.202	.201	9.61	6360	31.6	9820	48.8	4.94	9.54
981069	RT7	.998	.202	.202	9.53	6410	31.8	9830	48.8	4.74	9.24
981069	RT9	.998	.203	.203	8.88	6220	30.7	9790	48.3	4.89	9.95
AVERAGE		.997	.202	.202	8.98		31.7		48.3	4.59	9.02
SD. DEV		0	0	0	.756		.928		.554	.52	0.934

09-28-1998
TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F027-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

* PREWELD TEST PANEL FOR 18RP6+18RP7
HSWELDED TENSILE DATA

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981111	RT2	.974	.201	.1958	9.31	6470	33.1	10310	52.7	3.43	6.50
981111	RT4	.973	.202	.1965	9.58	6410	32.6	10040	51.1	2.92	6.60
981111	RT6	.972	.201	.1954	10.01	6550	33.5	10240	52.4	3.12	6.50
981111	RT8	.97	.201	.195	9.92	6420	32.9	10260	52.6	3.07	5.89
981111	RT10	.978	.202	.1976	9.03	6550	33.2	9970	50.4	2.87	5.58
AVERAGE		.973	.201	.196	9.57		33.1		51.8	3.08	6.21
SD. DEV		0	0	0	.41		.341		1.013	.218	0.451

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TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	*2 / 2*	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F027-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

* PREWELD TEST PANEL FOR 18RP6+18RP7 SHAVED TENSILE DATA.

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981110	RT1	.972	.202	.1963	8.95	5800	29.5	9500	48.4	5.19	9.75
981110	RT3	.978	.201	.1966	9.16	5720	29.1	9360	47.6	4.84	9.75
981110	RT5	.976	.201	.1962	8.97	5660	28.8	9240	47.1	4.23	8.73
981110	RT7	.977	.201	.1964	8.57	5780	29.5	9460	48.2	5.14	10.05
981110	RT9	.976	.201	.1962	8.58	5660	28.9	9140	46.6	4.28	8.32
AVERAGE		.976	.201	.1963	8.85		29.2		47.6	4.74	9.32
SD. DEV		0	0	0	.259		.317		.748	.458	0.747

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TEST CONDUCTED BY GS

APPENDIX I
REPAIR WELD TENSILE DATA

PART II FILLER WIRE DEVELOPMENT PROGRAM

0.200t 2195PLATE/2195PLATE VPPA WELD
FUSION LINE REPAIR WELD
TENSILE TEST DATA

FILLER CHEM	REPAIR CONDITION	TEST PANELS	REPAIR WELD SPECIMEN#	TEST TEMP	YIELD (KSI)	ULTIMATE (KSI)	%ELONG (1 0 IN GAGE)	%ELONG (2 0 IN GAGE)	UTLIMATE STD DEV	ACTUAL R-LEVEL	WELD TENSILE FRACTURE PATH
	PLAN R5	16RP6	SRT01	RT	35 60	40 30	4 06	2 17		R5	Repair Weld ~45 degrees
#16	REPAIR	16RP6	SRT02	RT	36 80	45 10	5 38	2 87		R5	VPPAW Root Toe-Repair Weld Cover Toe ~45 degrees
		16RP7	SRT01	RT	0 00	37 40	2 54	1 16		R5	VPPAW Root Toe-VPPAW/Repair Toe ~60 degrees
6 0 Cu		16RP7	SRT02	RT	35 70	44 40	6 60	3 53		R5	VPPAW Root F/line-Repair Weld Cover Toe ~45 degrees
0 4 Ag					**36 03**	**41 80**	**4 65**	**2 43**	**3 62**		
0 4 Zn		16RP6	SCT01	LN2	47 30	56 30	4 70	2 20		R5	Opposite F/line
0 25 Ti		16RP6	SCT02	LN2	49 10	63 70	9 10	4 20		R5	Opposite F/line
0 25 Zr		16RP7	SCT01	LN2	45 30	49 00	2 40	1 20		R5	Opposite F/line
		16RP7	SCT02	LN2	45 30	47 90	2 50	1 30		R5	Opposite F/line
					46 75	**54 23**	**4 68**	**2 23**	**7 33**		
	PLAN R5	17RP6	SRT01	RT	34 80	43 00	4 26	2 22		R6	VPPAW Root F/line-VPPAW Cover Center
#17	REPAIR	17RP6	SRT02	RT	32 50	45 80	4 77	2 52		R6	VPPAW Root F/line-VPPAW Cover Center
		17RP7	SRT01	RT	39 60	44 70	3 55	1 91		R5	Repair Weld F/line-VPPAW Cover Center ~45 degrees
		17RP7	SRT02	RT	39 70	48 30	4 67	2 77		R5	VPPAW Root Toe-VPPAW Cover Center ~45 degrees
6 0 Cu					**36 65**	**45 45**	**4 31**	**2 36**	**2 22**		
0 4 Ag		17RP6	SCT01	LN2	44 00	53 10	4 40	2 20		R6	Repair weld where post planish crack
0 4 Mg		17RP6	SCT02	LN2	46 40	55 10	3 50	1 70		R6	Repair Weld/Parent Matl F/line
0 25 Ti		17RP7	SCT01	LN2	51 30	53 20	3 40	1 70		R5	Repair Weld
0 25 Zr		17RP7	SCT02	LN2	49 30	61 30	5 50	2 80		R5	Repair Weld/VPPA F/line
					47 75	**55 68**	**4 20**	**2 10**	**3 86**		
	PLAN R5	18RP6	SRT01	RT	33 6	42 5	5 18	2 82		R5	VPPAW Root Toe-VPPAW Cover Center ~45 degrees
#18	REPAIR	18RP6	SRT02	RT	38 5	46 8	9 75	4 94		R5	VPPAW Cover Center-Repair Weld Cover Center ~45 degrees
		18RP7	SRT01	RT	35 1	42 7	4 37	2 17		R5	VPPAW Root Toe-VPPAW Cover Center ~45 degrees
		18RP7	SRT02	RT	38 3	44 3	5 89	3 02		R5	VPPAW Root Toe-VPPAW Cover Center ~45 degrees
					35 88	**44 08**	**6 30**	**3 24**	**1 99**		
6 0 Cu		18RP6	SCT01	LN2	45 2	54 4	4 3	2 3		R5	VPPA Weld
0 4 Ag		18RP6	SCT02	LN2	47 6	59 9	6	3 1		R5	Repair Weld//Parent Matl F/line
0 25 Ti		18RP7	SCT01	LN2	45	57 7	6 3	2 9		R5	Opposite F/line
0 25 Zr		18RP7	SCT02	LN2	46 1	57 2	5 6	2 6		R5	VPPA Weld
					45 98	**57 30**	**5 55**	**2 73**	**2 26**		

PART II FILLER WIRE DEVELOPMENT PROGRAM

0.200t 2195PLATE/2195PLATE VPPA WELD
FUSION LINE REPAIR WELD
TENSILE TEST DATA

FILLER CHEM	REPAIR CONDITION	TEST PANELS	REPAIR WELD SPECIMEN#	TEST TEMP	YIELD (KSI)	ULTIMATE (KSI)	%ELONG (1 0 IN GAGE)	%ELONG (2 0 IN GAGE)	UTLIMATE STD DEV
	R5	16-R01	ART01	RT	25 90	39 70	8 12	4 13	
	REPAIR	16-R02	ART02	RT	26 90	38 70	6 60	3 27	
		16-R03	ART03	RT	26 40	39 90	6 90	3 27	
		16-R04	ART04	RT	26 10	40 40	6 40	3 43	
					26 33	39 68	7 01	3 53	0 71
		16-R01	ACT01	LN2	38 00	56 50	7 70	3 70	
#19 INITIAL WELD		16-R02	ACT02	LN2	38 00	54 50	6 30	3 00	
#16 REPAIR		16-R03	ACT03	LN2	37 40	50 70	6 60	2 60	
		16-R04	ACT04	LN2	36 60	51 10	5 40	2 70	
					37 00	53 20	6 50	3 00	2 78
	PLAN R5	16-RP1	ART01	RT	32 50	40 40	4 77	2 62	
	REPAIRS	16-RP2	ART02	RT	30 60	39 60	5 08	2 27	
		16-RP3	ART03	RT	32 60	42 10	5 38	2 67	
		16-RP4	ART04	RT	34 00	42 50	4 37	2 12	
					32 43	41 15	4 90	2 42	1 38
		16-RP1	ACT01	LN2	44 80	54 00	5 00	2 30	
		16-RP2	ACT02	LN2	42 70	55 60	6 30	3 10	
		16-RP3	ACT03	LN2	42 40	57 60	7 50	3 70	
		16-RP4	ACT04	LN2	43 00	53 10	6 10	2 40	
					43 23	55 08	6 23	2 88	1 98
	R5	17-R01	ART01	RT	28 6	40 4	6 5	3 38	
	REPAIR	17-R02	ART02	RT	29 9	41 6	6 4	3 27	
		17-R03	ART03	RT	30 9	44 8	5 99	3 12	
		17-R04	ART04	RT	31	44 4	6 5	3 32	
					30 10	42 80	6 35	3 27	2.14
		17-R01	ACT01	LN2	44 8	49 3	3 5	1 4	
#20 INITIAL WELD		17-R02	ACT02	LN2	47 9	61 8	4 5	2 7	
#17 REPAIR		17-R03	ACT03	LN2	45 8	64 6	7 4	3 3	
		17-R04	ACT04	LN2	43 9	58 1	5 1	2 5	
					45 60	58 45	5 13	2 48	6.66
	PLAN R5	17-RP1	ART01	RT	36 5	43 4	3 15	1 46	
	REPAIRS	17-RP2	ART02	RT	38	44 5	4 16	1 86	
		17-RP3	ART03	RT	38 3	46 2	3 45	1 46	
		17-RP4	ART04	RT	36 5	45 1	4 67	2 12	
					37 33	44 80	3 86	1 73	1 17
		17-RP1	ACT01	LN2	46 6	63 9	7	3 1	
		17-RP2	ACT02	LN2	51 1	59 5	4 7	2 2	
		17-RP3	ACT03	LN2	55 4	63 3	2 9	1 2	
		17-RP4	ACT04	LN2	51 3	60 2	4 3	2 2	
					51 10	61 73	4 73	2 18	2 20
	R5	18-R01	ART01	RT	27	42	8 22	4 28	
	REPAIR	18-R02	ART02	RT	28	40	7 92	4 03	
		18-R03	ART03	RT	28 7	42 4	8 63	4 53	
		18-R04	ART04	RT	30 4	38 4	4 06	2 02	
					28 53	40 70	7 21	3 72	1 86
		18-R01	ACT01	LN2	38 5	59 2	5 9	3 5	
#16 INITIAL WELD		18-R02	ACT02	LN2	39 4	56 8	7 4	4 3	
#18 REPAIR		18-R03	ACT03	LN2	39 8	58	6	3	
		18-R04	ACT04	LN2	39 2	52 3	5 2	1 8	
					39 23	56 58	6 13	3 15	3 01
	PLAN R5	18-RP1	ART01	RT	37 5	46 8	6 19	3 22	
	REPAIRS	18-RP2	ART02	RT	38 6	47 1	4 67	2.52	
		18-RP3	ART03	RT	39 2	47	4 67	2 42	
		18-RP4	ART04	RT	39 9	48	4 06	2 12	
					38 80	47 23	4 90	2 57	0 53
		18-RP1	ACT01	LN2	42 6	59 1	8 1	4 5	
		18-RP2	ACT02	LN2	44 3	59 5	7 3	3 8	
		18-RP3	ACT03	LN2	46 4	55 9	4 2	2 5	
		18-RP4	ACT04	LN2	46 6	61 8	7 9	4 1	
					44 98	59 08	6 88	3 73	2 43

PART II FILLER WIRE DEVELOPMENT PROGRAM
WELD TENSILE FRACTURE LOCATION

ID	SHAVED	MATERIAL	TEMP	FRACTURE LOCATION
16RP6-SRT01	SHAVED	2195P/2195P	RT	45 DEGREES THRU REPAIR ZONE
16RP6-SRT02	SHAVED	2195P/2195P	RT	45 DEGREES THRU VPPA FUSION ZONE
16RP7-SRT01	SHAVED	2195P/2195P	RT	VPPA FUSION ZONE AND LINE
16RP7-SRT02	SHAVED	2195P/2195P	RT	45 DEGREES THRU VPPA FUSION ZONE TO VPPA FUSION LINE OPPOSITE REPAIR WELD
16RP6-SCT01	SHAVED	2195P/2195P	-320	VPPA FUSION LINE OPPOSITE REPAIR WELD
16RP6-SCT02	SHAVED	2195P/2195P	-320	VPPA FUSION ZONE
16RP7-SCT01	SHAVED	2195P/2195P	-320	VPPA FUSION LINE OPPOSITE REPAIR WELD
16RP7-SCT02	SHAVED	2195P/2195P	-320	VPPA FUSION LINE OPPOSITE REPAIR WELD
17RP6-SRT01	SHAVED	2195P/2195P	RT	45 DEGREES THRU VPPA FUSION ZONE TO VPPA FUSION LINE OPPOSITE REPAIR WELD
17RP6-SRT02	SHAVED	2195P/2195P	RT	45 DEGREES THRU VPPA FUSION ZONE TO VPPA FUSION LINE OPPOSITE REPAIR WELD
17RP7-SRT01	SHAVED	2195P/2195P	RT	45 DEGREES REPAIR-PLATE FUSION LINE TO VPPA FUSION ZONE
17RP7-SRT02	SHAVED	2195P/2195P	RT	45 DEGREES THRU VPPA FUSION ZONE
17RP6-SCT01	SHAVED	2195P/2195P	-320	REPAIR ZONE
17RP6-SCT02	SHAVED	2195P/2195P	-320	REPAIR-PLATE FUSION LINE TO REPAIR ZONE
17RP7-SCT01	SHAVED	2195P/2195P	-320	REPAIR-PLATE FUSION LINE TO REPAIR ZONE
17RP7-SCT02	SHAVED	2195P/2195P	-320	VPPA FUSION ZONE TO REPAIR ZONE
18RP6-SRT01	SHAVED	2195P/2195P	RT	45 DEGREES THRU VPPA FUSION ZONE
18RP6-SRT02	SHAVED	2195P/2195P	RT	45 DEGREES VPPA FUSION ZONE TO REPAIR ZONE
18RP7-SRT01	SHAVED	2195P/2195P	RT	45 DEGREES VPPA FUSION ZONE TO VPPA FUSION LINE OPPOSITE REPAIR
18RP7-SRT02	SHAVED	2195P/2195P	RT	46 DEGREES VPPA FUSION ZONE TO VPPA FUSION LINE OPPOSITE REPAIR
18RP6-SCT01	SHAVED	2195P/2195P	-320	VPPA FUSION LINE
18RP6-SCT02	SHAVED	2195P/2195P	-320	REPAIR-PALTE FUSION LINE TO REPAIR ZONE
18RP7-SCT01	SHAVED	2195P/2195P	-320	VPPA FUSION ZONE
18RP7-SCT02	SHAVED	2195P/2195P	-320	VPPA FUSION ZONE

PART II FILLER WIRE DEVELOPMENT PROGRAM
REPAIR WELD CRYO TENSILE DATA

MRFT ID NO	OTHER ID NO	TEST TYPE	MATERIAL	TEST PARAMETE MEDIA	SOAK TIME	1" Gage INITIAL in	1" Gage FINAL in	2" Gage INITIAL in	2" Gage FINAL in	WIDTH INITIAL in	THICK. INITIAL in	2% Y L lbs	ULTIMAT LOAD lbs	INITIAL AREA in^2	2% Y S ksi	UTS ksi	ELASTIC MODULU Msi	1" EL %	2" EL %	Fracture Location
16,229	18-R01-ACT01	SHAVED	2195P/2195P	LN2	5 MIN	1 017	1 077	2 010	2 080	0 998	0 204	7,836	12,054	0 2035	38 5	59 2	12 5	5 9	3 5	WELD ZONE
16,230	18-R02-ACT02	SHAVED	2195P/2195P	LN2	5 MIN	1 012	1 087	2 009	2 096	1 001	0 203	8,010	11,535	0 2032	39 4	56 8	12 3	7 4	4 3	FUSION LINE
16,231	18-R03-ACT03	SHAVED	2195P/2195P	LN2	5 MIN	1 016	1 077	2 011	2 072	0 998	0 202	8,033	11,685	0 2016	39 8	58 0	12 1	6 0	3 0	FUSION LINE
16,232	18-R04-ACT04	SHAVED	2195P/2195P	LN2	5 MIN	1 014	1 067	2 012	2 049	1 002	0 207	8,138	10,838	0 2074	39 2	52 3	10 7	5 2	1 8	FUSION LINE
16,233	18-RP1-ACT01	SHAVED	2195P/2195P	LN2	5 MIN	1 017	1 099	2 011	2 102	0 997	0 205	8,700	12,075	0 2044	42 6	59 1	10 6	8 1	4 5	FUSION LINE
16,234	18-RP2-ACT02	SHAVED	2195P/2195P	LN2	5 MIN	1 013	1 087	2 010	2 086	0 997	0 206	9,098	12,218	0 2054	44 3	59 5	10 3	7 3	3 8	WELD ZONE
16,235	18-RP3-ACT03	SHAVED	2195P/2195P	LN2	5 MIN	1 012	1 054	2 010	2 060	1 001	0 205	9,525	11,475	0 2052	46 4	55 9	12 2	4 2	2 5	WELD ZONE
16,236	18-RP4-ACT04	SHAVED	2195P/2195P	LN2	5 MIN	1 012	1 092	2 010	2 093	0 997	0 202	9,383	12,443	0 2014	46 6	61 8	12 1	7 9	4 1	WELD ZONE
16,237	16-RP1-ACT01	SHAVED	2195P/2195P	LN2	5 MIN	1 014	1 065	2 007	2 054	0 999	0 199	8,903	10,733	0 1988	44 8	54 0	13 8	5 0	2 3	FUSION LINE
16,238	16-RP2-ACT02	SHAVED	2195P/2195P	LN2	5 MIN	1 014	1 078	2 006	2 068	0 997	0 196	8,348	10,860	0 1954	42 7	55 6	10 9	6 3	3 1	FUSION LINE
16,239	16-RP3-ACT03	SHAVED	2195P/2195P	LN2	5 MIN	1 011	1 087	2 004	2 079	0 998	0 195	8,250	11,213	0 1946	42 4	57 6	10 2	7 5	3 7	WELD ZONE
16,240	16-RP4-ACT04	SHAVED	2195P/2195P	LN2	5 MIN	1 006	1 067	2 008	2 056	0 997	0 204	8,753	10,808	0 2034	43 0	53 1	11 1	6 1	2 4	WELD ZONE
16,241	16-R01-ACT01	SHAVED	2195P/2195P	LN2	5 MIN	1 010	1 088	2 009	2 084	0 996	0 196	7,035	11,025	0 1952	36 0	56 5	12 6	7 7	3 7	WELD ZONE
16,242	16-R02-ACT02	SHAVED	2195P/2195P	LN2	5 MIN	1 004	1 067	2 006	2 066	0 997	0 195	7,388	10,605	0 1944	38 0	54 5	12 2	6 3	3 0	FUSION LINE
16,243	16-R03-ACT03	SHAVED	2195P/2195P	LN2	5 MIN	1 003	1 069	2 009	2 061	0 998	0 198	7,395	10,013	0 1976	37 4	50 7	13 1	6 6	2 6	WELD ZONE
16,244	16-R04-ACT04	SHAVED	2195P/2195P	LN2	5 MIN	1 013	1 068	2 011	2 066	0 996	0 194	7,073	9,878	0 1932	36 6	51 1	11 8	5 4	2 7	WELD ZONE
16,245	17-R01-ACT01	SHAVED	2195P/2195P	LN2	5 MIN	1 012	1 047	2 012	2 041	0 994	0 187	8,325	9,173	0 1859	44 8	49 3	11 4	3 5	1 4	FUSION LINE
16,246	17-R02-ACT02	SHAVED	2195P/2195P	LN2	5 MIN	1 010	1 055	2 010	2 064	0 993	0 175	8,325	10,748	0 1738	47 9	61 8	14 0	4 5	2 7	FUSION LINE
16,247	17-R03-ACT03	SHAVED	2195P/2195P	LN2	5 MIN	1 013	1 088	2 011	2 077	0 994	0 197	8,963	12,645	0 1958	45 8	64 6	12 5	7 4	3 3	WELD ZONE
16,248	17-R04-ACT04	SHAVED	2195P/2195P	LN2	5 MIN	1 011	1 063	2 011	2 061	0 993	0 196	8,550	11,303	0 1946	43 9	58 1	13 4	5 1	2 5	WELD ZONE
16,249	17-RP1-ACT01	SHAVED	2195P/2195P	LN2	5 MIN	1 013	1 084	2 011	2 074	0 997	0 190	8,820	12,105	0 1894	46 6	63 9	9 2	7 0	3 1	WELD ZONE
16,250	17-RP2-ACT02	SHAVED	2195P/2195P	LN2	5 MIN	1 014	1 062	2 011	2 055	0 995	0 196	9,975	11,595	0 1950	51 1	59 5	11 5	4 7	2 2	WELD ZONE
16,251	17-PR3-ACT03	SHAVED	2195P/2195P	LN2	5 MIN	1 014	1 043	2 012	2 037	0 997	0 187	10,335	11,798	0 1864	55 4	63 3	11 5	2 9	1 2	FUSION LINE
16,252	17-RP4-ACT04	SHAVED	2195P/2195P	LN2	5 MIN	1 011	1 054	2 009	2 054	0 998	0 197	10,095	11,835	0 1966	51 3	60 2	12 5	4 3	2 2	FUSION LINE
17,614	16RP6-SCT01	SHAVED	2195P/2195P	LN2	5 MIN	1 009	1 056	2 007	2 052	0 999	0 200	9,450	11,250	0 1998	47297	56306	9 3	4 7	2 2	FUSION LINE
17,613	16RP6-SCT02	SHAVED	2195P/2195P	LN2	5 MIN	1 005	1 096	2 007	2 092	0 999	0 200	9,810	12,735	0 1998	49099	63739	11 5	9 1	4 2	WELD ZONE
17,621	16RP7-SCT01	SHAVED	2195P/2195P	LN2	5 MIN	1 008	1 032	2 007	2 031	0 998	0 199	8,993	9,728	0 1986	45282	48982	13 9	2 4	1 2	FUSION LINE
17,615	16RP7-SCT02	SHAVED	2195P/2195P	LN2	5 MIN	1 007	1 032	2 006	2 032	0 999	0 198	8,955	9,473	0 1978	45273	47891	10 6	2 5	1 3	FUSION LINE
17,623	17RP6-SCT01	SHAVED	2195P/2195P	LN2	5 MIN	1 005	1 049	2 006	2 047	0 998	0 200	8,775	10,605	0 1996	43963	53131	8 8	4 4	2 0	WELD ZONE
17,622	17RP6-SCT02	SHAVED	2195P/2195P	LN2	5 MIN	1 006	1 041	2 005	2 040	0 997	0 200	9,248	10,988	0 1994	46377	55103	8 9	3 5	1 7	FUSION LINE
17,617	17RP7-SCT01	SHAVED	2195P/2195P	LN2	5 MIN	1 007	1 041	2 006	2 040	1 001	0 200	10,268	10,650	0 2002	51289	53197	10 6	3 4	1 7	FUSION LINE
17,618	17RP7-SCT02	SHAVED	2195P/2195P	LN2	5 MIN	1 005	1 060	2 004	2 061	1 001	0 203	10,020	12,450	0 2032	49310	61269	10 2	5 5	2 8	WELD ZONE
17,620	18RP6-SCT01	SHAVED	2195P/2195P	LN2	5 MIN	1 007	1 050	2 006	2 052	0 999	0 200	9,083	10,860	0 1998	45460	54354	7 2	4 3	2 3	WELD ZONE
17,619	18RP6-SCT02	SHAVED	2195P/2195P	LN2	5 MIN	1 007	1 067	2 008	2 071	0 990	0 200	9,510	11,970	0 1980	48030	60455	10 0	6 0	3 1	FUSION LINE
17,616	18RP7-SCT01	SHAVED	2195P/2195P	LN2	5 MIN	1 006	1 069	2 007	2 066	1 000	0 199	8,955	11,490	0 1990	45000	57739	13 9	6 3	2 9	WELD ZONE
17,612	18RP7-SCT02	SHAVED	2195P/2195P	LN2	5 MIN	1 007	1 063	2 007	2 059	0 999	0 198	9,128	11,318	0 1978	46145	57216	18 0	5 6	2 6	WELD ZONE

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	JUL97
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	16
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT
		WELD PROCESS	VPPA/GTAW
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ. IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	TE %	2" TE %	1" TE %
97746	R01	1.005	.202	.203	9.25	5250	25.9	8060	39.7	4.13		8.12
97746	R02	1.007	.201	.202	8.32	5440	26.9	7840	38.7	3.27		6.60
97746	R03	1.007	.201	.202	9.51	5340	26.4	8070	39.9	3.27		6.90
97746	R04	1.004	.201	.202	9.96	5270	26.1	8160	40.4	3.43		6.40
AVERAGE		1.006	.201	.202	9.26		26.3		39.7	3.53		7.01
SD. DEV		0	0	0	.696		.427		.703	.409		0.773

07-22-1997
TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	JUN97
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D. 16RP	~~F003;004;005;006~~
SERVO CONTROL FILENAME	STANDARD	PROGRAM	ALT FILLER WIRE
		WELD PROCESS	VPPA
		MATERIAL	2195

	WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ. IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
16RP1	97722	A-01	1.009	.201	.203	9.36	6590	32.5	8200	40.4	2.62	4.77
16RP2	97722	A-02	1.012	.2	.202	9.94	6190	30.6	8020	39.6	2.27	5.08
16RP3	97722	A-03	1.009	.2	.202	10.2	6580	32.6	8500	42.1	2.67	5.38
16RP4	97722	A-04	1.009	.201	.203	10.1	6890	34	8620	42.5	2.12	4.37
	AVERAGE		1.01	.2	.202	9.9		32.4		41.2	2.42	4.90
	SD. DEV		0	0	0	.375		1.409		1.373	.27	0.434

06-26-1997 12:12:04

TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	JUL97
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	17
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT
		WELD PROCESS	VPPA/GTAW
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97747	R01	1.007	.201	.202	9.7	5800	28.6	8180	40.4	3.38	6.50
97747	R02	1.009	.2	.202	10	6040	29.9	8390	41.6	3.27	6.40
97747	R03	1.009	.201	.203	10.28	6260	30.9	9080	44.8	3.12	5.99
97747	R04	1.005	.202	.203	10.37	6290	31	9010	44.4	3.32	6.50
AVERAGE		1.008	.201	.203	10.09		30.1		42.8	3.27	6.35
SD. DEV		0	0	0	.304		1.09		2.13	.1088	0.24

07-22-1997
TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	MAY97
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	17-RP
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ. IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	TE %	2" TE %	1" TE %
97664	1-01	.997	.201	.2	9.6	7320	36.5	8700	43.4	1.361		3.15
97664	2-02	.996	.199	.1982	9.85	7540	38	8820	44.5	1.864		4.16
97664	3-03	.997	.201	.2	9.73	7670	38.3	9260	46.2	1.461		3.45
97664	4-04	.996	.2	.1992	9.98	7270	36.5	8980	45.1	2.12		4.67
AVERAGE		.996	.2	.1995	9.59		37.3		44.8	1.725		3.86
SD. DEV		0	0	0	.393		.963		1.162	.22		0.689

05-08-1997
TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	JUL97
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	18
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT
		WELD PROCESS	VPPA/GTAW
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2%YD KSI	ULT LBS	ULT KSI	TE %	2" TE %	1" TE %
97748	R01	1.006	.202	.203	10.41	5490	27	8530	42	4.28		8.22
97748	R02	1.008	.201	.203	9.98	5680	28	8270	40.8	4.03		7.92
97748	R03	1.004	.201	.202	10.28	5790	28.7	8560	42.4	4.53		8.63
97748	R04	1.006	.201	.202	10.14	6140	30.4	7760	38.4	2.02		4.06
AVERAGE		1.006	.201	.202	10.2		28.5		40.9	3.72		7.21
SD. DEV		0	0	0	.1858		1.413		1.82	1.152		2.118

07-23-1997 10:23:38

TEST CONDUCTED BY GS

MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB

TENSILE TEST, 0.2 % OFFSET YIELD

LOAD RANGE, LBS	24000	FILENAME FOR DISK	MAY97
PRE / POST-YD STRAIN RNG, %	2 / 3	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	18-RP
SERVO CONTROL FILENAME	STANDARD	PROGRAM	CTTP
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ. IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
97667	1-01	1.025	.201	.206	9.54	7730	37.5	9640	46.8	3.22	6.19
97667	2-02	1.02	.201	.205	9.98	7910	38.6	9670	47.1	2.52	4.67
97667	3-03	1.021	.201	.205	10.44	8050	39.2	9640	47	2.42	4.67
97667	4-04	1.027	.2	.205	10.46	8200	39.9	9860	48	2.12	4.06
AVERAGE		1.023	.201	.205	10.11		38.8		47.2	2.57	4.90
SD. DEV		.0033	0	0	.44		1.002		.542	.469	0.909

05-16-1997
TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

#16RP6
C16/C16

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F019-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981090	TR1 (SRT01)	1.021	.2	.204	9.5	7260	35.6	8220	40.3	2.17	4.06
981090	TR2 (SRT02)	1.02	.201	.205	9.95	7550	36.8	9250	45.1	2.87	5.38
AVERAGE		1.02	.2	.205	9.73		36.2		42.7	2.52	4.72
SD. DEV		0	0	0	.32		.893		3.42	.499	0.933

10-02-1998 13:28:28

TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

#16RP7
C16/C16

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F020-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981091	TR1(SRT01)	1.022	.2	.204	10.33	0	0	7640	37.4	1.159	2.54
981091	TR2(SRT01)	1.018	.199	.203	10.36	7230	35.7	8990	44.4	3.53	6.60
AVERAGE		1.02	.1995	.203	10.35		17.84		40.9	2.34	4.57
SD. DEV		0	0	0	.0224		25.2		4.95	1.674	2.871

10-02-1998 13:37:47

TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

#17RP6
C17/C17

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F021-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981095	TR1 (SRT01)	.995	.2	.199	8.25	6920	34.8	8550	43	2.22	4.26
981095	TR2 (SRT01)	.996	.2	.1992	8.71	6470	32.5	9110	45.8	2.52	4.77
AVERAGE		.996	.2	.1991	8.48		33.6		44.4	2.37	4.52
SD. DEV		0	0	0	.328		1.622		1.972	.214	0.359

10-06-1998 13:52:51

TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

#17RP7
C17/C17

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F022-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981082	TR1(SR701)	.999	.201	.201	10.26	7940	39.6	8970	44.7	1.914	3.55
981082	TR2(SR702)	.997	.202	.201	10.49	7990	39.7	9720	48.3	2.77	4.67
AVERAGE		.998	.202	.201	10.37		39.6		46.5	2.34	4.11
SD. DEV		0	0	0	.1606		.0677		2.54	.606	0.790

10-01-1998 10:03:01

TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

#18RP6
C18/C18

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F017-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981083	TR1 (SRTO1)	.999	.2	.1998	9.08	6720	33.6	8490	42.5	2.82	5.18
981083	TR2 (SRTO2)	.995	.2	.199	10.58	7660	38.5	9310	46.8	4.94	9.75
AVERAGE		.997	.2	.1994	9.83		36.1		44.6	3.88	7.46
SD. DEV		0	0	0	1.054		3.44		3.04	1.496	3.230

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TEST CONDUCTED BY GS

1 MATERIALS AND PROCESS LAB
METALS PROCESS BRANCH
WELD EVALUATION LAB
0

TENSILE TEST, 0.2 % OFFSET YIELD

#18RP7
C18/C18

LOAD RANGE, LBS	24000	FILENAME FOR DISK	OCT98
PRE / POST-YD STRAIN RNG, %	2 / 2	TEST PARAMETERS	TEST1
GAGE LENGTH, INCHES	1.985	PANEL I.D.	F018-002
SERVO CONTROL FILENAME	STANDARD	PROGRAM	SLWT/ALTFW
		WELD PROCESS	VPPA
		MATERIAL	2195

WORK #	SPEC ID	WD INCHES	THK INCHES	AREA SQ.IN	MODULUS MPSI	.2% YD LBS	.2% YD KSI	ULT LBS	ULT KSI	2" TE %	1" TE %
981081	TR1 (SRT01)	.995	.199	.198	13.56	6950	35.1	8450	42.7	2.17	4.37
981081	TR2 (SRT02)	.997	.2	.1994	10.02	7240	36.3	8840	44.3	3.02	5.89
AVERAGE		.996	.1995	.1987	11.79		35.7		43.5	2.59	5.13
SD. DEV		0	0	0	2.5		.826		1.151	.606	1.077

10-01-1998 09:52:53

TEST CONDUCTED BY GS

APPENDIX J
J_{Ic} WELD TEST DATA

VPPA WELD JIc DATA - WELD CENTERLINE

ID NO	TEST TYPE	MATERIAL	TEST PARAMETERS MEDIA	TEMP F	JQ in-lbf/in^2	a(Q) in	KJ ksi - in^ 5	Jq=Jic	Invalid Sections
16A-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	103 7	0 0092	33 8		9 4.1 5, 9 4 1 6, and 9 4 1 7
16A-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	130 7	0 0096	37 9		8 4 2, 9 2 2, 9 4 1 5, 9 4 1 6, and 9 4 1 7
16B-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	47 3	0 0085	22 8		9 4 1.5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**93 90**		**31 50**		
16A-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	71 2	0 0086	28 0		9 4 1 5, 9 4 1.6, and 9 4 1 7
16B-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	57 0	0 0084	25 0		9 4 1 5, 9 4.1 6, and 9 4 1 7
16B-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	59 2	0.0085	25 5		9 4.1 5, 9 4 1.6, and 9.4.1.7
				AVERAGE	**62 47**		**26 17**		
18A-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	95 5	0 0092	32 4		9 4 1 5, 9 4 1 6, and 9 4 1 7
18A-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	107 4	0 0093	34 4		9 4 1 5, 9 4 1 6, and 9 4 1 7
18B-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	65 1	0 0088	26 8		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**89.33**		**31.20**		
18A-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	66 9	0 0086	27 1		9 4 1 5, 9 4 1 6, and 9 4 1 7
18B-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	60 8	0 0085	25 9		9 4 1 5, 9 4 1.6, and 9 4 1 7
18B-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	67 6	0 0085	27 3		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**65 10**		**26 77**		
19A-CRJ01	JIC	AL-LI 2195/2195	AIR	RT					Void Test
19A-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	96 9	0 0093	32 7		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**96 9**		**32.7**		
19B-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	65 3	0 0086	26 8		9 4 1 6, and 9 4 1 7
19B-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	65 7	0 0086	26 9		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**65 5**		**26 9**		
20A-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	95 7	0 0091	32 4		9 4 1 5, 9 4 1 6, and 9 4 1 7
20A-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	86 8	0 0090	30 9		9 4 1 5, 9.4 1 6, and 9 4 1 7
20B-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	74 0	0 0088	28 5		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**85 50**		**30 60**		
20A-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	59 2	0 0084	25 5		9 4 1 6, and 9 4 1 7
20B-CCJ02	JIC	AL-LI 2195/2195	LN2	-320					Void Test
20B-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	40 0	0 0082	21 0		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**49.6**		**23.3**		

C19/C16 REPAIR WELD JIc DATA

OTHER ID NO	TEST TYPE	MATERIAL	TEST PARAMETERS MEDIA	TEMP -F	JQ in-lbf/in^2	a(Q) in	KJ ksi - in^ 5	Jq=Jic	Invalid Sections
16R01-FRJ01	JIC	AL-LI 2195/2195	AIR	RT					Void Test
16R02-FRJ02	JIC	AL-LI 2195/2195	AIR	RT	252 30	0 0118	52 70		7 1 1 and 9 2 2
				AVERAGE	**252.30**		**52 70**		
16R01-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	92 00	0 0093	31 80		9 4 1 5 and 9 4 1 6
16R02-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	114 10	0 0094	35 40		9 4 1 5 and 9 4 1 6
				AVERAGE	**103.05**		**33.60**		
16R04-FCJ01	JIC	AL-LI 2195/2195	LN2	-320	273 20	0 0109	54 80		9 1 4 5, and 9 4 1 7
16R05-FCJ02	JIC	AL-LI 2195/2195	LN2	-320	103 90	0 0090	33 80		9 4 1 5 and 9 4 1 7
16R05-FCJ03	JIC	AL-LI 2195/2195	LN2	-320	257 60	0 0107	53 20		9 4 1 7
				AVERAGE	**211.57**		**47.27**		
16R04-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	115 30	0 0092	35 60		9 4 1 5, and 9 4 1 7
16R05-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	105 10	0 0090	34 00		9 4 1 5, 9 4 1 6
16R05-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	100 60	0 0090	33 30		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**107.00**		**34 30**		
16RP1-FRJ01	JIC	AL-LI 2195/2195	AIR	RT	246 80	0 0113	52 10		9 4 1 5, 9 4 1 6, and 9 4 1 7
16RP2-FRJO2	JIC	AL-LI 2195/2195	AIR	RT	221 60	0 0109	49 40		9 4 1 6
16RP3-FRJ03	JIC	AL-LI 2195/2195	AIR	RT	221 60	0 0109	49 40		9 4 1 7
				AVERAGE	**230.00**		**50 30**		
16RP1-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	93 70	0 0092	32 10		9 4 1 5 and 9 4 1 7
16RP2-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	140 50	0 0098	38 40		9 4 1 5, 9 4 1 6, and 9 4 1 7
16RP3-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	123 70	0 0096	36 90		8 4 2, 9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**119.30**		**35 80**		
16RP4-FCJ01	JIC	AL-LI 2195/2195	LN2	-320	135 20	0 0093	38 60		9 4 1 5
16RP5-FCJ02	JIC	AL-LI 2195/2195	LN2	-320	168 00	0 0096	43 00		9 4 1 5, 9 4 1 6, and 9 4 1 7
16RP5-FCJ03	JIC	AL-LI 2195/2195	LN2	-320	155 70	0 0095	41 40		9 4 1 5 and 9 4 1 7
				AVERAGE	**152.97**		**41 00**		
16RP4-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	70 60	0 0086	27 90		9 4 1 5, and 9 4 1 7
16RP5-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	102 00	0 0089	33 50		9 4 1 5, and 9 4 1 6
				AVERAGE	**86.30**		**30.70**		

PART II 2195 FILLER WIRE DEVELOPMENT PROGRAM

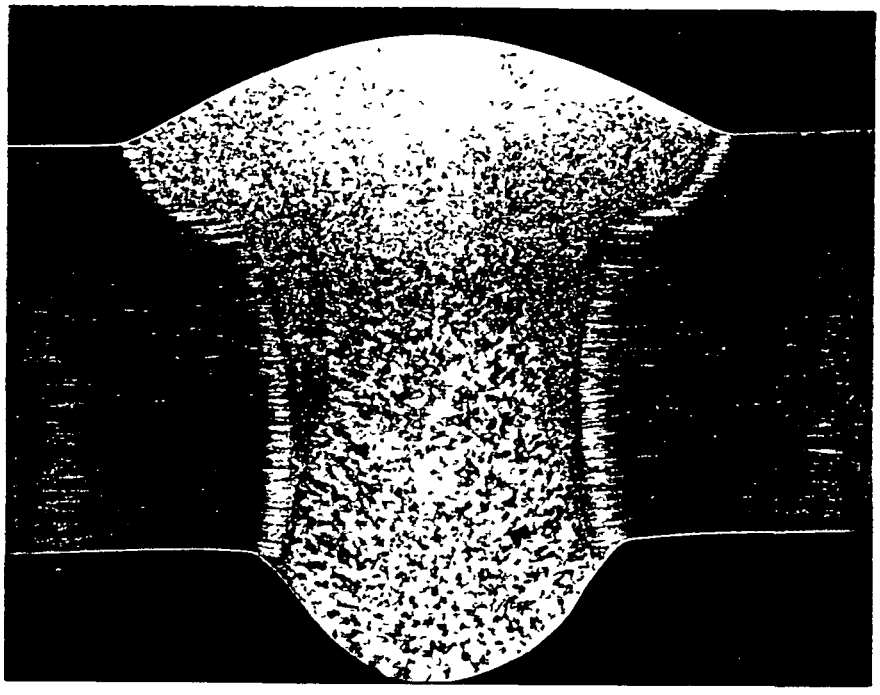
C20/C17 REPAIR WELD JIc DATA

OTHER ID NO	TEST TYPE	MATERIAL	TEST PARAMETERS MEDIA	TEMP F	JQ in-lbf/in^2	a(Q) in	KJ ksi - in^ 5	Jq=Jic	Invalid Sections
17R01-FRJ01	JIC	AL-LI 2195/2195	AIR	RT					Void Test
17R02-FRJ02	JIC	AL-LI 2195/2195	AIR	RT	179 80	0 0104	44 50		9 4 1 6
17R03-FRJ03	JIC	AL-LI 2195/2195	AIR	RT	368 00	0 0130	63 60		7 1 1, 9 2.2, 9.4.1.5, and 9 4.1.7
				AVERAGE	**273 90**		**54 05**		
17R01-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	167 00	0 0102	42 90		9 4 1 5, 9 4 1 6, and 9 4 1 7
17R02-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	146 20	0 0099	40 10		9 4 1 5 and 9 4 1 6
17R03-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	122 70	0 0096	36 70		9 4 1 5 and 9 4 1 7
				AVERAGE	**145 30**		**39 90**		
17R04-FCJ01	JIC	AL-LI 2195/2195	LN2	-320	102 00	0 0089	33 50		9 2 2, 9 3 2, 9 4 1 5, 9 4 1 6, and 9 4 1 7
17R05-FCJ02	JIC	AL-LI 2195/2195	LN2	-320	211 20	0 0099	48 20		9 4 1 5, 9 4 1 6, and 9 4 1 7
17R05-FCJ03	JIC	AL-LI 2195/2195	LN2	-320	163 90	0 0095	42 50		8 4 2, 9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**159 03**		**41.40**		
17R04-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	88 40	0 0087	31 20		9 4 1 5
17R05-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	61 30	0 0085	26 00		9 4 1 5, 9 4 1 6, and 9 4 1 7
17R05-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	62 70	0 0085	26 30		9 4 1 5 and 9 4 1 7
				AVERAGE	**70 80**		**27 83**		
17RP1-FRJ01	JIC	AL-LI 2195/2195	AIR	RT	245 90	0 0109	51 30	Yes	
17RP2-FRJ02	JIC	AL-LI 2195/2195	AIR	RT	183 20	0 0101	44 90		9 4 1 5
17RP3-FRJ03	JIC	AL-LI 2195/2195	AIR	RT	71 70	0 0088	28 10		9 4 1 5 and 9 4 1 7
				AVERAGE	**166 93**		**41.43**		
17RP1-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	53 20	0 0085	24 20		9 4 1 5 and 9 4 1 7
17RP2-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	68 90	0 0087	27 50		9 4 1 5 and 9 4 1. 7
17RP3-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	55 50	0 0009	24 70		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**59 20**		**25 47**		
17RP4-FCJ01	JIC	AL-LI 2195/2195	LN2	-320	141 30	0 0091	39 40		9 4 1 5, 9 4 1 6, and 9 4 1 7
17RP5-FCJ02	JIC	AL-LI 2195/2195	LN2	-320	120 90	0 0090	36 50		8 4 2, 9 4 1 5, and 9 4 1 6
				AVERAGE	**131.10**		**37.95**		
17RP4-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	47 70	0 0083	22 90		9 4 1 5, 9 4 1 6, and 9 4 1 7
17RP5-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	55 00	0 0083	24 60		9 4 1 5, and 9 4 1 6
17RP5-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	66 30	0 0084	27 00		9 4 1 5 and 9.4.1 7
				AVERAGE	**56 33**		**24.83**		

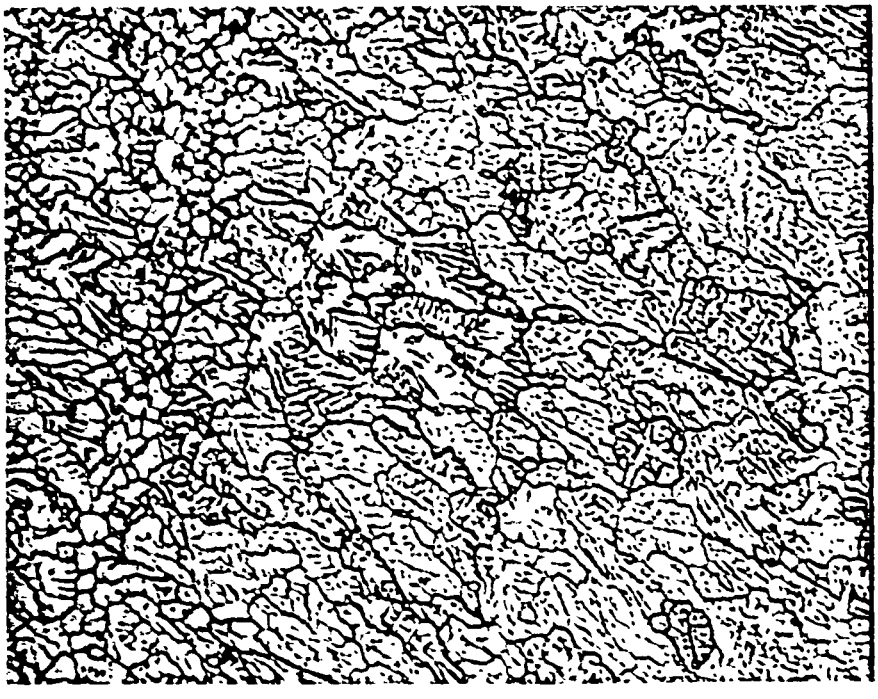
C16/C18 REPAIR WELD JIc DATA

OTHER ID NO	TEST TYPE	MATERIAL	TEST PARAMETERS MEDIA	TEMP F	JQ in-lbf/in^2	a(Q) in	KJ ksi - in^ 5	Jq=Jic	Invalid Sections
18R01-FRJ01	JIC	AL-LI 2195/2195	AIR	RT	307 10	0 0124	58 10		7 1 1, 8 4 3 6, 9 2 2, 9 4 1 6, and 9 4 1 7
18R02-FRJ02	JIC	AL-LI 2195/2195	AIR	RT					Void Test
18R03-FRJ03	JIC	AL-LI 2195/2195	AIR	RT	258 70	0 0117	53 30		8 4 2, 7 1 1, and 8 4 3 6
				AVERAGE	**282.90**		**55.70**		
18R01-CRJ01	JIC	AL-LI 2195/2195	AIR	RT					Void Test
18R02-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	95 00	0 0093	32 30		8 4 3 6, 9 4 1 5, 9 4 1 6, and 9 4 1 7
18R03-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	43 70	0 0085	21 90		8 4 3 6, 9 4 1 5, and 9 4 1 7
				AVERAGE	**69.35**		**27 10**		
18R04-FCJ01	JIC	AL-LI 2195/2195	LN2	-320	166 00	0 0096	42 70		9 4 1 5, 9 4 1 6, and 9 4 1 7
18R05-FCJ02	JIC	AL-LI 2195/2195	LN2	-320	162 80	0 0096	42 30		9 4 1 7
18R05-FCJ03	JIC	AL-LI 2195/2195	LN2	-320	93 60	0 0089	32 10		9 4 1 5, and 9 4 1 6
				AVERAGE	**140 80**		**39 03**		
18R04-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	79 10	0 0087	29 50		9 4 1 5
18R05-CCJ02	JIC	AL-LI 2195/2195	LN2	-320	87 70	0 0088	31 10		9 4 1 5, and 9 4 1 7
18R05-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	96 40	0 0089	32 60		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**87.73**		**31.07**		
18RP1-FRJ01	JIC	AL-LI 2195/2195	AIR	RT	254 40	0 0108	53 10	Yes	
18RP2-FRJ02	JIC	AL-LI 2195/2195	AIR	RT	304 00	0 0114	57 80		8 4 3 6 and 9 4 1 6
18RP3-FRJ03	JIC	AL-LI 2195/2195	AIR	RT	196 60	0 0102	46 50		9 4 1 5 and 9 4 1 6
				AVERAGE	**251.67**		**52.47**		
18RP1-CRJ01	JIC	AL-LI 2195/2195	AIR	RT	89 50	0 0089	31 40		9 4 1 5, 9 4 1 6, and 9 4 1 7
18RP2-CRJ02	JIC	AL-LI 2195/2195	AIR	RT	67 80	0 0087	27 30		9 4 1 5 and 9 4 1 7
18RP3-CRJ03	JIC	AL-LI 2195/2195	AIR	RT	49 20	0 0085	23 30		9 4 1 5 and 9 4 1 7
				AVERAGE	**68.83**		**27.33**		
18RP4-FCJ01	JIC	AL-LI 2195/2195	LN2	-320	182 20	0 0096	44 80		9 4 1 5, 9 4 1 6, and 9 4 1 7
18RP5-FCJ02	JIC	AL-LI 2195/2195	LN2	-320	216 50	0 0100	48 80	Yes	None
18RP5-FCJ03	JIC	AL-LI 2195/2195	LN2	-320	149 20	0 0093	40 50		9 4 1 5, 9 4 1 6, and 9 4 1 7
				AVERAGE	**182 63**		**44.70**		
18RP4-CCJ01	JIC	AL-LI 2195/2195	LN2	-320	64 30	0 0084	26 60		9 4 1 6, and 9 4 1 7
18RP5-CCJ02	JIC	AL-LI 2195/2195	LN2	-320					Void Test
18RP5-CCJ03	JIC	AL-LI 2195/2195	LN2	-320	67 30	0 0085	27 20		9 4 1 5, and 9 4 1 7
				AVERAGE	**65 80**		**26.90**		

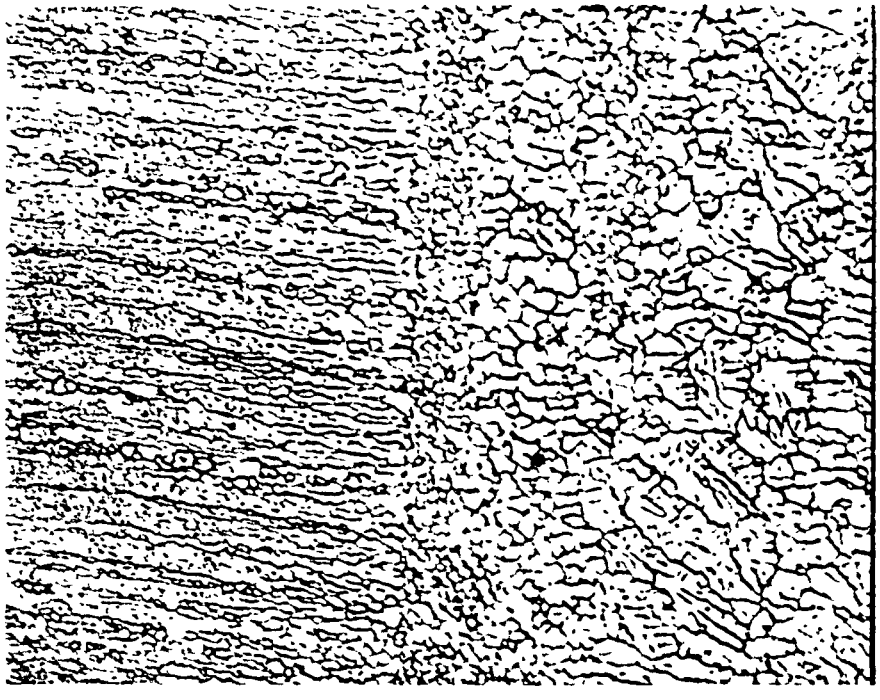
APPENDIX K
0.320t VPPA WELD METALLOGRAPHY



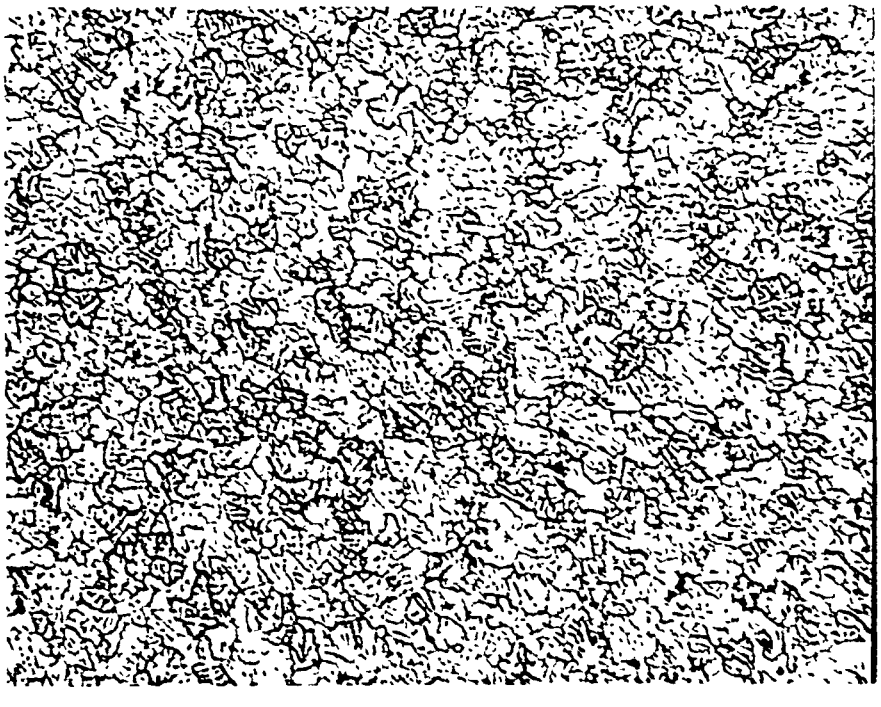
Chemistry 15 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld (6x)



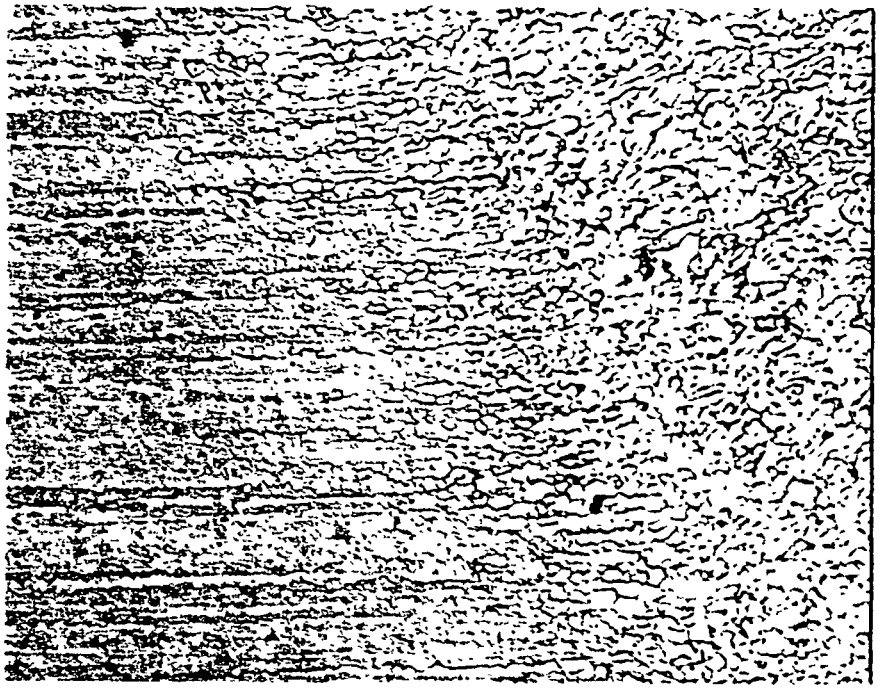
Chemistry 15 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Zone (100x)



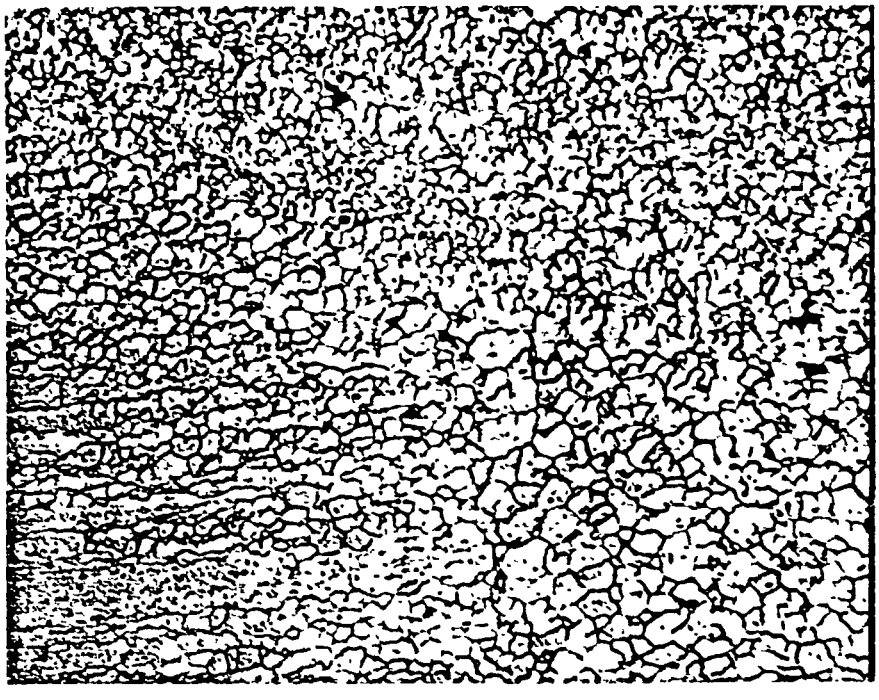
Chemistry 15 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Line (100x)



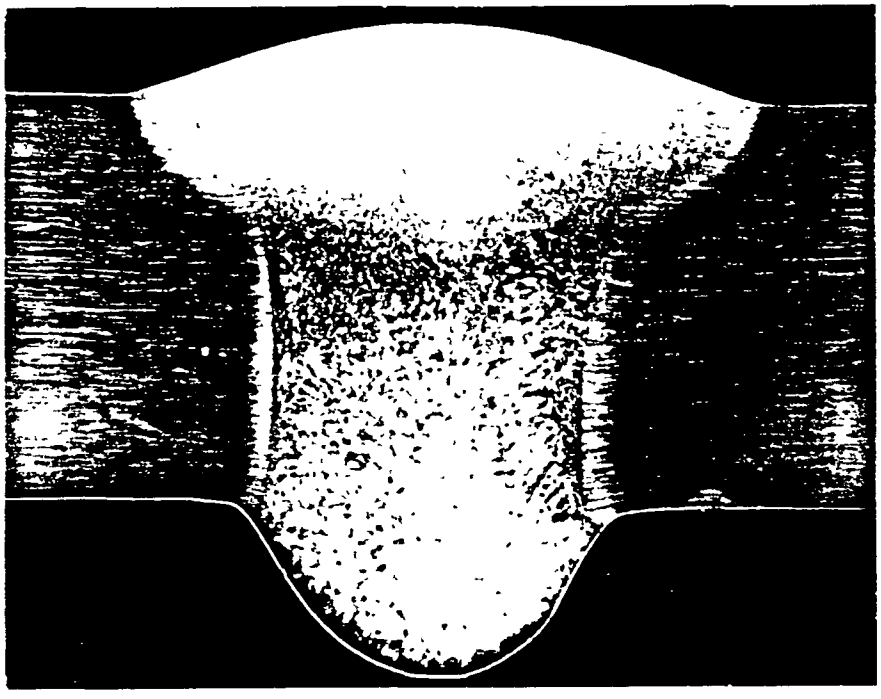
Chemistry 15 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Zone (100x)



Chemistry 15 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Line (100x)

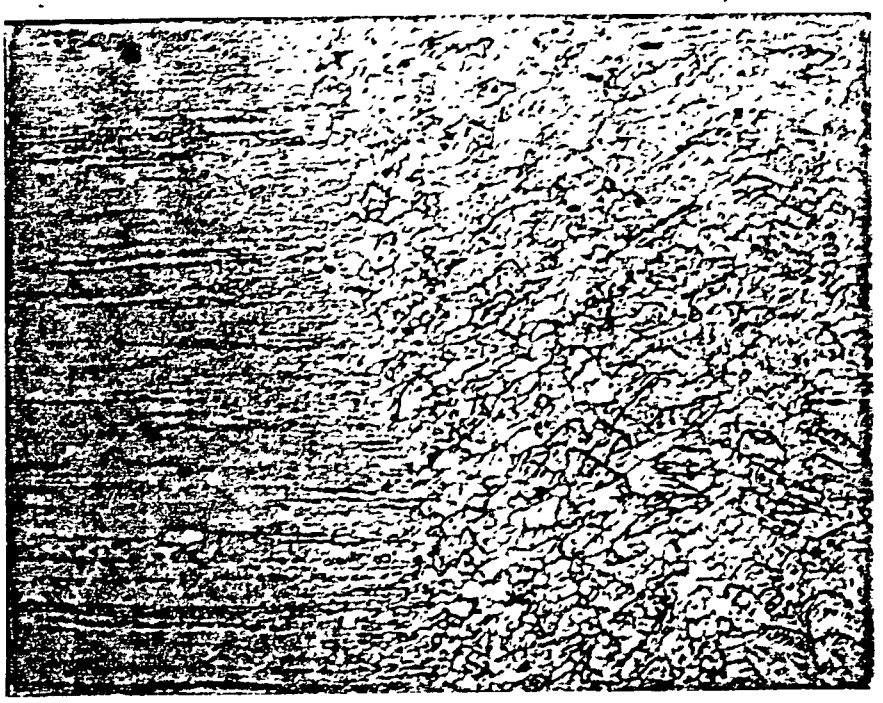


Chemistry 15 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)

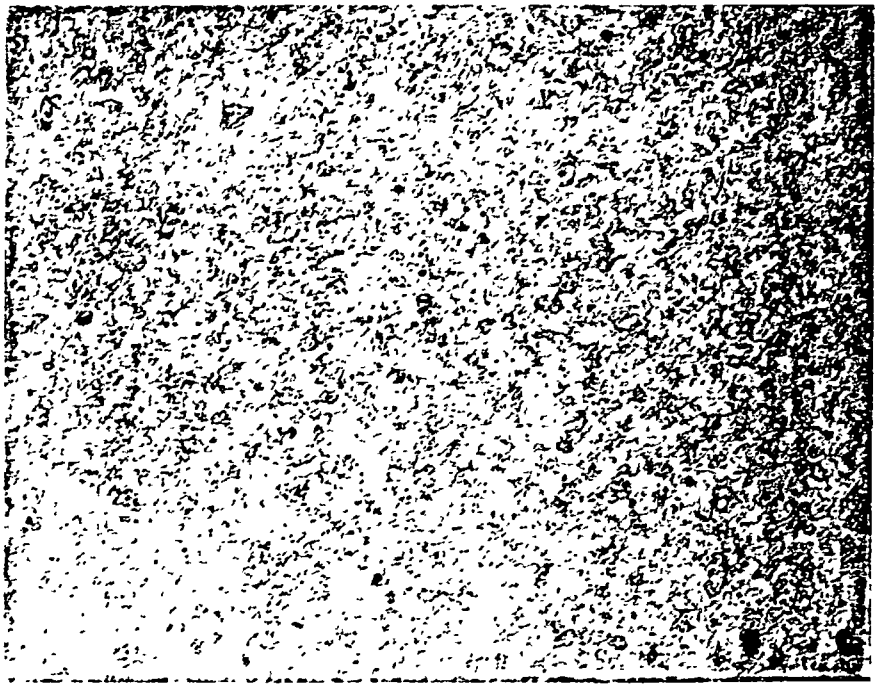


Chemistry 16 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld (6x)

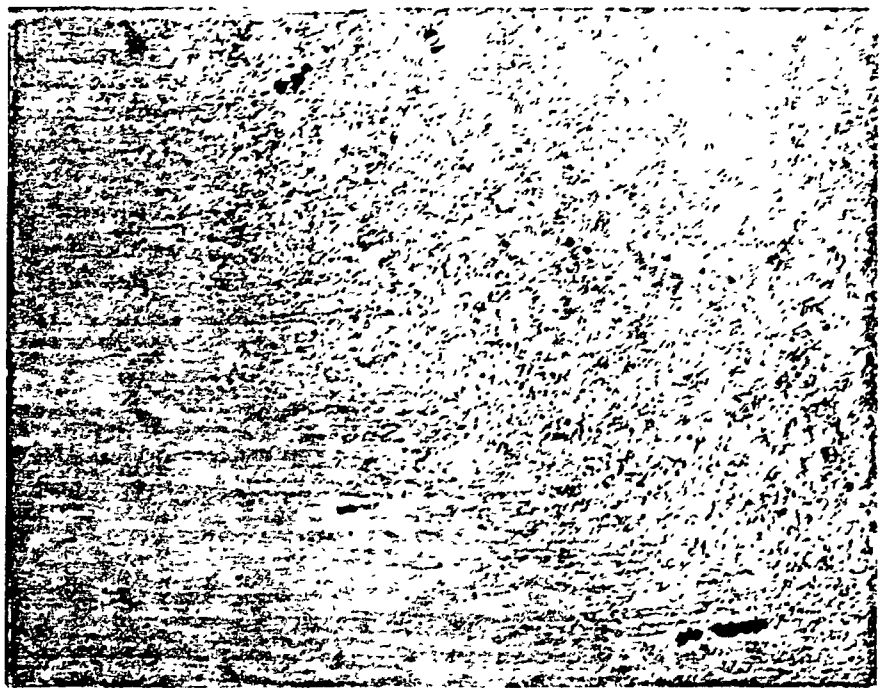
Chemistry 16 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Zone (100x)



Chemistry 16 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Line (100x)

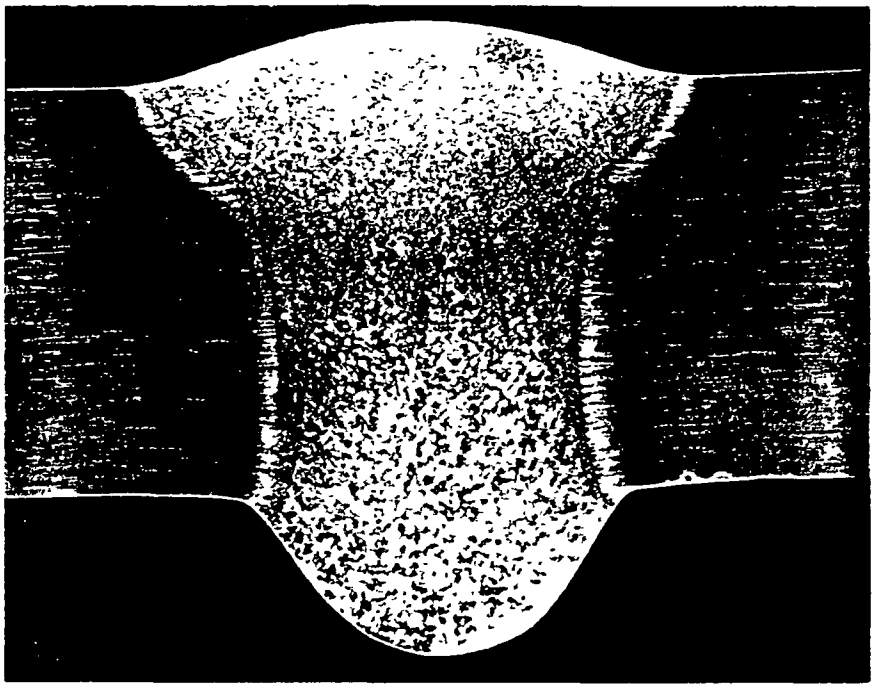


Chemistry 16 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Zone (100x)

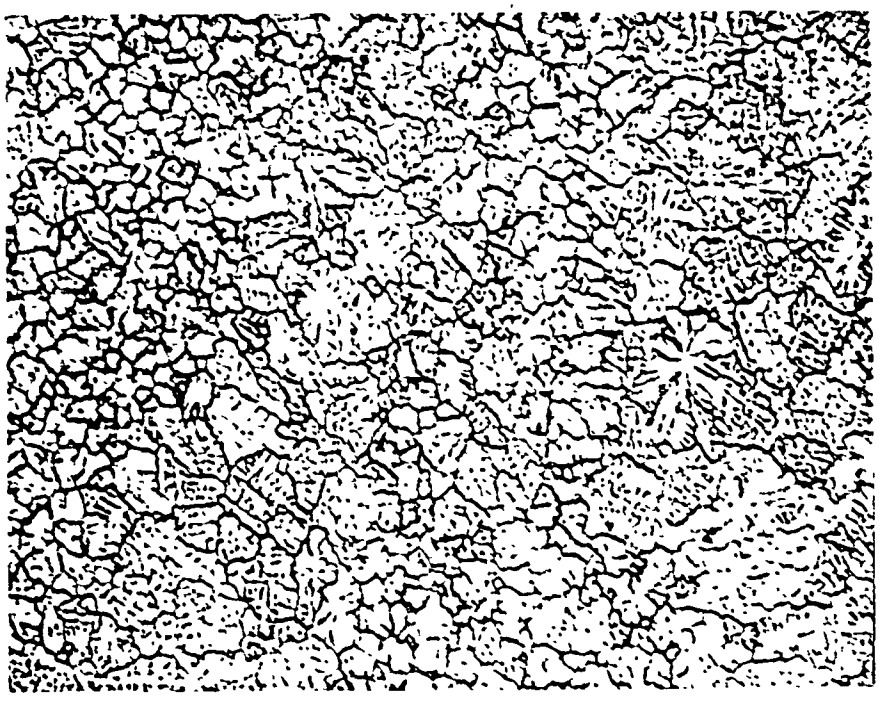


Chemistry 16 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Line (100x)

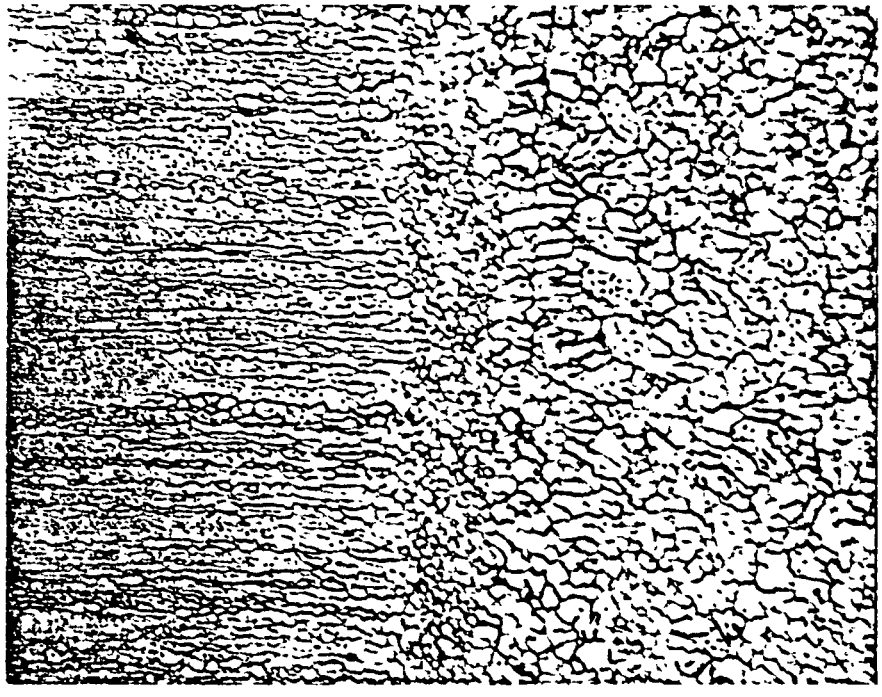
Chemistry 16 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)



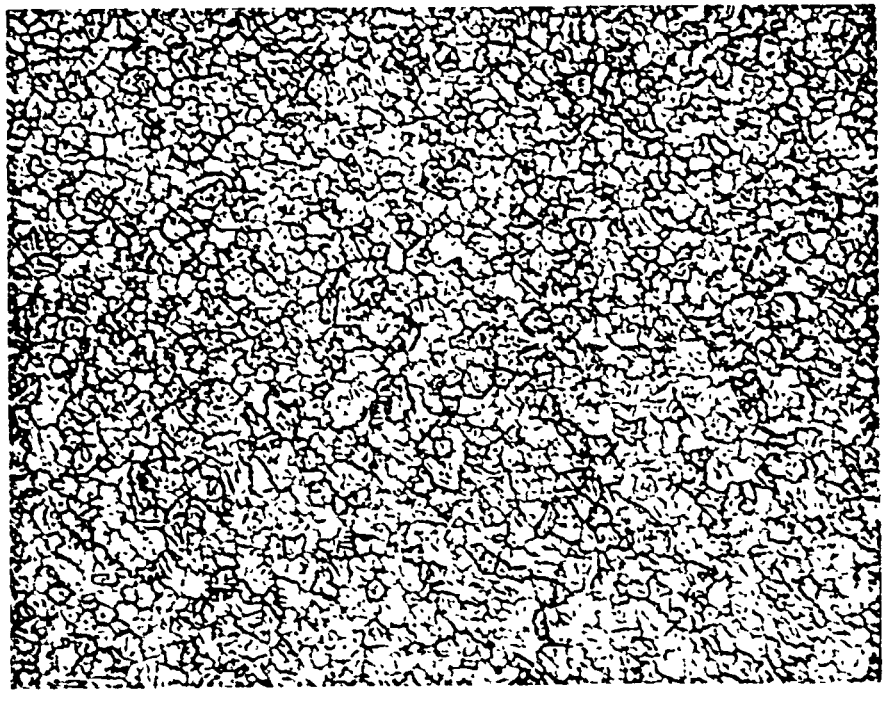
Chemistry 17 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld (6x)



Chemistry 17 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Zone (100x)



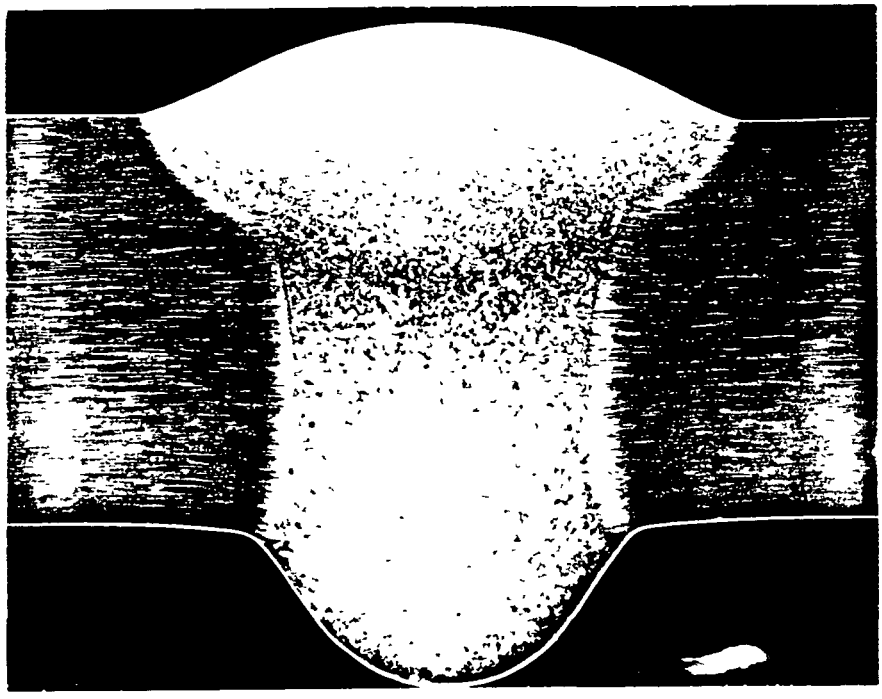
Chemistry 17 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Line (100x)



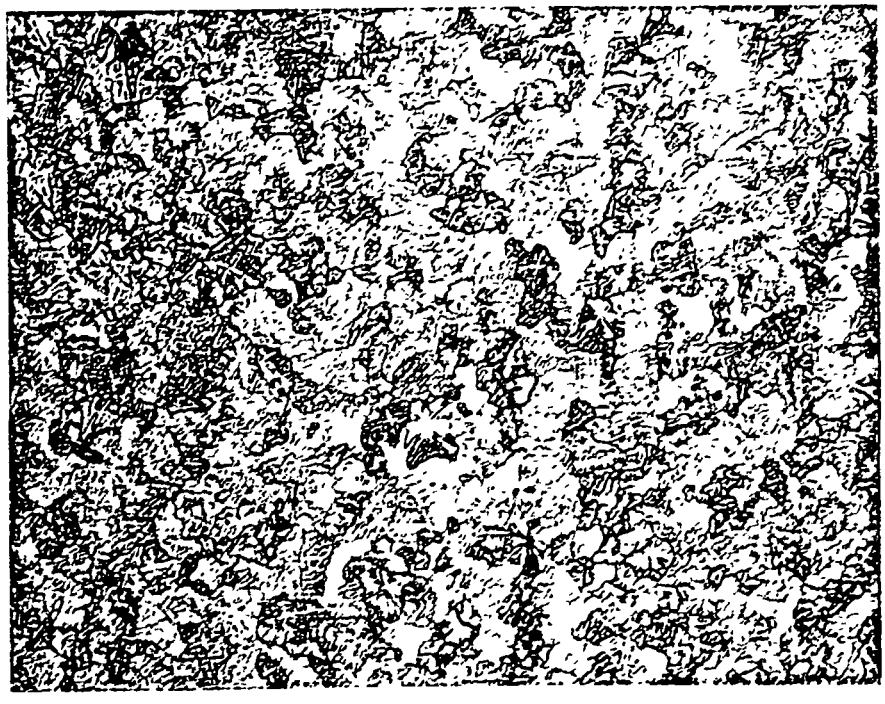
Chemistry 17 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Zone (100x)

Chemistry 17 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Line (100x)

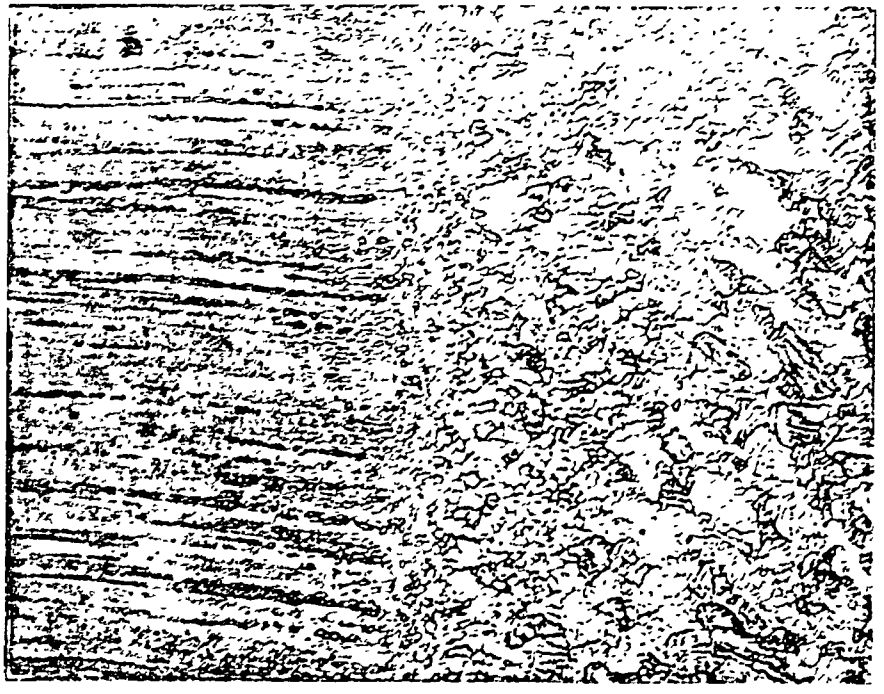
Chemistry 17 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)



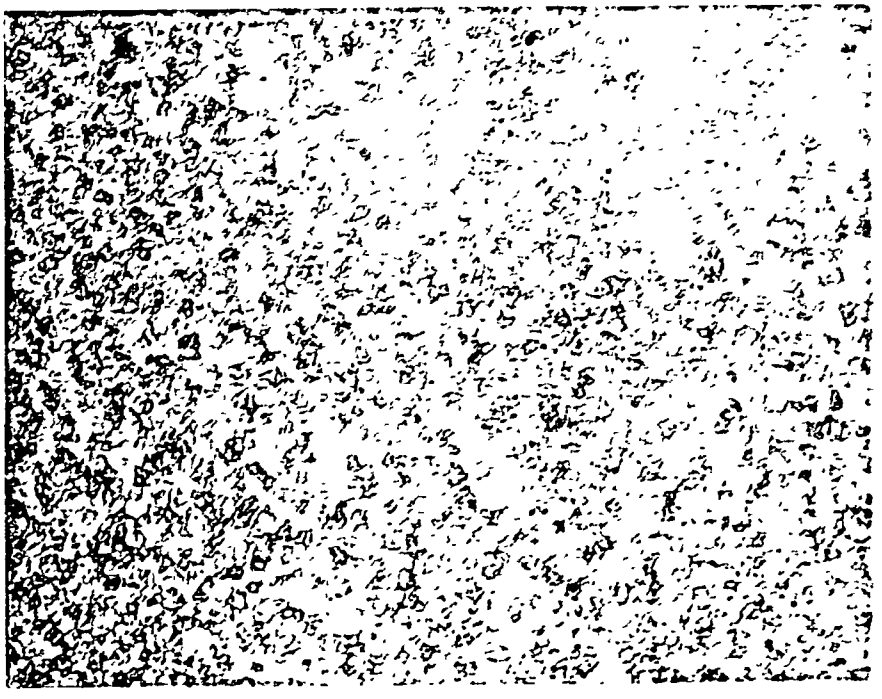
Chemistry 18 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld (6x)



Chemistry 18 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Zone (100x)



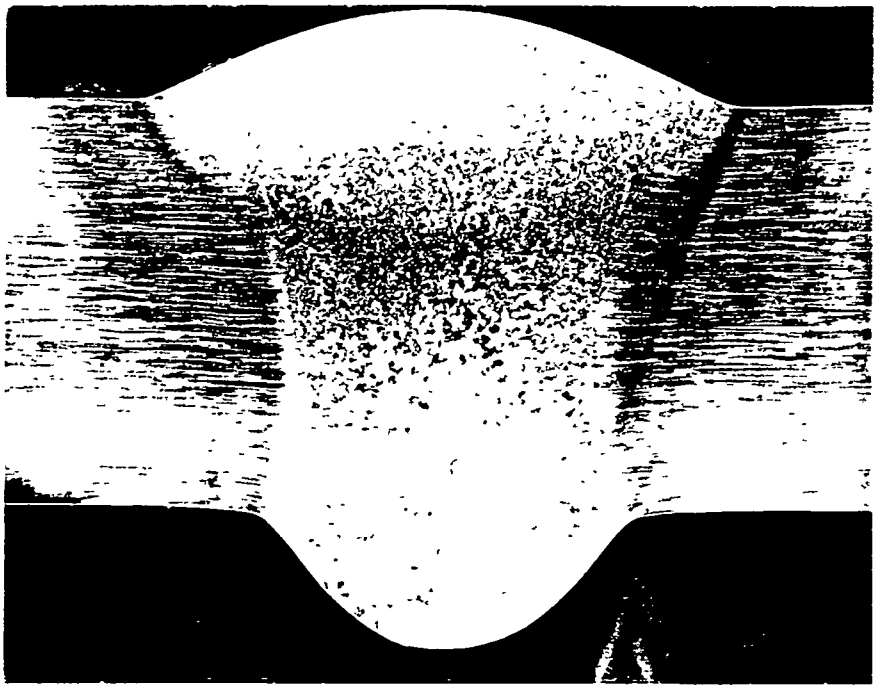
Chemistry 18 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Line (100x)



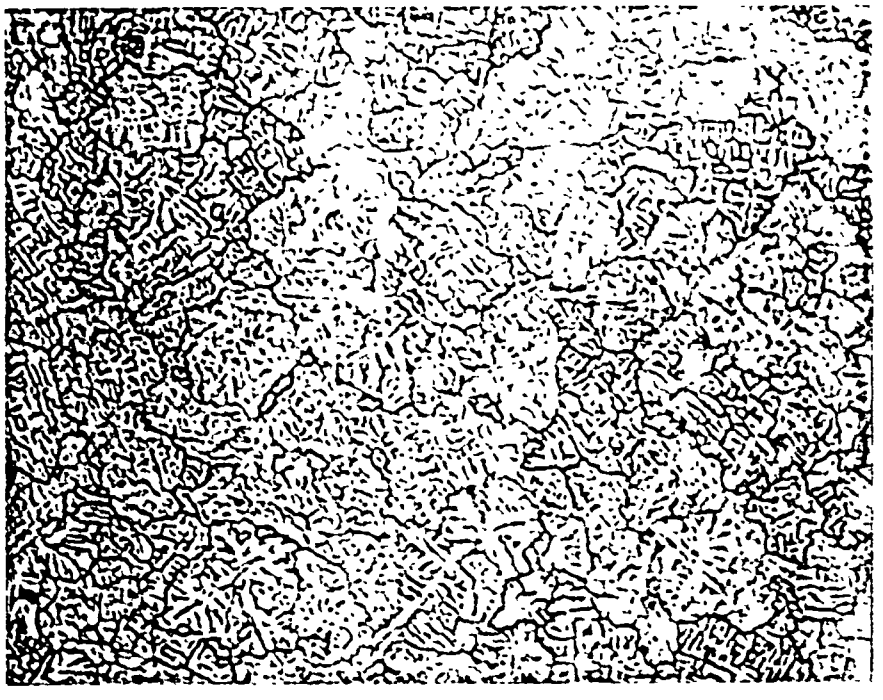
Chemistry 18 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Zone (100x)

Chemistry 18 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Line (100x)

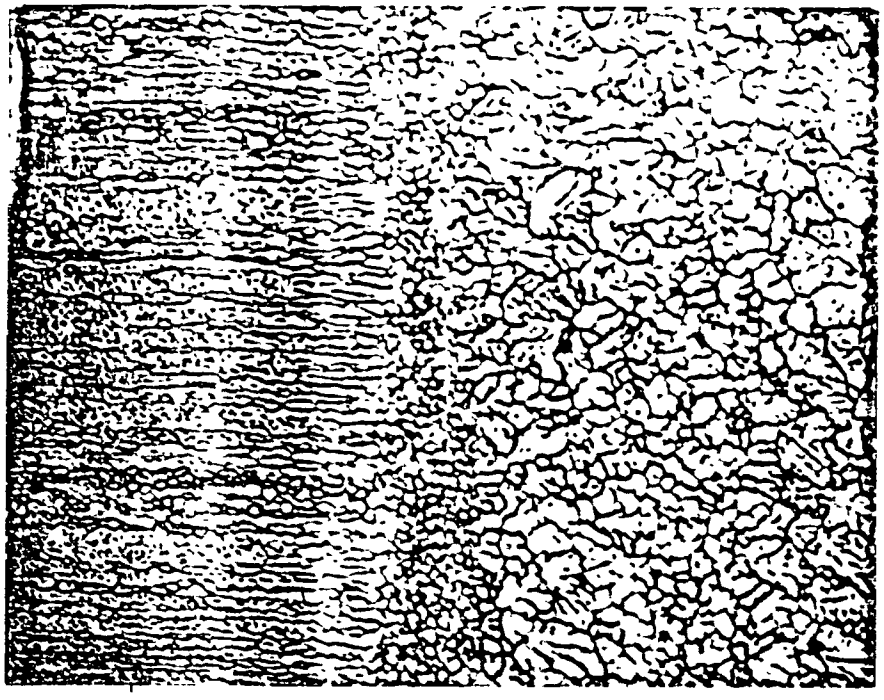
Chemistry 18 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)



Chemistry 19 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld (6x)

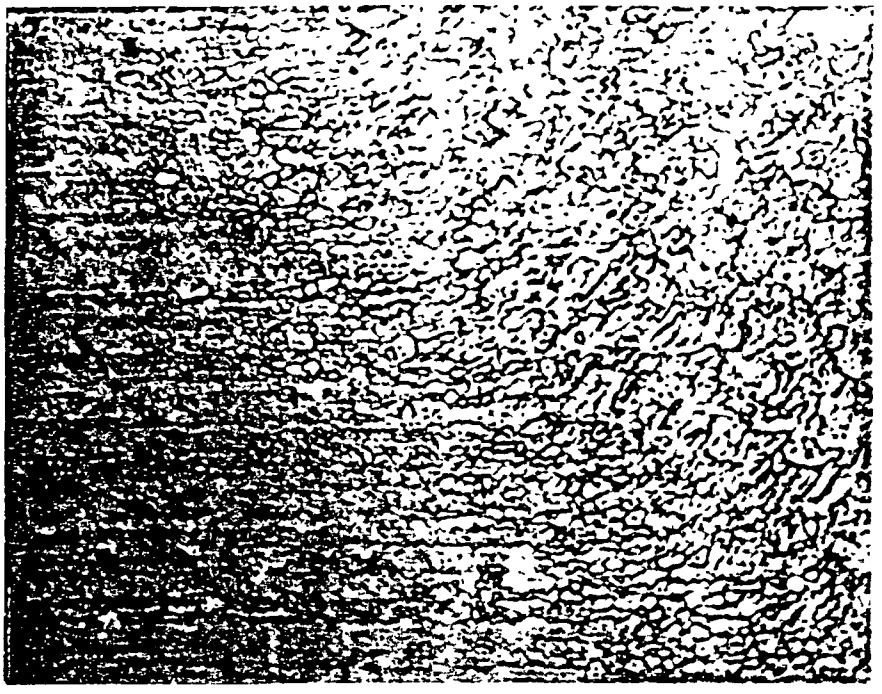


Chemistry 19 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Zone (100x)

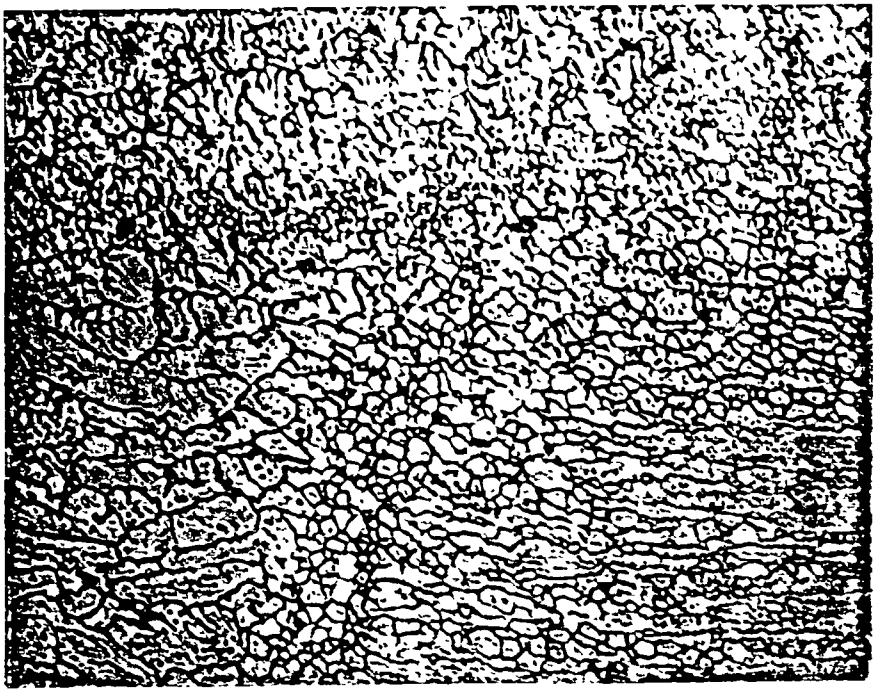


Chemistry 19 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Line (100x)

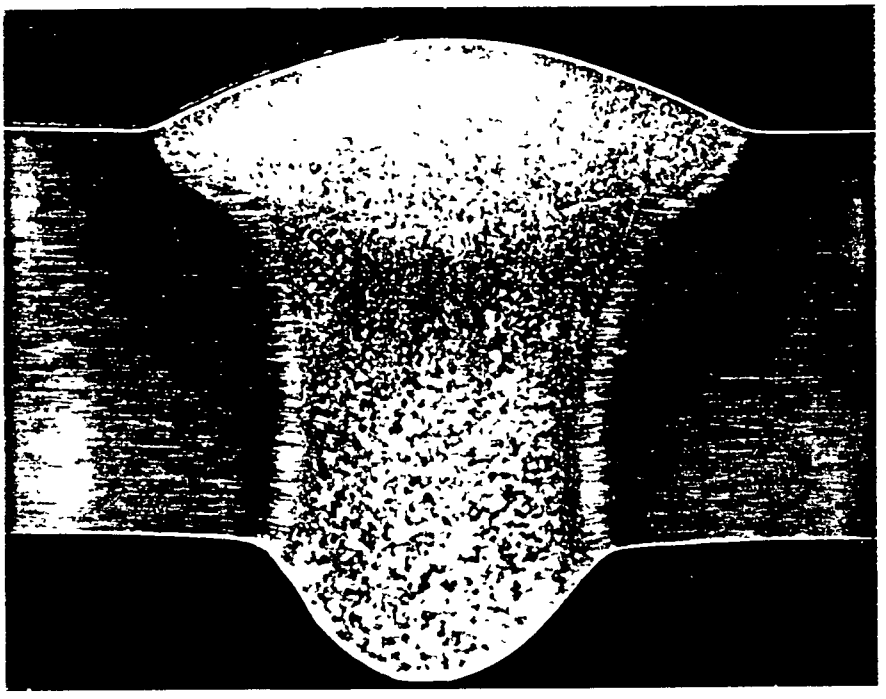
Chemistry 19 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Zone (100x)



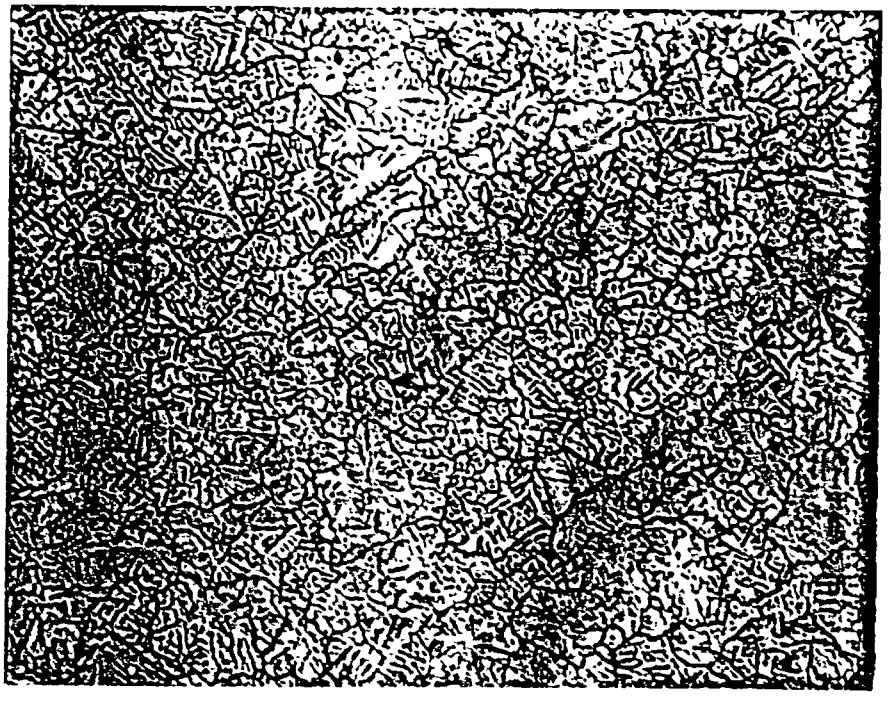
Chemistry 19 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Line (100x)



Chemistry 19 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)



Chemistry 20 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld (6x)



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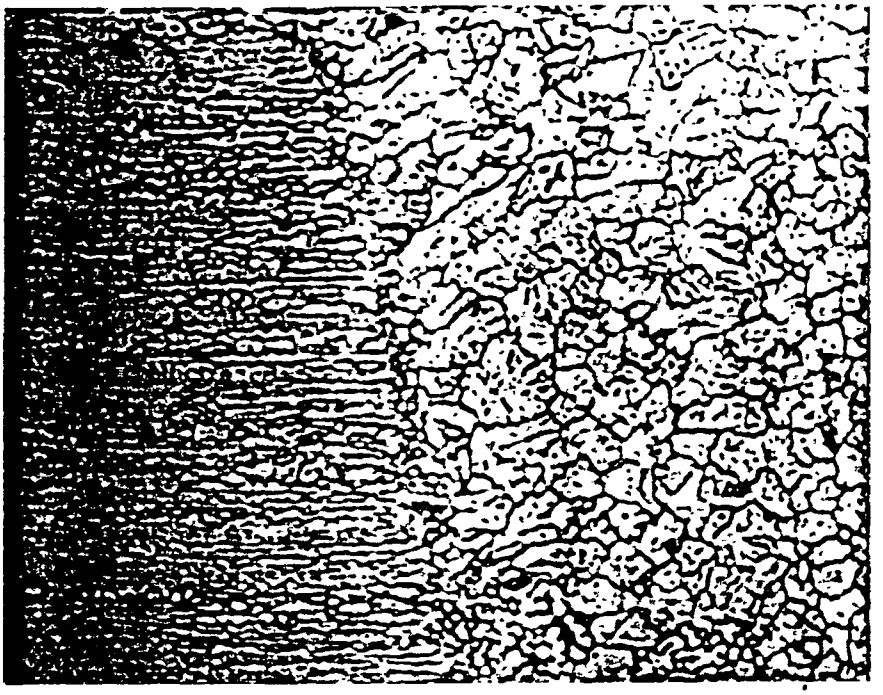
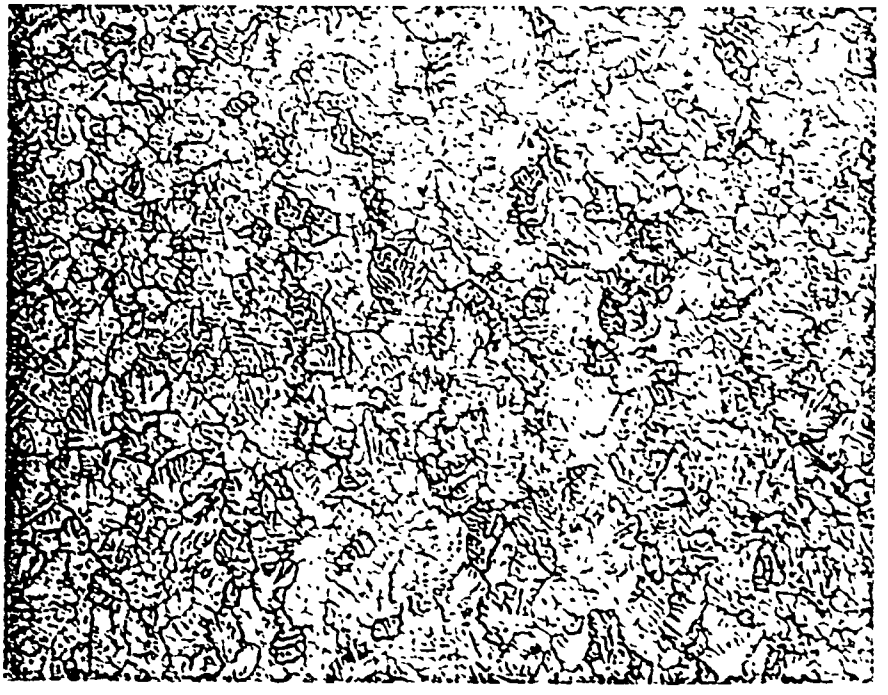
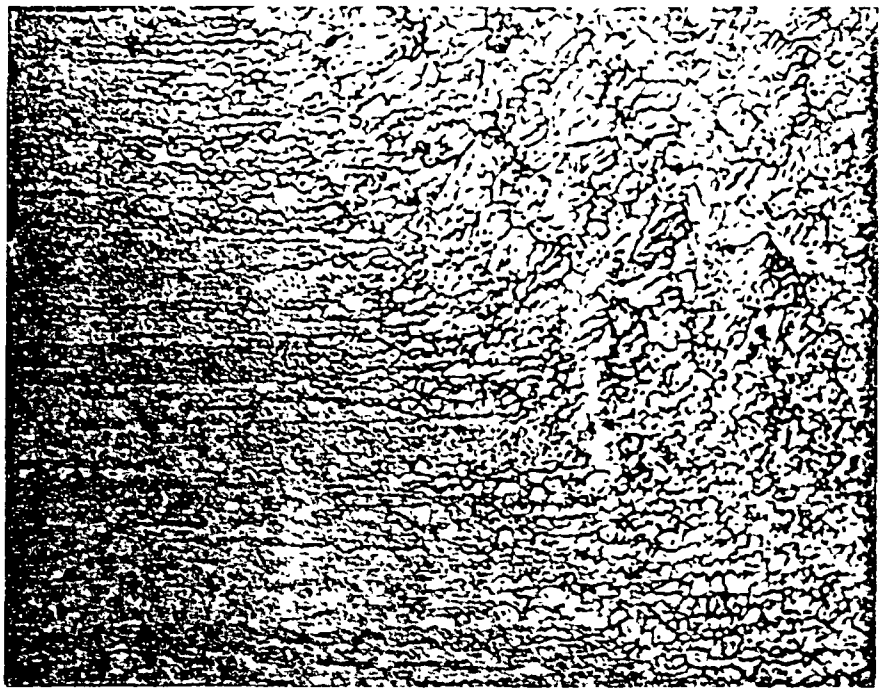


Chemistry 20 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass Fusion Line (100x)



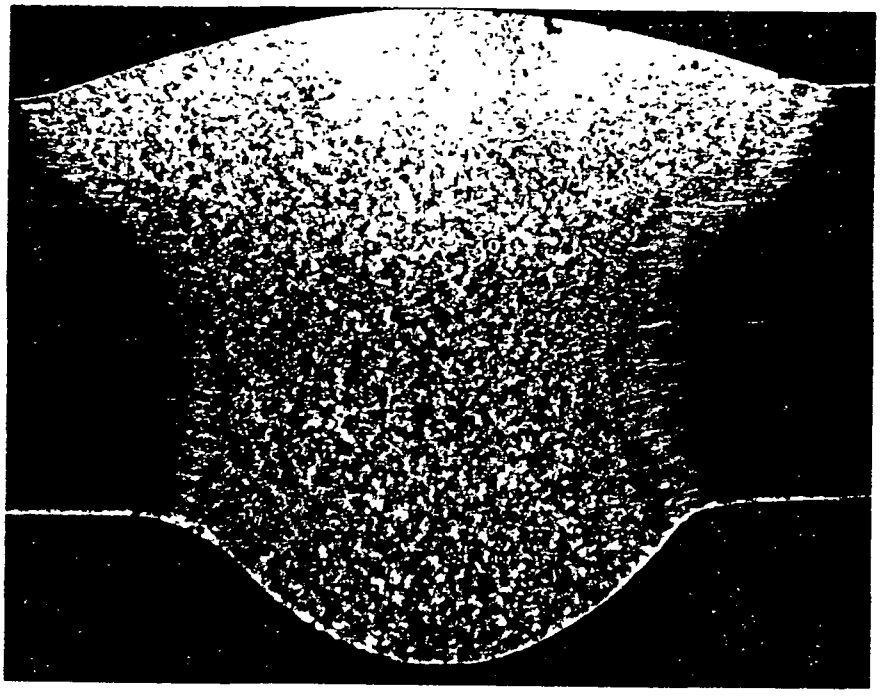
Chemistry 20 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Zone (100x)



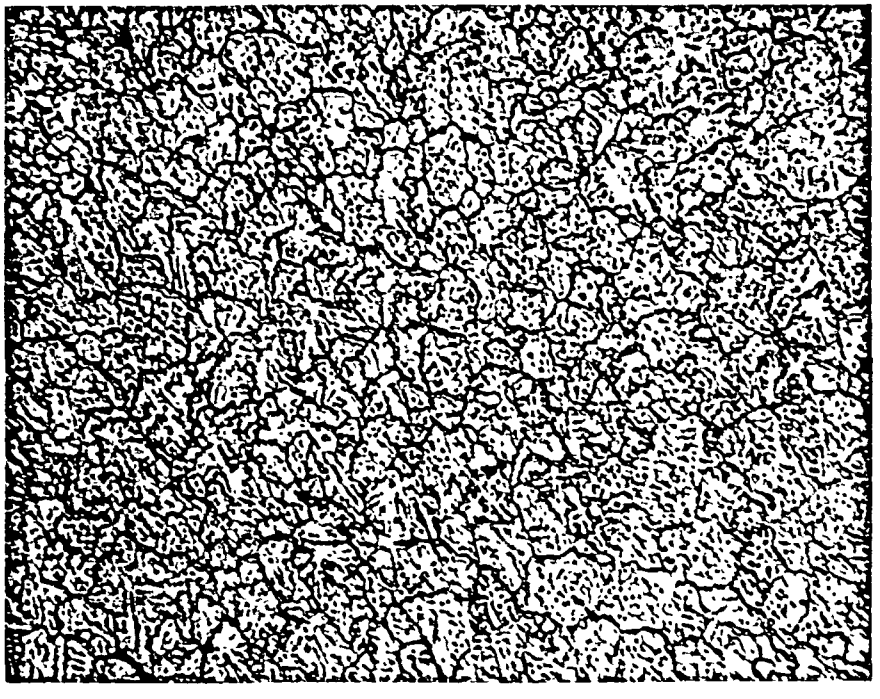
Chemistry 20 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Cover Pass Fusion Line (100x)

Chemistry 20 - 0.320-inch-thick 2195-T8R70/ 2195-T8R70 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)

APPENDIX L
0.200t VPPA WELD METALLOGRAPHY



Chemistry 16 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld (6x)



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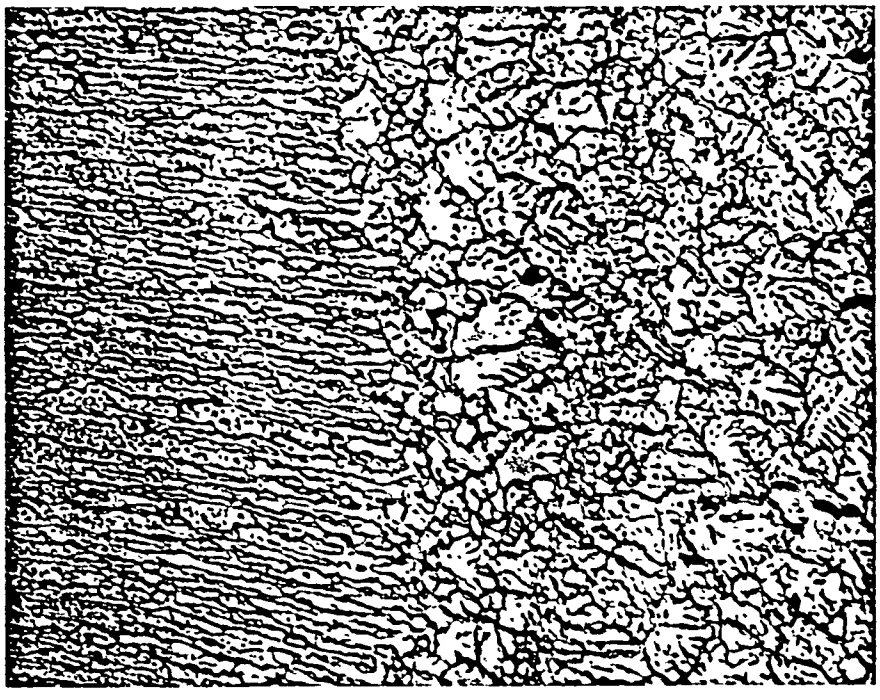
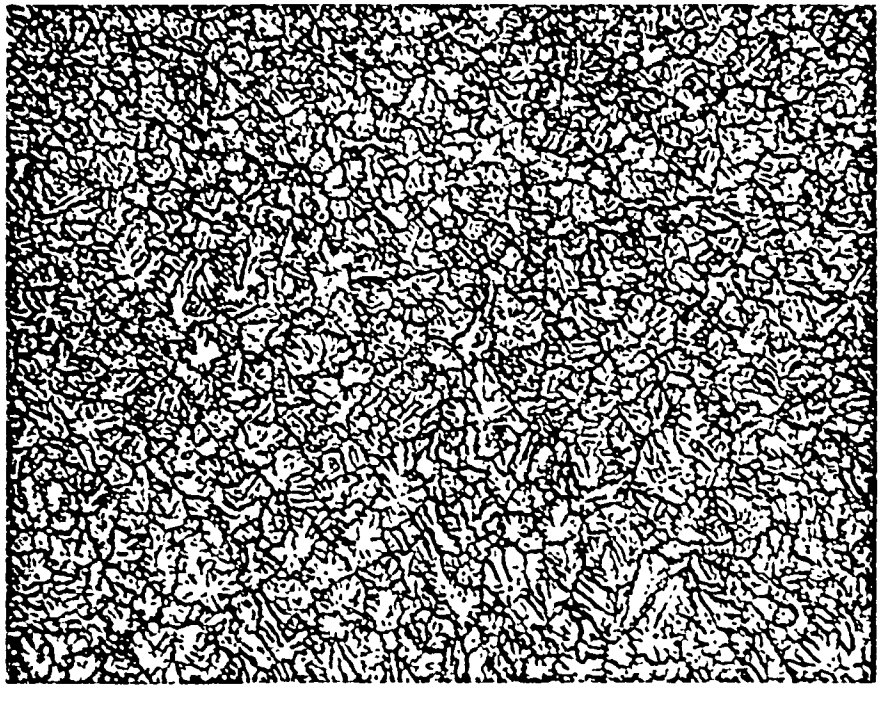


Chemistry 16 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass Fusion Line (100x)



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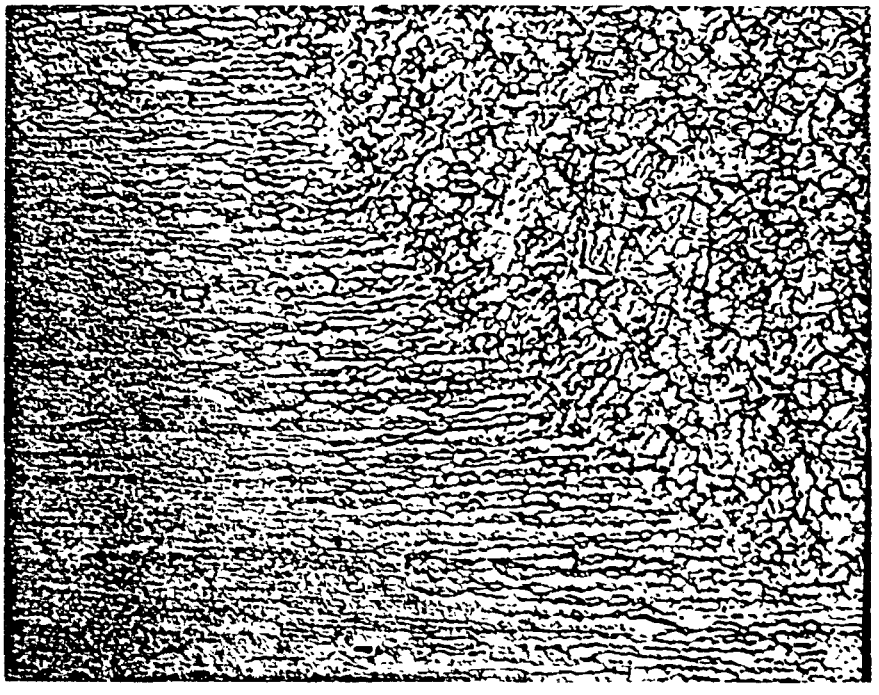
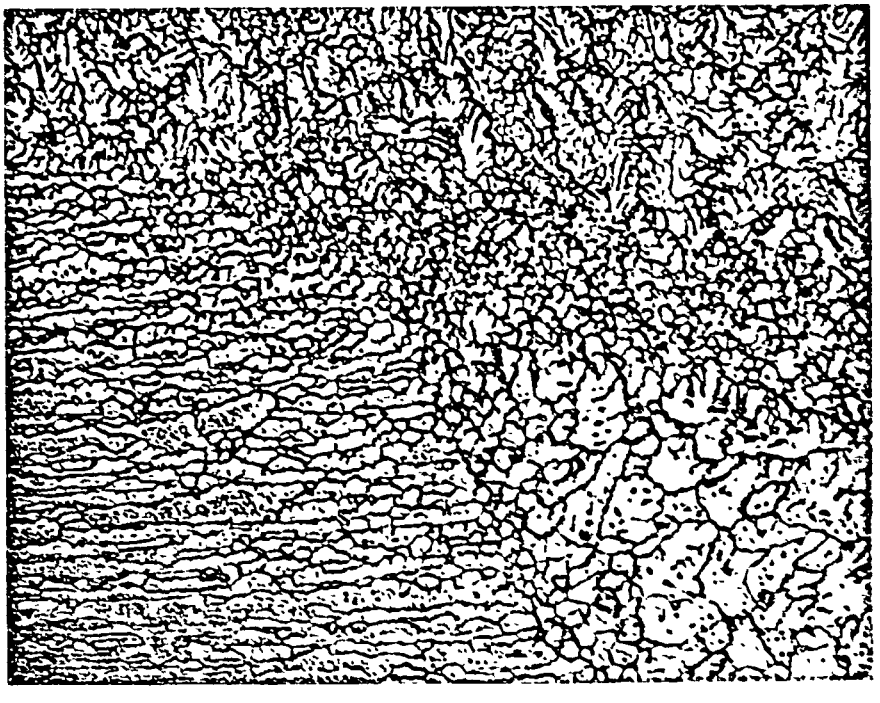
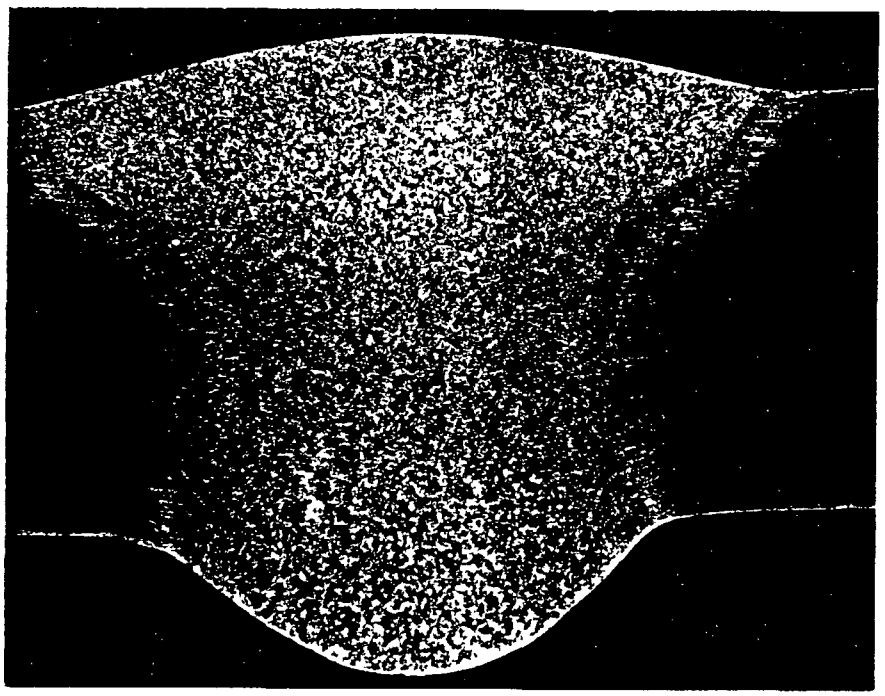


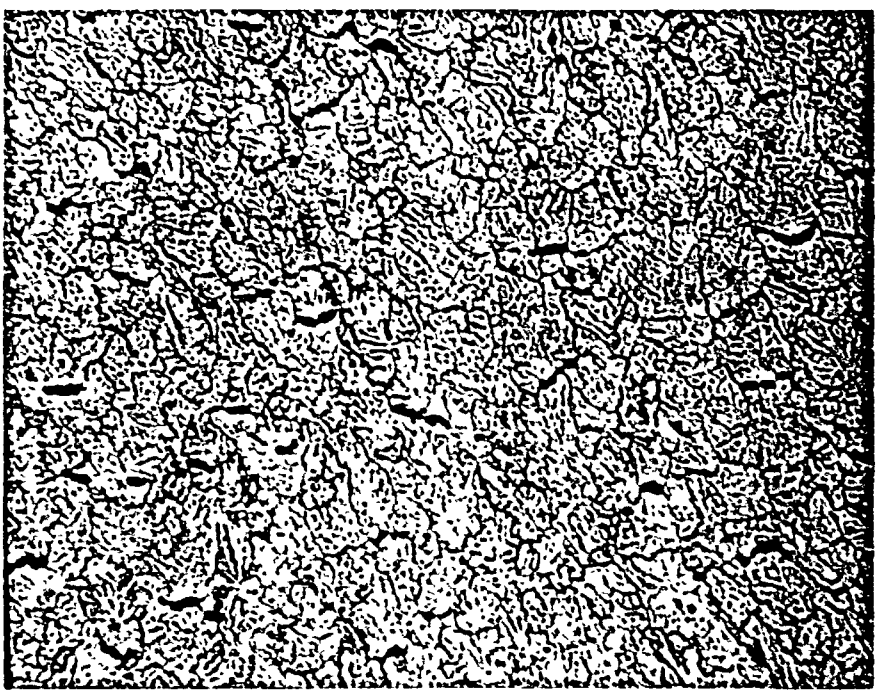
Chemistry 16 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Cover Pass Fusion Line (100x)



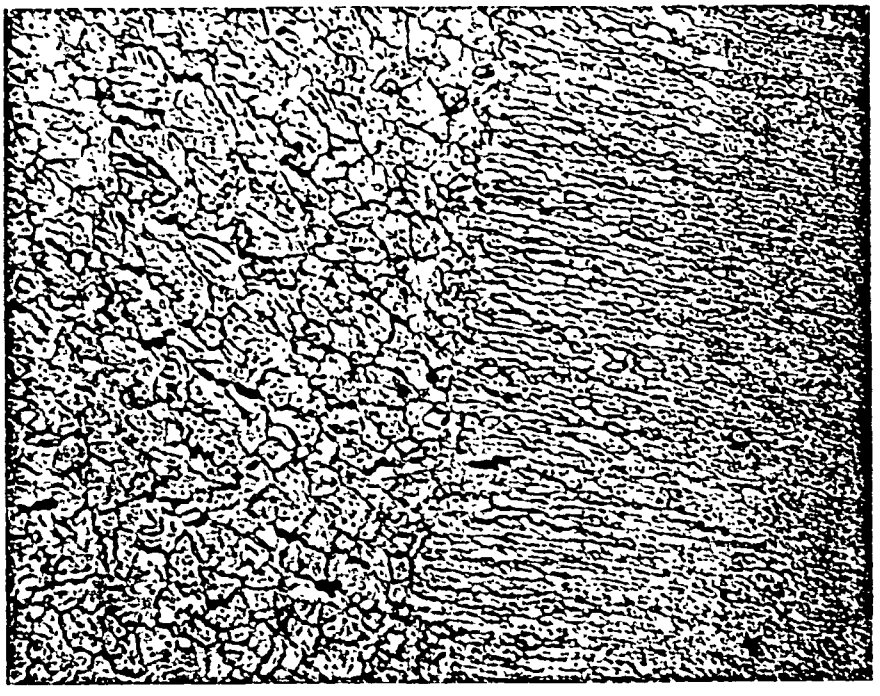
Chemistry 16 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)



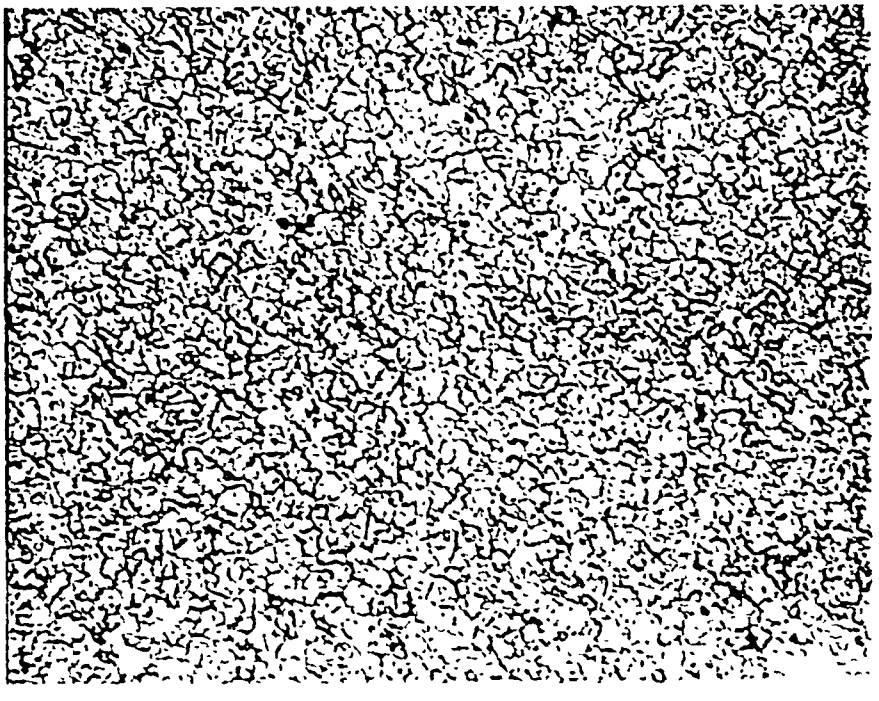
Chemistry 17 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld (6x)



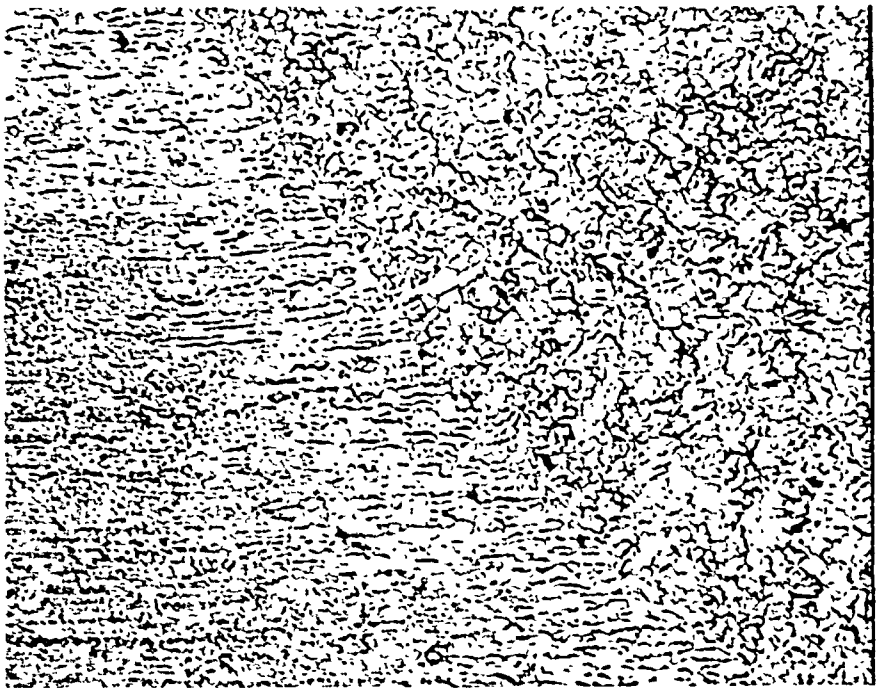
Chemistry 17 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass Fusion Zone (100x)



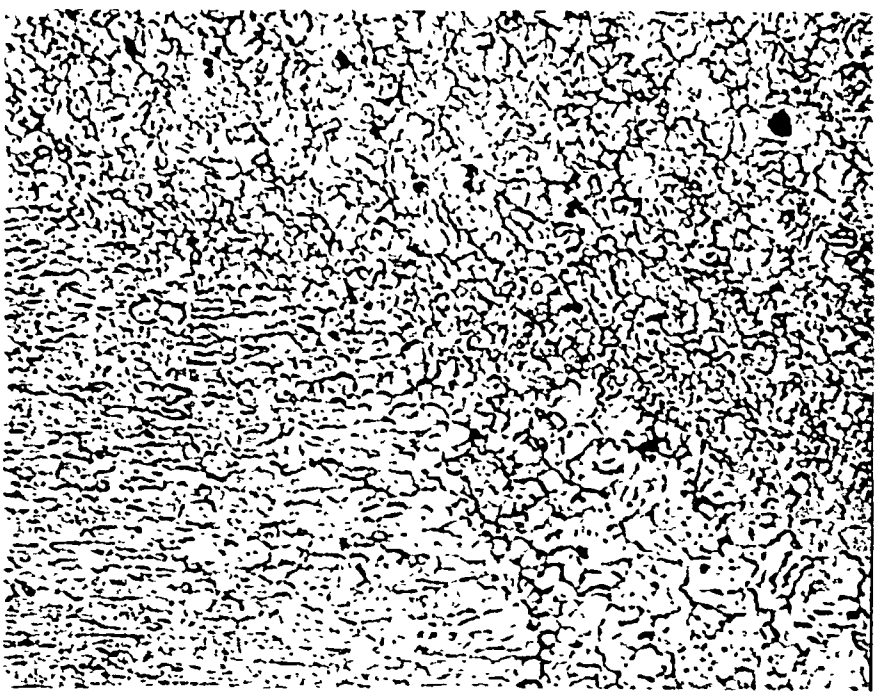
Chemistry 17 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass Fusion Line (100x)



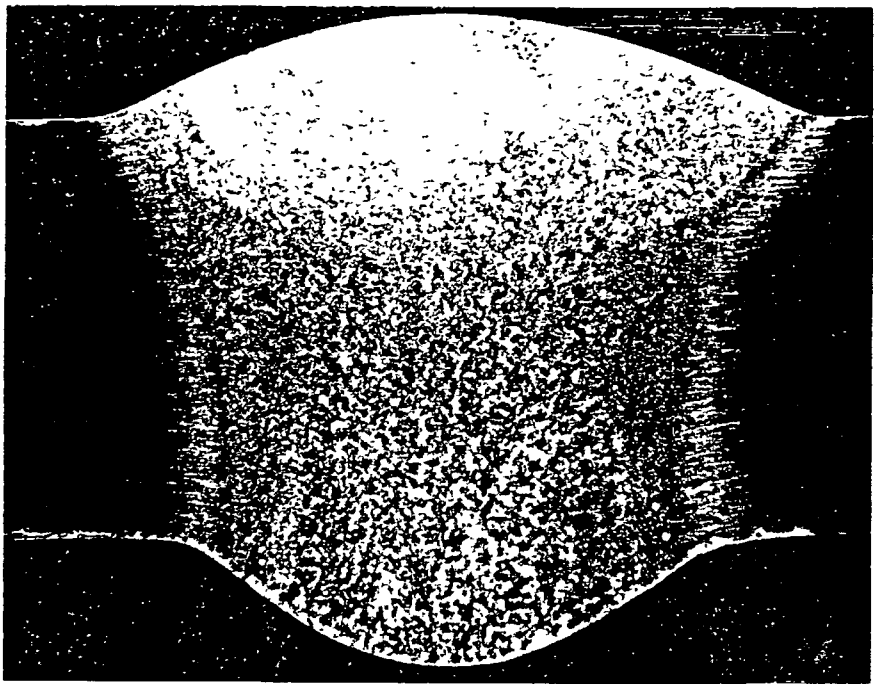
Chemistry 17 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Cover Pass Fusion Zone (100x)



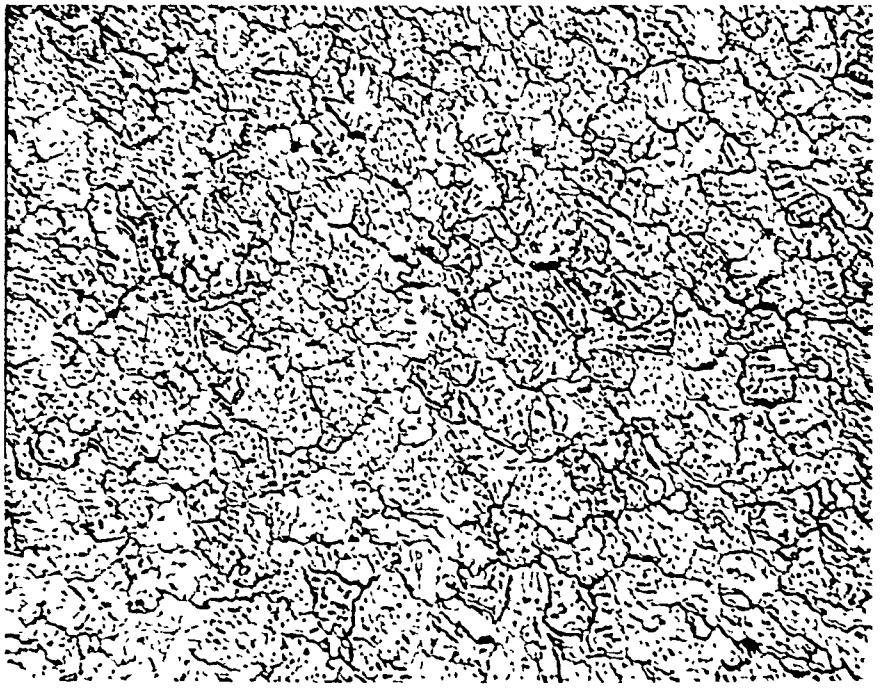
Chemistry 17 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Cover Pass Fusion Line (100x)



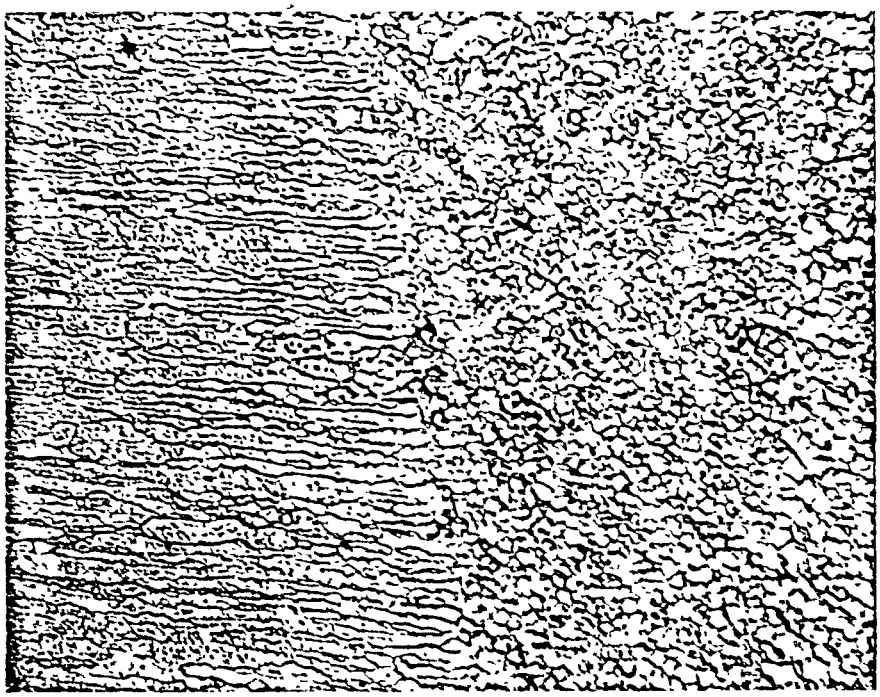
Chemistry 17 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)



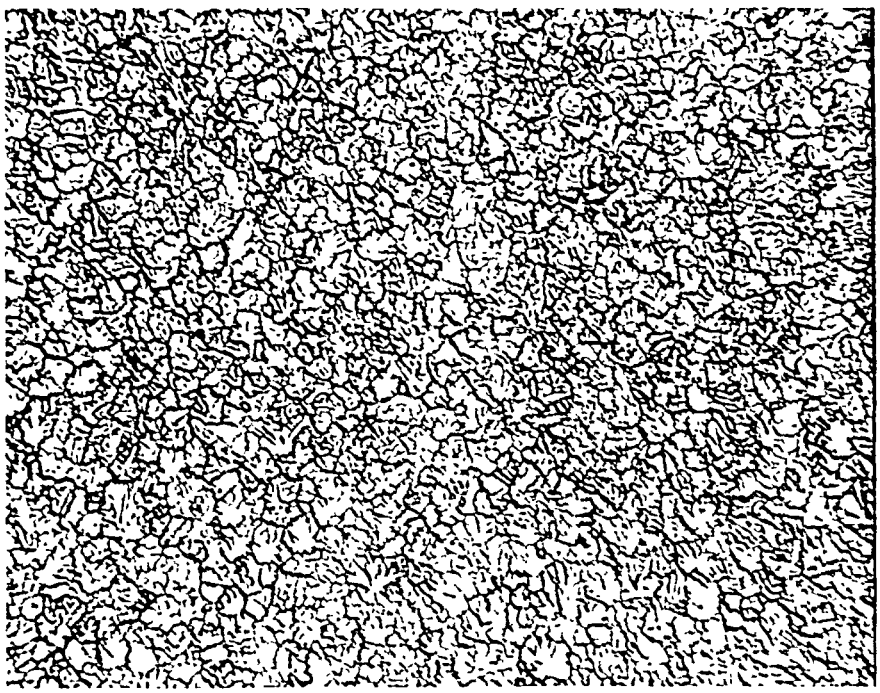
Chemistry 18 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld (6x)



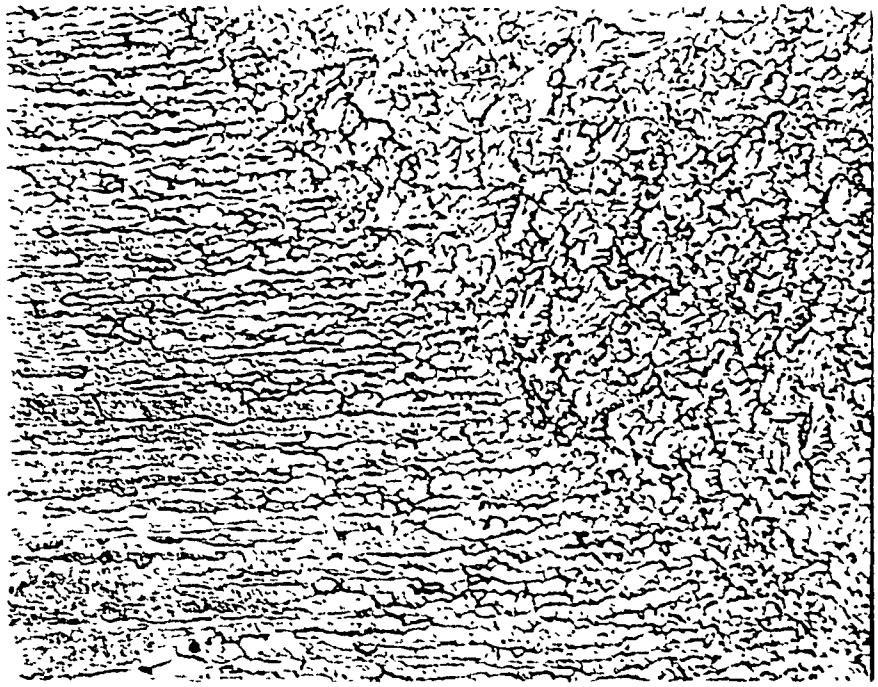
Chemistry 18 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass Fusion Zone (100x)



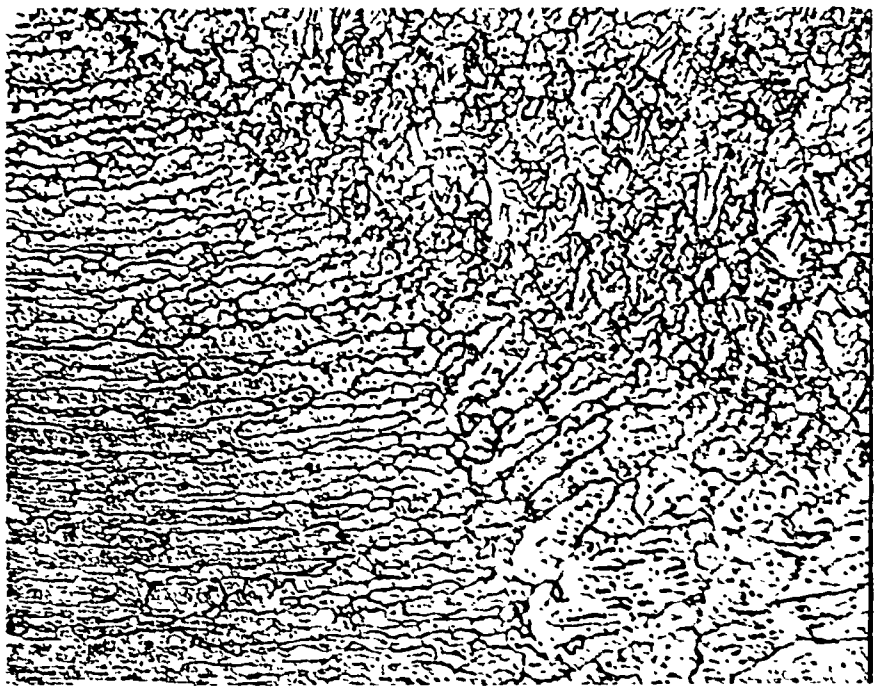
Chemistry 18 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass Fusion Line (100x)



Chemistry 18 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Cover Pass Fusion Zone (100x)

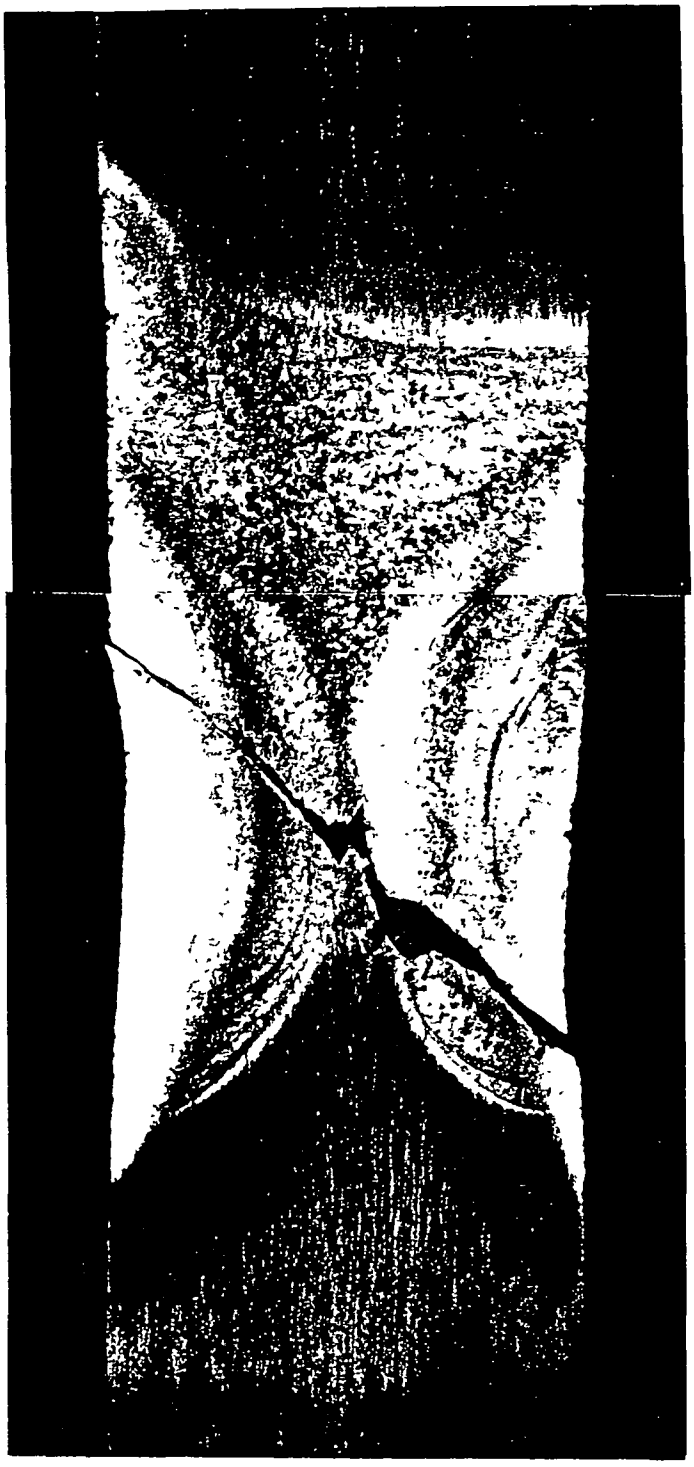


Chemistry 18 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Cover Pass Fusion Line (100x)

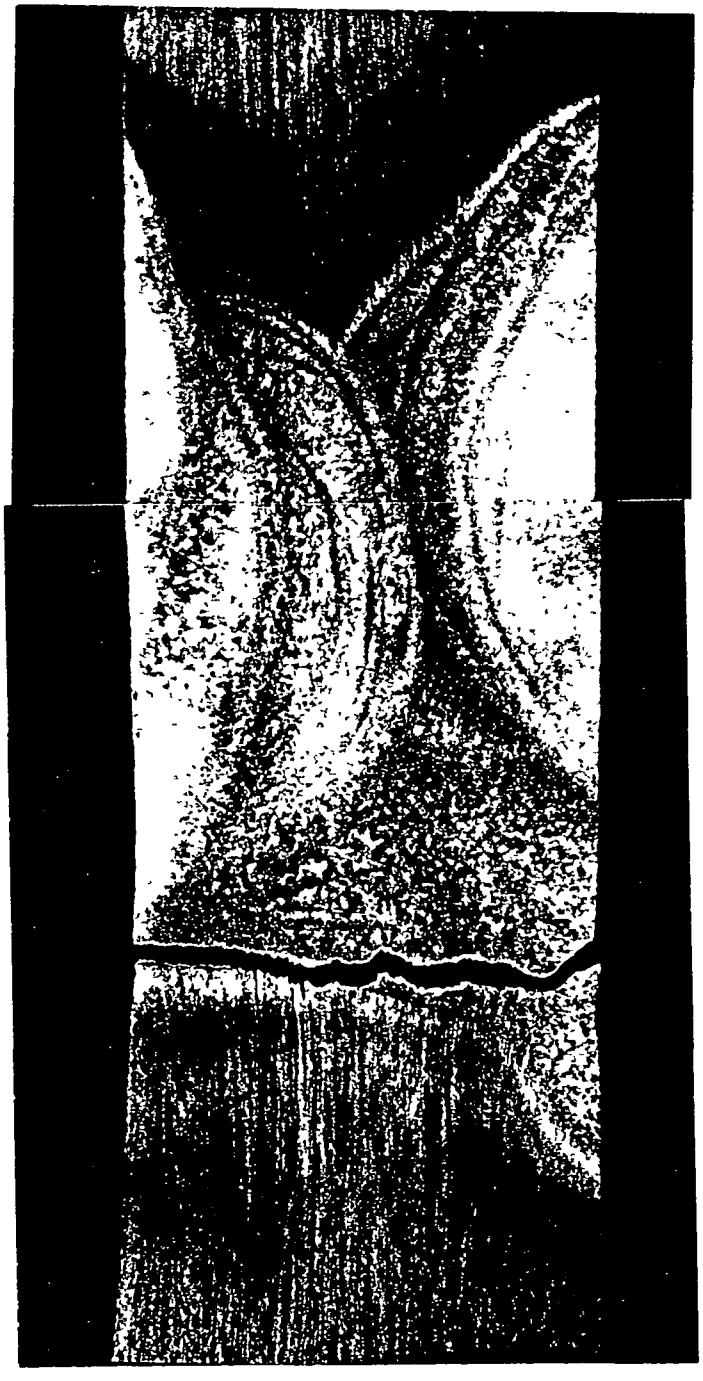


Chemistry 18 - 0.200-inch-thick 2195-T8M4/ 2195-T8M4 VPPA Weld Root Pass/Cover Pass/Plate Intersection (100x)

APPENDIX M
REPAIR WELD METALLOGRAPHY



16RP6-SRT01 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 16 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 16 Planished R5 Fusion Line GTA Repair Weld
(12.5x)



16RP6-SCT01 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
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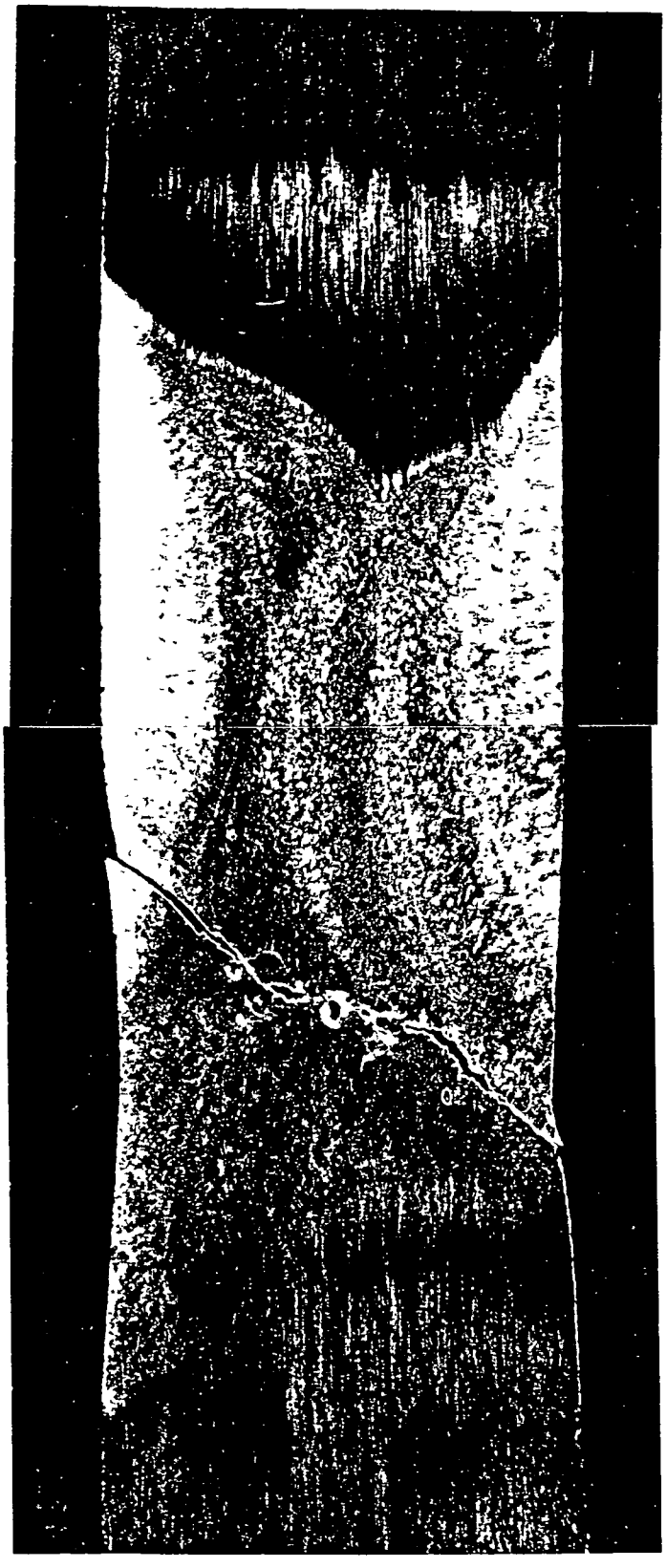
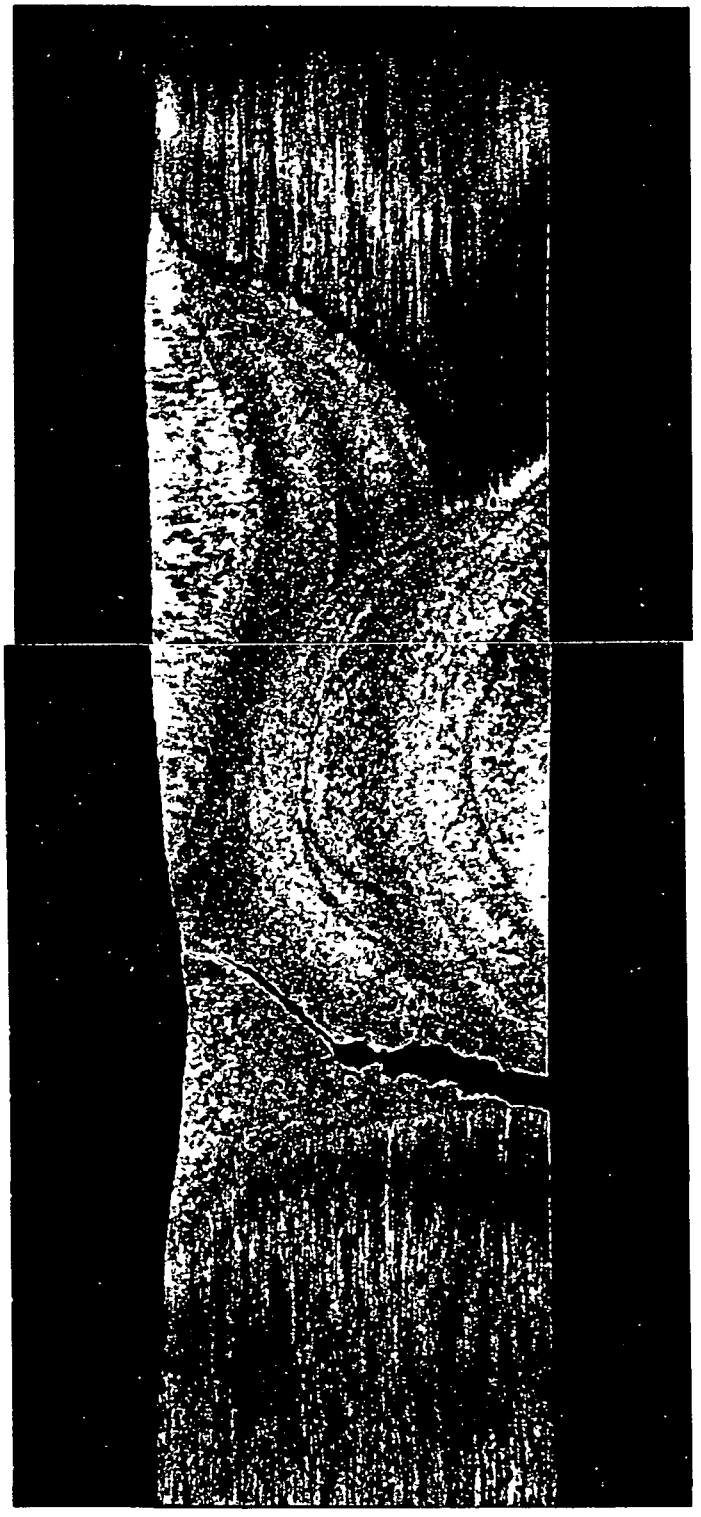
(12.5x)

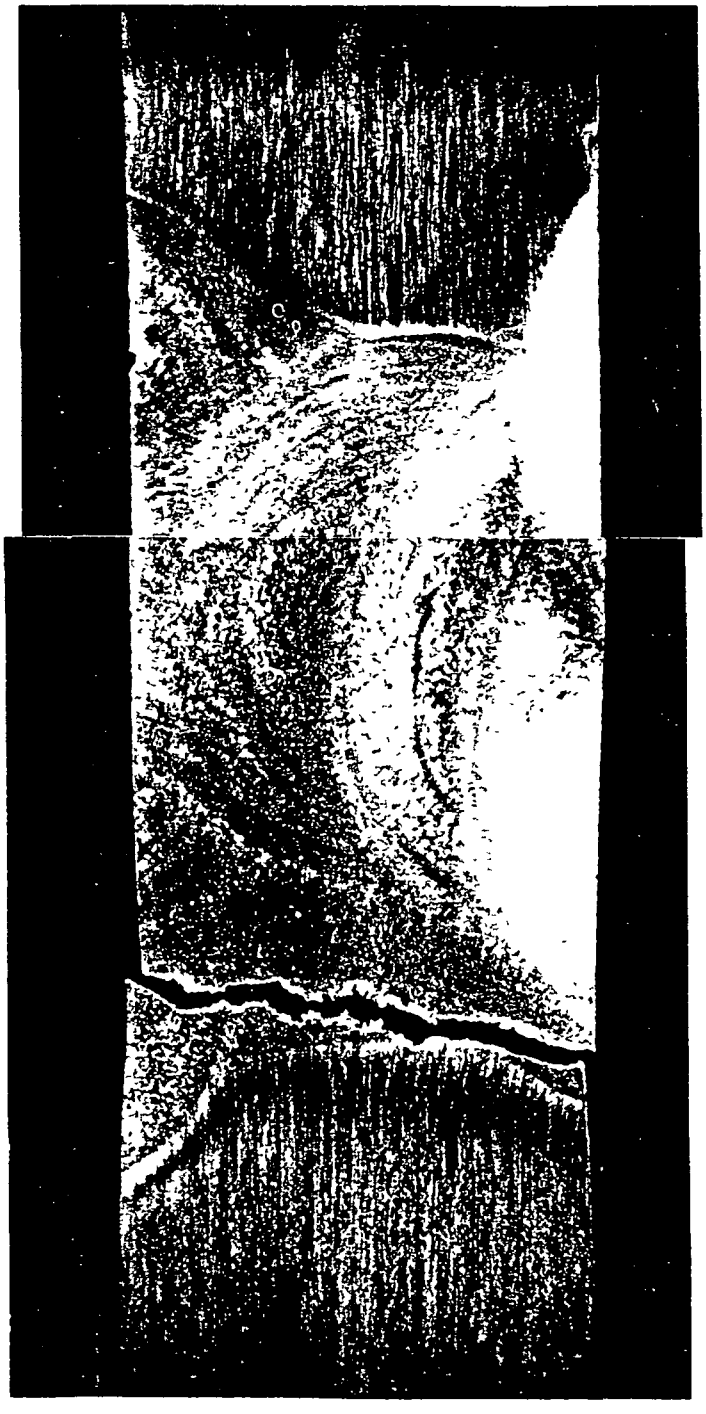


16RP6-SRT02 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 16 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 16 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

16RP6-SCT02 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 16 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 16 Planished R5 Fusion Line GTA Repair Weld
(12.5x)



16RP7-SRT01 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 16 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 16 Planished R5 Fusion Line GTA Repair Weld
(12.5x)



16RP7-SCT01 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 16 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 16 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

16RP7-SRT02 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 16 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 16 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

16RP7-SCT02 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 16 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 16 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

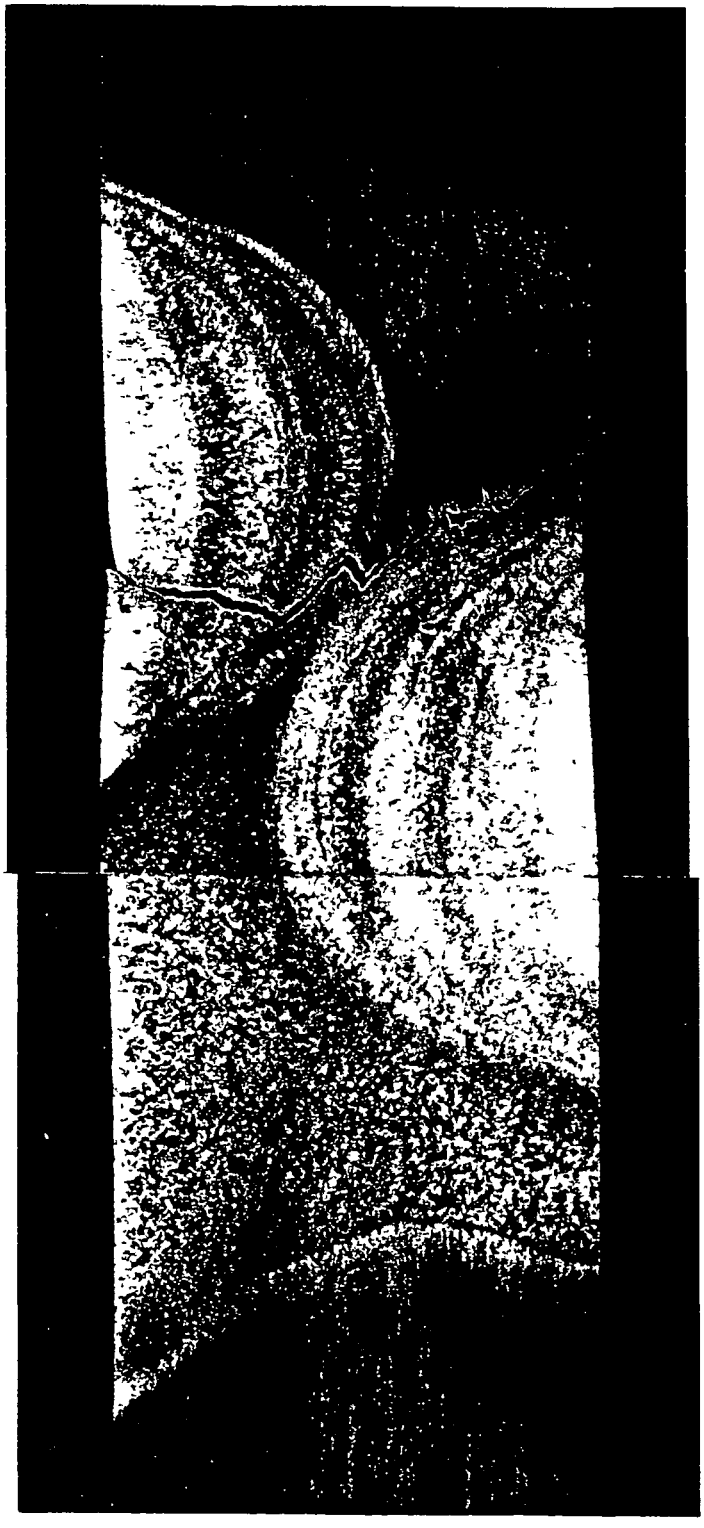
17RP6-SRT01 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

17RP6-SCT01 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

17RP6-SRT02 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld (12.5x)

17RP6-SCT02 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

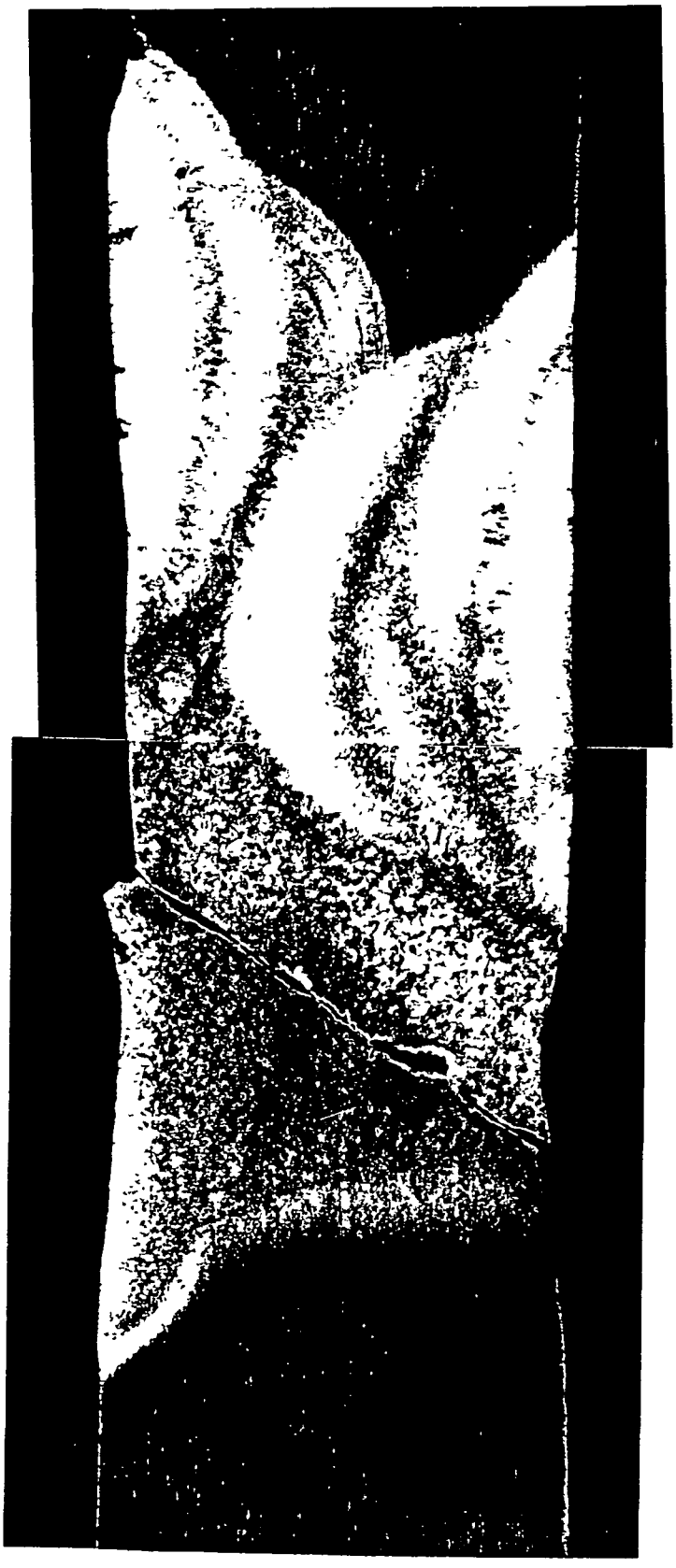
17RP7-SRT01 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld
(12.5x)



17RP7-SCT01 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

17RP7-SRT02 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

17RP7-SCT02 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 17 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 17 Planished R5 Fusion Line GTA Repair Weld
(12.5x)



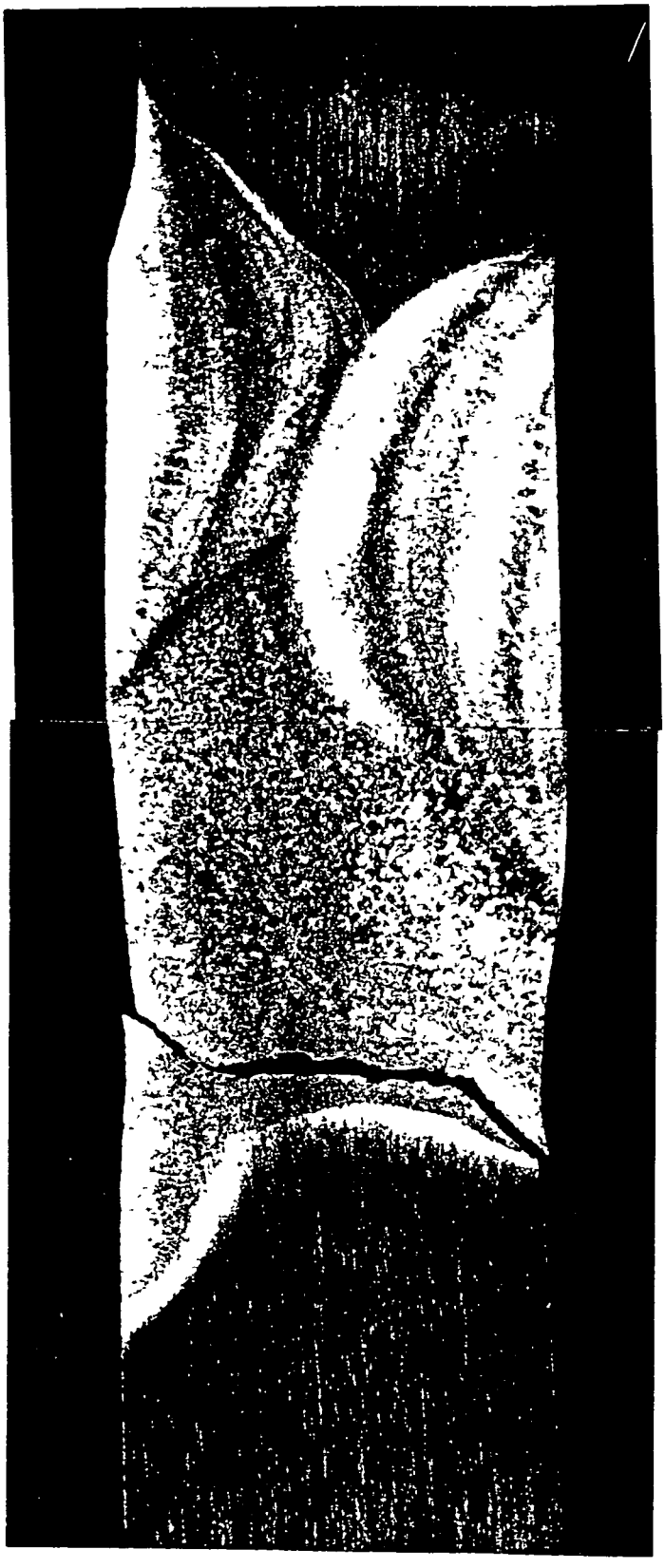
18RP6-SRT01 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

18RP6-SCT01 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

18RP6-SRT02 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld (12.5x)

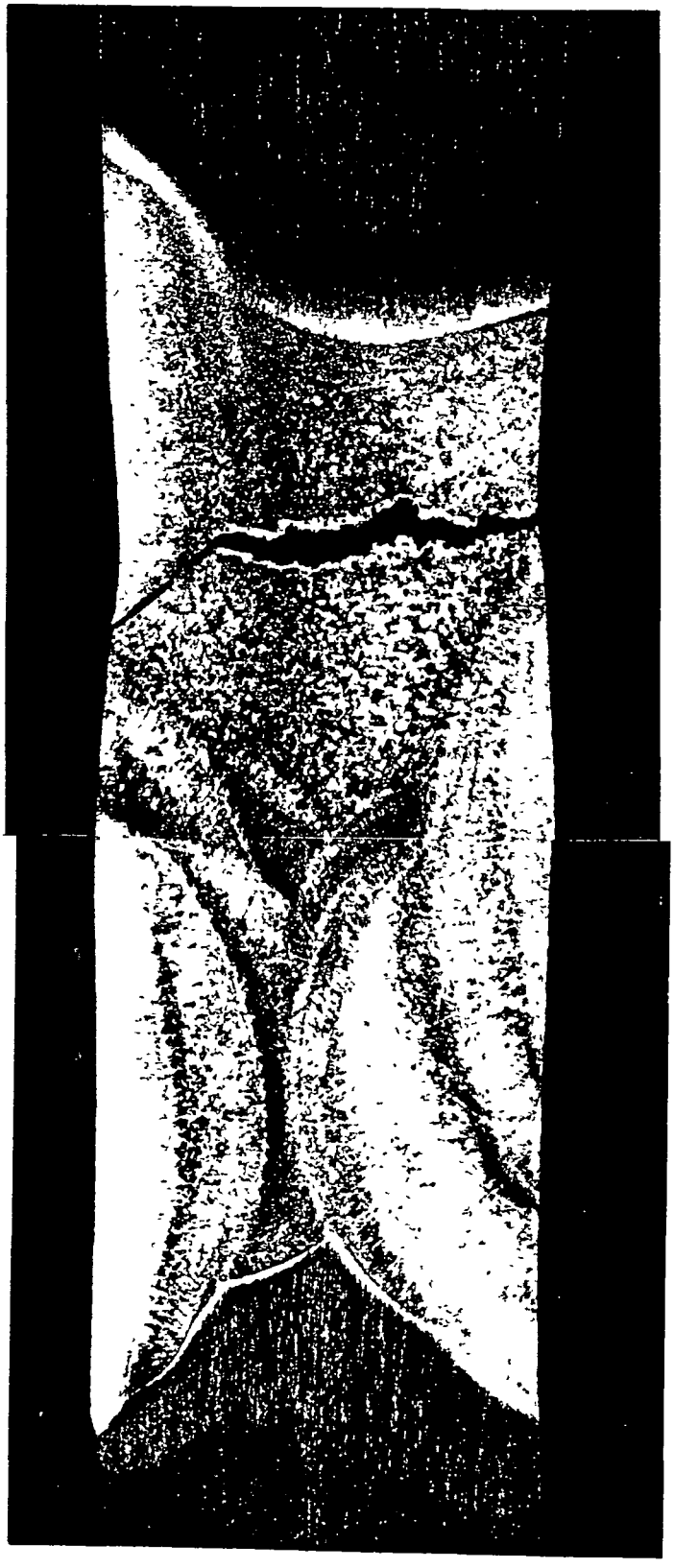
18RP6-SCT02 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

18RP7-SRT01 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld
(12.5x)



18RP7-SCT01 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

18RP7-SRT02 - Room Temperature Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld
(12.5x)



18RP7-SCT02 - LN2 Tested 1-inch-wide Shaved Repair Weld Tensile Specimen
Chemistry 18 0.200t 2195-T8M4/ 2195-T8M4 VPPAW - Chemistry 18 Planished R5 Fusion Line GTA Repair Weld
(12.5x)

APPENDIX N
STRESS CORROSION CRACKING