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Propulsion Systems Engineering and Integration Office (PSE&I)/MSFC
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Outline

• SEA Chrome/Cadmium papers
• Supplier obsolescence
  – Randolph TT-P-1757 zinc chromate primer
  – Continental Coatings zinc chromate paste
SEA Chrome/Cadmium Paper

• Chromated primer and conversion coatings
  – Outlines products used by SSP Elements
  – Outlines ongoing or incomplete replacement efforts
  – Lists replacement candidates

• Cadmium plated parts
  – Outlines products used by SSP Elements
  – Outlines ongoing or incomplete replacement efforts

• Outside NASA and OEM efforts
Chromated Primer

- TT-P-1757 Zinc Chromate coating manufactured by Randolph Products
- Initially noted applied color was orange instead of yellow
- Subsequent 1000 hr salt fog failure (small pits)
- Analysis of coating prior to and after pigment change
  - Zinc 7.54% -> 10.1%, Chromium 6.69% -> 2.69%
  - Suspect to contain dichromate ion (orange color)
- Vendor changed zinc chromate pigment suppliers due to obsolescence
  - Rockwood (obsolete) to Lansco (discrepant material) to Nubiola (manufacturer)
Zinc Chromate Paste

• Manufactured by Continental Coatings
• Ceased manufacture in 2007
• Why they quit
  – Health & safety concerns
  – Cost of processing
• MSFC engineering is looking at a replacement