The Use of Ion Vapor Deposited (IVD) Aluminum for the Space Shuttle Solid Rocket Booster

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13th Annual International Workshop on Solvent Substitution and the Elimination of Toxic Substances & Emissions
December 9-12, 2002
Scottsdale, Arizona
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- Agenda
- Background
- Objectives
- Recommendations
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- Background
- IR&D Development of IVD Aluminum
- GSE Lifting Hardware Coated with IVD
- MSFC Approval for IVD Drogue Ratchet
- USA M&P Proposal to IVD Other Flight Items
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SCHEMATIC OF AN ION VAPOUR DEPOSITION SYSTEM
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PRODUCTION ION VAPOR DEPOSITION SYSTEM
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IVD Coated Drogue Ratchets
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Cadmium Coated Drogue Ratchet
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KSC Beach Exposure Corrosion Test Site
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KSC Beach Exposure IVD Ratchet Start
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KSC Beach Exposure After 8 Months
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KSC Seawater Immersion Facility
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Seawater After 5 Months Immersion
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Seawater After 5 Months Immersion
The Use of Ion Vapor Deposited (IVD) Aluminum for the Space Shuttle Solid Rocket Booster

Seawater 5 Months Immersion Cleaned
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Solid Rocket Booster Retrieval
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Solid Rocket Booster Frustum Retrieval
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Cadmium Plated Ratchet After Retrieval
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- Objectives
  - Completed 48 Sets of IVD Coated Drogue Ratchets
  - Continue Coating GSE Hardware with IVD
  - USA M&P Proposal to IVD Other Flight Items
  - Perform Cost / Benefit Analysis IVD Applications
  - ECP for Approved on Selected Flight Items
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- Recommendations
  - Continue Coating GSE Hardware with IVD
  - Consider Use Of IVD For Other Flight Items
    - Including Application To TPS Hardware
  - Promote “Wash-Dry-Fly” Concept
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