



CADMIUM ALTERNATIVES AT HILL AFB



Ogden Air Logistics Center

**Presented By:
Nathan Hughes**

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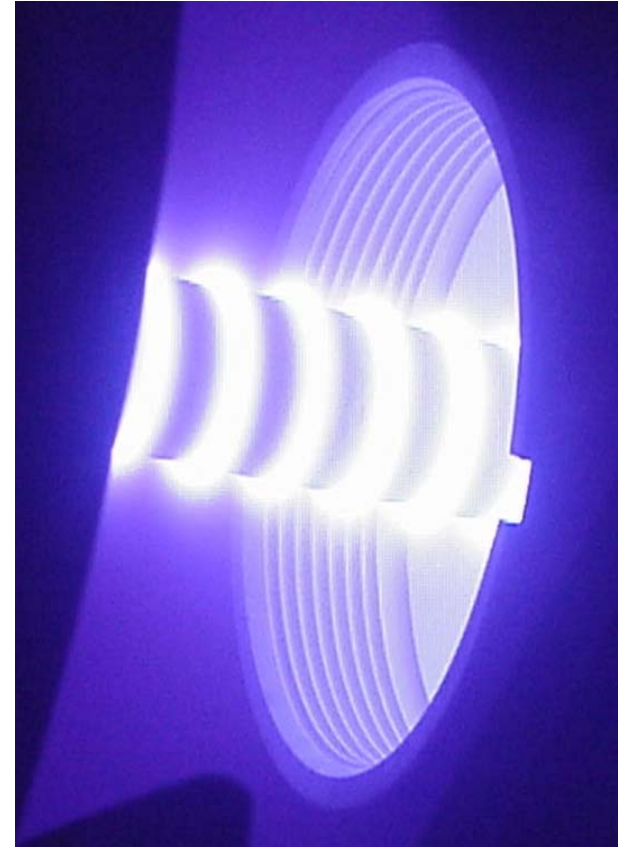




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Cadmium Alternatives



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- **The search is still on for a satisfactory replacement.**
 - Nothing is a panacea
- **Protection must be galvanic!**
- **Aluminum Based products**
 - IVD
 - Alumiplate
 - Al/Mn
 - Sputter
 - Open doors for different metals/alloys
- **Zinc based products**
 - Zn/Ni
 - Sn/Zn
- **Completely different alloy (Ferrium S53)**





Ferrium S53



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	0.2% YS (ksi)	UTS (ksi)	Elong. %	R.A. %	Charpy V (ft-lbs)	Fracture toughness K_{IC} ksi $\sqrt{\text{in}}$	K_{ISCC} (ksi $\sqrt{\text{in}}$)
S53	225 min	290	16	62	18-25	70	40-60
300M	230 min	280 min	10	48	9	~50	<10

- **So far equal to or better than 300M mechanically and chemically**
 - Yield strength
 - K_{ISCC} stress corrosion threshold.
 - Corrosion resistance
 - Testing is still underway

