nano Al-Trans™ Cadmium Replacement

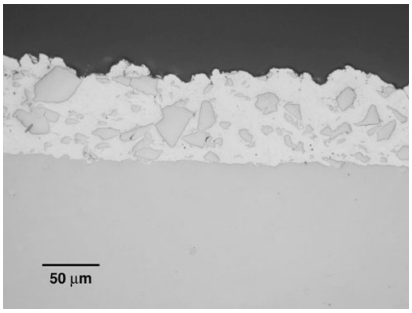
Corrosion Resistance: >5000 hrs Salt Spray ASTM B117

Metallurgical Bond: Strong Adhesion

Field Repairable: Portable Unit

Thickness: 0.001" min May be spray-formed

Fully Dense >99%



Above: Aircraft Wing **Below:** Micrograph

nano Al-Trans™ (Al based composite)

Due to cadmium's toxicity, compliance with environmental and health regulations is becoming prohibitively expensive. The replacement of toxic cadmium coatings with non-toxic nano Al-Trans™ aluminum coatings eliminates environmental compliance costs and provides superior corrosion protection without the need for chromate conversion coating.

nano Al-Trans™ cadmium replacement coatings have the added advantage of no hydrogen embrittlement since it is applied at low temperature without chemicals. The Kinetic Metalization (KM) process of applying nano-particle aluminum in this coating leads to superior corrosion protection. This feature is especially important for coating of high strength steels and aluminum. It is also useful where it is important to avoid fatigue debt. nano Al-Trans™ is presently under investigation for corrosion protection coating of aircraft landing gears and repair of Ion Vapor Deposition coatings.

In addition to KM's favorable environmental position, the repair market for parts coated with nano Al-Trans™ may benefit from a cost savings that is realized by on-site component repair. The mobility of Inovati's equipment, its use of non-combustible accelerant gases and the possibility of complete over spray capture, provides an opportunity for the development of mobile service stations that could perform field repairs on-site.

The KM process avoids the oxidation and thermal distortion that results from coatings applied with thermal spray and the expensive elaborate equipment required for the IVD, molten salt bath plating and alumiplate processes. nano Al-Trans™ applied with KM provides a metallurgical bond to the substrate for high adhesion strength. Since it can be applied with near zero porosity it's corrosion resistance has survived more than 5000 hours of salt spray and has still not failed. KM nano Al-Trans™ is industries best solution.

KM Benefits

- Environmentally safe
- Low cost
- Low temperature
- Field repairable
- No soundproofing
- No grit blasting
- No explosive gas

nano Al-Trans™ Characteristics

- Near zero porosity
- High adhesion strength
- High corrosion resistance
- No hydrogen embrittlement

Application Areas

- Cadmium replacement
- Ion-Vapor Deposition (IVD) repair
- Alumiplate repair
- Electrical grounding strips
- Aluminum-based corrosion resistance

INOVATI PO Box 60007 Santa Barbara CA 93160 805 571 8384

www.inovati.com