

Al-Trans™ Mild Steel Outside Cabinets



Corrosion Resistance: 5000 hrs salt spray ASTM B117

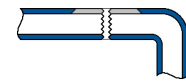
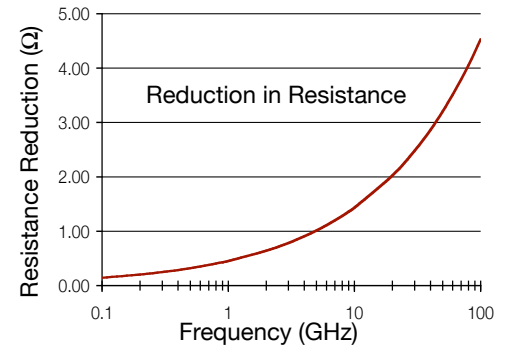
Strength: Mild steel construction

High Frequency Grounding: Conductivity, 50% better than zinc

Metallurgical Bond, Strong adhesion

Field Repairable: Self-healing abrasion resistance

Thickness: 100 to 1000 microns



- Al-Trans™ Grounding Strip
- Powder Coating
- Steel

Al-Trans™ (Corrosion Protection)

Inovati's Kinetic Metallization™ (KM) process for coating with Altrans™ aluminum composite, makes it possible to use mild steel instead of more expensive material to fabricate outside cabinets. Outside cabinets are usually made of aluminum or stainless steel for corrosion protection and grounding considerations. Steel gives the advantage of strength, which is becoming an important consideration due to vandalism. Aluminum has the advantage of high frequency grounding. Both of these materials are very expensive and difficult to use in manufacturing. Inovati's KM process for coating with Altrans™ allows a better solution.

Altrans™ provides a superior corrosion protection since it has passed salt spray testing of more than 5000 hours. This far exceeding the standard requirements of ASTM B117. A Zinc coating will typically fail with 200 hours of salt spray. The Altrans™, aluminum composite is a reactive metal so scratches fill automatically further avoiding rust in the base steel. This coating provides some of the best corrosion protection available today.

High frequency grounding of electronic equipment can provide a challenge to engineers trying to protect the low voltage signals use in modern computer based products. There is a problem with zinc in that it is not a very good conductor and if it loses its protective chromate coating its surface properties deteriorate rapidly. High frequency signals travel on the surface of a conductor. At ten megahertz the signal is confined to a surface depth of 20 microns (.0008"). At one gigahertz the signal is confined to a surface depth of 2 microns (.00008"). The AC impedance of zinc is 50% higher than aluminum. At these low surface depths, significant ground loops can develop over a relatively short distance. Add corrosion to this problem and the need for Inovati's Altrans™ is even more important

The KM process using Altrans™ has additional benefits. Its cost is low because it is a single step process that does not use any chemicals. Altrans™ provides high frequency grounding that is superior to zinc chromate. It provides a true metallurgical bond between the metals so it avoids the problem of chips flaking off as found with zinc. The KM process is environmentally safe and requires no hazardous waste material handling so it can be set up at any stage in the production process. Altrans™ using the KM process can also be repaired on the shop floor or in the field with a hand held unit so even heavy scratches are not a problem.

KM Process Benefits

- Low cost
- Highly directed
 - No masking required
- Environmentally safe
- No hazardous waste streams
- No soundproofing
- No grit blasting
- No explosive gas

Al-Trans™ Characteristics

- High conductivity
- High corrosion resistance
 - Neutral salt spray
- Self-healing abrasion resistance
- Uniform color throughout
- High adhesion strength
- Field repairable
- Fully dense
- Metallurgical bonding

Application Areas

- Aluminum-based corrosion resistance
- Strength of steel
- Production cost reduction
- High frequency grounding

KM - Development System