

TTH - HIGH PERFORMANCE CORROSION RESISTANT SURFACE TREATMENT

At Icore International we design and manufacture high performance electrical interconnect hardware to survive extreme environmental conditions. In a continuing effort to better survive these environments, we have

developed the use of the TTH Plating System for aluminium or brass hardware which exceeds the performance of the existing standard Cadmium or Nickel based surface treatments.



- ▶ **Cadmium is now rated as a toxic material** and its use is discouraged. Icore's TTH plating replaces Cadmium, and surpasses its anti-corrosion characteristics by 300%*. In addition, it offers superior abrasion and impact resistance.
- ▶ **Corrosion Resistance**
 - Corrosion resistance to Salt spray (fog) in excess of 2000 hours without the use of toxic Cadmium metal or chromates
 - In acid environment resistance in accelerated sulphur dioxide (So₂) salt fog tests TTH outperforms conventional Cadmium/Nickel plating by 600%.
- ▶ **Abrasion Resistance - Excellent Response to:**
 - Physical abrasion
 - Vibration, shock and impact
 - Extreme temperature
 - Sand abrasion
 - Metal to metal wear
- ▶ **Electrical Performance**
 - Conductivity equal to Nickel/Cadmium or Nickel

Icore International is committed to establishing the TTH plating system as a viable alternative to nickel. TTH has already been accepted on several important military and commercial projects, including aircraft and shipboard

systems in the USA. Users of connectors and other related hardware are also looking to TTH as a solution to the problem of replacing Cadmium in their plating systems and improving corrosion resistance.

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After 2000 hours salt spray

TTH plated accessory mated to an Electroless Nickel Plated Connector After 2000 hours salt fog exposure.



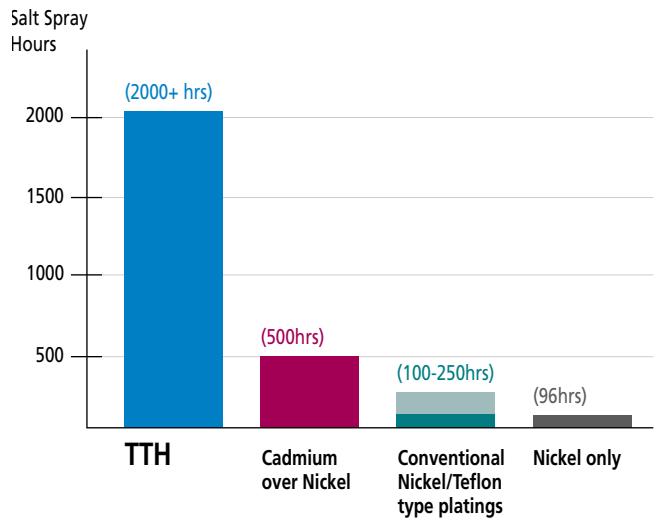
TTH Plating - summary of the benefits

- ▶ Superior corrosion resistance to combined acid gas/salt spray testing real life environments SIX TIMES the life of Cadmium plating.
- ▶ Equal conductivity to Nickel/Cadmium
- ▶ Plating does not contain Cadmium
- ▶ Non-toxic environmentally acceptable material
- ▶ Good electrical conductivity
- ▶ -65°C to +260°C temperature capability
- ▶ High lubricity hard surface with excellent abrasion resistance
- ▶ Resistant to aerospace fluids
- ▶ Excellent thermal shock performance

Performance Explained

TTH has superior corrosion resistance performance because, unlike conventional Nickel plating, which can contain porosity, it forms a continuous coating. This prevents the base metal (aluminium) from reacting with the environment. Cadmium which also forms a continuous coat, is environmentally unacceptable because of the toxic chemicals used in processing. TTH provides a viable alternative.

Performance Comparison



All salt spray/fog tests are performed to ASTM B117-90, MIL-STD-1344A and EN 2591.307.

*(300% in the Salt & Sulphuric Acid Stack Gas test)

For further technical details and information, please contact your local Icore Office at the addresses detailed below.

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