

# CADMIUM PLATING

Electroplated cadmium is a corrosion resistant metal coating. Cadmium is a soft white metal that functions as a "sacrificial coating" because of its place on the galvanic series. It preferentially corrodes before steel, cast iron, malleable iron, copper, and powdered metal. To enhance the corrosion protection of cadmium plating, clear hexavalent chromium, yellow dichromate, and zinc phosphate seals can be added. Cadmium plating offers an exceptional bonding surface for adhesives, and is the preferred coating for salt-water environments. Additional advantages of Cadmium plating include: low electrical resistance; outstanding conductivity; superior solderability; and excellent natural lubricity, which results in prevention of galling and a low coefficient of friction. Due to Cadmium's toxic nature, it is strictly prohibited from all food-handling applications.

## Chem Processing Inc. Cadmium Plating Capabilities:

- **Plating Thickness Range of 0.0001 to 0.0010 inches**
- **Rack and Barrel Plating Available**
- **Clear Hexavalent Chromium and Yellow Dichromate Post-Treatment Seals**
- **Application of Zinc Phosphate as a Painting Pre-Treatment**
- **Available Masking for Selective Surface Plating**
- **Salt Spray Corrosion Test (480 hours to red rust)**
- **Thickness Analysis on a Fischer Technology XDL-B X-Ray Fluorescent Spec**
- **Adhesion Testing**

## Applicable Specifications:

**AMS 2400**

**AMS 2401**

**ISO 4521**

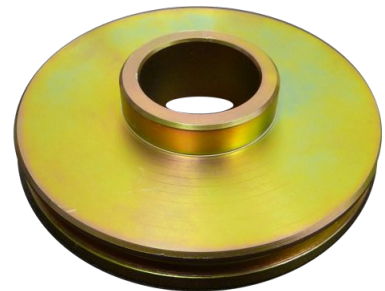
**ASTM B766**

**ASTM A165**

**QQ-P-416**

## Typical Cadmium Applications:

- **Aerospace:** landing gear, fasteners, engine components
- **Defense:** vehicle components requiring repeated disassembly/reassembly
- **Transportation:** disc brake components, radiator hose fittings and door latches
- **Electronics:** connectors, relays and chassis
- **Consumer Products:** window hardware and home construction products
- **Formed Products:** shaped or formed pre-plated parts



## Functional Properties: Cadmium vs. Zinc

Cadmium retains its original appearance longer than zinc and is superior to zinc in marine and industrial environments. Due to Cadmium's lubricity, it is also preferred for moving parts, as well as parts that are made out of cast iron. The differences between the torque/tension properties of cadmium and zinc are a significant consideration in the plating of fasteners.

*All processes comply with industry specifications including ASTM, SAE, MIL, etc., as applicable for the particular process involved and are performed under ISO 9001:2000/AS9100B standards. Specific company approvals may also apply.*



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