INDUSTRIAL HARD CHROME PLATING

Hard chrome plating, also called engineering chrome, is an electrolytically applied metal coating. Hard chrome plating demonstrates excellent hardness and lubricity, minimizes wear, reduces friction and prevents galling. These characteristics are applicable for critical engineering applications. Hard chrome is generally applied to a bare, properly prepared, ferrous, aluminum, or copper base material. Its appearance ranges from dull to bright silvery white, depending on the substrate condition.

Chem Processing, Inc. Chromium Plating Capabilities:

- **Typical Plating Thickness Range is 0.00005 to 0.02500 inches** (for information on plating over 0.025 in., please contact Chem Processing, Inc.)
- **Plating of Very Large Parts by Selective Surface Masking**
- **Hydrogen Embrittlement (**Parts with a hardness of 36 Rc or greater will be baked a minimum of 3 hours at 375° F to relieve entrapped hydrogen**)**
- **Thickness Analysis on a Fischer Technology XDL-B X-Ray Fluorescent Spec**
- **Third Party RoHS Compliance Certification Available** (by individual part number)

Applicable Specifications:

QQ-C-320	**ASTM B456**	**AMS 2406**
MIL-C-20218	**MIL-C-23422**	

Properties of Electroplated Chromium:

- **Hardness:** Plated chromium is extremely hard. A conventional bath will yield a Vickers diamond pyramid hardness of 900-1200.
- **Low Coefficient of Friction:** Chromium plating is optimal for hydraulic pistons and cylinders requiring a low-pressure differential, the prevention of galling and life extension of low friction gears, and the addition of anti-stick properties to plastic molds.

Applications of Industrial Hard Chrome:

- **Automotive:** pistons, shock absorbers and other parts that see high cycles over long periods of time are hard chrome plated for durability and lubricity.
- **Firearms:** interiors of gun barrels are hard chrome plated.
- **Aerospace:** aluminum piston heads are hard chrome plated to offer optimal performance with minimal weight. Actuator components are hard chrome plated to reduce wear and extend service life.
- **Machine Tools:** drills, taps, dies, extrusion screws and rolls are hard chrome plated to extend life and improve performance.
- **Gears:** hard chrome plating prevents galling and extends life in low-friction applications.
- **Salvage:** hard chrome plating can be used to restore worn parts to their original dimensions or bring mis-machined parts into tolerance.
- **Plastic Molds:** hard chrome plating provides anti-stick/release properties for plastic molds across all industries.

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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