



APPLICATIONS

Hardware • Fasteners • Defense • Automotive • Agricultural • Stampings
Gearing • Industrial Products • Machine components in general

How Zinc Plating Works

Zinc plating protects metals such as steel against corrosion. We use electrodeposition to add a thin coating of zinc metal to another metal object, or substrate.

The zinc coating protects the underlying metal surface with a thin barrier that keeps rust from reaching the other surface. The zinc coating is sacrificial coating. The zinc will corrode first instead of the metal substrate that it protects.

Besides its excellent protection against corrosion, some of the zinc advantages include:

LOW COST

Zinc is more cost effective than other options, such as cadmium

LOW-STRESS DEPOSIT

Unlike other deposits, zinc coatings do not stress the substrate, avoiding potential damage.

DUCTILITY

Zinc is an extremely ductile metal which makes it easy to contour to the shape of the underlying substrate.

FLEXIBILITY

Zinc can be applied with both rack and barrel plating processes and in a wide range of chemical baths.

AESTHETIC APPEAL

Zinc plating can help improve the appearance of an iron or steel part or component. Finished product customization is possible after introduction of colors during post-treatment.

Chemical Conversion

Chromate conversion coatings, sometimes referred to as chemical conversion, refer to the process of applying a thin barrier coating to passivate zinc plated substrates. The chromate coating is a thin inert layer with self-healing properties that protect the substrate, boosting corrosion protection, improving electrical conductivity, and providing excellent paint adhesion.

Eco Finishing offers a selection of different chromate conversion coatings. The type of chromate you choose will depend on the final use for the parts. Hexavalent chromates provide a superior level of corrosion protection; however, usage of hexavalent chromium present in these products has been reduced due to regulations such as RoHS. Trivalent conversion coatings are RoHS compliant as they do not contain hexavalent chromium.

CHROMATE OPTIONS AVAILABLE

	Hexavalent	Trivalent (RoHS Compliant)
Clear		X
Yellow	X	X
Black	X	X
Olive Drab	X	

SPECIFICATIONS

ASTM B633 • ASTM F1941 • AMS 2402 • ISO 4042



CAPABILITIES & RELATED SERVICES

Eco Finishing can meet a variety of zinc plating needs. Our zinc plating services include:

- Rack and Barrel (bulk) plating
- Chromate conversion coatings
- Topcoat seals and rust inhibitors to improve corrosion resistance
- Post-treatment colors available: red, green and blue
- Hydrogen embrittlement relief
- Salt spray testing
- Stripping
- Tumbling
- Blasting
- Packaging
- Masking

COMMON SUBSTRATES

- Ferrous Material
- Steel

LEARN MORE ABOUT OUR ZINC PLATING SERVICES

We can support your custom zinc plating needs.

Contact our Fridley office at (763) 574-1000 or contact us for a risk-free quote at www.ecofinishing.com.