

The Metal Finishing Experts

BTR Plating Resources

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Products & Services

Electroplating is an electrochemical process for depositing a thin layer of metal on a metallic base. Objects can be electroplated in order to avoid corrosion, to obtain a hard surface and an attractive finish. Cadmium, chromium, copper, gold, nickel, silver, tin and zinc are the metals most often used.

In the process of electro-plating, the object to be coated is placed in a bath of a salt of the coating metal, and is connected to the negative terminal of an external source of electricity. Another conductor, often composed of the coating metal is connected to the positive terminal of the electric source. A steady direct current of low voltage is required for the process. When the current is passed through the solution, atoms of the plating metal deposit out of the solution onto the cathode, the negative electrode. These atoms are replaced in the bath by atoms from the anode, the positive electrode or by periodic additions of the salt to the bath.



One-Stop Shopping

BTR-Plating Resources is your one stop source providing industrial plating and metal finishing services located in N.E. Ohio. We have remained a limited and focused resource assuring our customers the highest quality RoHS compliant industrial electroplating, electro-less plating, electro-polishing, electro-coat painting and surface coatings available.

The ingredients of technical experience, commitment to continuous quality improvement through on-going training and long term customer relationships, ensure our continued success in meeting the challenges of an ever-changing industry.

Electro & electro-less plating

Cadmium:

- Provides sacrificial protection to the underlying steel
- Prevents the galvanic/bimetallic reaction between steel and aluminum
- Has a low coefficient of friction
- Can easily be soldered
- Has a lower electrical contact resistance than zinc plated steel

Copper:

- Covers substrate defects
- Excellent and inexpensive coating with high electrical conductivity
- Offers good coverage and throwing power with high plating efficiency
- Less environmentally hazardous than many other plated metals

Electro-less nickel:

- Provides uniform coating
- Provides better corrosion protection than other plating techniques.
- Provides significant savings compared to hard chrome on complex shapes

Nickel:

- Excellent corrosion protection
- Wear resistance
- Lubricity
- Tarnish protection
- Decorative appearance

Nickel-chrome:

- Extremely hard surface
- Excellent wear and heat resistance
- Hygienic and easy to clean
- Produces a variety of surface finishes from mirror bright to dull satin

Silver:

- Excellent electrical conductor
- Superior wear resistance
- Excellent thermal conductor

Tin:

- A non toxic and corrosion resistant finish prevalent in the food processing and electronics industry for connectors, semi-conductors, components, etc.
- Very soft and malleable

Zinc:

- Sacrificial coating to protect steel
- Passivation or conversion coatings are applied to extend the life of the plated component

Zinc-nickel:

- Heat resistant
- Better corrosion resistance than zinc, a perfect alternative to conventional zinc
- RoHS compliant zinc nickel offers ten times the protection of zinc and five times that of cadmium plated steel

Whether your objective is cosmetic appearance, corrosion resistance or functionality it can be achieved by:

- Anodizing
- Bright dipping
- Bright nickel chrome
- Chromate conversion
- E-coating
- Electroless plating
- Electroplating
- Electropolishing
- Gold plating
- Hard Chrome
- Liquid top coating
- Nickel plating
- Phosphate coating
- Polymer coating
- Powder coating
- Silver plating
- Tin plating
- Zinc and zinc alloys



Most finishes are applied using either the barrel or rack plating methods. [More Details](#)