

INTERNATIONAL CHROMIUM PLATING

INDUSTRIAL PLATING FINISHES GLOSSARY

INDUSTRIAL CHROME – QQ-C-320

Properties: Chromium is bluish-white plating used for its hardness, corrosion protection and wear resistance, as well as its ability to restore the original dimensions to most parts. It offers a low-coefficient of friction, increased lubricity and is also heat resistant. It has a hardness of approximately 65-72 RC.

Applications: Industrial parts, shafts, piston rings, molds, cylinders, printing plates, rolls, drills, textile hardware.

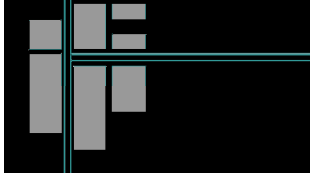
Base Metals: All steels, stainless steel, beryllium copper, brass, copper, bronze, monel and aluminum.

DECORATIVE CHROME – TRIVALENT / HEXA VALENT Copper, Nickel, Chrome

Properties: Trivalent Chrome is the new environmentally friendly decorative chromium, silver-gray in color with high reflectivity. It offers excellent coverage and a better uniformity of electroplate thickness than hexavalent chrome. The environmental problems associated with hexavalent chromium are reduced with this plating. It is also **RoHS compliant**. Hexavalent Chrome is silver-blue in color with high reflectivity. It has excellent tarnish, corrosion and wear resistance. To be considered decorative plating, hexavalent and trivalent chromium is applied over an undercoating of nickel or copper and nickel.

Applications: Automotive, Motorcycle and Marine hardware, Appliances, Plumbing fixtures, etc.

Base Metals: All steels, stainless steel, brass, copper, bronze, zinc die cast and aluminum.



INTERNATIONAL CHROMIUM PLATING

COPPER – ACID & CYANIDE - MIL-C-14550

Properties: Acid Copper is a reddish orange plate used to improve the metal distribution of irregular shaped parts and as a filler to correct base metal flaws. It is often selected for its leveling ability, ductility, buffing and machining ability. It has good heat diffusion, solder ability and electrical conductivity. It is used to improve the corrosion protection of base metals. Cyanide Copper is used to improve the adhesion and corrosion protective value of subsequent electro-deposits. It is also used as a stop-off in case hardening.

Applications: Printed circuit board industry, and as an undercoating for automotive, motorcycle and marine hardware, as well as, a stop-off in nitride hardening processes.

Base Metals: All steels, stainless steel, brass, bronze, zinc die cast and aluminum.

BRIGHT NICKEL – QQ-N-290

Properties: Nickel plating is used for its lustrous, bright, mirror-like finish. Its reflective finish offers good corrosion protection although it is not tarnish resistant. It is also used to improve the adhesion and protective value of subsequent electro-deposits such as chromium.

Applications: Undercoating for decorative applications. Also used on automotive, motorcycle and marine hardware, consumer products, stove hardware and numerous industrial applications.

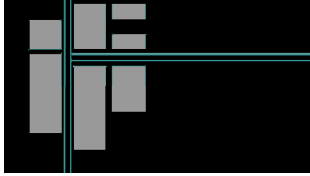
Base Metals: All steels, stainless steel, brass, copper, bronze, zinc die cast and aluminum.

ELECTROLESS NICKEL - MIL-C-26074

Properties: Electroless Nickel is semi-bright plating applied by means of electricity and heat and does not require electricity. It plates uniformly on both internal and external surfaces. It offers corrosion protection, solder ability and adhesion with low-coefficient of friction and wear characteristics. It plates to a hardness of 45 RC, but can be hardened to approximately 54-58 RC.

Applications: Aerospace, automotive, computer, electronics and food industry, industrial and firearms hardware, chemical processing and injection molds.

Base Metals: All steels, stainless steel, iron, beryllium copper, brass, copper, bronze, zinc die cast and aluminum.



INTERNATIONAL CHROMIUM PLATING

ZINC – QQ-Z-325 & ASTM-B633 (Clear/Blue, Yellow/Gold, Black Chromate)

Properties: Zinc is a bright, bluish-white plate which has a pleasing aesthetic appearance and is an excellent base for painting. It provides good corrosion resistance in an industrial atmosphere, protecting the base metal through sacrificial action. **RoHS compliant chromates are available.**

Applications: Computer and printing hardware, steel hardware, steel fasteners such as, screws, nuts, bolts and washers.

Base Metals: All steels, stainless steel, iron, brass, copper, bronze, zinc die cast and aluminum.

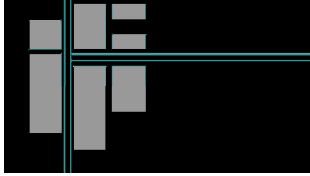
RoHs compliant chromates are available.

ZINC PHOSPHATE - PARKERIZING – DOD-P-16232

Properties: Zinc Phosphate/ Parkerizing coatings are uniformly dark gray in color and are used in the metal industry to assist in paint adhesion to the base metal. It is often used for parts exposed to severe corrosive conditions. It is also used to reduce friction between moving metal parts and to facilitate cold forming of metal by such operations as drawing, extruding, and stamping.

Applications: Military operations, valve industry, automotive, motorcycle and machinery hardware, such as, nuts, bolts, screws, washers, valves, hinges.

Base Metals: All steels and iron.



INTERNATIONAL CHROMIUM PLATING

CADMIUM – QQ-P-416 (Clear/Yellow Chromate)

Properties: Cadmium is soft, malleable, silver-white plating. It is best used for its high resistance to alkalies as well as its superior corrosion resistance in marine and salt environments. It provides good lubricity and is a good electrical conductor. It can be readily soldered without abrasive fluxes.

Applications: Aerospace, Military, Defense, Navy, automotive, motorcycle and marine hardware, computer components, electric and electronic equipment, textile machine parts.

Base Metals: All steels, stainless steel, iron, brass, copper, bronze, zinc die cast and aluminum.

CHROMATE CONVERSION COATINGS – IRIDITE- CHEMICAL FILM – MIL-C-5541 (Clear/Blue, Yellow/Gold, Black)

Applications: Chromate conversion coatings are formed on zinc, cadmium, copper, brass, bronze, zinc die cast and aluminum to provide bright decorative coatings. It offers finger-print and corrosion protection and acts as a pre-base to increase paint adhesion. These coatings are also used to impart color on the base metal or plated surface for color coding or decorative effects. RoHS compliant chromates are available.

Applications: Marine and automotive hardware, aerospace and aircraft parts, computer components, electric and electronic equipment, textile machine parts.

Base Metals: Zinc, cadmium, copper, brass, bronze, zinc die cast and aluminum.

PASSIVATION – QQ-P-35 & ASTM-A967 & AMS-2700A

Properties: Passivating is a cleaning process which dissolves any embedded iron on the surface of stainless steel. It restores the original corrosion-resistant surface by forming a thin, transparent oxide film. This operation is performed after parts are machined, tumbled or formed.

Applications: Military applications, marine hardware, valve, medical and electronic industry.

Base Metals: Stainless Steel 300 and 400 Series