CHARACTERISTICS OF PLATINGS, COATINGS & FINISHES

Plating, Coating or Finish	For Use On	Degree of Corrosion Resistance	Characteristics
Rust inhibitors	All metals	Varies with type	Oils, greases, etc. Vary in color and film thickness. Usually applied to black oxide finishes. Used to protect parts in transit and temporary storage.
Zinc, electroplated	All metals	Very good	Blue to blue-white gray color.
Cadmium, electroplated	Most metals	Excellent	Bright silver-gray, dull gray, or black finish. Particularly effective corrosion protection in marine applications. Used for decorative purposes. High lubricity.
Clear chromate finish	Zinc and cadmium plated parts	Very good to excellent	Clear bright or iridescent chemical conversion coating applied to plated parts to enhance corrosion protection, coloring, and paint bonding.
Dichromate	Zinc and cadmium plated parts	Very good to excellent	Yellow, brown, green or iridescent colored coating same as clear chromate.
Color chromate finish	Zinc and cadmium plated parts	Very good to excellent	Olive drab, blue, gold, bronze, etc. Same as clear chromate.
Zinc or Manganese Phosphate	Steel	Good	Black in color. Added protection when oiled with a non-drying petroleum oil containing corrosion inhibitors. Good lubricity.
Color phosphate coatings	Steel	Superior to regular phosphate and oiled surfaces	Chemically produced color coating. Available in blue, green, red, purple, etc.
Hot-dip zinc	All metals	Very good	Gives maximum corrosion protection. Dull grayish color. Necessitates thread size adjustments to permit assemblability.
Hot-dip aluminum	Steel	Very good	Gives maximum corrosion protection. Dull grayish color. Necessitates thread size adjustments to permit assemblability.
Mechanically deposited Zinc	Steel	Very good	Dull gray, smooth finish. Corrosion protection depends on coating thickness. Good coverage in recesses and thread roots.
Tin, electroplated	All metals	Excellent	Silver-gray color. Excellent corrosion protection for parts in contact with food.
Hot-dip tin	All metals	Excellent	Same as electroplated but thickness is harder to control.
Lead-tin	Steel, usually	Fair to good	Silver-gray, dull coating. Applied by hot-dip method. Helps lubricity.
Silver, electroplated	All metals	Excellent	Decorative, expensive, excellent electrical conductor.
Chromium, electroplated	Most metals	Good (improves with copper and nickel undercoats)	Bright, blue-white, lustrous finish. Has relatively hard surface. Used for decorative purposes or to add wear resistance.
Copper, electroplated	Most metals	Fair	Used for nickel and chromium plate undercoat. Can be blackened and relieved to obtain Antique, Statuary, and Venetian finishes.
Brass, electroplated, lacquered	Steel, usually	Fair	Brass electroplated which is then lacquered. Recommended only for indoor decorative use.
Bronze, electroplated, lacquered	Steel, usually	Fair	Has color similar to 80% copper, 20% zinc alloy. Electroplated and then lacquered. Recommended only for indoor decorative use.
Copper, brass, bronze, miscellaneous finishes	Most metals	Indoor, very good	Decorative finishes. Applied to copper, brass, and bronze plated parts to match colors. Color and tone vary from black to almost the original color. Finish names are: Antique, Black Oxide, Statuary, Old English, Venetian, Copper Oxidized.
Bright nickel	Most metals	Indoor excellent. Outdoor good if thickness at least 0.0005 in.	Electroplated silver-colored finish. Used for appliances, hardware, etc.
Dull nickel	Most metals	Same as bright nickel	Whitish cast. Can be obtained by mechanical surface finishing or a special plating bath.
Lacquering, clear or color-matched	All metals	Improves corrosion resistance. Some types designed for humid or other severe applications	Used for decorative finishes. Clear or colored to match mating color or luster.
Anodizing	Aluminum	Excellent	Acid electrolytic treatment. Frosty-etched appearance. Hard oxide surface gives excellent protection.
Passivating	Stainless steel	Excellent	Chemical treatment. Removes iron particles and produces a passive surface.

CHINA SPECIAL FASTENERS, INC.