BW industrial sales

FASTENER & HARDWARE SPECIALIST

CERTIFIED ISO 9001 COMPANY

INFORMATION GUIDE

FINISHES

Uncoated / Plain

Color varies from silver, gray, to black tones.

Typically provided with a rust inhibitor like oil.

Thermal Black Oxide

Color is black with some variations.

This is more of a surface finish that is formed during the heat treatment process where parts are being quenched and tempered.

Chemical Black Oxide

Black in color
ASTM D769

Inexpensive finish. No embrittlement issues. Great pre-treatment for painting. Very thin and adds no more than 5-10 millionths of an inch to the dimensions of the part.

Gray Phosphate

Flat gray in color
ASTM F1137
Grade C

Gray phosphate coating, on its own does not provide any corrosion resistance. Oil, sealers or paint is needed to achieve corrosion resistance. Majority of the phosphate coatings serve as a surface preparation for further coatings or paint.

Bright Nickel Electrodeposited

Chrome like finish
ASTM 8689

This is a thin layer of nickel deposited onto metal objects. Serving as a decorative and corrosion resistance finish.

Passivation of Stainless Steel

Clear looking surface
Standard Specification

Passivation of stainless steel fasteners is a cleaning process for removing the contaminants of foreign particles sticking to the fastener from the manufacturing process. If passivation is not carried out then it will affect the corrosion resistant properties of the stainless steel fasteners.

DISCLAIMER: Information for general purposes only

Zinc Electroplated & Clear Chromated

Silver color

ASTM F1941 Fe/Zn 3AT

ASTM F1941 Fe/Zn SAT

ASTM 8633 Fe/Zn 5 SC1 (Mild) Type III

High strength fasteners will require a baking process to draw out Hydrogen and reduce the risk of embrittlement failures. Our Cr+3 signifies RoHS compliant.resistance. Majority of the phosphate coatings serve as a surface preparation for further coatings or paint.

Coating Thickness Minimum	White Rust Hours	Red Rust Hours	RoHS
3 microns/0.0001"	3	12	YES (Cr+3)
5 microns/0.0002"	6	24	YES (Cr+3)
5 microns/0.0002"	12	12	YES (Cr+3)

Zinc Electroplated & Yellow Chromated

Yellow in color

ASTM F1941 Fe/Zn 3C

ASTM F1941 Fe/Zn 5C

ASTM F1941 Fe/Zn 5CT

ASTM B633 Fe/Zn 5SC1

(Mild) 5 Microns Type II

Same as the zinc clear above only the zinc chromate contains yellow pigment as an identifier. Coating thickness being the same, yellow chromate will have better corrosion resistance than clear chromate.

Coating Thickness Minimum	White Rust Hours	Red Rust Hours	RoHS
3 microns/0.0001"	24	24	NO (Cr+6)
5 microns/0.0002"	48	72	YES (Cr+3)
5 microns/0.0002"	96	96	NO (Cr+6)

Zinc Electroplated & Blue Chromated

Silver with light blue tinge

ASTM F1941 Fe/Zn 3AT

ASTM 8633 Fe/Zn 5 SC1 (Mild) Type III

Same as the zinc clear above only the chromate contains blue pigment as an identifier. Our Cr+3 signifies RoHS compliant

Coating Thickness Minimum	White Rust Hours	Red Rust Hours	RoHS
3 microns/0.0001"	3	12	YES (Cr+3)
5 microns/0.0002"	12	12	YES (Cr+3)

Mechanical Zinc

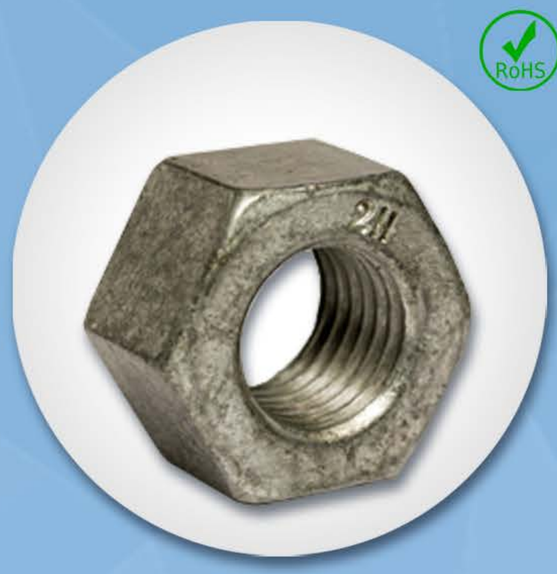
Silver matte

ASTM 8695 Type 11 Class 5

The process by which the fasteners are tumbled in a drum with glass beads, water, chemicals and zinc powder. The collision creates a cold welding of the zinc powder onto the parts. Advantages : Elimination of hydrogen embrittlement, excellent adhesion, uniformity of coating thickness. Ability to plate hardened parts without post baking.

Coating Thickness Minimum	White Rust Hours	Red Rust Hours	RoHS
5 microns/0.0002"	72	72	YES (Cr+3)

Hot Dipped Galvanized



Silver to gray in color

ASTM F2329

ASTM A153

This is carried out by putting the fasteners in molten zinc and spinning off the excess zinc. Hot dipped galvanized parts can be used in ACQ treated lumber.

Coating Thickness Minimum

Up to 3/8" diameter: 43 microns/ 0.0017"

Above 3/8" diameter: 51 microns/ 0.0020"

Cadmium Yellow

Yellow in color

ASTM 8766/ QQ-P-416 Type 11, Class 3

Cadmium is a soft white metal which when electroplated onto steel acts as "sacrificial coating", corroding before the substrate material. It provides excellent corrosion resistance, good lubricity, solderability and has good paint base characteristics.

Coating Thickness Minimum	White Rust Hours	Red Rust Hours	RoHS
5 microns/0.0002"	96	96	NO (Cr+6)