Fast Master, Inc.
Industrial Fasteners

BRIGHTON-BEST INTERNATIONAL
FOUNDED 1925®

TECHNICAL GUIDE

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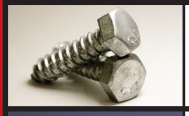
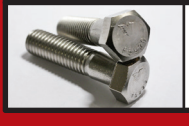
Finishes

Plating Description		Color / Appearance	Specification	Coating Thickness Minimum (Microns/Inch)	Salt Spray Life		RoHS	Remarks
					White Rust Hours	Red Rust Hours		
	Uncoated / Plain	As received bare metal, varies from silver, gray, to black tones	N/A	N/A	N/A		YES	Typically provided with a rust inhibitor like oil.
	Thermal Black Oxide	Black in color with some variations	N/A	N/A	N/A		YES	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	N/A	N/A		YES	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	N/A	N/A	24	YES	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.
	Zinc Electroplated and Clear Chromated	Silver in color	ASTM F1941 Fe/Zn 3AT	3 microns/0.0001"	3	12	YES (Cr+3)	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.
			ASTM F1941 Fe/Zn 5AT	5 microns/0.0002"	6	24		
			ASTM B633 Fe/Zn 5 SC1 (Mild) Type III	5 microns/0.0002"	12	12		
	Zinc Electroplated and Yellow Chromated	Yellow in color	ASTM F1941 Fe/Zn 3C	3 microns/0.0001"	24	24	NO (Cr+6)	Same as the zinc clear above only the chromate contains yellow pigment as an identifier. Coating thickness being the same, yellow chromate will have better corrosion resistance than clear chromate.
			ASTM F1941 Fe/Zn 5C	5 microns/0.0002"	48	72		
			ASTM F1941 Fe/Zn 5CT	5 microns/0.0002"	48	72	YES (Cr+3)	
			ASTM B633 Fe/Zn 5 SC1 (Mild) 5 Microns Type II	5 microns/0.0002"	96	96	NO (Cr+6)	
	Zinc Electroplated and Blue Chromated	Silver with light blue tinge	ASTM F1941 Fe/Zn 3AT	3 microns/0.0001"	3	12	YES (Cr+3)	Same as the zinc clear above only the chromate contains blue pigment as an identifier. Our Cr+3 signifies RoHS compliant
			ASTM B633 Fe/Zn 5 SC1 (Mild) Type III	5 microns/0.0002"	12	12		
	Mechanical Zinc	Silver matte appearance	ASTM B695 Type II Class 5	5 microns/0.0002"	72	72	YES (Cr+3)	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.
	Hot Dipped Galvanized	Silver to gray in color	ASTM F2329	Up to 3/8" diameter: 43 microns / 0.0017"	N/A	N/A	YES	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.
			ASTM A153	Above 3/8" diameter: 51 microns / 0.0020"				
	Cadmium Yellow	Yellow in color	ASTM B766/ QQ-P-416 Type II, Class 3	5 microns/0.0002"	96	96	NO (Cr+6)	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.
	Bright Nickel Electrodeposited	Almost a chrome like finish	ASTM B689	N/A	N/A	N/A	N/A	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	As per manufacturer standard	N/A	N/A	N/A	N/A	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.

NOTES : OUR CR+3 DESIGNATES PRODUCTS WHICH ARE RoHS COMPLIANT IN ACCORDANCE WITH EUROPEAN UNION'S RoHS & WEEE DIRECTIVE FOR HAZARDOUS MATERIALS.
ANY ZINC ELECTROPLATED FINISH ON HIGH STRENGTH FASTENERS REQUIRE A POST BAKING PROCESS TO ELIMINATE HYDROGEN EMBRITLLEMENT.

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