

The American Society for Testing and Materials is an international standards organization that develops and publishes voluntary consensus technical standards for a wide range of materials, products, systems, and services.

### ASTM F1941 Electrodeposited coatings on threaded fasteners (Zinc plating).

The ASTM F1941 specification covers several common electrodeposited coatings on threaded fasteners. The below chart details the various types of coatings, thicknesses, and optional chromates. This ASTM standard replaces ASTM B633 for electrodeposited threaded fastener coatings, since B633 was not written as a fastener specific standard.

#### F1941 Coating Designations

Designation	Type
Fe/Zn	Zinc
Fe/Cd	Cadmium
Fe/Zn-Co	Zinc Cobalt Alloy
Fe/Zn-Ni	Zinc Nickel Alloy
Fe/Zn-Fe	Zinc Iron Alloy

#### F1941 Coating Thickness

Designation	Minimum Thickness, in.
3	00.0001
5	0.0002
8	0.0003
12	0.0005

#### F1941 Chromate Finish

Designation	Type	Typical Appearance
A	Clear	Transparent colorless with slight iridescence
B	Blue-Bright	Transparent with a bluish tinge and slight iridescence
C	Yellow	Yellow iridescent
D	Opaque	Olive green, shading to brown or bronze
E	Black	Black with slight iridescence
F	Organic	Any of the above plus organic topcoat

*Note 1 – Coated fasteners with trivalent chromite (Cr+3) are not subjected to the required yellow, opaque and black color.*

*Note 2 – When fasteners are coated with trivalent chromite (Cr+3) the classification code shall be amended with the letter 'T'*

#### Baking

Coated fasteners heat treated to a specified hardness of 40 HRC or above shall be baked to minimize the risk of hydrogen embrittlement. There is no specified baking duration, exact times and temperatures must be determined between purchaser and manufacturer. If baking is necessary, fasteners must be baked within 4 hours of electroplating. Baking must be performed prior to the application of the chromate finish because temperatures above 150F damage the chromate film. Unless otherwise specified by the purchaser, baking is not mandatory for fasteners with specified maximum hardness below 40 HRC.



HAIYAN BOLT

海盐百伦紧固件有限公司