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Date: April 16, 2020	FASTENAL	C.1000.ECO.2K



1. SCOPE

- a. This specification covers the basic requirements for a corrosion resistant electrolytically applied zinc with yellow hexavalent chromate base coat with topcoat multiple epoxy application and a final sealing coating applied for fasteners.
- b. These coatings are applied by conventional dip-spin or dip-drain or spray methods which can be handled through a cleaning, coating and baking operation per coating manufacturer's specified requirements.

2. PROCESS REQUIREMENTS

- a. Prior to coating, the parts shall be free from oil, scale and similar foreign materials
- b. Parts shall be baked at a temperature per the requirements specified by the part product standard.

3. COATING REQUIREMENTS -

- a. Appearance –
 - i. The coating shall have a uniform appearance free from tears, blisters, uncoated areas, and other discontinuities which may affect the appearance or performance of the coating.
 - ii. The color shall be brown unless otherwise specified.
 - iii. The coating shall not be tacky to the touch and shall not leave particulate residue on equipment hands or gloves.
- b. Topcoat – A polyester topcoat applied to the epoxy coating is required and must meet the requirements defined in this specification.
- c. Thickness - The coating shall not have any adverse effects on normal installation and removal practices. For reference, typical zinc thickness is 8 µm, and the nano coating 15µm based on an average of individual measurements when measured on the significant surface as defined by ASTM F1941/F1941M or ISO 10683.
- d. Adhesion – Adhesion of the coating shall be tested in accordance with ASTM D3359 Test Method A (*with an X-Cut*) or ISO 2409 and visually rated to classify

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the adhesion result. The coating shall show only trace peeling and removal when performing the adhesive tape test.

- e. Corrosion Resistance – The coating shall be capable of withstanding exposure to salt spray when tested in accordance with ASTM B117 or ISO 9227 to the minimum hours specified in Table 1 prior to red rust. Unless otherwise defined, acceptable corrosion resistance shall be Rust Grade 6 or higher ASTM D610 on significant surfaces.

Table 1 Salt Spray Requirements

Product Description and Size	Minimum Salt Spray Hours
Deck screws of various head forms and thread configuration	1000

- g. There shall be no signs of blistering after salt spray testing.
- h. Cathodic Protection - The cathodic protection capability of the coating shall be tested utilizing the salt spray test above for a duration of 72 hours with a specimen which has been scratched down to the base metal. The scratch shall have a maximum width of 0.02-in (0.5mm). After the salt spray test, there shall be no red rust in scratched area.

4. RECESS FILL

- a. Coating processing shall be controlled so as to limit the buildup of coating within the recess drive which would prevent the functionality of screw installation.