

Zinc Thermo-Diffusion Coating

EMPIS Finish F74A3 identifies a zinc thermo-diffusion coating (TDC), for application on steel fasteners, hardware and other products, as follows:

<u>EMPIS designation</u>	<u>Description</u>
F74A3A1	Heat resistant, up to 900 °F service, thickness as specified

REFERENCED DOCUMENTS:

- ASTM A 1059/A 1059M..... Standard Specification for Zinc Alloy Thermo-Diffusion Coatings (TDC) on Steel Fasteners, Hardware and Other Products
- ASTM B 487..... Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of a Cross Section

PROPERTIES:

- Thickness of deposit – Material shall have a minimum thickness of zinc-based deposit on significant surfaces of 0.0015 inch, or as specified on the drawing.
- Service temperature – Coating shall capable of providing continuous service at 900 °F without failure.

ADDITIONAL REQUIREMENTS:

- Preparation – The iron or steel article to be finished shall be substantially free from flaws or other imperfections that will be detrimental to the appearance or the protective value of the coating. It shall be subjected to such cleaning, pickling and coating procedures as are necessary to yield deposits with the desired quality.
- Coating –The finished coating shall have a uniform appearance, shall be adherent and substantially free from scratches or imperfections that might affect the appearance or protective value of the coating.
- Color – Shall be black, acceptable to GE, and shall not substantially discolor or fade over the lifetime of the part.

REFEREE METHODS:

- Sampling -The samples shall be taken at random and shall represent 1% of the number of pieces in the shipment. However, in no case shall less than three samples be taken for the test.
- Coating thickness ASTM B 487 (1)

- (1) Alternate methods are permitted as a suitable means of determining coating thickness; however, in the case of dispute, metallographic methods per ASTM B 487 shall be the basis for acceptance or rejection of the material for coating thickness.

APPROVAL:

Final approval of a material to this specification is based on a factory trial. After approval, no changes in the composition or processing of material furnished to this specification shall be made without prior notification and approval of the purchaser.

CERTIFICATE OF TEST:

When requested, the supplier shall submit promptly to the purchaser at the point of delivery a certificate of test showing the results of tests for properties required by this specification. This certificate shall be addressed to the section, unit, or person specified on the purchase order, and shall contain the EMPIS designation, the purchase order number, and the quantity shipped so that the certificate may be identified with the shipment.

PACKING AND MARKING:

Material shall be packaged in a manner suitable to meet DOT and carriers' regulations and to protect the product against deterioration, contamination or loss during normal shipping and storage. Each shipping container shall be legibly marked with the purchase order number, the manufacturer's name or trade name, the batch or lot number, the quantity contained, and the EMPIS designation.

DOCUMENT REVISION STATUS:

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