

AEROSPACE MATERIAL SPECIFICATIONS

AMS 2417A

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NICKEL-ZINC ALLOY PLATING

1. ACKNOWLEDGMENT: A vendor shall mention this specification number and its revision letter in all quotations and when acknowledging purchase orders.
2. APPLICATION: Primarily to prevent corrosion of steel parts which may operate at temperatures up to 900 F. No diffusion heat treatment of the coating is required.
3. PREPARATION:
 - 3.1 All brazing, forming, machining, and welding shall be completed before parts or assemblies are plated.
 - 3.2 Unless otherwise specified, parts having hardness of Rockwell C 40 or over and which have been ground after heat treatment shall be suitably stress relieved before cleaning for plating. Temperature to which parts are heated shall be such that maximum stress relief is obtained without reducing the hardness of the parts below drawing limits.
 - 3.3 Prior to plating, parts shall have chemically clean surfaces prepared with minimum abrasion, erosion, or pitting; treatments which may produce hydrogen embrittlement shall be avoided.
4. PROCEDURE:
 - 4.1 Nickel Strike: Prior to application of the alloy plate, the parts shall receive a nickel strike.
 - 4.2 Nickel-Zinc Alloy Plate: Unless otherwise specified, consists of the electro-deposition, over the nickel strike, of a nickel-zinc alloy plated from a nickel chloride and zinc chloride and acetic acid solution containing no addition agents which might have a detrimental effect on the properties of the plate or basis metal; stress reducing agents shall not be used unless specifically authorized by the purchaser. The alloy plate shall be 16 - 30% nickel and the balance zinc.
5. TECHNICAL REQUIREMENTS:
 - 5.1 Thickness:
 - 5.1.1 Nickel Strike: Shall be not less than 0.00005 inch.
 - 5.1.2 Nickel-Zinc Alloy Plate: Thickness of plate for parts other than washers or externally threaded items shall be 0.0003 - 0.0007 in., unless otherwise specified on the drawing.
 - 5.1.3 Washers and parts with externally threaded areas shall have a thickness of 0.0002 - 0.0004 in., unless otherwise specified on the drawing.

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