

FED. SUPPLY CLASS

MFFP

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for aluminum coatings on fasteners or fastener systems.

1.2 Classification. Aluminum coatings under this specification shall be of ~~one class only; .0002-.0005 inch in thickness. two classes, both:~~

No Class – Aluminum coating containing chromates

Class NC – Non-chromated Aluminum Coating

2. APPLICABLE DOCUMENTS

INDUSTRY STANDARDS

American Society for Quality

ASQ Z1.4 Sampling Procedures and Tables for Inspection by Attributes

Copies can be obtained from the American Society for Quality, 600 North Plankinton Ave., Milwaukee, WI 53203.

www.asq.org

ASTM International

~~ASTM B-287~~ ASTM G85 ~~Acetic Acid Salt Spray (Fog) Testing~~ Standard Practice for Modified Salt Spray (Fog) Testing

Copies can be obtained from ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA

19428-2959. www.astm.org

Aerospace Industries Association

NASM1312 Fasteners, Test Method

Copies can be obtained from the Aerospace Industries Association, 1000 Wilson Blvd., Suite 1700, Arlington, VA 22209. www.aia-aerospace.org

MILITARY SPECIFICATIONS

MIL-A-8625 Anodic Coatings for Aluminum and Aluminum Alloys

MIL-R-81294 Remover, Paint, Epoxy, Polysulfide, and Polyurethane Systems

TT-R-2918 Remover, Paint, No Hazardous Air Pollutants (HAPS)

Copies can be obtained from DLA Document Services, Bldg 4/D, 700 Robbins Ave, Philadelphia, PA 19111.

<http://quicksearch.dla.mil/>

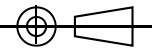
3. REQUIREMENTS

3.1 Materials. The materials used shall be such as to produce coatings which meet the requirements of this specification.

3.2 Preparation. The basis metal shall be free from ~~effects~~ surface conditions that will be detrimental to the appearance or the protective value of the coating when tested according to the provisions herein.

3.2.1 Parts shall be stress relieved prior to coating if they have been subjected to operations causing detrimental residual stresses. Temperatures to which the parts are heated and time at temperature shall be such that maximum stress relief is obtained without affecting properties of the material.

⑤ COMPLETELY REVISED

THIRD ANGLE PROJECTION 	CUSTODIAN NATIONAL AEROSPACE STANDARDS COMMITTEE	REVISION 5
PROCUREMENT SPECIFICATION NONE	TITLE ALUMINUM COATING	CLASSIFICATION PART STANDARD NAS4006 SHEET 1 OF 5



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- 3.2.2 Any residual compressive stress inducing operation such as shot peening, fillet rolling, or thread rolling shall follow the stress relieving
- 3.2.3 Before coating, parts shall have ~~chemically~~ clean surfaces prepared by chemical cleaning or grit blasting, as applicable, with no evidence of erosion, pitting, intergranular attack, or unintentional abrasion
- 3.3 Procedure.
- 3.3.1 Parts may be coated by any suitable technique capable of producing a coating meeting the requirements of this specification.
- 3.3.2 Under no circumstances shall the fasteners exceed a temperature of 400 °F unless otherwise approved or specified by ~~the procuring agency~~ the end customer.
- 3.4 General Requirements.
- 3.4.1 Unless otherwise specified, the coating process shall be ~~performed after all machining, forming, or other metal working processes have been completed~~ applied to finished surfaces after all metal working processes have been completed.
- ~~3.4.2 The coating may be applied directly to the part surface or may have a base coat or flash plate applied prior to final coating. (remove)~~
- 3.5 Detail Requirements.
- 3.5.1 Visual inspection shall be performed
- 3.5.2 Thickness. Unless otherwise specified, the coating thickness shall be 0.0002 to 0.0005 inches on all visible surfaces which can be touched by a ball 0.75 inch in diameter.
- 3.5.2.1 Coverage. The recess, in ~~shank~~ threads or head, may ~~be bare~~ have incomplete coverage in titanium or corrosion resistant materials only.
- 3.5.3 Appearance. The coating shall be smooth, uniform, and shall be free from pin holes, porosity, blisters, nodules, pits or other harmful imperfections.
- 3.5.4 Adhesion. The coating system shall be continuously bonded to the basis metal. The adhesion of the coating shall be such that when examined at a magnification of approximately 4X, it does not show separation from the basis metal at the interface when subjected to the tests described in 4.6.2. The interface between the coating and the basis metal is the surface of the basis metal before coating.
- 3.5.5 Fluid Resistance. The coating shall show no evidence of blistering or loss of adhesion when exposed to phosphate ester hydraulic fluid as specified in 4.6.4. Aluminum coatings containing organic components shall not decrease more than two pencil hardness units after exposure when compared to the unexposed coating.
- 3.5.6 Paint Stripper Resistance. The coating shall show no evidence of blistering or loss of adhesion when exposed to MIL-R-81294 or TT-R-2918 paint stripper as specified in 4.6.5. Aluminum coatings containing organic components shall not decrease more than two pencil hardness units after exposure when compared to the unexposed coating.
- ~~3.5.6 Embrittlement. The coated fasteners shall show no evidence of cracking in the head to shank fillet or thread areas when exposed and examined as specified in 4.6.6.~~
- 3.5.7 Corrosion Protective Properties. When tested as specified in 4.6.6, the countersinks and surface area of the dummy blocks around the aluminum coated fasteners shall show no more corrosion than the corresponding areas with the cadmium plated fastener control blocks. General surface corrosion on the back of the panels should not be considered in evaluating the protective qualities of the coating.

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