

NATIONAL AEROSPACE STANDARD

AEROSPACE INDUSTRIES ASSOCIATION OF AMERICA, INC., 610 SHOREHAM BUILDING, WASHINGTON 5, D. C.

1. SCOPE

1.1 SCOPE.- This specification is intended to establish the minimum requirements for the protection of vendor parts against corrosion.

2. APPLICABLE SPECIFICATIONS

2.1 SPECIFICATIONS.- The following Air Force-Navy Aeronautical Specifications of the issues in effect on date of invitations for bids form a part of this specification:

MIL-A-8625	Anodic Coatings, For Aluminum and Aluminum Alloys
MIL-C-11796	Corrosion Preventive, Petrolatum, Hot Application
MIL-C-6796	Coatings; Protective (For Wood)
MIL-C-5541	Chemical Films for Aluminum and Aluminum Alloys
MIL-H-6088	Heat Treatment of Aluminum Alloys; Process for (Aircraft Application)
MIL-M-6874	Metal Spraying, Process for
MIL-M-3171	Magnesium Alloy; Processes for Corrosion Protection of
MIL-H-6083	Hydraulic Fluid, Petroleum Base, Preservative
MIL-P-116	Preservation, Methods of
QQ-C-320	Plating; Chromium
QQ-P-416	Plating; Cadmium
MIL-P-6808	Primer Coating, Zinc Chromate, For Aircraft Use, Application of
SR-39	Process Specification for Finishing of Corrosion and Heat Resisting Alloys of Naval Aircraft

2.2 Specifications applicable only to individual departments are listed in section 7.

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① INACTIVE FOR DESIGN AFTER
1 JANUARY 1962 SEE MIL-F-7179

① EDITORIALY UPDATED

CUSTODIAN: NATIONAL AEROSPACE STANDARDS COMMITTEE		
PROCUREMENT SPECIFICATION	TITLE PROTECTION OF VENDOR PARTS AND ACCESSORIES AGAINST CORROSION SPECIFICATION FOR	CLASSIFICATION SPECIFICATION
		NAS 459 Sheet 1 of 8

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3. REQUIREMENTS

3.1 GENERAL.- Except as noted herein, vendor parts shall be finished in accordance with this specification or in accordance with procedures considered to afford equivalent protection, subject to approval by the contractor.

3.1.1 Each vendor shall specify the applicable requirements of this specification on his drawings or shall include the finish requirements in a procurement specification defining the product, which specification shall be submitted to the contractor for approval and shall be referenced on all drawings. Where this specification permits alternate protective treatments, the vendor shall specify the particular treatment he has elected to use on his drawing or in his procurement specification.

3.1.2 Parts manufactured and purchased in accordance with Government standard drawings or specifications, and used without alteration, shall be finished in accordance with the applicable Government procurement specifications and need not conform to the requirements stated herein.

3.1.3 Applicable specifications as referenced herein shall be strictly followed except when specification deviations have been granted by the contractor.

3.2 INORGANIC FINISH REQUIREMENTS

3.2.1 Aluminum and Aluminum Alloys.- All aluminum and aluminum alloys, unless otherwise specified herein, shall be anodized in accordance with Spec MIL-A-8625.

3.2.1.1 Other Surface Treatments.- Chromic acid dip treatment in accordance with Spec MIL-F-7179 shall be used for aluminum and aluminum alloy parts which serve as an electrical ground or shield and where low surface resistance to electrical current is required. The chromic acid dip treatment may be used in lieu of anodizing for other parts if made from clad alloys, 1100, 3003, 5052, or 6061, and the exposed surfaces will be subsequently painted. Chemical films in accordance with Spec MIL-C-5541 may be used in lieu of anodizing if desired.

3.2.1.2 Application of Surface Treatment.- Anodic treatment or other surface treatment shall be applied to detail parts except that it may be applied to certain assemblies as a unit providing such assemblies contain no dissimilar metals, wood, fabric, or other materials subject to deterioration in the necessary baths, and are of such configuration as to permit free drainage.

3.2.1.3 Maximum Protection Required by Surface Treatment.- Maximum protection afforded by surface treatment shall be obtained by performing as much of the fabrication as possible upon the part prior to surface treatment. Drilled, reamed, punched, or countersunk holes shall be exempt from this requirement.

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APPROVAL DATE April, 1949 REVISION ① 30 Sept. 1961

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3.2.1.4 Exceptions to Surface Treatment Requirements.- Exceptions to the requirements of surface treatment are listed below:

1. Faying surfaces of permanently joined parts which are surface treated as an assembly in accordance with paragraph 3.2.4.
2. Parts to operate under oil or to be otherwise continuously lubricated.
3. Interior surfaces of hydraulic or other units containing synthetic rubber packings, where the anodic film may cause malfunctioning of the packings.
4. Bonding clips, clamps, jumpers, nameplates, flexible conduit, electrical conduit, electrical disconnect plugs, switches.

3.2.2 Steel, Copper, Brass, and Bronze.- All exposed steel, copper, brass, and bronze parts shall be cadmium plated, in accordance with Spec QQ-P-416, except as otherwise stated herein, or shall receive one of the following alternate treatments:

1. Metal Spray.- Cadmium or aluminum metal spray, applied in accordance with Spec MIL-M-6874, may be used in lieu of cadmium plate only if it is impracticable to plate the parts, providing the approval of the contractor has been obtained.
2. Phosphate Treatments.- Phosphate treatments such as "Parkerizing" may be used for steel parts only if followed by two coats of zinc chromate primer, Spec MIL-P-6808.

3.2.2.1 Other Platings.- Tin, silver, chromium, nickel and lead plating or coating may not be used as direct substitutes for cadmium, but may be employed where the specific properties of the respective metal are required and corrosion resistance is not a major factor. Such platings shall be accomplished in accordance with applicable Government Specifications or in accordance with best commercial practice if no applicable Government Specification exists.

3.2.2.2 Chromium Plating.- Chromium plating in accordance with Spec QQ-C-320, Type II-B, shall be applied to areas requiring the wear protection of this hard-surface material, when specified on applicable drawings.

3.2.2.3 Exceptions.- Exceptions to plating or other approved surface treatments are permitted:

1. Corrosion-resisting steel need not be plated.
2. Parts under oil or otherwise continuously lubricated need not be plated.
3. Copper tubing need not be plated.

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