AEROSPACE STANDARD

AS4842™	REV. B

Issued 1995-05
Reaffirmed 2015-06
Revised 2021-03

Superseding AS4842A

Fittings and Bosses, Pipe Threaded, Fluid Connection, Procurement Specification

RATIONALE

Revise AS4842 by including individual tables showing recommended operating pressure ratings for fittings when used on CRES and Al Alloy tubing. Document title revised. Note 2.1 updated to include specifications mentioned herein. Flagnotes /7/ through /10/ added to Table 1. Note 3.1.1 revised to align with current QML statement. Note 3.1.2 added. Notes /7/, /8/, /9/, and /10/ added to Table 1. Upper range of hardness requirement in note 3.3.3 revised. Note 3.4.4 reworded to include color requirement. Note 4.5.1.2 revised to remove the statement that destructive testing is required to retain QML status. This requirement is regulated by AC7112. Historical information added to note 6.2. Tables 5A and 5B added. Note 6.2.2 revised and supersession Table 7 added. Lessons learned note 6.2.4 added. General updates included.

1. SCOPE

This SAE Aerospace Standard (AS) establishes the requirements for pipe threaded fluid connection fittings (see Section 6) for use in all types of fluid systems.

1.1 Classification

Fittings shall be furnished in the types and styles designated by the applicable AN, AS, MS, NAS, or other engineering standard drawings. This specification is similar to MIL-F-5509 as applicable to pipe threaded fittings and bosses including updated materials, process specifications and industry coordinated general improvements. It is intended to serve as a procurement specification for the fittings described herein and in Section 6.

2. APPLICABLE DOCUMENTS

The following publications form a part of this document to the extent specified herein. The latest issue of SAE publications shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
Tel: +1 724-776-4970 (outside USA)

SAE WEB ADDRESS:

For more information on this standard, visit
https://www.sae.org/standards/content/AS4842B

2.1 SAE Publications

Available from SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Telephone: 877-606-7323 (inside USA and Canada) or +1 724-776-4970 (outside USA), www.sae.org.

AMS2472	Anodic Treatment of Aluminum Alloys Sulfuric Acid Process, Dyed Coatings
AMS2658	Hardness and Conductivity Inspection of Wrought Aluminum Alloy Parts
AMS2700	Passivation of Corrosion Resistant Steels
AMS2759	Heat Treatment of Steel Parts General Requirements
AMS2770	Heat Treatment of Wrought Aluminum Alloy Parts
AMS2772	Heat Treatment of Aluminum Alloy Raw Materials
AMS4124	Aluminum Alloy, Rolled or Cold Finished Bars, Rods, and Wire 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T73, T7351) Solution Heat Treated, Stress Relieved by Stretching, and Overaged
AMS4133	Aluminum Alloy Forgings and Rolled Rings 4.4Cu - 0.85Si - 0.80Mn - 0.50Mg (2014-T6) Solution and Precipitation Heat Treated
AMS4134	Aluminum Alloy, Die Forgings 4.4Cu - 0.85Si - 0.80Mn - 0.50Mg (2014-T4) Solution Heat and Naturally Aged
AMS4141	Aluminum Alloy Die Forgings 5.6Zn - 2.5Mg - 1.6Cu - 0.23Cr (7075-T73) Solution and Precipitation Heat Treated
AMS4339	Aluminum Alloy, Rolled or Cold Finished Bars and Rods 4.4Cu - 1.5Mg - 0.60Mn (2024-T851) Solution Heat Treated, Cold Worked, and Artificially Aged
AMS4610	Brass, Free-Cutting Bars and Rods 61.5Cu - 35Zn - 3.1Pb Half Hard (H02)
AMS4614	Brass Forgings, Free Cutting 60Cu - 2.0Pb - 37.5Zn As Forged (M10)
AMS5639	Steel, Corrosion-Resistant, Bars, Wire, Forgings, Mechanical Tubing, and Rings 19Cr - 10Ni Solution Heat Treated
AMS5645	Steel, Corrosion and Heat Resistant, Bars, Wire, Forgings, Tubing, and Rings 18Cr - 10Ni - 0.40Ti (321) Solution Heat Treated
AMS5646	Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, Tubing, and Rings 18Cr - 11Ni - 0.60Cb(Nb) (347) Solution Heat Treated
AMS5648	Steel, Corrosion and Heat-Resistant, Bars, Wire, Forgings, Tubing, and Rings, 17Cr - 12Ni - 2.5Mo (316) Solution Heat Treated
AMS6370	Steel, Bars, Forgings, and Rings, 0.95Cr - 0.20Mo (0.28-0.33C) (SAE 4130)
AMS6382	Steel, Bars, Forgings, and Rings, 0.95Cr - 0.20Mo (0.38-0.43C) (SAE 4140) Annealed
AMS-H-6875	Heat Treatment of Steel Raw Materials
AMS-QQ-A-225/6	Aluminum Alloy, 2024, Bar, Rod, and Wire; Rolled, Drawn, or Cold Finished

AMS-QQ-A-225/9	Aluminum Alloy 7075, Bar, Rod, Wire, and Special Shapes; Rolled, Drawn, or Cold Finished
AMS-QQ-A-367	Aluminum Alloy Forgings
AMS-QQ-P-416	Plating, Cadmium (Electrodeposited)
AMS-QQ-S-763	Steel, Corrosion Resistant, Bars, Wire, Shapes, and Forgings
AMS-S-6758	Steel, Chrome-Molybdenum (4130), Bars and Reforging Stock (Aircraft Quality)
AMS-STD-595	Colors Used in Government Procurement
ARP4784	Definitions and Limits, Metal Material Defects and Surface and Edge Features, Fluid Couplings, Fittings and Hose Ends
ARP9013	Statistical Product Acceptance Requirements
AS478	Identification Marking Methods
AS1376	Alternate Dimensions, Center Body Section, Shape Fluid Fitting, Design Standard
AS5200	Port or Fitting End, Internal Taper Pipe Thread, Design Standard
AS5201	Fitting End, External Taper Pipe Thread, Design Standard
AS71051	Pipe Threads, Taper, Aeronautical National Form, Symbol ANPT - Design and Inspection Standard

2.2 U.S. Government Publications

Copies of these documents are available online at https://quicksearch.dla.mil.

A-A-59133	Cleaning Compound, High Pressure (Steam) Cleaner
MIL-PRF-6083	Hydraulic Fluid, Petroleum Base, For Preservation and Operation
MIL-A-8625	Anodic Coatings, for Aluminum and Aluminum Alloys
MIL-PRF-83282	Hydraulic Fluid, Fire Resistant, Synthetic Hydrocarbon Base, Metric, NATO Code Number H-537
MIL-DTL-83488	Coating, Aluminum, High Purity

2.3 ASME Publications

Available from ASME, P.O. Box 2900, 22 Law Drive, Fairfield, NJ 07007-2900, Tel: 800-843-2763 (U.S./Canada), 001-800-843-2763 (Mexico), 973-882-1170 (outside North America), www.asme.org.

ASME B46.1	Surface Texture (Surface Roughness, Waviness, and Lay)

2.4 ASTM Publications

Available from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959, Tel: 610-832-9585, www.astm.org.

ASTM A108 Standard Specification for Steel Bar, Carbon and Alloy, Cold-Finished

ASTM A370 Standard Test Methods and Definitions for Mechanical Testing of Steel Products

ASTM B16/B16M Standard Specification for Free-Cutting Brass Rod, Bar and Shapes for Use in Screw Machines

ASTM B124/B124M Standard Specification for Copper and Copper Alloy Forging Rod, Bar, and Shapes

ASTM B138/B138M Standard Specification for Manganese Bronze Rod, Bar, and Shapes

ASTM B154 Standard Test Method for Mercurous Nitrate Test for Copper and Copper Alloys

2.5 PRI Publications

Available from Performance Review Institute, 161 Thorn Hill Road, Warrendale, PA 15086-7527, Tel: 724-772-1616, www.pri-network.org.

AC7112 Nadcap Audit Criteria for Fluid Systems Component Manufacturers

AC7112/2 Nadcap Audit Criteria for Fittings and other Machined Components

PD1100 Nadcap Program Requirements

3. TECHNICAL REQUIREMENTS

3.1 Qualification

3.1.1 Manufacturer Accreditation

A manufacturer producing a product in conformance to this procurement specification shall be accredited in accordance with the requirements of AC7112 and shall be listed in a NADCAP Qualified Manufacturers List (QML). The QML is available at www.eAuditNet.com.

3.1.2 Accreditation of Special Processes

Manufacturers of threaded items are to be accredited to PRI NADCAP AC7112/2 (see 3.2.3).

3.2 Material

Fittings shall be fabricated of materials listed in Table 1 and in compliance with requirements in this specification, or as specified on the applicable part standard drawing (see 6.2.2).