



AEROSPACE MATERIAL SPECIFICATION

AMS-QQ-A-225™

REV. C

Issued 1997-07
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Stabilized 2018-01

Superseding AMS-QQ-A-225B

Aluminum and Aluminum Alloy, Bar, Rod, Wire, or Special
Shapes; Rolled, Drawn, or Cold Finished;
General Specification For

RATIONALE

AMS-QQ-A-225/C stabilizes this document because it contains requirements which are no longer state of the art and are also contained in alternate documents that contain equivalent requirements.

STABILIZED NOTICE

AMS-QQ-A-225/C has been declared "STABILIZED" by SAE AMS Committee D Nonferrous Alloys. This document will no longer be updated and may no longer represent standard industry practice. This document was stabilized because it is no longer state of the art and other documents contain technically equivalent requirements. Previously this document was noncurrent. This document was last technically updated in September, 1998. Users of this document should refer to the cognizant engineering organization for disposition of any issues with reports/certifications to this specification; including exceptions listed on the certification.

NOTE: In many cases, the purchaser may represent a sub tier supplier and not the cognizant engineering organization.

The individual detail specifications of AMS-QQ-A-225 should be reviewed for recommendations on specifications to be used for future procurement. This listing does not constitute authority to substitute these specifications for the "STABILIZED" specification.

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NOTICE

This document is intended to replace Federal Specification QQ-A-225G. The original issue and revision A of AMS-QQ-A-225 were taken directly from Federal Specification QQ-A-225G, and contained only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards. This revision B changes the heat treatment specification MIL-H-6088 (cancelled) to AMS 2772 (the superseding document) to ensure that the vital heat treat parameters used for heat-treat-response-test samples conform to parameters used for heat treatment of parts (See 6.8).

The original Federal Specification was adopted as an SAE standard under the provisions of the SAE Technical Standards Board (TSB) Rules and Regulations (TSB 001) pertaining to accelerated adoption of government specifications and standards. TSB rules provide for (a) the publication of portions of unrevised government specifications and standards without consensus voting at the SAE Committee level, (b) the use of the existing government specification and standard format, and (c) the exclusion of any qualified product list (QPL) sections.

1. SCOPE AND CLASSIFICATION:

1.1 Scope:

This specification covers the general requirements for aluminum and aluminum alloy bar, rod, wire, or special shapes; rolled, drawn, or cold finished. Specific requirements for these products are covered by the applicable detail specification (See 6.3).

1.2 Classification:

1.2.1 Tempers: Bar, rod, wire, or special shapes are classified in tempers as specified in the detail specifications. Definitions of these tempers are specified in ANSI H35.1.

2. APPLICABLE DOCUMENTS:

The following publications, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

2.1 SAE Publications:

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001 or www.sae.org.

AMS 2772	Heat Treatment of Aluminum Alloy Raw Materials
AMS-STD-2154	Inspection, Ultrasonic, Wrought, Metals, Process for

2.2 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094 or www.dsp.dla.mil.

FED-STD-123	Marking for Shipment (Civil Agencies)
MIL-STD-1537	Electrical Conductivity Test for Measurement of Heat Treatment of Aluminum Alloys, Eddy Current Method
MIL-STD-1916	DOD Preferred Methods for Acceptance of Product

2.3 ASTM Publications:

Available from ASTM, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959 or www.astm.org.

ASTM B 117	Salt Spray (Fog) Testing
ASTM B 557	Tension Testing Wrought and Cast Aluminum- and Magnesium-Alloy Products
ASTM B 660	Packaging/Packing of Aluminum and Magnesium Products
ASTM B 666	Identification Marking of Aluminum Products
ASTM E 34	Chemical Analysis of Aluminum and Aluminum Base Alloys

2.3 (Continued):

ASTM E 227	Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique
ASTM E 290	Semi-Guided Bend Test for Ductility of Metallic Materials
ASTM E 607	Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Point-to-Plane Technique, Nitrogen Atmosphere
ASTM E 1251	Optical Emission Spectrometric Analysis of Aluminum and Aluminum Alloys by the Argon Atmosphere, Point-to-Plane, Unipolar Self-Initiating Capacitor Discharge
ASTM G 47	Determining Susceptibility to Stress Corrosion Cracking of High-Strength Aluminum Alloy Products

2.4 ANSI Publications:

Available from ANSI, 25 West 43rd Street, New York, NY 10036 or www.ansi.org.

ANSI H35.1	Alloy and Temper Designation System for Aluminum
ANSI H35.2	Dimensional Tolerances for Aluminum Mill Products

3. REQUIREMENTS:

3.1 General Requirements:

Each product covered by this specification shall meet the requirements specified herein and in the applicable detail specification.

3.2 Chemical Composition:

The chemical composition of any product shall be as specified in the applicable detail specification.

3.3 Mechanical Properties:

- 3.3.1 Tensile Properties of Products Other Than Wire: Products, other than wire, shall exhibit tensile properties meeting requirements of applicable detail specifications. The requirements for minimum elongation shall not apply to any product of nominal thickness less than 0.062 inch or to product of such configuration or dimensions that a test specimen complying with ASTM B 557 cannot be prepared.
- 3.3.2 Tensile Properties of Wire: Elongation and yield strength need not be determined when the product is wire of a nominal diameter of 0.125 inch or less.
- 3.3.3 Tensile Properties of Product Sizes and Tempers Not Covered by a Detail Specification: Tensile properties of such product shall be as specified in the contract or purchase order (See 6.2).
- 3.3.4 Bend Properties: When minimum bend properties are specified in the detail specification or other procurement documents, test specimens shall be prepared and tested in accordance with 4.4.2.3 as applicable.