The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
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AEROSPACE MATERIAL SPECIFICATION

SAE AMS-QQ-A-225/7

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Submitted for recognition as an American National Standard

Aluminum Alloy 5052, Bar, Rod, and Wire; Rolled, Drawn, or Cold Finished

UNS A95052

NOTICE

This document has been taken directly from Federal Specification QQ-A-225/7D and contains only minor editorial and format changes required to bring it into conformance with the publishing requirements of SAE technical standards.

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 or standard format, and (c) the exclusion of any qualified product list (QPL) sections.

The complete requirements for procuring 5052 aluminum alloy bar, rod, and wire; rolled, drawn, or cold finished described herein shall consist of this document and the latest issue of AMS-QQ-A-225.

1. SCOPE AND CLASSIFICATION:

1.1 Scope:

This specification covers the specific requirements for 5052 aluminum alloy bar, rod, and wire produced by rolling, drawing, or cold finishing.

1.2 Classification:

1.2.1 Tempers: Bar, rod, and wire are of the following tempers as specified (See 6.2): O, H32, H34, H36, H38, or F temper. Definition of these tempers are specified in AMS-QQ-A-225.

2. APPLICABLE DOCUMENTS:

See AMS-QQ-A-225.

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3. REQUIREMENTS:

3.1 Chemical Composition:

The chemical composition shall conform to the requirements specified in Table I.

TABLE I. Chemical Composition 1/

Element	Percent	
	Minimum	Maximum
Magnesium	2.2	2.8
Chromium	0.15	0.35
Silicon	-	0.25
Iron	-	0.40
Copper	-	0.10
Manganese	-	0.10
Zinc	-	0.10
Other Elements, each	-	0.05
Other Elements, total 2/	-	0.15
Aluminum	Remainder	

1/ Analysis shall routinely be made only for the elements specifically mentioned in Table I. If, however, the presence of other elements is indicated or suspected in amounts greater than the specified limits, further analysis shall be made to determine that these elements are not present in excess of specified limits

2/ The sum of those "Others" metallic elements 0.010 percent or more each, expressed to the second decimal before determining the sum.

3.2 Mechanical properties:

3.2.1 Mechanical Properties of Material as Supplied: The mechanical properties in the direction of rolling or drawing shall conform to the requirements in Table II for the temper specified.

TABLE II. Mechanical Properties (See 6.5)

Temper	Diameter or Thickness Inches	Tensile Strength Minimum ksi	Yield Strength at 0.2 percent Offset Minimum ksi 4/	Elongation in 2 inches or 4 times D 1/, 4/ Minimum, percent
O	All sizes	25.0 2/	9.5	25
H32	Up to 0.374, incl	31.0	23.0	--
H34	Up to 0.374, incl	34.0	26.0	--
H36	Up to 0.374, incl	37.0	29.0	--
H38	Up to 0.374, incl	39.0	--	--
F	0.375 and over	3/	3/	3/

1/ "D" is specimen diameter
2/ Maximum tensile strength is 32.0 ksi
3/ No requirement
4/ See AMS-QQ-A-225 for exceptions to yield strength and elongation requirements.

3.3 Finish:

The following products are to be supplied in the cold-finished condition, unless otherwise specified (see 6.2): rod of diameters up to 3.000 inches inclusive, and bar of thicknesses up to 2.000 inches inclusive (with maximum width of 4.000 inches for rectangles).

4. QUALITY ASSURANCE PROVISIONS:

See AMS-QQ-A-225 and the following.

4.1 Sampling:

Sampling for conformance to requirements of Section 3 shall be as specified in AMS-QQ-A-225.

4.2 Mechanical Properties:

4.2.1 Tension Tests: For wire 0.125 inch or greater in diameter yield strengths shall be determined only when specified (See 6.2).