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SAE-AMS-QQ-A-200/7, "Aluminum Alloy 5456, Bar, Rod, Shapes, Tube, and Wire, Extruded", was adopted on 30-JUN-98 for use by the Department of Defense (DoD). Proposed changes by DoD activities must be submitted to the DoD Adopting Activity: Commander, Defense Industrial Supply Center, 700 Robbins Avenue, Philadelphia, PA 19111-5096. DoD activities may obtain copies of this standard from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094. The private sector and other Government agencies may purchase copies from the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.

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AEROSPACE MATERIAL SPECIFICATION

SAE AMS-QQ-A-200/7

Issued JUL 1997

Submitted for recognition as an American National Standard

ALUMINUM ALLOY 5456, BAR, ROD, SHAPES, TUBE, AND WIRE, EXTRUDED

UNS A95456

NOTICE

This document has been taken directly from Federal Specification QQ-A-200/7E, Amendment 1, 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 aluminum alloy 5456 bar, rod, shapes, tube, and wire extruded described herein shall consist of this document and the latest issue of AMS-QQ-A-200.

1. SCOPE AND CLASSIFICATION:

1.1 Scope:

This specification covers the specific requirements for aluminum alloy 5456 bar, rod, shapes, tube, and wire produced by extrusion.

1.2 Classification:

1.2.1 Tempers: Bar, rod, shapes, tube, and wire are classified in the following tempers as specified (See 6.2): O, H111, or H112. Definition of tempers are specified in AMS-QQ-A-200.

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1.2.2 Tubing: Tubing shall be additionally classified as follows:

Type I - Tubing extruded from hollow billets using die and mandrel (See AMS-QQ-A-200).
Type II - Tubing extruded from solid billets using a porthole or spindle die or similar tooling (See AMS-QQ-A-200).

2. APPLICABLE DOCUMENTS:

See AMS-QQ-A-200.

3. REQUIREMENTS:

3.1 Chemical Composition:

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

TABLE I. Chemical Composition 1/

Element	Percent	
	Minimum	Maximum
Magnesium	4.7	5.5
Manganese	0.50	1.0
Chromium	0.05	0.20
Silicon	--	0.25
Iron	--	0.40
Zinc	--	0.25
Titanium	--	0.20
Copper	--	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 in the course of routine analysis, further analysis shall be made to determine conformance to the limits specified for other elements.

2/ The sum of those "Others" metallic elements 0.010 percent or more each, expresed 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 extrusion shall conform to requirements specified in Table II.

TABLE II. Mechanical Properties

Temper	Thickness, (bar, and shapes); diameter, (rod and wire); wall thickness, (tube) Inches	Area Square Inches	Tensile Strength minimum ksi	Yield Strength at 0.2 percent Offset or at extension indicated		Elongation in 2 in. or 4 times D 1/ 3/ minimum Percent
				Minimum ksi	Extension under load Inch per inch	
O	Up to 5.000, Incl	Up to 32, Incl	2/ 41.0	19.0	0.0038	14
H111	Up to 5.000, Incl	Up to 32, Incl	42.0	26.0	0.0045	12
H112	Up to 5.000, Incl	Up to 32, Incl	41.0	19.0	0.0038	12

1/ D represents specimen diameter.
2/ Maximum tensile strength is 53.0 ksi.
3/ See AMS-QQ-A-200 for elongation requirement exceptions.

4. QUALITY ASSURANCE PROVISIONS:

See AMS-QQ-A-200.

5. PREPARATION FOR DELIVERY:

See AMS-QQ-A-200.

6. NOTES:

6.1 Intended Use:

This alloy is intended for applications requiring a weldable moderate strength non-heat treatable aluminum alloy.