QQ-A-200/6E
February 20, 1981
SUPERSEDING
Fed. Spec. QQ-A-200/6D
September 17, 1970

FEDERAL SPECIFICATION

ALUMINUM ALLOY 5454, BAR, ROD, SHAPES, TUBE AND WIRE, EXTRUDED

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

(This specification forms a part of the latest issue of Federal Specification QQ-A-200.)

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the specific requirements for aluminum alloy 5454 bar, rod, shapes, tube and wire produced by extrusion. The general requirements are covered in QQ-A-200.

1.2 Classification.

1.2.1 Tempers. Bar, rod, shapes, tube, and wire shall be classified as O, H111, or H112 tempers, as specified (see 6.2).

2. APPLICABLE DOCUMENTS

2.1 The following documents, 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:

Federal Specification:

QQ-A-200	-Aluminum Alloy, Bar, Rod, Shapes, Structural Shapes, Tube and Wire, Extruded; General Specification for.

(Activities outside the Federal Government may obtain copies of Federal specifications, standards, and commercial item descriptions, as outlined under General Information in the Index of Federal Specifications, Standards, and Commercial Item Descriptions. The Index, which includes cumulative bimonthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

FSC 4710, 9525
9530, 9540

(Single copies of this specification, other Federal specifications, standards, and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from General Services Administration Business Services Centers in Boston; New York; Philadelphia; Washington, DC; Atlanta; Chicago; Kansas City, MO; Fort Worth; Houston; Denver; San Francisco; Los Angeles; and Seattle, WA.

(Federal Government activities may obtain copies of Federal specifications, standards, commercial item descriptions, and the Index of Federal Specifications, Standards and Commercial Item Descriptions from established distribution points in their agencies.)

3. REQUIREMENTS

3.1 Chemical composition.

3.1.1 The material shall conform to the chemical requirements specified in table I.

TABLE I. Chemical composition. 1/

Element	Percent	
	Minimum	Maximum
Magnesium	2.4	3.0
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
Others, each	--	0.05
Others, total	--	0.15
Aluminum	Remainder	

1/ Analysis shall regularly 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.

3.2 Mechanical properties.

3.2.1 Mechanical properties of material as supplied. The mechanical properties in the direction of extrusion shall conform to the requirements specified in table II.

TABLE II. Mechanical properties.

Temper	Thickness, (bar and shapes); diameter, (rod and wire); wall thickness, (tube)	Area	Tensile strength, minimum	Yield strength at 0.2 percent offset or at extension indicated		Elongation in 2 in. or 4 times D 1/ 3/, minimum
				Minimum	Extension under load	
	Inches	Square inches	ksi	ksi	Inch per inch	Percent
0	Up to 5.0, Incl.	Up to 32, Incl.	2/ 31.0	12.0	0.0032	14
H111	Up to 5.0, Incl.	Up to 32, Incl.	33.0	19.0	0.0038	12
H112	Up to 5.0, Incl.	Up to 32, Incl.	31.0	12.0	0.0032	12

1/ D represents specimen diameter.
2/ Maximum tensile strength is 41.0 ksi.
3/ See QQ-A-200 for elongation requirement exceptions.

4. QUALITY ASSURANCE PROVISIONS (See QQ-A-200)

5. PREPARATION FOR DELIVERY (See QQ-A-200)

6. NOTES

6.1 Intended use. The alloy is intended for use where a weldable moderate strength alloy having good corrosion resistance is required. In addition, the alloy gives increased resistance to stress corrosion cracking at sustained temperatures over 150°F.

6.2 Ordering data. Purchasers should select the preferred options permitted herein and include the following information in procurement documents:

(a) Title, number, and date of this specification.

(b) Form, quantity and temper required (see 1.2.1).

(c) Dimensions required.

(d) Requirements for sizes not specifically covered (see QQ-A-200).

(e) Requirement stating suitability for an important end use, if necessary.

(f) Selection of applicable levels of preservation and packaging, whether level A, level B or commercial (see QQ-A-200).

6.3 Certain provisions of this specification are the subject of international standardization agreement ABC-NAVY-STD-44. When amendment, revision, or cancellation of this specification is proposed which will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliation action through international standardization channels including departmental standardization offices, if required.

MILITARY INTEREST:

Custodians:
Army-MR
Navy-AS
Air Force -11

Review activities:
Army-AR, GL, MI
Air Force -99
DLA-IS

User activities:
Army-EL
Navy-MC, EC, SH

CIVIL AGENCY COORDINATING ACTIVITIES:

GSA - FSS

Preparing Activity:
Navy - AS
Project No. 9530-0180

U.S. GOVERNMENT PRINTING OFFICE : 1981 - 341-705/1235

Orders for this publication are to be placed with General Services Administration, acting as an agent for the Superintendent of Documents. See section 2 of this specification to obtain extra copies and other documents referenced herein.