

QQ-A-200/1D
 23 June 1983
 SUPERSEDING
 QQ-A-200/1C
 August 20, 1970

FEDERAL SPECIFICATION SHEET

ALUMINUM ALLOY 3003, BAR, ROD, SHAPES,
 TUBE AND WIRE, EXTRUDED

This specification was approved by the Assistant Administrator, Office of Federal Supply and Services, General Services, Administration, for the use of all Federal agencies.

The complete requirements for procuring the aluminum alloy 3003, bar, rod, shapes, and wire, extruded described herein shall consist of this document and the latest issue of QQ-A-200/GEN (see 2.1).

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the specific requirements for aluminum alloy 3003 bar, rod, shapes, tube and wire produced by extrusion.

1.2 Classification.

1.2.1 Tempers. The bar, rod, shapes, tube and wire shall be of the following tempers: O, H112, and F, as specified (see 6.2). The definitions of these tempers shall be as specified in QQ-A-200/GEN.

1.2.2 Tubing. Tubing shall be additionally classified as follows:

Type	Description
I	- Tubing extruded from hollow billets using die and mandrel (see QQ-A-200/GEN)
II	- Tubing extruded from solid billets using a porthole or spider die or similar tooling (see QQ-A-200/GEN)

(See 6.2 and section 6 of QQ-A-200/GEN for applications of each type)

2. APPLICABLE DOCUMENTS

2.1 Government publications. The issues of the following documents, in effect on date of invitation for bids or solicitation for offers, form a part of this specification to the extent specified herein.

FSC 9530, 9525
 4710, 9540

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Federal Specifications

QQ-A-200/GEN - 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 Officer, Washington DC 20402.)

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

(Federal Government activities may obtain copies of Federal standardization documents and the Index of Federal Specifications, Standards, and Commercial Item Descriptions from established distribution points in their agencies.)

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
Manganese	1.0	1.5
Copper	0.05	0.20
Iron	--	0.7
Silicon	--	0.6
Zinc	--	0.10
Other elements, each	--	0.05
Other elements, total [2]	--	0.15
Aluminum	Remainder	

TABLE I. Chemical composition [1] - (CON)

- [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 extrusion shall conform to the requirements specified in table II. (See QQ-A-200/GEN for exceptions to mechanical property requirements.)

TABLE II. Mechanical properties

Temper	Thickness, (bar and shapes); diameter, rod and wire); wall thickness, (tube), inches	Tensile strength,	Yield Strength 0.2 percent offset,	Elongation in 2 inches or 4 times D, [2]
		Minimum, ksi	Minimum, ksi	Minimum, percent
O	All	14.0 [1]	5.0	25
H112	All	14.0	5.0	--
F	All	[3]	[3]	[3]

[1] Maximum tensile strength is 19.0 ksi

[2] D represents specimen diameter

[3] No requirements

4. QUALITY ASSURANCE PROVISIONS (see QQ-A-200/GEN)

5. PREPARATION FOR DELIVERY (see QQ-A-200/GEN)

6. NOTES

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6.1 Intended use. This alloy is intended for use where good resistance to corrosion, very good formability, good weldability, or any combination of these properties is required.

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) Mechanical properties and dimensional tolerance requirements for sizes not specifically covered
- (e) Special end use requirements
- (f) Whether type I tubing is required (see 1.2.2)
- (g) For military agencies - selection of applicable levels of preservation, packing and packing required. Also specify marking requirements (see section 5, QQ-A-200/GEN)
- (h) For civil agencies - specify packing level, level A or commercial. Also specify marking requirements (see section 5, QQ-A-200/GEN)

MILITARY INTEREST:

CIVIL AGENCY COORDINATION ACTIVITIES:

Custodians

GSA-FSS, PBO
NASA-JFK, MSF
DOE-BPA

Army-MR
Navy-AS
Air Force-20

PREPARING ACTIVITY:

Review Activities

NAVY-AS

Army-AR, MI
Air Force-99
DLA-IS

DOD Project 9530-0225

User Activities

Army-CR, ME
Navy-EC, MC, SH

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

NOTICE
OF VALIDATION

INCH-POUND

QQ-A-200/1D
NOTICE 1
30 October 1991

FEDERAL SPECIFICATION SHEET

ALUMINUM ALLOY 3003, BAR, ROD, SHAPES, TUBE AND WIRE, EXTRUDED

QQ-A-200/1D, dated 23 June 1983, has been reviewed and determined to be valid for use in aquisition.

Custodian:

Army - MR
Navy - AS
Air Force - 11

Preparing Activity:

Navy - AS