

AEROSPACE MATERIAL SPECIFICATION



AMS-WW-T-700/1

Issued

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Tube, Aluminum, Drawn, Seamless, 1100

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The complete requirements for procuring seamless tube drawn from aluminum 1100 described herein shall consist of this document and the latest issue of WW-T-700/GEN (see 2.1).

1. SCOPE AND CLASSIFICATION:

1.1 Scope:

This specification covers the specific requirements for seamless tube drawn from aluminum 1100.

1.2 Classification:

1.2.1 Tempers: The drawn seamless tube shall be of the following tempers: 0, H12, H14, H16, H18, and F, as specified (see 6.2 and 6.3). The definitions of these tempers shall be as specified in WW-T-700/GEN.

1.2.2 Types: The tube shall be of the following types:

<u>Type</u>	<u>Appearance</u>
I	- Round
II	- Rectangular and square
III	- Streamline
IV	- Oval
V	- Odd shapes

2. APPLICABLE DOCUMENTS:

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.

2.1 U.S. Government Publications:

Available from DODSSP, Subscription Services Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

WW-T-700/GEN Tube, Aluminum and Aluminum Alloy, Drawn, Seamless, 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.

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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
Silicon plus iron	-	0.95
Copper	0.05	0.20
Manganese	-	0.05
Zinc	-	0.10
Other elements, each	-	0.05
Other elements, total ^{2/}	-	0.15
Aluminum	99.00	-

^{1/} Except for "Aluminum" and "Others", analysis normally is made for elements for which specific limits are shown

^{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 Tensile strength: The tensile strength parallel to the direction of drawing shall conform to the requirements specified in table II.

TABLE II. Tensile strength

Temper	Wall thickness, inch	Tensile strength, minimum, ksi
0	0.014 to 0.500, incl.	15.5 ^{1/}
H12	0.014 to 0.500, incl.	14.0
H14	0.014 to 0.500, incl.	16.0
H16	0.014 to 0.500, incl.	19.0
H18	0.014 to 0.500, incl.	22.0
F	All	2/

^{1/} Maximum^{2/} No requirements

- 3.2.2 Flattening: When specified (see 6.2), round tube (type 1) in 0, H12, H14 and H16 tempers shall withstand, without cracking, the flattening test or the alternative bend test specified in WW-T-700/GEN. The values for flattening factor "F" are specified in table III.

TABLE III. Flattening factor

Temper	Wall thickness, inch	F
0	0.014 to 0.500, incl.	2
H12	0.014 to 0.500, incl.	3
H14	0.014 to 0.500, incl.	6
H16	0.014 to 0.500, incl.	8

- 3.2.2.1 Alternative bending factor "N": The values for the alternative bending factor "N" are specified in table IV.

TABLE IV. Bending factor

Temper	N
H12	1
H14	4
H16	6

- 3.2.3 Flaring: When specified (see 6.2), round tube (type I) in the H14 temper shall be capable of being flared as specified in WW-T-700/GEN.