Downloaded from http://www.everyspec.com

WW-T-700/5E
29 December 1983
SUPERSEDING
WW-T-700/5D
March 13, 1967

FEDERAL SPECIFICATION SHEET

TUBE, ALUMINUM ALLOY, DRAWN, SEAMLESS, 5086

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 seamless tube drawn from aluminum alloy 5086 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 alloy 5086.

1.2 Classification.

1.2.1 Tempers. The drawn seamless tube shall be of the following tempers: O, H32, H34, H36, 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:

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

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.

Federal Specification

WW-T-700/GEN - Tube, Aluminum and Aluminum Alloy, Drawn, Seamless, General Specification for

FSC 4710

Source: https://assist.dla.mil -- Downloaded: 2015-08-30T17:08Z
Check the source to verify that this is the current version before use.

Downloaded from http://www.everyspec.com

(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 Commerical 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.

(Single copies of this specification and other Federal specifications and commercial item descriptions required by activities outside the Federal Government for bidding purposes are available without charge from the 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
Silicon	-	0.40
Iron	-	0.50
Copper	-	0.10
Manganese	0.20	0.7
Mangesium	3.5	4.5
Chromium	0.05	0.25
Zinc	-	0.25
Titanium	-	0.15
Others, each	-	0.05
Others, total	-	0.15
Aluminum	Remainder	

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

Source: https://assist.dla.mil -- Downloaded: 2015-08-30T17:08Z
Check the source to verify that this is the current version before use.

Downloaded from http://www.everyspec.com

3.2 Mechanical properties.

3.2.1 Tensile strength, yield strength and elongation properties. The tensile strength, yield strength and elongation mechanical properties parallel to the direction of drawing shall conform to the requirements specified in table II.

TABLE II. Tensile strength, yield strength and elongation properties

Temper	Wall thickness, inch	Tensile strength, minimum ksi	Yield strength, minimum, ksi	Percent elongation in 2 inches, minimum
0	0.010-0.450 incl.	35.0 1/	14.0	14
H32	0.010-0.050 incl. 0.051-0.450 incl.	40.0 40.0	28.0 28.0	6 8
H34	0.010-0.050 incl. 0.051-0.450 incl.	44.0 44.0	34.0 34.0	5 6
H36	0.010-0.050 incl. 0.051-0.450 incl.	47.0 47.0	38.0 38.0	4 5
F	All	2/	2/	2/

1/ Maximum of 46.0 ksi
2/ No requirements

3.2.2 Flattening. When specified (see 6.2), round tube (type 1) in O and H32 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	0.010 to 0.450, incl.	3
H32	0.010 to 0.450, incl.	8

Source: https://assist.dla.mil -- Downloaded: 2015-08-30T17:08Z
Check the source to verify that this is the current version before use.

Downloaded from http://www.everyspec.com

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
O	1
H32	6

3.2.3 Leak. When specified (see 6.2), round tube (type I) shall withstand either the pressure test or the electromagnetic (eddy current) test specified in WW-T-700/GEN.

4. QUALITY ASSURANCE PROVISIONS (see WW-T-700/GEN)

5. PREPARATION FOR DELIVERY (see WW-T-700/GEN)

6. NOTES

6.1 Intended use. This tube is intended for use when good strength and weldability are required. This tubing is not applicable for use in transferring hydraulic/pneumatic mediums.

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) Temper of material required (see 1.2.1)
(c) Type of tube required (see 1.2.2)
(d) Whether round tube (type 1) in O and H32 tempers should withstand flattening (see 3.2.2)
(e) Whether round tube (type I) should withstand leak test (see 3.2.3)
(f) Dimensions required
(g) Requirements for sizes not specifically covered (see WW-T-700/GEN)
(h) Selection of applicable levels of preservation and packing (see WW-T-700/GEN)

6.3 Availability of the types. Types II through V are only available in the O and F tempers. Type I is available in all tempers.

Source: https://assist.dla.mil -- Downloaded: 2015-08-30T17:08Z
Check the source to verify that this is the current version before use.

Downloaded from http://www.everyspec.com

MILITARY INTEREST:

Custodians

Army-MR
Navy-AS
Air Force-20

Review Activities

Army-AR
Air Force-99
DLA-CS

User Activities

Army-MI
Navy-MC

CIVIL AGENCY COORDINATING ACTIVITIES:

GSA-FSS
COMMERCE-NBS
HEW-FEC
NASA-KSC, MSF
USDA-AFS

PREPARING ACTIVITY:

NAVY-AS

DoD Project 4710-0711

Orders for this publication are to be placed with the 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.

☆U.S. GOVERNMENT PRINTING OFFICE: 1984 — 705-040/A785

Source: https://assist.dla.mil -- Downloaded: 2015-08-30T17:08Z
Check the source to verify that this is the current version before use.

Downloaded from http://www.everyspec.com

INSTRUCTIONS: In a continuing effort to make our standardization documents better, the DoD provides this form for use in submitting comments and suggestions for improvements. All users of military standardization documents are invited to provide suggestions. This form may be detached, folded along the lines indicated, taped along the loose edge *(DO NOT STAPLE)*, and mailed. In block 5, be as specific as possible about particular problem areas such as wording which required interpretation, was too rigid, restrictive, loose, ambiguous, or was incompatible, and give proposed wording changes which would alleviate the problems. Enter in block 6 any remarks not related to a specific paragraph of the document. If block 7 is filled out, an acknowledgement will be mailed to you within 30 days to let you know that your comments were received and are being considered.

NOTE: This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

(Fold along this line)

(Fold along this line)

DEPARTMENT OF THE NAVY
Commanding Officer
Naval Air Engineering Center
Engineering Specifications and Standards Department
(ESSD), Code 93
Lakehurst, NJ 08733

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS PERMIT NO. 12503 WASHINGTON D C

POSTAGE WILL BE PAID BY THE DEPARTMENT OF THE NAVY

Commanding Officer
Naval Air Engineering Center
Engineering Specifications and Standards Dept.
(ESSD), Code 93
Lakehurst, NJ 08733

Source: https://assist.dla.mil -- Downloaded: 2015-08-30T17:08Z
Check the source to verify that this is the current version before use.

Downloaded from http://www.everyspec.com

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE
WW-T-700/5E	TUBE, ALUMINUM ALLOY, DRAWN, SEAMLESS, 5086

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ USER
	☐ MANUFACTURER
	☐ OTHER *(Specify)*:

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)

DD FORM 82 MAR 1426 PREVIOUS EDITION IS OBSOLETE.

Source: https://assist.dla.mil -- Downloaded: 2015-08-30T17:08Z
Check the source to verify that this is the current version before use.