

INCH-POUND

MIL-DTL-25995D

14 May 2007

SUPERSEDING

MIL-DTL-25995C

22 November 2002

DETAIL SPECIFICATION

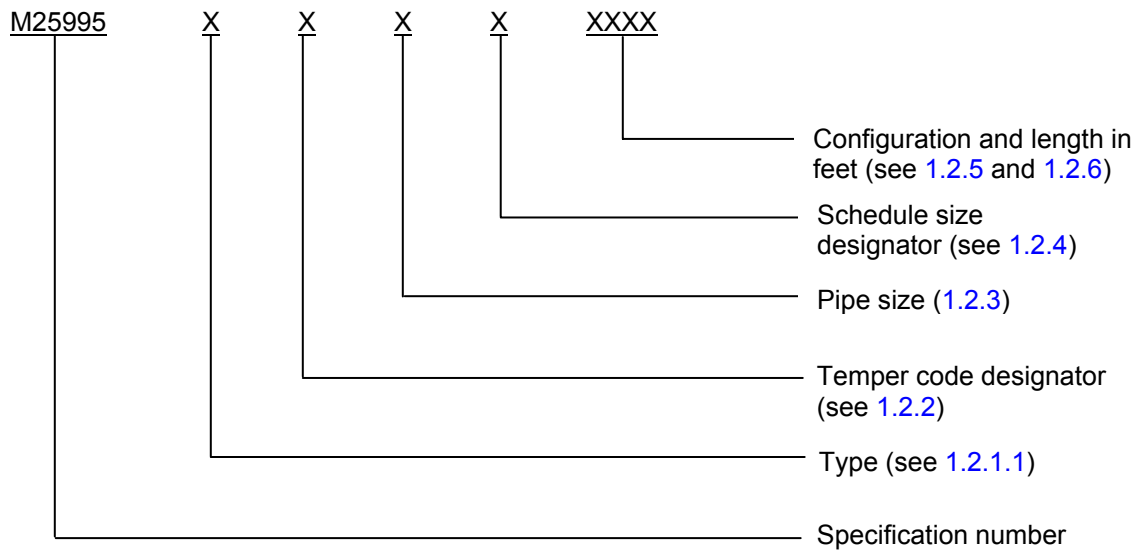
PIPE, ALUMINUM ALLOY, DRAWN OR EXTRUDED

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers requirements for pipe, aluminum alloy, drawn or extruded in the dimensions and weights specified, and a schedule of 5, 10, or 40 (standard), or 80 (extra heavy).

1.2. Part or Identifying Number (PIN). The PIN consists of the letter M, the basic specification number, a letter for type designator, a number for the temper code, a number for the schedule size, and designator for the configuration, up to three numbers for the length in feet a dash, and the quantity as shown in the following example:



PIN example: M25995A2CCC025

Comments, suggestions, or questions on this document should be addressed to: Defense Supply Center, Columbus, Attn: VAI, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to Construction@dsccl.dla.mil. Since contact information can change you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>.

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1.2.1 Classification.

1.2.1.1 Type. The type designators are as follows:

<u>Type designator</u>	<u>Application</u>
A	Structural pipe for non-pressure applications
B	Seamless pipe for pressure applications

1.2.2 Alloy/temper. The alloy/temper designator are as follows (see 3.4.1 or 3.4.2):

<u>Alloy/temper designator code</u>	<u>Alloy/temper</u>
1	3003-H18
2	3003-H112
3	6061-T6
4	6063-T6

1.2.3 Pipe size. The pipe size designators are as follows (see table I):

<u>Size designator</u>	<u>Nominal pipe size inches fraction</u>	<u>Nominal pipe size inches decimal 1/</u>	<u>Nominal pipe size (mm) 2/</u>
A	1/8	.125	3.18
B	1/4	.250	6.35
C	3/8	.375	9.53
D	1/2	.500	12.70
E	3/4	.750	19.05
F	1	1.00	25.40
G	1 1/4	1.25	31.75
H	1 1/2	1.50	38.10
J	2	2.00	50.80
K	2 1/2	2.50	63.50
L	3	3.00	76.20
M	3 1/2	3.50	88.90
N	4	4.00	101.60
P	5	5.00	127.00
Q	6	6.00	152.40
R	8	8.00	203.20
S	10	10.00	254.00
T	12	12.00	304.80

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

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1.2.4 Schedule. The schedule designators are as follows (see 3.4.2):

<u>Schedule designator</u>	<u>Schedule size</u>
A	5
B	10
C	40
D	80

1.2.5 Configuration. The configuration designators are as follows:

<u>Configuration designator</u>	<u>Configuration</u>
C	Coiled
S	Straight

1.2.6 Length. Length are expressed in feet. Lengths less than 100 feet (30.5 m) have a zero as a prefix example: 050 specifies a 50 foot (15.25 m) length (see 6.4).

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3, 4, or 5, of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract (see 6.2).

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI H35.1	-	Alloy and Temper Designation Systems for Aluminum
ANSI H35.2	-	Dimensional Tolerances for Aluminum Mill Products

(Copies of these documents are available online at <http://www.ansi.org> or from the American National Standard Institute, 25 West 43 Street, 4th Floor, New York, NY 10036.)

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ASTM INTERNATIONAL

ASTM B210	-	Aluminum and Aluminum-Alloy Drawn Seamless Tubes
ASTM B221	-	Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tube
ASTM B241/B241M	-	Aluminum and Aluminum-Alloy Seamless Pipe and Seamless Extruded Tube
ASTM B429/B429M	-	Aluminum-Alloy Extruded Structural Pipe and Tube
ASTM B483/B483M	-	Aluminum and Aluminum-Alloy Drawn Tubes for General Purpose Applications

(Copies of these documents are available from <http://www.astm.org> or ASTM International, P.O. Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.5.

3.2 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle cost.

3.3 Alloys, chemical composition, tempers, tensile strength, and heat treatment. Alloys, chemical composition, tempers, tensile strength, and heat treatment for type A and type B pipes shall as specified in 3.3.1 and 3.3.2.

3.3.1 Type A. Structural pipe for non-pressure applications shall be in accordance with one of the following alloys:

ASTM B210 - 3003-H18, 6061-T6, 6063-T6
 ASTM B221 - 3003-H112, 6061-T6, 6063-T6
 ASTM B429/B429M - 6061-T6, 6063-T6
 ASTM B483/B483M - 3003-H18, 3003-H112

3.3.2 Type B. Seamless pipe for pressure applications shall be in accordance ASTM B241/B241M alloy 3003-H18, 3003-H112, 6061-T6, or 6063-T6.

3.4 Dimensions and configurations.

3.4.1 Straightness. Straightness shall be in accordance with ANSI H35.2.

3.4.2 Schedule (nominal dimensions). The schedule size shall be 5, 10 or 40 (standard) or 80 (extra heavy). See [table I](#) for outside diameter (OD), inside diameter (ID) dimensions, and wall thickness.

3.4.3 Weights. Weights shall be as specified in [table I](#).

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3.4.4 Lengths. The lengths shall be as specified on the order with a tolerance of $\pm .5$ inch (12.70 mm).

3.4.5 Allowable deviation from mean diameter. The allowable deviation from mean diameter of the pipe shall be in accordance with ANSI H35.2

3.4.6 Allowable deviation of diameter. Allowable deviation of diameter shall be in accordance with ANSI H35.2

3.5 Performance.

3.5.1 Leak test. Each length of pipe, for pressure applications, shall be hydrostatically tested in accordance with ASTM B210.

3.6 Marking. Marking shall consist of the PIN, Manufacturers Commercial and Government Entity (CAGE), alloy, and lot date code. Marking shall be done every 3 feet (0.91 m) and shall be permanently and legibly marked on the pipe. The lot date code may be marked on a single place on the pipe. Alloy and temper designations shall be in accordance with ANSI H35.1.

3.7 Workmanship. The pipe shall be uniform in quality and temper. The exterior and interior surfaces shall be clean, smooth, and free from slivers, laminations, folds, grooves, cracks, and other defects within the limits consistent with best commercial practice. Discoloration due to thermal treatment is acceptable.

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TABLE I. Nominal dimensions and weights of aluminum-alloy pipe. 1/ 2/

Size designator	Nominal pipe size fraction (inches)	Schedule	Outside diameter (inches)	Inside diameter (inches)	Wall thickness (inches)	Weight per foot (lbs)	
			Nom	Nom	Nom	Nom	Max
A	1/8 (.125)	40	.405	.269	.068	.185	.091
		80	.405	.215	.095	.109	.117
B	1/4 (.25)	40	.540	.364	.088	.147	.159
		80	.540	.302	.119	.185	.200
C	3/8 (.375)	40	.675	.493	.091	.196	.212
		80	.675	.423	.126	.256	.276
D	1/2 (.500)	5	.840	.710	.065	.186	—
		10	.840	.674	.083	.232	—
		40	.840	.622	.109	.294	.317
		80	.840	.546	.147	.376	.406
E	3/4 (.750)	5	1.050	.920	.065	.237	—
		10	1.050	.884	.083	.297	—
		40	1.050	.824	.113	.391	.422
		80	1.050	.742	.154	.510	.550
F	1	5	1.315	1.185	.065	.300	—
		10	1.315	1.097	.109	.486	—
		40	1.315	1.049	.133	.581	.627
		80	1.315	.957	.179	.751	.811
G	1 1/4 (1.25)	5	1.660	1.530	.065	.383	—
		10	1.660	1.442	.109	.625	—
		40	1.660	1.380	.140	.786	.849
		80	1.660	1.278	.191	1.037	1.120
H	1 1/2 (1.5)	5	1.900	1.770	.065	.441	—
		10	1.900	1.682	.109	.721	—
		40	1.900	1.610	.145	.940	1.015
		80	1.900	1.500	.200	1.256	1.356
J	2	5	2.375	2.245	.065	.555	—
		10	2.375	2.157	.109	.913	—
		40	2.375	2.067	.154	1.264	1.365
		80	2.375	1.939	.218	1.737	1.876

See footnotes at end of table.

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TABLE I. Nominal dimensions and weights of aluminum-alloy pipe - Continued. 1/ 2/

Size designator	Nominal pipe size (inches)	Schedule	Outside diameter (inches)	Inside diameter (inches)	Wall thickness (inches)	Weight per foot (Lbs)	
			Nom	Nom	Nom	Nom	Max
K	2.5	5	2.875	2.703	.083	.856	—
		10	2.875	2.635	.120	1.221	—
		40	2.875	2.469	.203	2.004	2.164
		80	2.875	2.323	.276	2.650	2.862
L	3	5	3.500	3.334	.083	1.048	—
		10	3.500	3.260	.120	1.498	—
		40	3.500	3.068	.216	2.621	2.830
		80	3.500	2.900	.300	3.547	3.830
M	3.5	5	4.000	3.834	.083	1.201	—
		10	4.000	3.760	.120	1.720	—
		40	4.000	3.548	.226	3.151	3.403
		80	4.000	3.364	.318	4.326	4.672
N	4	5	4.500	4.334	.083	1.354	—
		10	4.500	4.260	.120	1.942	—
		40	4.500	4.026	.237	3.733	4.031
		80	4.500	3.826	.337	5.183	5.598
P	5	5	5.563	5.345	.109	2.196	—
		10	5.563	5.295	.137	2.688	—
		40	5.563	5.047	.258	5.057	5.461
		80	5.563	4.813	.375	7.188	7.763
Q	6	5	6.625	6.407	.109	2.624	—
		10	6.625	6.357	.134	3.213	—
		40	6.625	6.065	.280	3.564	7.089
		80	6.625	5.761	.432	9.884	10.67
R	8	5	8.625	8.407	.109	3.429	—
		10	8.625	8.329	.148	4.635	—
		40	8.625	7.981	.322	9.878	10.67
		80	8.625	7.625	.500	15.01	16.21
S	10	5	10.750	10.482	.134	5.526	—
		10	10.750	10.420	.165	6.453	—
		40	10.750	10.020	.365	14.00	15.12
		80	10.750	9.564	.593	22.25	24.03
T	12	5	12.750	12.438	.156	7.268	—
		10	12.750	12.390	.180	8.359	—
		40	12.750	11.938	.406	18.52	20.000
		80	12.750	11.376	.687	30.62	33.07

See footnotes at end of table.

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TABLE I. Nominal dimensions and weights of aluminum-alloy pipe - Continued. 1/ 2/

Size designator	Nominal pipe size fraction (mm)	Schedule	Outside diameter (mm)	Inside diameter (mm)	Wall thickness (mm)	Weight per 304.8 mm (g)	
			Nom	Nom	Nom	Nom	Max
A	1/8 (3.18)	40	10.29	6.83	1.73	83.91	41.28
		80	10.29	5.46	2.41	49.44	53.07
B	1/4 (6.35)	40	13.72	9.25	2.24	66.68	72.12
		80	13.72	7.67	3.02	83.91	90.72
C	3/8 (9.53)	40	17.15	12.52	2.31	88.90	96.16
		80	17.15	10.74	3.20	116.12	125.19
D	1/2 (12.70)	5	21.34	18.03	1.65	84.37	—
		10	21.34	17.12	2.11	105.23	—
		40	21.34	15.80	2.77	133.36	143.79
		80	21.34	13.87	3.73	170.55	184.16
E	3/4 (19.05)	5	26.67	23.37	1.65	107.50	—
		10	26.67	22.45	2.11	134.72	—
		40	26.67	20.93	2.87	177.35	191.42
		80	26.67	18.85	3.91	235.41	249.48
F	1 (25.40)	5	33.40	30.10	1.65	136.08	—
		10	33.40	27.86	2.77	220.45	—
		40	33.40	26.64	3.38	263.54	284.40
		80	33.40	24.31	4.55	340.65	367.86
G	1 1/4 (31.75)	5	42.16	38.86	1.65	173.73	—
		10	42.16	36.63	2.77	283.50	—
		40	42.16	35.05	3.56	356.52	385.10
		80	42.16	32.46	4.85	470.38	508.02
H	1 1/2 (38.10)	5	48.26	44.96	1.63	200.03	—
		10	48.26	42.72	2.77	327.041	—
		40	48.26	40.89	3.68	426.38	460.40
		80	48.26	38.10	5.08	569.71	615.07
J	2 (50.80)	5	60.33	57.02	1.65	251.74	—
		10	60.33	54.79	2.77	414.13	—
		40	60.33	52.50	3.91	573.34	619.15
		80	60.33	49.25	5.54	787.89	850.94

See footnotes at end of table.

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TABLE I. Nominal dimensions and weights of aluminum-alloy pipe - Continued. 1/ 2/

Size designator	Nominal pipe size fraction (mm)	Schedule	Outside diameter (mm)	Inside diameter (mm)	Wall thickness (mm)	Weight per 304.80 mm (g)	
			Nom	Nom	Nom	Nom	Max
K	2 1/2 (63.50)	5	73.03	68.66	2.11	388.29	—
		10	73.03	66.93	3.05	553.84	—
		40	73.03	62.71	5.16	909.00	981.57
		80	73.03	59.00	7.10	1206.10	1298.18
L	3 (76.20)	5	88.90	84.68	2.11	475.36	—
		10	88.90	82.80	3.05	679.48	—
		40	88.90	77.93	5.49	1188.87	1283.67
		80	88.90	73.66	7.62	1608.89	1737.26
M	3 1/2 (88.90)	5	101.60	97.38	2.11	544.76	—
		10	101.60	95.50	3.05	780.18	—
		40	101.60	90.12	5.74	1429.27	1543.58
		80	101.60	85.45	8.08	1962.24	2119.18
N	4 (101.60)	5	114.30	110.08	2.11	614.16	—
		10	114.30	108.20	3.05	880.88	—
		40	114.30	102.26	6.02	1693.26	1828.43
		80	114.30	97.18	8.56	2350.97	2539.21
P	5 (127.00)	5	141.30	84.96	2.77	996.09	—
		10	141.30	134.49	4.48	1219.26	—
		40	141.30	128.19	6.55	2293.82	2477.07
		80	141.30	122.25	9.53	3260.42	3521.24
Q	6 (152.40)	5	168.28	162.74	2.77	1190.23	—
		10	168.28	161.47	3.40	1457.39	—
		40	168.28	154.05	7.11	1457.39	3215.52
		80	168.28	146.33	10.97	4483.31	4839.83
R	8 (203.20)	5	219.08	213.54	2.77	1555.37	—
		10	219.08	211.56	3.76	2102.40	—
		40	219.08	202.72	8.18	4480.59	4839.83
		80	219.08	193.68	12.70	6808.4	7352.73
S	10 (254.00)	5	273.05	266.24	3.40	2506.55	—
		10	273.05	264.67	4.19	2927.03	—
		40	275.05	254.51	9.27	6350.3	6858.32
		80	273.05	242.93	15.06	10092.4	10899.82
T	12 (304.80)	5	323.85	315.72	3.96	3296.71	—
		10	323.85	314.71	4.57	1523.62	—
		40	323.85	303.23	10.31	8400.5	9071.85
		80	323.85	288.95	17.45	13889.0	15000.3

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

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4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. First article inspection (see [4.5](#)).
- b. Conformance inspection (see [4.6](#)).

4.2 Inspection conditions. First article inspection shall be performed at a laboratory acceptable to the procuring activity on sample units produced with equipment and procedures used in production

4.3 Testing and inspections.

4.4 Responsibility for compliance. All items shall meet all requirements of sections [3](#), [4](#), and [5](#). The inspections set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.4.1 Lot records. The manufacturer or supplier shall, on request, furnish to the purchaser a certificate stating that each lot has been sampled, tested, and inspected in accordance with the applicable specification for type A and type B pipe and has met the requirements. Manufacturers shall monitor for compliance to the prescribed procedures, and observe that satisfactory manufacturing conditions and records on lots are maintained for these pipes. The records, including as a minimum, an attributes summary of all quality conformance inspections conducted on each lot, shall be available to review by customers at all times. Manufacturers shall keep lot records for 3 years minimum.

4.5 First article inspection. First article inspection shall consist of materials inspection; all the tests in [table II](#) as applicable to the contract, and examinations of this specification.

4.5.1 Samples for first article. Samples for first article shall be representative of the products proposed to be furnished to this specification. Sampling for pipes shall be specified in [4.5.5](#).

4.5.2 First article inspection routine. All samples shall be subjected to first article testing in accordance with [table II](#) sequence is manufacturer's discretion.

4.5.3 Acceptance of first article inspection. Required first article tests (see [table II](#)) at the hose assembly level that were already performed at the bulk hose level may be eliminated from assembly first article tests if documented approval has been obtained from the procuring activity.

4.5.3.1 Waivers or deviations to specification requirements. All waivers or deviations to specification requirements shall be coordinated through the preparing activity; Defense Supply Center, Columbus, Attn: VAI, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to Construction@dscclia.mil.

4.5.4 Failures. All samples shall meet all of the contract requirements. Failure of a sample unit to pass any test shall be cause for rejection of the entire lot and to grant first article approval.

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4.5.5 First article samples. If requested by the contracting officer the manufacturer shall supply test ingots and/or sample pipes. The quantity and the pipe lengths for the samples shall be specified on the contract or purchase order. The samples shall be representative of the construction, workmanship, components, and materials to be used during production. When a manufacturer is in continuous production of pipes from one contract to another, submission of additional first article samples for a new contract may be waived at the discretion of the acquiring activity (see 6.2). The following details shall apply:

- a. Heat treatment. Samples for heat treatment an inspection lot shall consist of an identifiable quantity of material of the same mill form, alloy, temper, and nominal dimensions traceable to a heat-treat lot or lots, and subjected to inspection at one time.
- b. Chemical composition. The pipe shall conform to the chemical composition limits prescribed in [type A](#) and [type B](#). Conformance shall be determined by the producer by analyzing samples taken at the time the ingots are poured, or samples taken from the finished or semi-finished product. Samples for chemical composition shall be as specified below:
 - (1) When samples are taken at the time the ingots are poured, at least one sample shall be taken for each group of ingots poured simultaneously from the same source of molten metal.
 - (2) When samples are taken from the finished or semi-finished product, a sample shall be taken to represent each 4000 lb (1814 kg) or fraction thereof of material in the shipment, except that no more than one sample shall be required per lot.

Note: It is standard practice in the United States aluminum industry to determine conformance to the chemical composition limits prior to further processing of ingots into wrought products. Due to the continuous nature of the process, it is not practical to keep a specific ingot analysis identified with a specific quantity of finished material.

- c. Tensile strength.
 - (1) For pipes having a nominal weight of less than 1 lb/linear ft (0.45 kg/0.30 m), one tension test specimen shall be taken for each 1000 lb (453.59 kg), or fraction thereof, in a lot.
 - (2) For pipes having a nominal weight of 1 lb or more/linear ft (0.45 kg/0.30 m), one tension test specimen shall be taken for each 1000 ft (304.80 m), or fraction thereof, in a lot.
 - (3) If the shipment contains pipes of more than one alloy, temper, or size, only those pipes of the same alloy, temper, and size shall be grouped for the purpose of selecting tension test specimens. Other procedures for selecting samples may be employed if agreed upon by the producer and the purchaser.

4.5.5.1 Disposition of samples. First article samples shall be furnished to the Government as directed by the contracting officer (see 6.2).

4.5.6 First article information. Upon completion of first article inspection, the Government activity responsible for conducting the inspection program (see 6.2), shall report the results of the inspection, with appropriate recommendation, to the contracting officer. Approval of the first article samples or the waiving of first article inspection does not preclude the requirements for performing conformance inspection.

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TABLE II. First article inspection.

Inspection	Requirement paragraph	Test paragraph or document
Alloy type used Chemical composition Temper Tensile strength Type of heat treatment.	3.3.1, 3.3.2	Type A: (see 4.5.5) ASTM B429/B429M (alloy -6061-T6 or 6063-T6) ASTM B483/B483M (alloy 3003-H18 or 3003-H112) ASTM B221 (alloy 3003-H112, 6061-T6, or 6063-T6) ASTM B210 (alloy 3003-H18, 6061-T6, or 6063-T6) Type B: (see 4.5.5) ASTM B241/B241M (alloy 3003-H18, 3003-H112, 6061-T6, or 6063-T6)
Visual and mechanical inspection	3.4	4.7.1
Straightness	3.4.1	ANSI H35.2
Schedule (nominal)	3.4.2	Table I
Weight	3.4.3	Table I
Length	3.4.4	---
Allowable deviation from mean diameter	3.4.5	ANSI H35.2
Allowable deviation of diameter	3.4.6	ANSI H35.2
Leak test ^{1/}	3.5.1	ASTM B210
Marking	3.6	4.7.1
Workmanship	3.7	4.7.1

^{1/} Not required for structural pipe.

4.6 Conformance inspection. For manufacturers that have successfully passed first article inspections on going inspections shall consist of individual inspections.

4.6.1 Individual inspection. Individual inspection shall consist of the inspections specified in [table II](#).

4.6.2 Sampling for individual inspections.

4.6.2.1 Sampling on a continual basis. On approval of the purchaser the producer may use a system of statistical quality control for such examinations. Sampling for individual inspections shall be on a continual basis. Each pipe shall be examined to determine conformance to this specification with respect to general quality and identification marking.

4.6.2.2 Sampling on a non-continual basis. For pipe sizes having a nominal weight of less than 1 lb/linear ft (.045kg/0.30 m), one test specimen shall be taken for each 1000 lb (453.59 kg) or fraction thereof in the lot. For pipes having a nominal weight of 1 lb or more/linear ft (0.45 kg/0.30 m), one test specimen shall be taken for each 1000 ft (304.80 m), or fraction thereof, in the lot.

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4.7 Methods of examinations and tests.

4.7.1 Examination of product (see 3.5.1). The pipes shall be examined to ensure conformance with the performance requirements of this specification (see 3.5). In-process controls of pipes, unrelated to lot sizes of finished pipes, may be utilized in lieu of examination of these components in the finished pipes to assure conformance of these component parts. Examination in a continuing manner shall be performed to assure compliance with the following requirements.

- a. Design and construction (see 3.4).
- b. Marking (see 3.6).
- c. Workmanship (see 3.7).
- d. Specific straightness requirements (when required see 3.4.1).

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When packaging of material is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the Military Service's System Commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. Structural pipe is for use in structural application, and seamless pipe is utilized in pressure applications. Where structural applications are required, the procuring activity should specify structural pipe. The pipe's mechanical properties, composition, dimensions, etcetera, are the same, but because of lower production cost, it can generally be procured at a lower price. The military unique PIN is retained to facilitate reprocurement.

6.2 Acquisitioning requirement. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. First article contract requirements.
- c. PIN (see 1.2).
- d. Certificate of compliance covering materials, when required.
- e. Packaging requirements (see 5.1).
- f. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1 and 2.2).

6.3 First article. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results, and disposition of first article samples. Invitations for bids should provide that the Government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

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6.3.1 Defense Logistics Agency (DLA) waiver of first article test. A waiver of a first article testing will only be considered by DLA when the contractor has delivered the same item within the last three years, has no unfavorable quality history, has not changed processes, or changed any subcontractors. DLA will not accept first article testing results outside the stated requirements.

6.4 Commonly used pipe/tube sizes and lengths. The following are common pipe and tube sizes available.

Pipe straight lengths: 24 ft., 20 ft, 12 ft., 8 ft., 6 ft., and 4 ft. lengths (sizes 1/2 through 12 inch).

Tubing coil lengths: 250ft, 100 ft, 50 ft (sizes: 5/8, 1/2, 7/16, 3/8, 5/16, 1/4, 3/16, 1/8).

Coiled tubes are only available in non-heat treated alloys and are generally available only as round tubes with a wall thickness not exceeding .083 inches (2.11 mm).

6.5 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. Table III lists the Environmental Protection Agency (EPA) top seventeen hazardous materials targeted for major usage reduction. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see section 3).

TABLE III. EPA top seventeen hazardous materials.

Benzene	Dichloromethane	Tetrachloroethylene
Cadmium and compounds	Lead and compounds	Toluene
Carbon Tetrachloride	Mercury and compounds	1,1,1 - Trichloroethane
Chloroform	Methyl Ethyl compounds	Trichloroethylene
Chromium and compounds	Methyl Isobutyl Ketone	Xylenes
Cyanide and compounds	Nickel and compounds	

6.6 Guidance on use of alternative parts with less hazardous or non-hazardous materials. This specification provides for a number of alternative plating materials via the PIN. Users should select the PIN with the least hazardous material that meets the form, fit, and function requirements of their application.

6.7 Subject term (key word) listing.

Coil
Non-pressure
Pressure
Schedule
Structural
Temper

6.8 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

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CONCLUDING MATERIAL

Custodians:

Army - AT
Navy - SH
Air Force - 99
DLA - CC

Preparing activity:

DLA - CC

(Project 4710-2007-002)

Review activities:

Army - EA
Navy - SA
Air Force - 71

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.