

[Inch-Pound]
 A-A-52047A
1 JUNE 1996
 SUPERSEDING
 A-A-52047
 1 APRIL 1992

COMMERCIAL ITEM DESCRIPTION

TUBING, NONMETALLIC

(RUBBER AND PLASTIC)

The General Services Administration has authorized the use of this Commercial Item Description (CID) as a replacement for Federal Specification ZZ-T-831.

1. **SCOPE.** This CID covers rubber and plastic tubing for laboratory and special use where softness and high purity are required and when electrical conductivity may be required.

2. **CLASSIFICATION.** Tubing covered by this CID shall conform to the following Sizes, Types, and Classes.

2.1 **Size.** Tubing shall be of the following Nominal Sizes.

Nominal Sizes:	.1250	1/8 -inch
	.1875	3/16 -inch
	.2500	1/4 -inch
	.3125	5/16 -inch
	.3750	3/8 -inch
	.5000	1/2 -inch
	.6250	5/8 -inch
	.7500	3/4 -inch
	1.0000	1 -inch

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any other data which may improve this document should be sent by letter to: Commander, Defense Supply Center, Columbus (DSCC), ATTN: DSCC-VSS, P.O. Box 3990, Columbus, OH 43216-5000.

AMSC N/A

FSC 4720

DISTRIBUTION STATEMENT A. Approved for public release, distribution is unlimited.

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2.2 Types and Classes. Tubing shall be of the following Types and Classes.

Type: I - Commercial Rubber Tubing

Class 1 - Light Wall
 Class 2 - Heavy Wall
 Class 3 - Pressure
 Class 4 - Gooch

Type: II - Synthetic Rubber Tubing

Class 1 - Light Wall
 Class 2 - Heavy Wall
 Class 3 - Vacuum Connections

**Type: III - Natural Rubber Compounded Tubing (ID = ± 0.062 - inch,
 Wall Thickness = $\pm 0.062 \pm 0.016$ - inch,
 Length = 3 feet ± 1 inch)**

Type: IV - Latex Tubing

Type: V - Laboratory Pure Gum Natural Rubber or the Synthetic Equivalent Tubing.

Class 1 - Light Wall
 Class 2 - Heavy Wall
 Class 3 - Pressure
 Class 4 - Gooch

Type: VI - Plastic Tubing (Polyvinyl Chloride as the base material)

Class 6 - General Use
 Class 7 - Pressure & Vacuum

3. SALIENT CHARACTERISTICS.

3.1 Physical properties. The physical properties shall be as shown in Table 1:

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TABLE 1. Physical properties.

Property	Type I	Type II	Type III	Type IV	Type V	Type VI
Specific gravity (maximum)	1.40	---	---	---	0.97	---
Tensile strength: Initial (psi) (minimum)	2400	1100	1200	3500	3000	2000
After air heat aging (7 days) (% of initial) (minimum)	75	75	75	75 ^{1/}	75	---
After 14 days immersion in a 3% salt solution at 82° F	---	---	---	---	---	2000
Ultimate elongation. Initial (%) (minimum)	650	450	400	750	700	300
After 14 days immersion in a 3% salt solution at 82° F	---	---	---	---	---	300
Tensile stress at 100% elongation (psi) (maximum)	150	200	300	---	125	800

^{1/} Except that Type IV tubing, .125 - inch inside diameter shall retain a minimum of 65 percent of its original strength.

3.2 Electrical conductivity. When specified, the tubing shall be electrically conductive. The maximum resistance value over a three foot section of electrically conductive tubing shall be 1.0 megohm.

TABLE II. Dimensions, Types I & V.

Nominal Size	Class 1 Light Wall		Class 2, Heavy Wall		Class 3, Pressure		Class 4, Gouch
	Inside diam- eter ±0.016	Wall thick- ness ±0.016	Inside diam- eter ±0.016	Wall thick- ness ±0.016	Inside diam- eter ±0.016	Wall thick- ness ±0.016	Inside width measured flat ±0.016
(inch)	(inch)	(inch)	(inch)	(inch)	(inch)	(inch)	(inch)
.1250	.125	.031	.125	.062	.125	.188	1.250
.1875	.188	.047	.188	.094	.188	.188	1.500
.2500	.250	.062	.250	.094	.250	.188	1.750
.3125	.312	.062	.312	.094	.312	.188	
.3750	.375	.062	.375	.125	.375	.250	
.5000	.500	.094	.500	.125	.500	.250	
.6250	---	---	.625	.125	---	---	
.7500	---	---	.750	.125	---	---	
1.0000	---	---	1.000	.125	---	---	

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TABLE III. Dimensions, Type II tubing.

Nominal size	Class 1, Light Wall		Class 2, Heavy wall		Class 3, vacuum connections	
	Inside diameter	Wall thickness	Inside diameter	Wall thickness	Inside diameter	Wall thickness
	± 0.016	± 0.016	± 0.016	± 0.016	± 0.016	± 0.016
(inch)	(inch)	(inch)	(inch)	(inch)	(inch)	(inch)
.1250	.125	.047	.125	.094	.188	.188
.1875	.188	.047	.188	.094	.250	.188
.2500	.250	.062	.250	.125		
.3125	.312	.062	.312	.125		
.3750	.375	.062	.375	.125		
.5000	.500	.062	.500	.125		
.6250	.625	.062	.625	.125		
.7500	---	---	.750	.125		
1.0000	---	---	1.000	.125		

TABLE IV. Dimensions and tolerance, Type IV tubing.

Nominal size	Inside diameter	Tolerance \pm	Wall Thickness	Tolerance \pm
.1250	.125	.016	.031	.008
.1875	.188	.016	.094	.016
.2500	.250	.016	.062	.016
.3125	.312	.016	.062	.016

TABLE V. Dimensions, Type VI tubing.

Nominal size	Class 6, general use		Class 7, pressure and vacuum connections	
	Inside diameter	Wall thickness	Inside diameter	Wall Thickness
	± 0.016	± 0.016	± 0.016	± 0.016
(inch)	(inch)	(inch)	(inch)	(inch)
.1250	.125	.094	.125	.250
.1875	.188	.094	.188	.250
.2500	.250	.125	.250	.250
.3125	.312	.125	---	---
.3750	.375	.125	---	---
.5000	.500	.125	---	---
.6250	.625	.125	---	---
.7500	.750	.125	---	---
1.0000	1.000	.125	---	---

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4. REGULATORY REQUIREMENTS.

4.1 Recovered and recycled materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. QUALITY ASSURANCE PROVISIONS.

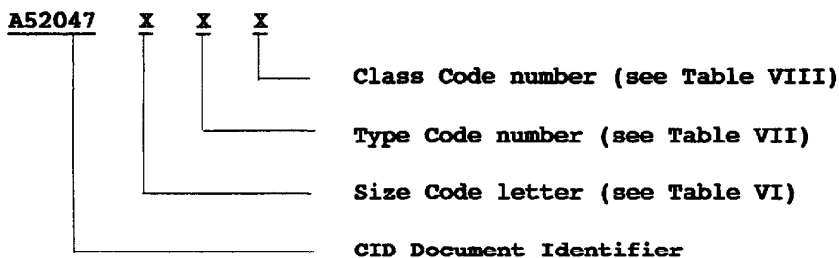
5.1 Product Conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

6. PACKAGING.

6.1 Product Packaging. Preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 Part identification Number (PIN). The following part identification numbering procedure is for Government purposes and does not constitute a requirement for the contractor.

**TABLE VI. Dimension Codes.**

SIZE	DIMENSION		
A	.188	3/16	-inch
B	.250	1/4	-inch
C	.313	5/16	-inch
D	.375	3/8	-inch
E	.500	1/2	-inch
F	.625	5/8	-inch
G	.750	3/4	-inch
H	1.000	1	-inch
J	.125	1/8	-inch

TABLE VII. Material Codes.

TYPE	MATERIAL CODES
I	Commercial Rubber Tubing
II	Synthetic Rubber Tubing
III	Natural Rubber Compounded Tubing
IV	Latex Tubing
V	Laboratory Pure Gum Natural Rubber or Synthetic Equivalent Tubing
VI	Plastic Tubing

TABLE VIII. Classes.

CLASS	ATTRIBUTE
1	Light Wall
2	Heavy Wall
3	Pressure
4	Gooch
5	General Use
7	Pressure & Vacuum

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7.2 Procurement Data. The procuring agency should specify the preferred options permitted herein and include the following information in procurement documents:

1. Title, number, and date of this CID.
2. Type and Class of tubing required.
3. When electrical conductivity is required.
4. Color of tubing required.
5. Nominal size and length of tubing required.
6. Degree of preservation and packaging required.

MILITARY INTERESTS:

PREPARING ACTIVITY:

MILITARY CUSTODIAN:

DLA-CS

AIR FORCE - 99

CIVIL AGENCY COORDINATING ACTIVITY:

ARMY - AT

GSA-FSS

NAVY - YD1

REVIEW ACTIVITY:

AIR FORCE - 82

(Project Number: 4720-0108)