

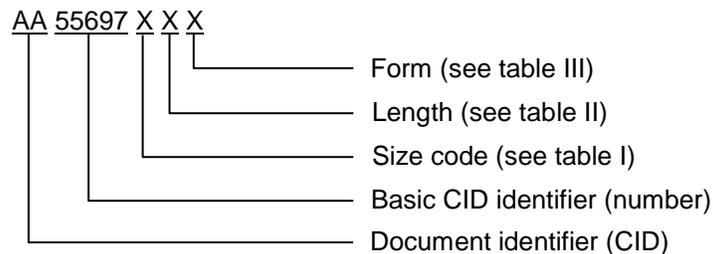
A-A-55697B  
 22 February 2012  
 SUPERSEDING  
 A-A-55697A  
 9 October 2002

## COMMERCIAL ITEM DESCRIPTION

### TUBE, NONMETALLIC; POLYVINYL CHLORIDE (PVC) FLEXIBLE (FOR LABORATORY AND MEDICAL USE)

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. **SCOPE.** This commercial item description (CID) covers the general requirements for clear flexible PVC tubing. Clear flexible PVC tubing covered by this CID is intended for commercial/industrial applications in medical and laboratory application, including fluid signals, low pressure air, gas, and vacuum but not limited to medical transfusions and infusions.
2. **CLASSIFICATION/PART OR IDENTIFICATION NUMBER (PIN).** This CID uses a classification system which is included in the PIN as shown in the following example (see 7.1).



2.1 **Sizes.** Plastic tubing should be of the nominal inside diameter (ID), outside diameter (OD) and wall thickness, as specified in table I.

Comments, suggestions, or questions on this document should be addressed to: DLA Land and Maritime, Attn: VAI, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to [FluidFlow@dla.mil](mailto:FluidFlow@dla.mil). Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <https://assist.daps.dla.mil>.

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TABLE I. Inside/outside diameter and wall thickness of tubes. <sup>1/2/3/</sup>

Size code	Nominal ID <sup>4/</sup>		OD		nominal WT <sup>5/</sup>	
	(inches)	(mm)	(inches)	(mm)	(inches)	(mm)
01	0.125	(3.2)	0.1875	(4.8)	0.0313	(0.8)
02	0.1563	(4.0)	0.2813	(7.1)	0.0625	(1.6)
03	0.1875	(4.8)	0.3125	(7.9)	0.0625	(1.6)
04	0.2500	(6.4)	0.3750	(9.5)	0.0625	(1.6)
05	0.3125	(7.9)	0.4375	(10.5)	0.0625	(1.6)
06	0.3750	(9.5)	0.5000	(12.7)	0.0625	(1.6)
07	0.3750	(9.5)	0.6250	(15.9)	0.1250	(3.2)
08	0.5000	(12.7)	0.7500	(19.1)	0.1250	(3.2)
09	1.0000	(25.4)	2.0000	(50.8)	0.5000	(12.7)

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

3/ Sizes other than those shown in table I may be ordered by specifying dimensional data in lieu of PIN (see 7.1).

4/ Tolerance on inside diameter for all sizes shall be  $\pm 0.0156$  inch (0.4 mm).

5/ Tolerance on wall thickness for all sizes shall be - 0 or +0.0156 inch (-0.00 or +0.4 mm).

3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Tubing supplied to this CID shall be as specified herein.

3.2 Material. Tubing provided in accordance with this CID shall be colorless, clear, and flexible PVC.

3.3 Dimensioning. The values stated in inch-pound units are to be regarded as the standard. The metric values stated in parentheses throughout this CID are for informational purposes only and have been rounded to only one decimal place for convenience.

3.4 Lengths. Tubing shall be furnished in the length specified in table II (see 7.5c).

TABLE II. Tubing lengths. <sup>1/2/</sup>

Length code	Length	
	Feet	Meters
A	50	15.24
B	100	30.48
C	250	76.20
D	500	152.40
E	1000	304.80

1/ Dimensions are in inches.

2/ Metric equivalents are given for information only.

3.5 Form. Tubing shall be furnished in the form specified in table III (see 7.5c).

TABLE III. Tubing forms.

Form code	Form
1	Coils
2	Reels
3	Straight

3.6 Flexibility. Tubing shall be capable of bending around a mandrel equal to five times the OD of the tube without collapsing or restricting flow.

3.7 Physical properties. Physical properties of the tubing shall be as specified in table IV when tested in accordance with the test method shown.

TABLE IV. Physical properties.

Property	Requirement	Test method
Brittleness temperature	-50.8°F (-46°C)	ASTM D746
Specific gravity	1.15 - 1.80	ASTM D792
Tensile strength, psi	1800 - 2100	ASTM D638
Elongation, percent	300 minimum	ASTM D638

3.8 Chemical resistance. Tubing shall not discolor, flake, crack or pit when tested in accordance with USP-NF, Physicochemical Tests-Plastics, ASTM D1003, Standard Method of Test for Haze and Luminous Transmittance of Transparent Plastics, and ASTM E308, Standard Practice for Computing the Colors of Objects by Using the CIE System.

3.9 Sterilization. Tubing shall be capable of withstanding sterilization by steam, ethylene oxide, radiation, or other method that meets the requirements of the USP-NF, Sterility Tests for Transfusion and Infusion Assemblies and Similar Medical Devices.

3.10. Heat resistance. Tubing shall be capable of withstanding temperatures of 200±5 °F (93.3±2.8 °C) for one hour without visual signs of deterioration such as discoloring, flaking, cracking, pitting, hardening, or melting.

3.11 Biological reactivity. Tubing shall meet the requirements of USP Class II plastics and the Association for the Advancement of Medical Instrumentation, AAMI/ANSI 10993-1.

3.12 Metal content. The use of hazardous materials (see 7.2) shall be eliminated or minimized where possible. Tubes shall not contain more than five parts per million (ppm) of heavy metals, such as lead, in their ash residue when tested as follows:

- a. Two sample tubes shall be selected at random from each lot (lot is defined as a continuous run of tubing from the same batch or raw material, and offered for delivery under one contract).
- b. From each sample accurately weigh a 0.176 oz. (5 gm) sample into one-ounce VYCOR® crucibles.
- c. Reduce to ash in a muffle furnace at 1202°F (650°C) for 8 hours.
- d. Let cool to room temperature and add 0.507 fluid ounces (15 ml) of 1:1 hydrochloric acid.
- e. Bring to a boil on a hot plate, allow to boil for two to three minutes, remove, let cool and filter through Whatman grade #2 filter paper (particle retention 8µm) into a 1.691 fluid ounces (50 ml) volumetric flask.
- f. Rinse the residue from the filter with deionized water and dilute to 1.691 fluid ounces (50 ml).
- g. Prepare standard lead solutions of one, two, and five ppm lead.
- h. Determine the absorbencies of these solutions at the 283 millimicron wavelength using a Hollow Cathode Pb lamp and 10x scale expansion on an atomic absorption spectrophotometer.
- i. Determine the absorbance of the sample solutions using the same conditions as with the standards.
- j. The calculated factors of the three standards are averaged to give ppm/unit A.

Calculation:                      Lead content in ppm =  $\frac{A \times F \times \text{Dilution}}{W}$

A = Absorbance

F = Factor =  $\frac{(\text{concentration standard in ppm Pb})}{\text{absorbance}}$

W = Sample weight in grams

3.13 Marking. Tubing supplied to this CID shall be marked with the manufacturer's (MFR's) standard commercial PIN. (NOTE: The part number marked on the unit pack shall be the CID PIN.)

3.14 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 costs.

3.15 Workmanship. Tubing shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

4. REGULATORY REQUIREMENTS. The offer/contractor is encouraged to use recovered material to the maximum extent practicable, in accordance with 23.403 of the Federal Acquisition Regulation (FAR).

#### 5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, 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. Preservation, packing, and marking shall be as specified in the contract or order.

#### 7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals is available on their website at <http://www.epa.gov/epawaste/hazard/wastemin/index.htm>. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. Use of the materials on the list should be minimized or eliminated unless needed to meet the requirements specified herein (see section 3).

7.3 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of this tubing to DLA Land and maritime under the Parts Management Advisory Team (PMAT) evaluation program, CAGE code 58536 should be used.

7.4 Source of documents.

FEDERAL REGULATIONS

FAR - Federal Acquisition Regulations (FAR)

(The online document is available at <https://www.acquisition.gov/far/> or copies of the document are available at the U.S. Government Bookstore, 710 North Capital Street N.W., Washington D.C 20401-0001 or online at <http://bookstore.gpo.gov/>).

Other publications

ASSOCIATION FOR THE ADVANCEMENT OF MEDICAL INSTRUMENTATION (AAMI)

AAMI/ANSI 10993-1 - Biological Evaluation of Medical Devices

(Copies of documents are available online at <http://www.aami.org/> or from Association for the Advancement of Medical Instrumentation, 4301 N. Fairfax Drive, Suite 301, Arlington, VA 22203-1633.)

ASTM INTERNATIONAL

ASTM D638 - Standard Test Method for Tensile Properties of Plastics  
ASTM D746 - Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact  
ASTM D792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement  
ASTM D1003 - Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics  
ASTM D3951 - Standard Practice for Commercial Packaging  
ASTM E308 - Standard Practice for Computing the Colors of Objects by Using the CIE System

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

UNITED STATES PHARMACOPEIA (USP)

USP-NF - Physicochemical Tests-Plastics  
USP-NF - Sterility Tests for Transfusion and Infusion Assemblies and Similar Medical Devices

(Copies of documents are available online at <http://www.usp.org> or from U. S. Pharmacopei, 12601 Twinbrook Parkway, Rockville, Maryland 20852-1790.)

7.5 Ordering data. The contract or order should specify the following:

- a. Title, number, and date of the CID.
- b. Size code and wall thickness (see table I).
- c. Length (see table II, 3.4) and form (see table III, 3.5) required.
- d. Applicable level of preservation, packaging, and packing (see 6).
- e. Applicable marking (see 3.13).
- f. Quantity of tubing required.

7.6 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict procurement to only the manufacturers shown.)

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
1L0C5	Harrison Hose and Tubing Inc. 2705 KUSER RD Trenton, NJ 08691 Voice Telephone: 866-333-3350 Fax 609-631-8796 <a href="http://harrisonhose.com/">http://harrisonhose.com/</a>
1V630	F and R Sales Inc. 109 Gauntt St PO Box 189 Burlington, NJ 08016-1938 Telephone: 609-423-9033
0AMA0	Dynamation Research Inc. 2301 Pontius Ave Los Angeles, CA 90064-1809 Telephone: 310-477-1224 Fax: 310-479-5656 <a href="http://www.dynamation.com/">http://www.dynamation.com/</a>
15761	Fournier Rubber and Supply Co. 1341 Norton Ave. PO Box 548 Columbus, OH 43212-3158 Telephone: 614-294-6453 Fax: 614-294-0644 <a href="http://www.fournierrubber.com/">http://www.fournierrubber.com/</a>

7.7 Part number (P/N) supersession data. These CID part numbers supersede the following MFR's P/N's as shown. This information is being provided to assist in reducing proliferation in the Government inventory system.

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TABLE V. P/N supersession data.

Dash number (see table I,II, & III) A-A-55697	MFR's CAGE	MFR's P/N <sup>1/</sup>	Dash number (see table I,II, & III) A-A-55697	MFR's CAGE	MFR's P/N <sup>1/</sup>
01A1	1L0C5	10-01A1	06B2	1L0C5	10-06B2
02A1	1L0C5	10-02A1	07B2	1L0C5	10-07B2
03A1	1L0C5	10-03A1	08B2	1L0C5	10-08B2
04A1	1L0C5	10-04A1	09B2	1L0C5	10-09B2
05A1	1L0C5	10-05A1	01B3	1L0C5	10-01B3
06A1	1L0C5	10-06A1	02B3	1L0C5	10-02B3
07A1	1L0C5	10-07A1	03B3	1L0C5	10-03B3
08A1	1L0C5	10-08A1	04B3	1L0C5	10-04B3
09A1	1L0C5	10-09A1	05B3	1L0C5	10-05B3
01A2	1L0C5	10-01A2	06B3	1L0C5	10-06B3
02A2	1L0C5	10-02A2	07B3	1L0C5	10-07B3
03A2	1L0C5	10-03A2	08B3	1L0C5	10-08B3
04A2	1L0C5	10-04A2	09B3	1L0C5	10-09B3
05A2	1L0C5	10-05A2	01C1	1L0C5	10-01C1
06A2	1L0C5	10-06A2	02C1	1L0C5	10-02C1
07A2	1L0C5	10-07A2	03C1	1L0C5	10-03C1
08A2	1L0C5	10-08A2	04C1	1L0C5	10-04C1
09A2	1L0C5	10-09A2	05C1	1L0C5	10-05C1
01A3	1L0C5	10-01A3	06C1	1L0C5	10-06C1
02A3	1L0C5	10-02A3	07C1	1L0C5	10-07C1
03A3	1L0C5	10-03A3	08C1	1L0C5	10-08C1
04A3	1L0C5	10-04A3	09C1	1L0C5	10-09C1
05A3	1L0C5	10-05A3	01C2	1L0C5	10-01C2
06A3	1L0C5	10-06A3	02C2	1L0C5	10-02C2
07A3	1L0C5	10-07A3	03C2	1L0C5	10-03C2
08A3	1L0C5	10-08A3	04C2	1L0C5	10-04C2
09A3	1L0C5	10-09A3	05C2	1L0C5	10-05C2
01B1	1L0C5	10-01B1	06C2	1L0C5	10-06C2
02B1	1L0C5	10-02B1	07C2	1L0C5	10-07C2
03B1	1L0C5	10-03B1	08C2	1L0C5	10-08C2
04B1	1L0C5	10-04B1	09C2	1L0C5	10-09C2
05B1	1L0C5	10-05B1	01C3	1L0C5	10-01C3
06B1	1L0C5	10-06B1	02C3	1L0C5	10-02C3
07B1	1L0C5	10-07B1	03C3	1L0C5	10-03C3
08B1	1L0C5	10-08B1	04C3	1L0C5	10-04C3
09B1	1L0C5	10-09B1	05C3	1L0C5	10-05C3
01B2	1L0C5	10-01B2	06C3	1L0C5	10-06C3
02B2	1L0C5	10-02B2	07C3	1L0C5	10-07C3
03B2	1L0C5	10-03B2	08C3	1L0C5	10-08C3
04B2	1L0C5	10-04B2	09C3	1L0C5	10-09C3
05B2	1L0C5	10-05B2			

<sup>1/</sup> The manufacturer's P/N shall not be used for procurement to the requirements of this CID. At the time of preparation of this CID, the aforementioned commercial products were reviewed and could be replaced by the CID PIN shown. For actual part marking requirements see 3.13.

7.7 Government users. To acquire information on obtaining tubing from the Government inventory system, contact DLA Land and Maritime Call Center (DSCC-NAB), P.O. Box 3990, Columbus, OH 43218-3990, or telephone (614) 692-2271 or 692-3191.

7.8 National stock number (NSN). The following table VI is a list of NSN's assigned which correspond to this CID. The list is for information only and may not be indicative of all possible NSN's associated with the CID. For up to date information on assigned NSN's , please contact the aforementioned DLA Land and Maritime office (see 7.8).

TABLE VI. NSN list.

NSN	PIN
4720-00-059-5818	A-A-55697-01D2
4720-00-060-2373	A-A-55697-02A1
4720-01-505-0163	A-A-55697-04A2
4720-00-410-4290	A-A-55697-05D1
4720-01-506-5629	A-A-55697-06A1
4720-01-055-7882-	A-A-55697-08B1
4720-00-397-2876	A-A-55697-09A1

7.9 Subject term (key word) listing.

- Clear
- Colorless
- Infusions
- Metal concentration
- Plastic
- Transfusions

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

MILITARY INTERESTS:

Custodians:

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

Review activities:

- Navy - AS, NP, SA
- Air Force - 03, 71

CIVIL AGENCY COORDINATING ACTIVITY:

- GSA – FSS
- IHS
- NIH

Preparing activity:  
DLA – CC

(Project 4720-2011-008)

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 <https://assist.daps.dla.mil>.