

METRIC

A-A-59728

26 June 2002

## COMMERCIAL ITEM DESCRIPTION

## PLUG, TUBE FITTING, BLOWN OPTICAL FIBER

The General Services Administration has authorized  
the use of this commercial item description (CID).

1. SCOPE. This Commercial Item Description (CID) covers the requirements for a tube fitting plug (TFP) which is used with a tube fitting / tube coupler to seal the ends of empty blown optical fiber (BOF) tubes in tube routing boxes, fiber optic interconnection boxes and equipment, or is used to seal an unused port of a tube tee.

2. CLASSIFICATION. This CID uses a classification system that is included in the Part or Identification Number (PIN) as shown in the following example (see 7.2).

2.1 Part or Identification Number (PIN).

	<u>AA59728</u>	- TFP -	<u>8</u>
CID number			
Nominal outer diameter of mating plug surface (in mm)			

3. SALIENT CHARACTERISTICS.

3.1 Design, construction and dimensions. Design, construction and dimensions shall be as specified in figure 1.

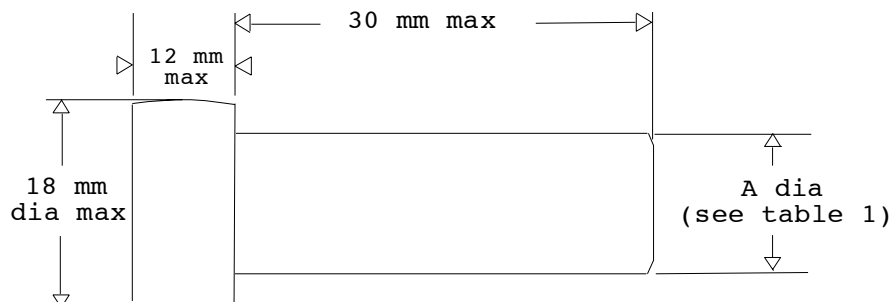
Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be sent by letter to: Commander, Naval Sea Systems Command, ATTN: SEA 05Q, 1333 Isaac Hull Ave SE Stop 5160, Washington Navy Yard, D.C. 20376-5160

AMSC N/A

FSC 6099

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Figure 1. BOF tube fitting plug.Table 1. Tube fitting plug critical diameter dimensions.

PIN dash number	A diameter
- TFP 8	8 +0.05 mm -0.1 mm

3.2 Materials.

3.2.1 Polymer materials. The tube fitting plug shall be fabricated from a low toxicity polymer material. Polymer materials shall not be affected by the use of alcohol based cleaning solutions. Polymer materials shall not degrade when the tube fitting plug is operated under the environmental conditions defined herein.

3.2.2 Metallic materials. Metallic materials shall not be used.

3.2.3 Toxic and hazardous products and formulations. The products used in the tube fitting plug construction shall not give off toxic or explosive fumes when exposed to flame. Materials used shall have no adverse effect on the health of personnel when used for the intended purpose.

3.2.4 Fungus. When tested in accordance with TIA/EIA-455-56 for a duration of 28 days, tube fitting plug materials shall show sparse or very restricted microbial growth and reproduction with minor or inhibited substrate utilization. There shall be little or no chemical, physical, or structural change detectable.

3.2.5 Flammability. When tested in accordance with UL-94, tube fitting plug materials shall have a rating of HB.

3.3 Mechanical properties.

3.3.1 Tube fitting plug to tube fitting retention. When subjected to an axial separation force of 67 N (15 lb) for 1 minute, the tube fitting plug shall remain engaged in a tube fitting compliant with CID A-A-59731. Upon visual examination, there shall be no evidence of physical damage detrimental to the operation of the tube fitting plug.

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3.3.2 Tube fitting plug material tensile strength. When tested in accordance with ASTM D 638, the tube fitting plug material tensile strength at yield shall be not less than 50 N/mm<sup>2</sup>.

3.4 Environmental properties.

3.4.1 Temperature ranges. The tube fitting plug shall operate over a temperature range from -28 degrees C to +65 degrees C and shall be capable of withstanding storage under temperatures from -40 degrees C to +70 degrees C.

3.4.2 High temperature tube fitting plug to tube coupler retention. When subjected to an axial separation force of 67 N (15 lb) for 1 minute at a temperature of +65 degrees C, the tube fitting plug shall remain engaged in a tube coupler compliant with CID A-A-59731. Upon visual examination, there shall be no evidence of physical damage detrimental to the operation of the tube fitting plug. Damage to the tube fitting plug outer diameter due to the tube coupler tube retention mechanism is acceptable.

3.4.3 Life aging. When tested for 240 hours at 110 degrees C in accordance with EIA/TIA-455-4, the tube fitting plug shall withstand exposure to accelerated aging conditions. Upon visual examination, there shall be no evidence of deterioration of component parts or materials, physical distortion, cracking, separation of bonded surfaces, or other physical damage detrimental to the operation of the tube fitting plug unit. After exposure, the tube fitting plug material tensile strength (see 3.3.2) shall be not less than 50% of the unaged tensile strength and the tube fitting plug shall meet the tube fitting plug to tube coupler retention requirements (see 3.3.1).

3.4.4 Storage temperature. When tested for 24 hours at the low storage temperature, and 24 hours at the high storage temperature, the tube fitting plug shall withstand exposure to the defined storage temperature extremes. Upon visual examination, there shall be no evidence of physical damage detrimental to the operation of the tube fitting plug. After exposure, the tube fitting plug shall meet the dimensional requirements specified in 3.1.

3.5 Mass. When measured with scales, the mass of the tube fitting plug shall be not greater than 5 gms.

3.6 Size. When visually inspected in accordance with TIA/EIA-455-13, tube fitting plug dimensions shall be in compliance with figure 1 and table 1.

3.7 Marking. When visually inspected, tube fitting plug packages shall be marked with the manufacturer's CAGE code, name, or logo and the tube fitting plug PIN. Alternatively the tube fitting plug packages shall be marked with the manufacturer's CAGE code, name, or logo and the manufacturer's commercial part number. Markings shall be legible and permanent.

3.8 Workmanship. When visually inspected, tube fitting plugs shall be free from sharp edges, burrs, rough surfaces or other defects that adversely affect performance or appearance.

4. REGULATORY REQUIREMENTS.

4.1 Recovered materials. Products provided are encouraged to be manufactured with recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

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## 5. QUALITY ASSURANCE PROVISIONS.

5.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection, examination, and test requirements specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections, examinations, or tests set forth in this description where such inspections, examinations, and tests are deemed necessary to assure supplies and services conform to prescribed requirements.

5.2 Conformance tests. Tube fitting plugs for delivery under this CID shall be subjected at a minimum to the following inspections:

- a. Marking
- b. Workmanship

5.3 Product conformance. The contractor shall certify and maintain objective quality evidence that the product offered meets the requirements of this CID, and that the product conforms to the producer's own drawings, specifications, standards, quality assurance practices, and is the same as the product provided as a bid sample. The Government reserves the right to require proof of such conformance prior to the first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

5.4 Market acceptability. The item offered must have been sold to the government or commercial market for a minimum of one year.

5.5 Certificate of compliance. A certificate of compliance shall accompany all tube fitting plugs supplied to this CID.

## 6. PACKAGING.

6.1 Preservation, packaging, packing, labeling, and marking. Preservation, packaging, labeling, and marking shall be as specified in the contract or purchase order.

## 7. NOTES.

7.1 Intended use. Tube fitting plugs in accordance with this CID are intended to be used as specified in MIL-STD-2042 with tube couplers in accordance with A-A-59731.

7.2 PIN. The PIN defined in paragraph 2.1 should be used for Government procurement.

7.3 Sources of documents.

ASTM standards are available from the ASTM International, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania, 19428-2959.

EIA/TIA standards are available from Electronic Industry Alliance, Engineering Department, 2500 Wilson Boulevard, Suite 300, Arlington, Virginia 22201-3834.

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UL standards are available from the Underwriters Laboratory Inc. 333 Pfingsten Road, Northbrook, IL 60062.

Federal Government publications are available from the Standardization Documents Order Desk, 700 Robbins Avenue, Philadelphia, PA 19120-5094.

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

- a. CID number, revision, and CID PIN.
- b. Quality assurance provisions.
- c. Packaging requirements.

7.5 Storage. Tube fitting plug materials may degrade upon extended exposure to sunlight or other sources of ultraviolet radiation. Storage of tube fitting plugs in a dark environment is recommended.

7.6 Suggested sources of supply. Suggested sources of supply are listed herein. Additional sources will be added as they become available.

CID PIN	Vendor CAGE	Vendor commercial PIN
<hr/>		<hr/>
<i>TBD</i>		<i>TBD</i>

Custodian:

Navy - SH  
Air Force - 11  
Army - CR

Preparing activity:

Navy - SH

(Project 6099-0006-003)

Review Activities:

Air Force - 13, 19, 93, 99  
Misc - DI