

METRIC

A-A-59382

14 November 2003

COMMERCIAL ITEM DESCRIPTION

GEL ENCAPSULATED CORROSION PROTECTION SLEEVES

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

1. **SCOPE.** This commercial item description covers the requirements for re-enterable sleeves used to provide environmental protection for electrical and electronic connections in shipboard applications. The sleeves have a double wall construction that permits them to be rolled onto the connector assembly and then rolled over the terminated connection, providing an environmental barrier. Once installed, the sleeves can be rolled back to provide access to the termination and then returned to the protective configuration.

2. **CLASSIFICATION.** The gel included moveable (GIM) sleeve kits shall conform to the following types and sizes.

2.1 **Types.**

- Type I - General kit: Roll-on protector, gel strip, cable tie, core tube.
- Type II - Connector sealing kit: Roll-on protector, cable tie, connector flange cover, gel strip.
- Type III - Panel boot sealing kit: Roll-on protector, ferrule, gel strip, cable tie.
- Type IV - Ship-or-shore kit: Roll-on protector, connection shield (special applications – no cable tie).

2.2 **Sizes.** Sleeves shall be provided in recovered diameters from 6 mm (0.22 in) to 36 mm (1.4 in) (see 7.1). Multiple lengths are available and can be installed over diameters up to approximately two times the "as supplied" diameter.

3. **SALIENT CHARACTERISTICS.**

3.1 **Materials.** The sleeves shall be fabricated from cured, ultraviolet (UV) stabilized ethylene propylene diene monomer (EPDM) rubber with a low viscosity silicone gel inclusion. The inclusion acts as the lubricating agent.

3.2 **Operating environment.** The sleeves are intended for use in exposed, unsheltered environments aboard surface ships. The sleeves shall remain fully functional for the temperature range -25 to 65 °C. The sleeves shall remain fully functional when exposed to solar radiation, salt spray, greenwater loading (see 7.5.1) of 42 kPa (kilopascals), and stack exhaust gases (see 7.5.2). The design service life for the specified operating environment shall be eight years.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: Commander, Naval Sea Systems Command, ATTN: SEA 05Q, 1333 Isaac Hull Avenue, SE, Stop 5160, Washington Navy Yard DC 20376-5160 or emailed to commandstandards@navsea.navy.mil, with the subject line "Document Comment". Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at www.dodssp.daps.mil.

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3.3 Physical properties. The physical properties of GIM sleeves shall be as listed in Table I.

TABLE I. Physical properties.

	Property	Performance Requirement	Test Method
Physical/ Chemical	Tensile strength	8.3 MPa (1200 psi) minimum	ASTM D2671
	Ultimate elongation	100 % minimum	ASTM D412
	Density	1.1 g/cm ³ maximum	ASTM D792
	Water absorption 24 hours at 23 °C (73 °F)	0.5 % maximum	ASTM D570
	Flammability	40 mm/min maximum	ASTM D635
Electrical	Dielectric strength	90 kV/cm (225 V/mil) minimum	ASTM D149
	Volume resistivity	1x10 ¹² Ω-cm	ASTM D257

3.5 Assembly. The sleeves shall be provided as kits, which shall incorporate all materials required for one complete installation. Each kit shall include the sleeve, a foam-backed gel strip, a booster sleeve, a spare insert sleeve, a tie wrap, and an instruction sheet. Kits shall be individually packaged.

4. REGULATORY REQUIREMENTS.

4.1 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. PRODUCT CONFORMANCE 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 marketplace. The government reserves the right to require proof of such conformance.

6. PACKAGING.

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

6.2 Included items. A cross-linked foam-backed gel strip shall be included in the packaging to provide secondary sealing at the connector interface.

6.4 Shelf life. The shelf life of kits shall be not less than 8 years when stored in a sheltered space having a controlled environment.

6.5 Labeling. The kits shall be labeled as to connection length and the range of connection diameters covered by the kit.

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7. NOTES.

7.1 Part or identification number (PIN). The following PIN procedure is for government purposes and does not constitute a requirement for the contractor.

This example PIN is for a Type I, 13 mm dimension diameter, 205 mm reference length, 6 – 17 mm recommended use range, and 150 mm connection length.

AAXX197–A02

<u>AAXX197</u>	–	<u>X</u>	<u>XX</u>
CID number		Type (see code below)	Size (see code below)

Type	Dimension Diameter	Reference Length	Recommended Use Range	Connection Length	National Stock Number	Type PIN Code	Size PIN Code
Measurements are mm (in)							
Type I	13.0 (0.51)	125 (4.92)	6 – 17 (0.22 – 0.68)	75 (3.00)	TBD	A	01
Type I	13.0 (0.51)	205 (8.07)	6 – 17 (0.22 – 0.68)	150 (6.00)	TBD	A	02
Type I	14.2 (0.56)	140 (5.51)	12 – 23 (0.48 – 0.90)	100 (4.00)	TBD	A	03
Type I	14.2 (0.56)	240 (9.45)	12 – 23 (0.48 – 0.90)	175 (7.00)	TBD	A	04
Type I	19.0 (0.75)	155 (6.10)	18 – 30 (0.69 – 1.20)	100 (4.00)	TBD	A	05
Type I	19.0 (0.75)	305 (12.00)	18 – 30 (0.69 – 1.20)	225 (9.00)	TBD	A	06
Type I	25.9 (1.02)	185 (7.28)	25 – 38 (0.96 – 1.50)	125 (5.00)	TBD	A	07
Type I	25.9 (1.02)	355 (14.00)	25 – 38 (0.96 – 1.50)	250 (10.00)	TBD	A	08
Type I	36.8 (1.45)	185 (7.28)	36 – 46 (1.40 – 2.00)	125 (5.00)	TBD	A	09
Type I	36.8 (1.45)	260 (10.20)	36 – 46 (1.40 – 2.00)	190 (7.50)	TBD	A	10
Type I	36.8 (1.45)	450 (17.72)	36 – 46 (1.40 – 2.00)	300 (12.00)	TBD	A	11
Type II	14.2 (0.56)	140 (5.51)	12 – 23 (0.48 – 0.90)	100 (4.00)	TBD	B	12
Type II	14.2 (0.56)	240 (9.45)	12 – 23 (0.48 – 0.90)	175 (7.00)	TBD	B	13
Type III	19.0 (0.75)	155 (6.10)	18 – 30 (0.69 – 1.20)	100 (4.00)	TBD	C	14
Type III	25.9 (1.02)	185 (7.28)	25 – 38 (0.96 – 1.50)	125 (5.00)	TBD	C	15
Type III	36.8 (1.45)	185 (7.28)	36 – 46 (1.40 – 2.00)	125 (5.00)	TBD	C	16
Type IV	36.8 (1.45)	260 (10.20)	36 – 46 (1.40 – 2.00)	190 (7.50)	TBD	D	17
Type IV	36.8 (1.45)	450 (17.72)	36 – 46 (1.40 – 2.00)	300 (12.00)	TBD	D	18

7.2 Source of documents.

7.2.1 ASTM Standards are available from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959 or online at www.astm.org.

7.2.2 The Federal Acquisition Regulation may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402 or online at www.arnet.gov/far.

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7.3 National stock numbers (NSNs).

See 7.1.

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

- a. CID document number, revision, and CID PIN.
- b. Packaging requirements.
- c. Quantity required.

7.5 Definitions.

7.5.1 Greenwater loading. Mechanical loading due to wave slap. Greenwater loading applies to exterior or unsheltered equipment on ships or craft.

7.5.2 Stack exhaust gas. Emissions of combustion products from marine boilers or internal combustion engines. They may include oxides of nitrogen and sulfur and the corrosive products from their reaction with water vapor. It is normally encountered with mast-mounted equipment and equipment in the vicinity of small craft engine exhaust.

7.6 Key words.

- Corrosion protection
- Gel encapsulated
- Gel included moveable sleeve
- Sleeve

MILITARY INTERESTS

Custodians:

- Navy – SH
- Air Force – 99

Review Activities:

- DLA – CC

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Preparing Activity:

Navy - SH
(Project 2090-0116-000)