

[INCH-POUND]  
A-A-59163  
13 February 1998  
SUPERSEDING  
MIL-I-46852C  
22 June 1992

## COMMERCIAL ITEM DESCRIPTION

### INSULATION TAPE, ELECTRICAL, SELF ADHERING UNSUPPORTED SILICONE RUBBER

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 unsupported silicone rubber tape which will adhere to itself at room temperature. The tape is suitable for use at temperatures from -90°C to 260°C.

2. **CLASSIFICATION.** This CID covers insulation tape of the following classes and types:

Class 1 - Tapes conforming to inch-pound dimensions

Type I - Rectangular cross-section

Type II - Triangular cross-section with colored guidelines

Class 2 - Tapes conforming to metric dimensions

Type I-M - Rectangular cross-section

Type II-M - Triangular cross-section with colored guidelines

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent by letter to: Defense Supply Center Richmond (DSCR), ATTN: DSCR-VBD, 8000 Jefferson Davis Highway, Richmond, VA 23297-5610.

AMSC N/A

FSC 5970

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

A-A-59163

### 3. SALIENT CHARACTERISTICS

3.1 First article. When specified (see 7.3), a sample shall be subjected to first article inspection (see 7.6) in accordance with 5.3.

3.2 Material. The tape shall be made of a self-adjusting silicone rubber material which will cure into a homogeneous mass. When wrapped or plied on itself, it will cure to a homogeneous mass at room temperature (21°C to 27°C) in 48 hours or in 4 hours at 177°C.

3.3 Performance and product characteristics. The unsupported silicone rubber material shall have the following performance and product characteristics:

3.3.1 Dimensions and colored guidelines. The tape shall be furnished in the following thicknesses, widths, and colored guidelines as specified in tables I, II, III and IV.

TABLE I. Type I dimensions.

Thickness	0.010, 0.020, 0.030 inch $\pm$ 0.002 inch
Width	0.50, 0.75, 1.0, 1.25 and 1.50 inch

TABLE II. Type II dimensions and colored guidelines.

Thickness (Inches)	Width (Inches)	Colored Guidelines
0.020 $\pm$ 0.002	1.00	Blue
0.030 $\pm$ 0.002	1.00	White
0.040 $\pm$ 0.002	1.00	Green
0.050 $\pm$ 0.002	1.25	Yellow
0.060 $\pm$ 0.002	1.50	Blue
0.080 $\pm$ 0.002	1.50	White
Thickness edge, not less than 0.007 inch and not greater than 0.009 inch		

TABLE III. Type I-M dimensions.

Thickness	0.250, 0.500, 0.750 $\pm$ 0.050 millimeter (mm)
Width	15.0, 20.0, 25.0, 30.0, 40.0 $\pm$ .5 (mm)

TABLE IV. Type II-M dimensions and colored guidelines.

Thickness (mm)	Width (mm)	Colored Guidelines
0.500 ± 0.050	25.0 ± 0.5	Blue
0.750 ± 0.050	25.0 ± 0.5	White
1.000 ± 0.050	25.0 ± 0.5	Green
1.300 ± 0.050	32.0 ± 0.5	Yellow
1.500 ± 0.050	38.0 ± 0.5	Blue
2.000 ± 0.050	38.0 ± 0.5	White
Thickness edge, not less than 0.200 mm and not greater than 0.230 mm		

3.3.2 Rolls. Unless otherwise specified in the contract or purchase order, the tape shall be supplied in rolls of specified thickness and width (see 3.3.1), wrapped on a core with tape interleaved with quick-release film. The release film shall be of sufficient width to preclude tape edges from fusing during packaging, packing, and storage. Unless otherwise specified in the contract or purchase order, the tape shall be supplied in rolls not less than 11 meters (12 yards) in length.

TABLE V. Physical properties.

Property	Value Types I and II	Value Type I-M and Type II-M	Test Method/ Paragraph
Tensile strength (Pound force per square inch lbf/in <sup>2</sup> ) (Kilopascal, kPa)	700 minimum	4,800 minimum	ASTM D 3759 ASTM D 3759M
Elongation (Percent)	300 minimum	300 minimum	ASTM D 3759
Water absorption (Percent by weight)	3 maximum	3 maximum	FED-STD-601 Method 6251 (see 3.5)
Volume resistivity (Ohms/circular mil/foot) (Nanoohm meter)	1 x 10 <sup>13</sup>	1.7 x 10 <sup>13</sup>	ASTM D 1458 ASTM D 1458
Bond strength (1 inch width, pounds) (25 mm width, kilogram-force (kgf))	2.0 minimum	0.9 minimum	ASTM D 2148 ASTM D 2148

A-A-59163

TABLE V. Physical properties (continued).

Property	Value Types I and II	Value Type I-M and Type II-M	Test Method/ Paragraph
Dielectric strength (Volts/mil)* Tape Thickness			ASTM D 149 (Types I and I-M) ASTM D 2148 (Types II and II-M)
0.010 in 0.250 mm	400 minimum	400 minimum	
0.020 in 0.500 mm	400 minimum	400 minimum	
0.030 in 0.750 mm	400 minimum	400 minimum	
0.040 in 1.000 mm	300 minimum	300 minimum	
0.050 in 1.300 mm	275 minimum	275 minimum	
0.060 in 1.500 mm	250 minimum	250 minimum	
0.080 in 2.000 mm	200 minimum	200 minimum	

This requirement is expressed in volts per thousandths inch thickness for both metric and inch pound products.

3.4 Physical properties. The physical properties of the material shall be as specified in table V.

3.5 Preparation of test specimen for water absorption test. For types II and II-M, three strips of tape shall be lapped together as shown in figure 1 to provide material for a dumbbell shaped die cut test specimen with uniform thickness.

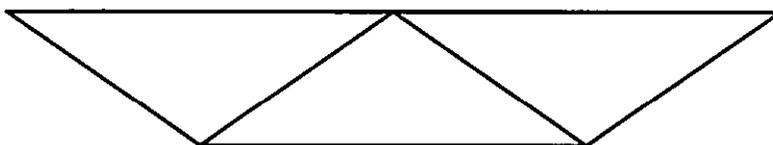


FIGURE 1. Preparation of tape specimen for water absorption test.

3.6 Storage life. Tape stored in unopened containers at a temperature of not greater than 37.3°C shall be capable of meeting all of the requirements of this specification for a period of 12 months from date of manufacture. (For storage life extension, see 7.5.)

3.7 Workmanship. The tape shall be uniform in quality and shall be free from splits, cracks, foreign material, and other defects that would affect life, serviceability, or appearance.

4. **REGULATORY REQUIREMENTS.** 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 product 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.

5.2 Market acceptability. The item offered must have been sold to the Government or commercial market.

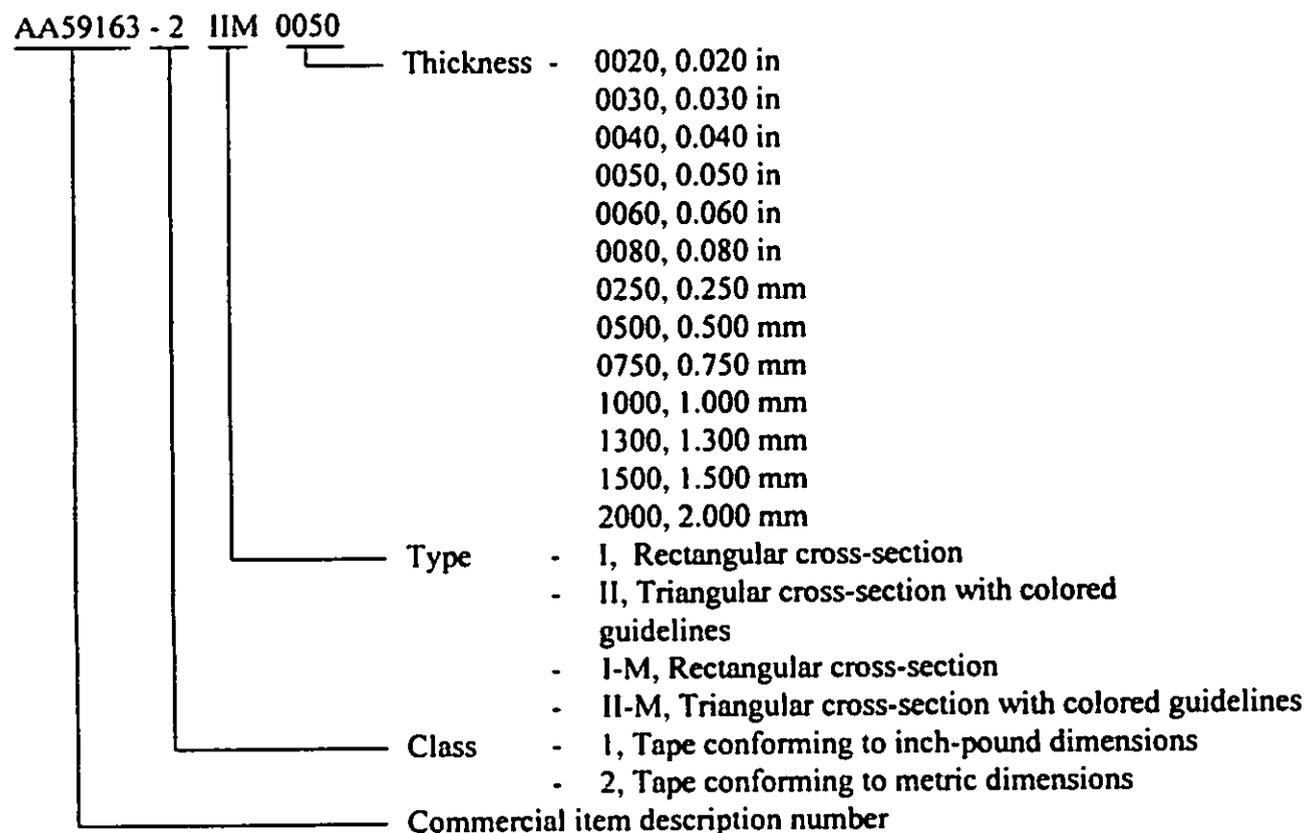
5.3 First article. When specified in the contract or purchase order, a sample shall be subjected to first article inspection in accordance with the tests specified in section 3.

6. **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.

This example describes a part numbering system for CID A-A-59163.



A-A-59163

7.2 Source of documents.

7.2.1 The Federal Acquisition Regulation (FAR) may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402-0001.

7.2.2 American Society for Testing and Materials (ASTM) standards are available from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

7.2.3 Federal standards are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

7.3 Ordering data. Acquisition documents must specify the following:

- a. Title, number, and date of this commercial item description.
- b. The type and class desired (see 2).
- c. Width, length, and thickness of tape (see 3.3.1 and 3.3.2).
- d. Packaging requirements (see 6).
- e. Whether a first article is required (see 3.1).

7.4 National stock number (NSN). The following NSNs correspond to this CID. This list may not be indicative of all possible NSNs associated with this document.

5970-00-177-1627  
5970-00-480-1329  
5970-00-839-0824  
5970-00-949-4846  
5970-00-955-9976  
5970-01-140-5672  
5970-01-147-3595  
5970-01-250-8756  
5970-01-263-3931  
5970-01-273-6030  
5970-01-286-7456  
5970-01-396-1601

7.5 Storage life extension. Tape which has exceeded storage life may be examined for compliance with paragraph 3.3, table V (physical properties). Acceptable inspection test results shall constitute storage life extension for an additional 6 months (see 3.6).

7.6 First article. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be a first article sample, a first production item, or a number of items. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bid 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.

**7.7 Sources of supply.** The following products are known to meet the requirements of this CID. Competition is not limited to these suppliers:

Arlon  
Silicone Technologies Division  
1100 Governor Lea Road  
Bear, DE 19071  
(800) 653-9333

3M Electrical Products Division  
3M Austin Center  
Building A130-4N-40  
6801 River Place Blvd.  
Austin, TX 78726-9000  
(800) 245-3573

Marian Rubber Products Co.  
1212 East Michigan Street  
Indianapolis, IN 46202-3500  
(317) 638-6525

Moxness Products Inc.  
1914 Indiana Street  
P.O. Box 085050  
Racine, WI 53408  
(800) 558-5706

**MILITARY INTERESTS:**

Custodians

Army - MI  
Air Force - 85  
DLA - GS

Reviewers

Air Force - 99  
DLA - DS

**CIVIL AGENCY COORDINATING ACTIVITIES:**

GSA - FSS

Preparing Activity:  
DLA - GS

(Project 5970-1146)