

INCH-POUND

A-A-59163A  
5 November 2010  
SUPERSEDING  
A-A-59163  
13 February 1998

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

2. **CLASSIFICATION.** The insulation tape shall be classified by the following classes and types, as specified (see [7.3\(b\)](#)):

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 IM - Rectangular cross-section

Type IIM - Triangular cross-section with colored guidelines

### 3. SALIENT CHARACTERISTICS

3.1 **First article.** When specified (see [7.3\(c\)](#)), a sample shall be subjected to first article inspection (see [7.5](#)) in accordance with [5.3](#).

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data that may improve this document should be sent to: [STDZNMGT@dla.mil](mailto:STDZNMGT@dla.mil) or Defense Logistics Agency Aviation VEB, 8000 Jefferson Davis Highway, Richmond, VA 23297-5616. Since contact information can change, you may want to verify the currency of this address information using the ASSIST database at <https://assist.daps.dla.mil/>.

## A-A-59163A

3.2 Material. The insulation 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 insulation 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 ±0.002 inch (in)
Width	0.50, 0.75, 1.00, 1.25, 1.50 inch

TABLE II. Type II dimensions and colored guidelines.

Thickness <sup>1 2</sup> (inch)	Width (inch)	Colored guidelines
0.020	1.00	Blue
0.030	1.00	White
0.040	1.00	Green
0.050	1.25	Yellow
0.060	1.50	Blue
0.080	1.50	White

<sup>1</sup> Thickness tolerance shall be ±0.002 inch.

<sup>2</sup> Thickness edge shall be not less than 0.007 inch and not greater than 0.009 inch.

TABLE III. Type IM dimensions.

Thickness	0.250, 0.500, 0.750 ±0.050 millimeter (mm)
Width	15.0, 20.0, 25.0, 30.0, 40.0 ±0.5 (mm)

TABLE IV. Type IIM dimensions and colored guidelines.

Thickness <sup>1 2</sup> (mm)	Width <sup>3</sup> (mm)	Colored guidelines
0.500	25.0	Blue
0.750	25.0	White
1.000	25.0	Green
1.300	32.0	Yellow
1.500	38.0	Blue
2.000	38.0	White

<sup>1</sup> Thickness tolerance shall be ±0.050 mm.

<sup>2</sup> Thickness edge shall be not less than 0.200 mm and not greater than 0.230 mm.

<sup>3</sup> Width tolerance shall be ±0.5 mm.

## A-A-59163A

3.3.2 Rolls. Unless otherwise specified (see 7.3(d)), the insulation tape shall be supplied in rolls of specified thickness and width (see 3.3.1) and wrapped on a core with insulation tape interleaved with quick-release film. The quick-release film shall be of sufficient width to preclude insulation tape edges from fusing during packaging, packing, and storage. Unless otherwise specified (see 7.3(d)), the insulation tape shall be supplied in rolls not less than 11 meters (12 yards) in length.

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

TABLE V. Physical properties.

Property	Value types I and II	Value types IM and IIM	Test method
Tensile strength, pound force per square inch (lbf/in <sup>2</sup> ) kilopascal (kPa)	700 minimum	4,800 minimum	ASTM D3759/ D3759M
Elongation, percent	300 minimum	300 minimum	ASTM D3759/ D3759M
Water absorption <sup>1</sup> , percent by weight	3 maximum	3 maximum	FED-STD-601, method 6251
Volume resistivity, ohms/circular mil/foot nanoohm meter	1 x 10 <sup>13</sup>	1.7 x 10 <sup>13</sup>	ASTM D1458
Bond strength, 1 inch width, pounds 25 mm width, kilogram-force (kgf)	2.0 minimum	0.9 minimum	ASTM D2148
Dielectric strength, volts/mil <sup>2</sup> tape thickness			ASTM D149 <sup>3</sup>
0.010 in 0.250 mm	400 minimum	400 minimum	ASTM D2148 <sup>4</sup>
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	

<sup>1</sup> See 3.5 for preparation of test specimen.

<sup>2</sup> This requirement is expressed in volts per thousandths inch thickness for both metric and inch-pound products.

<sup>3</sup> For types I and IM.

<sup>4</sup> For types II and IIM.

## A-A-59163A

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

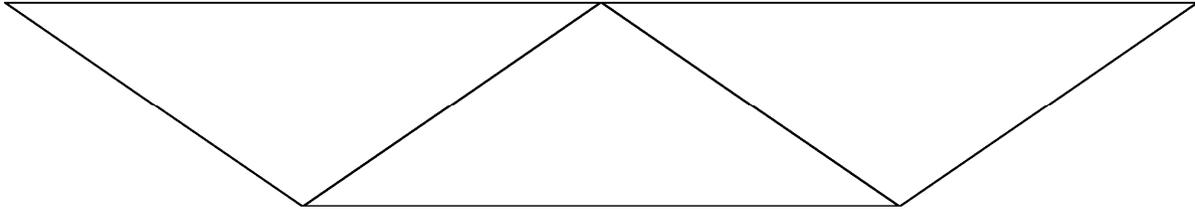


FIGURE 1. Preparation of insulation tape specimen for water absorption test.

3.6 Storage life. Insulation 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 [7.4](#).)

3.7 Workmanship. The insulation 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

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

5.2 Market acceptability. The products offered must have been previously sold either to the government or on the commercial market.

5.3 First article. When specified (see [7.3\(c\)](#)), a sample shall be subjected to first article inspection in accordance with the tests specified in section 3.

#### 6. PACKAGING

6.1 Preservation, packing, and marking. Preservation, packing, and marking shall be as specified in the acquisition order (see [7.3\(e\)](#)).



## A-A-59163A

7.2.3 ASTM standards. Copies of ASTM standards may be obtained from the ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959. Electronic copies may be obtained from <http://www.astm.org/>.

7.3 Ordering data. The acquisition order should specify the following information:

- a. CID document number, revision, and CID PIN.
- b. Class and type (see 2.).
- c. First article (see 3.1 and 5.3).
- d. When width, length, or thickness is other than specified (see 3.3.2).
- e. Preservation, packing, and marking (see 6.1).

7.4 Storage life extension. Insulation tape that has exceeded storage life may be examined for compliance with [table V](#). Acceptable test results shall validate storage life extension for an additional 6 months (see 3.6).

7.5 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.

7.6 Subject term (key word) listing.

Bond  
Cure  
Dielectric  
Lapped  
Plied  
Polymer  
Roll  
Self-adjusting  
Wrapped

A-A-59163A

MILITARY INTERESTS:

Custodians:

Army - MI

Air Force - 85

DLA - GS

Review Activity:

Air Force - 99

CIVIL AGENCY  
COORDINATING ACTIVITY:

GSA - FAS

Preparing Activity:

DLA - GS4

(Project 5970-2010-017)

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