



MIL-I-22444C (SHIPS)
9 December 1968
SUPERSEDING
MIL-I-22444B (SHIPS)
25 September 1967
(See 6.4 and 6.5)

MILITARY SPECIFICATION
INSULATION TAPE, ELECTRICAL, SELF BONDING,
SILICONE RUBBER TREATED BIAS WEAVE OR SINUSOIDAL WEAVE GLASS,
CABLE SPLICING, NAVAL SHIPBOARD

1. SCOPE

1.1 This specification covers silicone rubber treated bias weave or sinusoidal weave glass, self-bonding electrical insulation tape intended for splicing power and control cables in shipboard electrical installations.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of the specification to the extent specified herein.

SPECIFICATIONS

MILITARY

MIL-E-17555 - Electronic and Electrical Equipment, Accessories and Repair Parts; Packaging and Packing of.
MIL-I-19166 - Insulation Tape, Electrical, High-Temperature, Glass Fiber, Pressure-Sensitive.

STANDARD

MILITARY

MIL-STD-105 - Sampling Procedures and Tables for Inspection by Attributes.

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

3. REQUIREMENTS

3.1 Sample for first article inspection. Prior to beginning production, a sample, manufactured by production tools and processes, shall be tested as specified in 4.2 (see 6.3).

3.2 Material. Material shall be as specified herein or shall meet the performance requirements as specified herein. Insulation tape shall consist of bias sinusoidal woven glass cloth backing, the weave of which has been filled and coated uniformly on both sides, without pinholes or blemishes, with silicone rubber compound with self-bonding characteristics. As an alternate construction, the silicone rubber compound may be applied to the glass backing tape by an extrusion process and sealing the tape edge by extending the rubber compound approximately 1/32 inch beyond each edge of the glass tape. A separator tape shall be used between adjacent layers on the roll of tape to prevent bonding on the roll.

3.3 Rolls. Unless otherwise specified in the contract or order, the material shall be supplied in rolls on a 1-inch diameter core and shall be furnished in lengths of 20 yards per roll.

3.3.1 Splices. Splices in the cloth tape shall be smooth in appearance and the finished tape thickness shall not increase more than 0.002 inch in the splice area. The tensile strength of the finished tape splice shall be not less than 80 percent of the ultimate strength of an unspliced length of tape.

3.4 Thickness and width. Tape shall be furnished in the following thicknesses and widths, as specified (see 6.2).

FSC 5970



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Thickness
(Inch) (+ 0.002)
0.015 to 0.020
0.050

Width
(Inches) (+ 1/32 inch)
0.50
0.75
1.00
1.50

3.5 Tests on insulation tape.

3.5.1 Dielectric strength. The insulating tape, when tested as specified in 4.5.1.2, shall exhibit an average dielectric strength, after being conditioned for 96 hours at 23°C. and 96 percent relative humidity, of 500 volts per mil.

3.5.2 Tensile strength and elongation. Specimens of the insulating tapes, when tested as specified in 4.5.3, shall exhibit a tensile strength of not less than 40 pounds per inch of width and an ultimate elongation of not less than 15 percent.

3.5.3 Adhesion. Insulating tape, when tested as specified in 4.5.4, shall show a bonding strength of not less than 1 pound per inch of width.

3.5.4 Storage. The tape after storage under nominal conditions for periods of up to one year shall meet the requirements of this specification.

3.5.5 Identification of product. Tape shall be identified by marking of the interior packages in accordance with 5.1.2.

3.6 Workmanship. The workmanship shall be in accordance with high grade manufacturing practice for this type of product. The glass fiber backing shall not ravel and there shall be no adhesive transfer when the tape is unwound from the original roll.

4. QUALITY ASSURANCE PROVISIONS

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

4.2 First article inspection. First article inspection shall consist of the examination and tests specified in 4.4 and 4.5.

4.3 Sampling for quality conformance.

4.3.1 Inspection lot. All rolls of tape of the same width and thickness manufactured under essentially the same conditions within a period of 15 days and offered for delivery at the same time shall be considered a lot for purposes of inspection and tests.

4.3.2 Sampling for examination. A random sample of rolls shall be selected from each lot of material offered for examination of visual and dimensional characteristics in accordance with MIL-STD-105 at inspection level I and Acceptable Quality Level equal to 2.5 percent defective.

4.3.3 Sampling for quality conformance tests. A random sample of rolls shall be selected in accordance with table I and shall be subjected to the tests specified in 4.5. If any sample fails one or more of the tests, this shall be cause for rejection of the lot represented by the sample.