INCH-POUND

A-A-52083B
23 May 1998
SUPERSEDING
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1 October 1997

COMMERCIAL ITEM DESCRIPTION

TAPE, LACING AND TYING, GLASS

The General Services Administration has authorized the use of this commercial item description as a replacement for Type IV of MIL-T-43435B for all federal agencies.

1. SCOPE. This Commercial Item Description (CID) covers glass tape, flat braided, for lacing and tying.

2. CLASSIFICATION. Tape shall conform to the sizes and finishes as specified. (see 3.3 and 3.6)

2.1 Size. The size shall be identified as 1,2,3,4 or 5. (see Table 1)

2.2 Finish. The finish shall be identified as C, D or F. (see 3.6)

3. SALIENT CHARACTERISTICS.

3.1 Material. The yarn used in the fabrication of the tape shall be electrical grade, continuous filament, glass yarn having high insulation resistance, high dielectric strength, high resistance to aging and low moisture pick-up. The material shall be free from any alkali metal oxides, such as soda or potash, and from foreign particles, dirt, or other impurities.

3.2 Construction. The tape shall be a flat braid construction.

3.3 Physical Requirements. Tape shall conform to the requirements of Table 1.

TABLE 1: Tape, Lacing and Tying, Glass

Size	Width in Inches		Thickness in Inches		Breaking Strength
	Min	Max	Min	Max	(Lbs, min)
1	.203	.248	.013	.019	200
2	.099	.121	.013	.019	100
3	.077	.094	.013	.019	75
4	.054	.066	.013	.019	50
5	.045	.055	.013	.019	--

3.4 Elongation. Maximum elongation at breaking strength shall not be greater than 5% when tested as specified in Fed-Std-191 Method 4108. This test to be performed simultaneously with breaking strength. Elongation for size 5 is not rated.

3.5 Color. The color of this tape shall be natural. No other colors are available.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any other data which may improve this document should be sent to: Defense Industrial Supply Center, ATTN.: DISC-BBEE, 700 Robbins Avenue, Philadelphia, PA 19111-5096

3.6 Finish. A finish option shall be specified, in accordance with 3.6.1 through 3.6.3. Tape finishes shall not contain any mercury or copper. All finishes shall be able to be used freely in direct contact with insulated cable or wire.

3.6.1 Finish C - Synthetic rubber. Tape shall be uniformly impregnated with a synthetic rubber or elastomer finish. Treated tape shall contain 7-17% rubber by weight. (see 5.2.1)

3.6.2 Finish D - TFE-Fluorocarbon coating. Tape shall be uniformly impregnated before braiding. Treated tape shall contain 10-20% TFE-fluorocarbon by weight. (see 5.2.1)

3.6.3 Finish F - Silicone resin impregnated. Tape shall be uniformly impregnated, and shall contain 7-17% silicone resin material by weight. (see 5.2.1)

3.7 Knot Slip Resistance. (finish C and F only). Stress applied to a specimen made by joining two ends of the braided tape with a square knot shall result in the breakage of the tape specimen rather than the slippage or pulling out of the knot to the point of separation when tested as specified in 5.2.2. If application necessitates the need for finish D, an additional coat of synthetic elastomer may be added when knot holding characteristics are desired.

3.8 Put-up. Unless otherwise specified, the tape shall be furnished on parallel wind spools (reels) or universal wind tubes (holders). Size 1 and 2 tapes shall be put-up in a minimum of 250 yard lengths, and size 3, 4, and 5 tapes shall be put-up in a minimum of 500 yard lengths. The tape shall be free from twists, lumps, or projecting ends and shall be evenly wound so that each turn and layer is free from entanglement and twisting. There shall be no more than four pieces per reel or holder, and no piece shall be less than 50 yards in length.

3.9 Breaking Strength. Minimum breaking strength shall be as stated in Table 1 when tested as specified in Fed-Std-191 Method 4108.

3.10 Fungus Resistance. No tape shall show visible growth (to the naked eye) of fungus on the surface of the test specimens when tested as specified in Fed-Std-191 Method 5760.

3.11 Blocking. There shall be no visible damage or removal of the coatings on finish C, D and F, tapes when tested as specified in paragraph 5.2.3.

3.12 Accelerated Aging. When specified (see 7.4), finish C, D and F tapes shall show no evidence of stiffness, brittleness, softness, or tackiness when tested as specified in Fed-Std-191 Method 5852, except that the specimen shall be six inches in length by the full width of the tape.

3.13 Identification. Tape shall be tagged with a label or ticket containing at least the following information: CID part number, National Stock Number, date of manufacture, and manufacturer's name. When put-up or color is non-standard, the tag shall indicate the actual color or length.

4. REGULATORY REQUIREMENTS.

4.1 The offerer/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 products provided shall meet the salient characteristics of this commercial item description, conform to the producers 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 Inspection Requirements

5.2.1 Determination of Percentage of Finish. The percentage of finish C, D and F impregnating materials on the respective type tapes shall be determined during processing, by the manufacturer, by weighing an identical sample of tape or yarn (see 3.6), before and after the impregnating process. The test specimen shall be a minimum of 30 yards of tape or 120 yards of yarn as applicable. Weight (Length per pound) shall be determined in accordance with Method 4010 of FED- STD-191. The percentage of finish shall be calculated as follows:

$$\text{Percent Finish} \quad \frac{A-B}{B} \times 100$$

Where: A = Length per pound of untreated tape or yarn, as applicable.
B = Length per pound of treated tape or yarn, as applicable.

5.2.2 Determination of Knot Slip Resistance. The knot slip resistance of the tapes shall be determined in accordance with Fed-Std-191 Method 4108, except as modified herein. The test specimens shall be cut in half and then the two halves shall be firmly tied together with a square knot. The two protruding ends at the knot shall be cut so that one-half inch protrudes. The specimen shall be aligned so that the knot is approximately halfway between the clamps. The machine shall be operated until the knot slips or pulls out or the specimen breaks at or in proximity to the knot. Breaks closer than 1/2 inch of the jaws shall be discarded. Five good readings shall be obtained. If knot slippage is obtained on only one of five readings, an additional specimen shall be tested and if a good reading is obtained, the reading indicating knot slippage shall be discarded.

5.2.3 Determination of Blocking. Ten turns of the tape shall be wound on a one-quarter inch diameter clean metal mandrel under a two pound tension and the end secured through holes in the mandrel. Eight turns of tape shall then be wound on top of the first layer under the two pound tension and the ends secured as before. The wound mandrel shall then be placed in a temperature controlled oven at 70 $\pm$ 1^{o}C for two hours, and in such a manner that no part of the specimen comes in contact with the surface of the oven. The specimen shall then be removed and cooled at room temperature. After cooling, the outer layer shall be unwound and examined for evidence of damage to the coatings due to adhesion between layers of turns. The first layer shall be examined while still in place for similar evidence of adherence and damage.

6. PACKAGING.

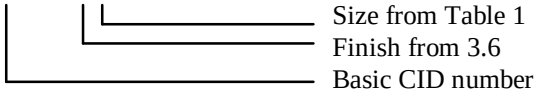
6.1 Preservation, packing and marking shall be as specified in the contract or order.

7. NOTES.

7.1 Intended use. The tape is intended for lacing and tying electrical wire and cable bundles. The application of an additional finish to glass tape with Finish D may be used when better knot holding characteristics are desired. Tape with finish C provides the best knot holding characteristics. Useful temperature range of glass tape is -100 F to 800 F.

7.2 Part Identification Number (PIN). The PIN shall consist of the basic CID number, followed by the finish code letter from 3.5, followed by the size number from Table 1.

PIN Example: AA52083- A-2



7.3 Source of Documents.

7.3.1 Federal Standards are available from the Superintendent of Documents, U.S. Government Printing Office, Washington DC, 20402.

7.4 Ordering Data.

a. Title, Number and Date of this Commercial Item Description.
b. Size and Finish required. (see 3.3 and 3.6)
c. Color, if other than specified. (see 3.5)
d. Put-up if other than specified. (see 3.8)
e. When accelerated aging is required. (see 3.12)
f. Selection of applicable levels of packaging and packing. (see 6)

7.5 National Stock Numbers (NSNs). The following is a list of NSNs assigned which correspond to this CID. This list may not be indicative of all possible NSNs associated with the CID.

NSN	Size	Type	Finish	Color
4020-00-823-6997	4	1	D	Natural
4020-00-100-9067	4	2	D	Natural
4020-01-354-7284	4	2	F	Natural
4020-01-411-2548	4	3	C	Natural
4020-00-492-3975	4	3	D	Natural
4020-00-053-5738	4	4	D	Natural
4020-00-123-8675	4	5	D	Natural

MILITARY INTERESTS:

CUSTODIANS:
Army - GL
Navy - SH
Air Force - 99

REVIEWERS:
Army - AR, CR, CR4, MD, MI
Navy - AS, MC, OS
Air Force - 82

CIVIL AGENCY COORDINATING ACTIVITIES:
GSA - FSS

PREPARING ACTIVITY:
DLA - IS

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