



Designation: D3006 – 10 (Reapproved 2017)

Standard Specification for Polyethylene Plastic Pressure-Sensitive Electrical Insulating Tape¹

This standard is issued under the fixed designation D3006; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This specification covers electrical insulating tape consisting of a backing made from polyethylene plastic film, coated on one side with a pressure-sensitive adhesive.

1.2 The values stated in SI units are the standard. The values given in parentheses are provided for information purposes only.

2. Referenced Documents

2.1 *ASTM Standards*:²

[D876 Test Methods for Nonrigid Vinyl Chloride Polymer Tubing Used for Electrical Insulation](#)

[D1000 Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications](#)

[D1711 Terminology Relating to Electrical Insulation](#)

3. Terminology

3.1 *Definitions*—For definitions of terms in this specification refer to Terminology [D1711](#).

4. Material

4.1 The backing shall be polyethylene, suitably compounded to meet the requirements of this specification. The backing shall be smooth and uniform. The tape edges shall be straight and unbroken.

4.2 The pressure-sensitive coating shall be smooth and uniform, and essentially free from lumps and bare spots. “Fish eyes” shall not be cause for rejection. There shall be no adhesive transfer when the tape is unwound from the roll.

¹ This specification is under the jurisdiction of ASTM Committee D09 on Electrical and Electronic Insulating Materials and is the direct responsibility of Subcommittee D09.07 on Electrical Insulating Materials.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard’s Document Summary page on the ASTM website.

5. Standard Rolls

5.1 The standard widths and lengths shall be selected from the following:

5.1.1 Widths:

mm	in.	mm	in.
6	1/4	12	1/2
9	3/8	15	5/8
19	3/4	30	1 1/4
22	7/8	38	1 1/2
25	1	50	2

Widths greater than 50 mm (2 in.) shall be agreed upon between the purchaser and the seller.

5.1.2 Lengths:

m	ft
6	20
20	66
33	108

5.1.3 Nonstandard widths and lengths are permissible if agreed to between the purchaser and seller.

6. Physical Requirements

6.1 The tape shall meet the requirements listed in [Table 1](#).

6.2 Black plastic backing shall be considered standard. Backing of a different color than black shall be specified on the purchase order.

7. Test Methods

7.1 The selection of rolls, conditioning, and testing shall be in accordance with Test Methods [D1000](#) except as noted.

7.2 The Penetration Test shall be performed in accordance with Test Methods [D876](#) except as follows: with no load on the rod, each specimen shall be inserted between the steel ball and the steel plate with the adhesive surface of the tape facing the plate. The tape shall be smooth against the plate and shall not be stretched.

8. Rejection

8.1 If the test results of any roll do not conform to the requirements prescribed in the specification, two additional rolls shall be selected and tested. If one of the two additional sample rolls also does not conform to the requirements, the lot may be rejected at the option of the purchaser.

*A Summary of Changes section appears at the end of this standard

TABLE 1 Requirements for Polyethylene Plastic Electrical Tape

Thickness, mm (in.) avg	0.241 ± 0.025 (0.0095 ± 0.0010)
Width, as specified, mm (in.)	± 0.8 (1/32)
Length, as specified, min, mm or m (ft or yd)	minus 1 %
Breaking strength, min, kN/m (lbf/in.) avg	2.8 (16)
Elongation, min, % avg	150
Dielectric breakdown, min, V avg	
Standard condition	10 000
Wet condition (96/23/96)	90 % of avg value obtained under standard condition
Adhesion, min, N/m (ozf/in.) avg	
Steel	175 (16)
Backing	175 (16)
Backing at – 7 °C	175 (16)
Unwind at – 7 °C, N/m (ozf/in.), avg	
Min	175 (16)
Max	1400 (128)
Penetration, min, °C avg	45
High-humidity insulation resistance, min, MΩ median	1 × 10 ⁵
Flagging, max, mm (in.), avg	13 (0.5)

9. Packaging and Package Marking

9.1 *Packaging*—The package shall withstand shipment and shall give the product ample protection against damage. The individual rolls shall not adhere to each other, or to the container.

9.2 *Marking*—Each package shall be marked with the name of the manufacturer, the manufacturer’s product number, and the width and length of the roll.

10. Keywords

10.1 electrical insulating tape; polyethylene pressure-sensitive tape; pressure-sensitive adhesive tape

SUMMARY OF CHANGES

Committee D09 has identified the location of selected changes to this specification since the last issue, D3006–99(2004), that may impact the use of this specification. (Approved May 1, 2010)

(I) Added new 7.2 and revised Table 1.

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