



Designation: D2301 – 10 (Reapproved 2017)

# Standard Specification for Vinyl Chloride Plastic Pressure-Sensitive Electrical Insulating Tape<sup>1</sup>

This standard is issued under the fixed designation D2301; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope\*

1.1 This specification covers electrical insulating tape consisting of a flexible backing made from vinyl chloride plastic 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*:<sup>2</sup>

[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. Classification

4.1 This specification covers two types as follows:

4.1.1 *Type I*—General-purpose tape, nominal thickness 0.18 mm (0.007 in.).

4.1.2 *Type II*—General-purpose tape, nominal thickness 0.25 mm (0.010 in.).

## 5. Materials and Manufacture

5.1 The backing shall be polyvinyl chloride plastic suitably compounded to meet the requirements of this specification. The backing shall be smooth and uniform. The tape edges shall be straight and unbroken.

<sup>1</sup> 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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<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

5.2 The pressure-sensitive adhesive coating shall be smooth and uniform and as free from lumps and bare spots as the best commercial practice will permit. There shall be no adhesive transfer when the tape is unwound from the roll.

5.3 Black plastic backing shall be considered standard. Other colors, opaque or transparent, are acceptable when specified.

## 6. Requirements

6.1 The tape shall meet the requirements given in [Table 1](#) for the type specified.

## 7. Standard Rolls

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

### 7.1.1 Widths:

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

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

### 7.1.2 Lengths:

m	ft
6	20
20	66
33	108

7.1.2.1 Lengths greater than 33 m (108 ft) shall be in multiples of 33 m. Additional lengths shall be agreed upon between the purchaser and seller.

## 8. Test Methods

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

## 9. Rejection

9.1 If the test results of any roll do not conform to the requirements prescribed in this 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 Vinyl Chloride Plastic Electrical Tape**

Requirements	Type I	Type II
Thickness, mm (in.) avg	0.178 ± 0.025 (0.0070 ± 0.0010)	0.254 ± 0.025 (0.0100 ± 0.0010)
Width, as specified, mm (in.)	±0.8 (±1/32)	±0.8 (±1/32)
Length Tolerance, %	-1	-1
Breaking strength, min, N/10 mm (lbf/in.) avg	27 (15)	36 (20)
Elongation, min, % avg	125	150
Dielectric breakdown, min. V avg:		
(a) Standard condition	7000	9000
(b) Wet condition (96/23/96)	90 % of original	90 % of original
Adhesion, min, N/10 mm (ozf/in.) avg:		
(a) Steel	2.4 (22)	2.4 (22)
(b) Backing	2.0 (18)	2.0 (18)
High-humidity insulation resistance, min, MΩ median	2 × 10 <sup>4</sup>	2 × 10 <sup>4</sup>
Flagging, max, mm (in.) avg	2.5 (0.10)	2.5 (0.10)
Flammability, s burning time (max)	4	4

## 10. Packaging and Package Marking

10.1 *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.

10.2 *Package Marking*—Each package shall be marked with the name of the manufacturer, the ASTM specification number, the type number, the thickness, the width, and the length on the roll.

## 11. Keywords

11.1 electrical insulating tape; plastic electrical tape; pressure-sensitive adhesive tape; vinyl chloride plastic tape

## SUMMARY OF CHANGES

Committee D09 has identified the location of selected changes to this specification since the last issue, D2301-93(2004), that may impact the use of this specification. (Approved May 1, 2010)

### (I) Revised 5.1 and Table 1.

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