



Designation: D1000 – 17

Standard Test Methods for Pressure-Sensitive Adhesive-Coated Tapes Used for Electrical and Electronic Applications¹

This standard is issued under the fixed designation D1000; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 These test methods cover procedures for testing pressure-sensitive adhesive-coated tapes to be used as electrical insulation. These tapes are classified as follows:

1.1.1 *Class 1*—Non-elastomeric backings made from materials such as:

Paper, flat or creped,
Fabric, uncoated or coated,
Cellulose ester films,
Polyethylene terephthalate (polyester) films,
Fluorocarbon polymer films,
Composite filament films,
Polyamide films,
Polyimide films, and
Combinations thereof.

1.1.2 *Class 2*—Elastomeric backings that are characterized by both high stretch and substantial recovery. These backings are made from materials such as:

Vinyl chloride and co-polymers,
Vinylidene chloride and co-polymers, and
Polyethylene and co-polymers.

1.2 Test laminates of Class 1 and Class 2 backings according to Class 1 test methods.

1.3 The procedures appear in the sections indicated below and in alphabetical order:

Adhesion Strength to Steel and Backing at Room Temperature	46 – 53
Adhesion Strength to Steel and Backing at Low Temperatures	46 – 53
Bond Strength After Solvent Immersion	110 – 115
Breaking Strength and Elongation at Room Temperature	37 – 45
Breaking Strength and Elongation at Low Temperatures	37 – 45
Conditioning	6 – 8
Curling and Twisting	140 – 146
Dielectric Breakdown Voltage	83 – 90
Effect of Accelerated Aging on High-Temperature Tapes	97 – 103
Flagging	66 – 76
Flammability	104 – 109
Hazards/Precautions	3
Insulation Resistance at High Humidity	91 – 96
Length of Tape in a Roll	28 – 36

¹ These test methods are under the jurisdiction of ASTM Committee D09 on Electrical and Electronic Insulating Materials and are the direct responsibility of Subcommittee D09.07 on Electrical Insulating Materials.

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Oil Resistance	116 – 122
Puncture Resistance	123 – 128
Resistance to Accelerated Aging (Heat and Moisture)	129 – 139
Sampling	4
Specimen Preparation	5
Thermosetting Properties	77 – 82
Thickness	21 – 27
Unwind Force at Room Temperature	54 – 65
Unwind Force at Low Temperatures	54 – 65
Width	11 – 20

NOTE 1—These procedures apply to both Class 1 and Class 2 tapes except as noted above.

1.4 This is a fire-test response standard (see Section 104).

1.5 The values stated in SI units are the standard, unless otherwise noted. If a value for measurement is followed by a value in inch-pound or English units in parentheses, it is likely that the second value will only be approximate and it is for information only. The first stated value is the preferred unit.

NOTE 2—These test methods are similar to IEC 60454–3, but may differ sometimes in some details.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.* For specific hazards see Section 3.

1.7 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

A666 Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar

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.