



Standard Test Methods for Varnished Cotton Fabrics Used for Electrical Insulation¹

This standard is issued under the fixed designation D295; 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 the testing of varnished cotton fabrics and varnished cotton fabric tapes (**Note 1**) to be used as electrical insulation and are directly applicable to both “straight-cut” and “bias-cut” materials, unless otherwise stated in the test method.

NOTE 1—Methods of testing varnished glass fabrics and tapes are given in Test Methods **D902**.

1.2 The procedures appear in the following order:

Procedures	Sections	ASTM Test Methods
Breaking Strength	20 to 27	...
Conditioning	5	...
Dielectric Breakdown Voltage	43 to 46	D149
Dielectric Breakdown Voltage Under Elongation	47 to 53	D149
Dissipation Factor and Permittivity	54 to 60	D150
Elongation	35 to 42	...
Resistance to Oil	68 to 73	D92
Selection of Test Specimens	4	...
Tear Resistance	28 to 34	D689
Thickness	6 to 10	D374
Thread Count	15 to 19	...
Volume Resistance	61 to 67	D257
Weight	11 to 14	...

1.3 The values stated in inch-pound units are to be regarded as the standard. The metric equivalents of inch-pound units may be approximate.

1.4 *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 precautionary statements, see **44.4**, **51.1**, **58.1**, and **65.1**.

NOTE 2—This standard resembles IEC 60394–2 in title only. The content is significantly different.

2. Referenced Documents

2.1 ASTM Standards:²

D92 Test Method for Flash and Fire Points by Cleveland Open Cup Tester

D149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies

D150 Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation

D257 Test Methods for DC Resistance or Conductance of Insulating Materials

D374 Test Methods for Thickness of Solid Electrical Insulation (Withdrawn 2013)³

D689 Test Method for Internal Tearing Resistance of Paper (Withdrawn 2009)³

D902 Test Methods for Flexible Resin-Coated Glass Fabrics and Glass Fabric Tapes Used for Electrical Insulation

D1711 Terminology Relating to Electrical Insulation

2.2 IEC Standard:

IEC 60394–2 Varnished Fabrics for Electrical Purposes — Part 2: Methods of Test⁴

3. Terminology

3.1 **Definitions**—For definitions of terms used in these test methods refer to Terminology **D1711**.

3.2 Definitions of Terms Specific to This Standard:

3.2.1 **weight**—of varnished cloth and varnished cloth tapes, the weight per unit area as determined in accordance with this test method. It is usually expressed in pound per square yard for a specified nominal thickness.

3.2.2 **threads per inch**—of varnished cloths, the count of the number of warp and filling yarns present in the base cloth per linear inch of width or length, respectively.

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 Flexible and Rigid 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.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from American National Standards Institute, 11 W 42nd St., New York, NY 10036.