



Standard Test Methods for Flexible Treated Sleeving Used for Electrical Insulation¹

This standard is issued under the fixed designation D350; 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 electrical insulating sleeving comprising a flexible tubular product made from a woven textile fibre base, such as cotton, rayon, nylon, or glass, thereafter impregnated, or coated, or impregnated and coated, with a suitable dielectric material.

1.2 The procedures appear in the following sections:

Procedures	Sections
Brittleness Temperature	18 to 21
Compatibility of Sleeving with Magnet Wire Insulation	45 to 59
Conditioning	6
Dielectric Breakdown Voltage	12 to 17
Dielectric Breakdown Voltage After Short-Time Aging	29 to 33
Dimensions	7 to 11
Effect of Push-Back After Heat Aging	73 to 78
Flammability	22 to 28
Hydrolytic Stability	66 to 72
Oil Resistance	34 to 37
Selection of Test Material	5
Solvent Resistance	60 to 65
Thermal Endurance	38 to 44

1.3 The values stated in inch-pound units, except for °C, are to be regarded as the standard. The values in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 This is a fire-test-response standard. See Sections 22 through 28, which are the procedures for flammability tests.

1.5 This standard measures and describes the response of materials, products, or assemblies to heat and flame under controlled conditions, but does not by itself incorporate all factors required for fire hazard or fire risk assessment of the materials, products or assemblies under actual fire conditions.

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 applica-*

bility of regulatory limitations prior to use. For specific hazard statements, see 45.2 and 63.1.1.

NOTE 1—This standard resembles IEC 60684-2, Specification for Flexible Insulating Sleeving—Part 2 Methods of Test, in a number of ways, but is not consistently similar throughout. The data obtained using either standard are not necessarily technically equivalent.

1.7 *Fire testing is inherently hazardous. Adequate safeguards for personnel and property shall be employed in conducting these tests.*

2. Referenced Documents

2.1 ASTM Standards:²

- D149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies
- D374 Test Methods for Thickness of Solid Electrical Insulation (Withdrawn 2013)³
- D471 Test Method for Rubber Property—Effect of Liquids
- D746 Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
- D876 Test Methods for Nonrigid Vinyl Chloride Polymer Tubing Used for Electrical Insulation
- D1711 Terminology Relating to Electrical Insulation
- D2307 Test Method for Thermal Endurance of Film-Insulated Round Magnet Wire
- D3487 Specification for Mineral Insulating Oil Used in Electrical Apparatus
- D3636 Practice for Sampling and Judging Quality of Solid Electrical Insulating Materials
- D5423 Specification for Forced-Convection Laboratory Ovens for Evaluation of Electrical Insulation
- D6054 Practice for Conditioning Electrical Insulating Materials for Testing (Withdrawn 2012)³
- E145 Specification for Gravity-Convection and Forced-Ventilation Ovens
- E176 Terminology of Fire Standards

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.