



Designation: D8355 – 21

Standard Test Methods for Flammability of Electrical Insulating Materials Used for Sleeving or Tubing¹

This standard is issued under the fixed designation D8355; 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.

NOTE—Subsection 1.2.1 was added and the yeardate was changed on March 31, 2021.

1. Scope

1.1 This is a fire-test-response standard.

1.2 This fire test response standard contains various tests applicable to electrical insulation materials used for sleeving or for tubing (including heat-shrinkable tubing).

1.2.1 Test methods C and D are applicable to heat-shrinkable tubing only.

1.3 Use the values stated in SI units in referee decisions; see IEEE/ASTM SI-10. The values given in parentheses after SI units are provided for information only and are not considered standard.

1.4 *This standard is used to measure and describe 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.*

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

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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

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.*

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 D09.17 on Fire and Thermal Properties.

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2. Referenced Documents

2.1 ASTM Standards:²

D350 Test Methods for Flexible Treated Sleeving Used for Electrical Insulation

D876 Test Methods for Nonrigid Vinyl Chloride Polymer Tubing Used for Electrical Insulation

D1711 Terminology Relating to Electrical Insulation

D2671 Test Methods for Heat-Shrinkable Tubing for Electrical Use

D2903 Specification for Crosslinked Chlorinated Polyolefin Heat-Shrinkable Tubing for Electrical Insulation

D3144 Specification for Crosslinked Poly(Vinylidene Fluoride) Heat-Shrinkable Tubing for Electrical Insulation

D3150 Specification for Crosslinked and Noncrosslinked Poly(Vinyl Chloride) Heat-Shrinkable Tubing for Electrical Insulation

D5025 Specification for Laboratory Burner Used for Small-Scale Burning Tests on Plastic Materials

D5207 Practice for Confirmation of 20-mm (50-W) and 125-mm (500-W) Test Flames for Small-Scale Burning Tests on Plastic Materials

E176 Terminology of Fire Standards

2.2 ISO Standard:³

ISO 13943 Fire Safety – Vocabulary

2.3 Federal Standard:⁴

PPP-T-45D Federal Specification for Tape; Paper, Gummed (Kraft)

2.4 UL Standards:⁵

UL 224 Extruded Insulated Tubing

UL 1441 Coated Electrical Sleeving

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 Available from International Organization for Standardization (ISO), ISO Central Secretariat, BIBC II, Chemin de Blandonnet 8, CP 401, 1214 Vernier, Geneva, Switzerland, <http://www.iso.org>.

⁴ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

⁵ Available from Underwriters Laboratories (UL), UL Headquarters, 333 Pfingsten Road, Northbrook, IL, 60062, <http://www.ul.com>.