



Standard Test Methods for Fire Tests of Fire-Resistive Barrier Systems for Electrical System Components¹

This standard is issued under the fixed designation E1725; 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.

ε¹ NOTE—Sections were rearranged editorially in December 2016.

1. Scope*

1.1 These test methods cover fire-test-response.

1.2 These fire-test-response test methods provide information on the temperatures recorded on the electrical system component within a fire-resistive barrier system during the period of exposure.

1.3 *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.*

1.4 Potentially important factors and fire characteristics not addressed by these test methods include, but are not limited to:

1.4.1 The performance of the fire-resistive barrier system constructed with components other than those tested.

1.4.2 An evaluation of the functionality of the electrical system within the fire-resistive barrier system.

1.4.3 An evaluation of the ampacity of the electrical system within the fire-resistive barrier system.

1.4.4 An evaluation of the smoke, toxic gases, corrosivity, or other products of heating.

1.4.5 A measurement of the flame spread characteristics over the surface of the fire-resistive barrier system.

1.4.6 An evaluation of through-penetration sealing methods.

1.4.7 Combustibility of materials in the fire-resistive barrier system or of the electrical system components.

1.4.8 The need for supports beyond those normally required.

1.4.9 Environmental conditions in the area of service.

1.5 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical

conversions to SI units that are provided for information only and are not considered standard.

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.*

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

E119 Test Methods for Fire Tests of Building Construction and Materials

E1529 Test Methods for Determining Effects of Large Hydrocarbon Pool Fires on Structural Members and Assemblies

3. Terminology

3.1 *Definitions:*

3.1.1 *air drop*—lengths of open run conductors or cables supported only at each end.

3.1.2 *electrical system components*—cable trays, conduits and other raceways, open run cables and conductors, cables, conductors, cabinets, and other components, as defined or used in the National Electrical Code, and air drops as defined in 3.1.1.

3.1.3 *fire-resistive barrier system*—a specific construction of devices, materials, or coatings installed around, or applied to, the electrical system components.

3.1.4 *specimen*—a construction consisting of electrical system components and a fire-resistive barrier system.

¹ These test methods are under the jurisdiction of ASTM Committee E05 on Fire Standards and are the direct responsibility of Subcommittee E05.11 on Fire Resistance.

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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.

*A Summary of Changes section appears at the end of this standard