



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

This standard is issued under the fixed designation E 1725; 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.

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 should be used to measure and describe the response of materials, products, or assemblies to heat and flame under controlled conditions and should not be used to describe or appraise the fire hazard or fire risk assessment which takes into account all of the factors which are pertinent to an assessment of the fire hazard or fire risk assessment of a particular end use.*

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 the standard. The SI units given in parentheses are for information only.

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 appro-*

priate safety and health practices and determine the applicability of regulatory limitations prior to use.

2. Referenced Documents

2.1 ASTM Standards:

E 119 Test Methods for Fire Tests of Building Construction and Materials²

E 176 Terminology of Fire Standards²

E 1529 Test Methods for Determining Effects of Large Hydrocarbon Pool Fires on Structural Members and Assemblies²

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.

3.1.5 *test assembly*—horizontal or vertical construction on which test specimens are to be mounted together with associated instrumentation.

4. Significance and Use

4.1 These fire-test-response test methods evaluate, under the specified test conditions, the ability of a fire-resistive barrier system to inhibit thermal transmission to the electrical system component within.

4.2 In these procedures, the specimens are subjected to one or more specific sets of laboratory test conditions. If different test conditions are substituted or the end-use conditions are changed, it may not be possible by or from these test methods

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 Construction Assemblies.

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² *Annual Book of ASTM Standards*, Vol 04.07.

