



Standard Test Method for Room Fire Test of Wall and Ceiling Materials and Assemblies¹

This standard is issued under the fixed designation E 2257; 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 This is a fire-test-response standard.

1.2 This test method is intended to evaluate, under specified fire-exposure conditions, the contribution to room fire growth provided by wall or ceiling materials and assemblies, or both. The method is not intended to evaluate the fire endurance of assemblies or fires originating in the wall assembly. The method provides a means to evaluate the effectiveness of thermal barriers in restricting the contribution of combustible materials in the wall assembly to fire growth in a room fire.

1.3 This test method, simulating a fire in the corner of a 2420 by 3630 mm (8 by 12 ft) room containing a single open doorway, provides a means to evaluate the relative performance of specified wall and ceiling materials or assemblies when they are used together in the same relationship within an enclosure, and simulating the manner in which they will be used.

1.4 This test method is intended to evaluate the contribution to fire growth provided by a surface product using a specified ignition source. It shall, however, be noted that the type, position and heat output of the ignition source will considerably influence fire growth. The thermal exposure conditions from the ignition source specified in this method will result in flashover during the 20 min duration for many common finish materials, in particular if specimens are mounted on the walls and the ceiling (standard configuration).

1.5 This test method provides a means for evaluating wall and ceiling finish materials and assemblies, including panels, tiles, boards, sprayed or brushed coatings, etc. This test method is not intended to evaluate flooring materials or furnishings.

1.6 This method shall be used in conjunction with Guide E 603, which covers instrumentation and the general effect of various parameters, and Guide E 2067, which deals with full-scale oxygen consumption calorimetry.

1.7 The values stated in SI units are to be regarded as the standard. The units given in parentheses are for information only.

1.8 The text of this standard references notes and footnotes which provide explanatory information. These notes and footnotes (excluding those in figures) shall not be considered as requirements of the standard.

1.9 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.

1.10 *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.*

2. Referenced Documents

2.1 ASTM Standards:

E 84 Test Method for Surface Burning Characteristics of Building Materials²

E 136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C²

E 603 Guide for Room Fire Experiments²

E 2067 Practice for Full-Scale Oxygen Consumption Calorimetry Fire Tests²

2.2 ISO Standards:

ISO 9705 Fire Tests—Reaction to Fire—Room Fire Test³

ISO 13943 Fire Safety—Vocabulary³

2.3 NFPA Standards:

NFPA 265 Standard Method of Tests for Evaluating Room Fire Growth Contribution of Textile Wall Coverings⁴

¹ This test method is under the jurisdiction of ASTM Committee E05 on Fire Standards and is the direct responsibility of Subcommittee E05.13 on Large Scale Fire Tests.

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

³ Available from International Organization for Standardization (ISO), 1 rue de Varembe, Case postale 56, CH-1211, Geneva 20, Switzerland.

⁴ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269-9101.