



Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C¹

This standard is issued under the fixed designation E2652; 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 reappraisal. A superscript epsilon (ε) indicates an editorial change since the last revision or reappraisal.

1. Scope*

1.1 This fire-test-response test method covers the determination under specified laboratory conditions of combustion characteristics of building materials.

1.2 Limitations of this fire-test response test method are shown below.

1.2.1 This test method does not apply to laminated or coated materials.

1.2.2 This test method is not suitable or satisfactory for materials that soften, flow, melt, intumesce or otherwise separate from the measuring thermocouple.

1.2.3 This test method does not provide a measure of an intrinsic property.

1.2.4 This test method does not provide a quantitative measure of heat generation or combustibility; it simply serves as a test method with selected (end point) measures of combustibility.

1.2.5 This test method does not measure the self-heating tendencies of materials.

1.2.6 In this test method materials are not being tested in the nature and form used in building applications. The test specimen consists of a small, specified volume that is either (1) cut from a thick sheet; (2) assembled from multiple thicknesses of thin sheets; or (3) placed in a container if composed of granular powder or loose fiber materials.

1.2.7 Results from this test method apply to the specific test apparatus and test conditions and are likely to vary when changes are made to one or more of the following: (1) the size, shape, and arrangement of the specimen; (2) the distribution of organic content; (3) the exposure temperature; (4) the air supply; (5) the location of thermocouples.

1.3 This test method references notes and footnotes that provide explanatory information. These notes and footnotes, excluding those in tables and figures, shall not be considered as requirements of this test method.

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

1.5 This test method is technically equivalent to ISO 1182 (see also [Annex A2](#) and [6.4.5](#)).

1.6 *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.*

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

1.8 *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:²

[E136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C](#)

[E176 Terminology of Fire Standards](#)

2.2 ISO Standards:³

[ISO 1182 Reaction to Fire Tests for Building Products – Non-combustibility Test](#)

[ISO 13943 Fire Safety — Vocabulary](#)

[ISO 5725-2:1994 Accuracy \(trueness and precision\) of Measured Methods and Results – Part 2: Basic Method for the Determination of Repeatability and Reproducibility of a Standard Measurement Method](#)

¹ This test method is under the jurisdiction of ASTM Committee E05 on Fire Standards and is the direct responsibility of Subcommittee E05.23 on Combustibility.

Current edition approved Jan. 1, 2016. Published February 2016. Originally approved in 2009. Last previous edition approved in 2012 as E2652–12. DOI: 10.1520/E2652-16.

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 American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.