



Standard Test Method for Determining the Corrosive Effect of Combustion Products Using the Cone Corrosimeter¹

This standard is issued under the fixed designation D5485; 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 fire-test-response standard measures the corrosive effect by loss of metal from the combustion products of materials, components, or products.

1.2 This test method provides corrosion results of product and material specimens limited to a maximum size of 100 by 100 mm in area and 50 mm thick.

1.3 Additional information regarding the targets, the test conditions, and test limitations is provided in the annex.

1.4 The results of this test method have not been investigated with respect to correlation to actual fires.

1.5 An ISO standard exists, as developed by ISO TC 61 (Plastics), subcommittee 4 (on burning behavior), which is technically very similar to this test method and is designated ISO 11907-4.

1.6 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard. (See [SI10](#))

1.7 *This standard measures and describes 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.*

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

1.9 *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.* For specific hazard statements, see Section 7.

¹ This test method is under the jurisdiction of ASTM Committee D09 on Electrical and Electronic Insulating Materials and is the direct responsibility of Subcommittee D09.17 on Fire and Thermal Properties.

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2. Referenced Documents

2.1 ASTM Standards:²

[D618 Practice for Conditioning Plastics for Testing](#)

[D1711 Terminology Relating to Electrical Insulation](#)

[D6113 Test Method for Using a Cone Calorimeter to Determine Fire-Test-Response Characteristics of Insulating Materials Contained in Electrical or Optical Fiber Cables](#)

[E176 Terminology of Fire Standards](#)

[E1354 Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter](#)

[IEEE/ASTM SI-10 Standard for Use of the International System of Units \(SI\): The Modern Metric System](#)

2.2 ISO Standards³

[ISO 11907-4 Plastics—Smoke Generation—Determination of the Corrosivity of Fire Effluents—Part 4: Dynamic Decomposition Method Using a Conical Radiant Heater](#)

2.3 Other Document:

[OSHA 191.1450 Occupational Exposure to Hazard Chemicals in Laboratories⁴](#)

3. Terminology

3.1 Definitions:

3.1.1 For definitions of terms used in this test method, refer to Terminologies [E176](#) and [D1711](#).

3.2 Definitions of Terms Specific to This Standard:

3.2.1 *cone corrosimeter, n*—equipment used to determine corrosion in this test method.

3.2.2 *corrosion-by-metal-loss, n*—loss of metal of a target expressed as reduction of thickness of the target metal.

3.2.3 *exposure chamber, n*—enclosure in which a target is exposed to combustion products.

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), 1, ch. de la Voie-Creuse, Case postale 56, CH-1211, Geneva 20, Switzerland, <http://www.iso.ch>.

⁴ Available from Occupational Safety and Health Administration (OSHA)/U.S. Department of Labor, 200 Constitution Ave., NW, Washington, DC 20210, <http://www.osha.gov>.