



## Standard Practice for Ignition Sources<sup>1</sup>

This standard is issued under the fixed designation E3020; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

### 1. Scope

1.1 This practice describes a series of ignition sources that have been used and that are potentially applicable to assessing fire-test-response characteristics resulting from the ignition of materials, products, or assemblies.

1.2 This practice does not identify which of the ignition sources described is applicable to any specific use since that is a function of the associated fire hazard (see also 5.2).

1.3 This practice is not necessarily comprehensive and it is possible that other applicable ignition sources exist (see also 5.3).

1.4 This practice describes both flaming and non-flaming ignition sources, since the outcome of a non-flaming ignition can be the eventual flaming ignition of these materials or products (see also 4.2).

1.5 This practice does not provide pass/fail criteria that can be used as a regulatory tool.

1.6 This fire standard cannot be used to provide quantitative measures.

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

1.8 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.

1.9 This practice contains notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered requirements of the standard.

1.10 The values stated in SI units are to be regarded as standard in referee decisions. No other units of measurement are included in this standard. See [IEEE/ASTM SI 10](#) for further details.

<sup>1</sup> This practice is under the jurisdiction of ASTM Committee E05 on Fire Standards and is the direct responsibility of Subcommittee E05.33 on Fire Safety Engineering.

Current edition approved Sept. 1, 2016. Published October 2016. Originally approved in 2015. Last previous edition approved in 2016 as E3020-16. DOI: 10.1520/E3020-16A.

1.11 *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:<sup>2</sup>

- D635 Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
- D1929 Test Method for Determining Ignition Temperature of Plastics
- D3675 Test Method for Surface Flammability of Flexible Cellular Materials Using a Radiant Heat Energy Source
- D3874 Test Method for Ignition of Materials by Hot Wire Sources
- D5025 Specification for Laboratory Burner Used for Small-Scale Burning Tests on Plastic Materials
- D5207 Practice for Confirmation of 20-mm (50-W) and 125-mm (500-W) Test Flames for Small-Scale Burning Tests on Plastic Materials
- D5424 Test Method for Smoke Obscuration of Insulating Materials Contained in Electrical or Optical Fiber Cables When Burning in a Vertical Cable Tray Configuration
- D5537 Test Method for Heat Release, Flame Spread, Smoke Obscuration, and Mass Loss Testing of Insulating Materials Contained in Electrical or Optical Fiber Cables When Burning in a Vertical Cable Tray Configuration
- D6194 Test Method for Glow-Wire Ignition of Materials
- E84 Test Method for Surface Burning Characteristics of Building Materials
- E108 Test Methods for Fire Tests of Roof Coverings
- E136 Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C
- E162 Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source
- E176 Terminology of Fire Standards
- E648 Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.