



Standard Guide for Development of Fire-Risk-Assessment Standards¹

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1. Scope

1.1 This guide covers the development of fire-risk-assessment standards.

1.2 This guide is directed toward development of standards that will provide procedures for assessing fire risks harmful to people, property, or the environment.

1.3 *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.*

1.4 *This standard is used to establish a means of combining the potential for harm in fire scenarios with the probabilities of occurrence of those scenarios. Assessment of fire risk using this standard depends upon many factors, including the manner in which the user selects scenarios and uses them to represent all scenarios relevant to the application. This standard cannot be used to assess fire risk if any specifications are different from those contained in the standard.*

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

2. Referenced Documents

2.1 ASTM Standards:²

E176 Terminology of Fire Standards

E1546 Guide for Development of Fire-Hazard-Assessment Standards

2.2 Other Documents:

SFPE Engineering Guide to Performance-Based Fire Protection, Society of Fire Protection Engineers and NFPA, Quincy, MA, 2000³

ISO 13943 Fire Safety – Vocabulary⁴

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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 NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471.

⁴ Available from International Organization for Standardization (ISO), 1 rue de Varembe, Case postale 56, CH-1211, Geneva 20, Switzerland, <http://www.iso.ch>.

3. Terminology

3.1 *Definitions*—See E176, Terminology of Fire Standards and ISO 13943, Fire Safety – Vocabulary. In case of conflict, the definitions in Terminology E176 shall prevail E176.

4. Significance and Use

4.1 This guide is intended for use by those undertaking the development of fire-risk-assessment standards. Such standards are expected to be useful to manufacturers, architects, specification writers, and authorities having jurisdiction.

4.2 As a guide, this document provides information on an approach to the development of a fire-risk-assessment standard; fixed procedures are not established. Limitations of data, available tests and models, and scientific knowledge can constitute significant constraints on the fire-risk-assessment procedure and associated standard.

4.3 While the focus of this guide is on developing fire-risk-assessment standards for products, the general concepts presented also can be applied to processes, activities, occupancies, and buildings.

5. Key Elements

5.1 This guide uses as its key elements the following:

5.1.1 The purpose of a fire-risk-assessment standard is to provide a standardized procedure for assembling a compilation of information relevant to the fire risk of a product under specific conditions of use.

5.1.2 The information assembled shall be relevant to the purpose of assessing the fire risk of the specific designated product within the range of all relevant fire scenarios.

5.1.3 The information assembled shall be explicit and quantitative. It shall provide a sufficiently thorough examination of the product's fire risk under the conditions defined by the scope of the specific standard so as to permit valid choices and decisions with respect to the fire risk of that product.

5.1.4 A persuasive scientific case must be made in the documentation of a specific fire-risk-assessment standard that the procedures, data, and risk measures specified by the standard will address questions about a product's fire risk with sufficient accuracy and validity that a more thorough assessment procedure would not materially alter any decisions that are to be made based on the standard. If such a case cannot be made for all products to be addressed, then the risk assessment