



Standard Guide for Development of Fire-Hazard-Assessment Standards¹

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1. Scope

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

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

1.3 Fire-hazard assessment and fire-risk assessment are both procedures for assessing the potential for harm caused by something—the subject of the assessment—when it is involved in fire, where the involvement in fire is assessed relative to a number of defined fire scenarios.

1.4 Both fire-hazard assessment and fire-risk assessment provide information that can be used to address a larger group of fire scenarios. Fire-hazard assessment provides information on the maximum potential for harm that can be caused by the fire scenarios that are analyzed or by any less severe fire scenarios. Fire-risk assessment uses information on the relative likelihood of the fire scenarios that are analyzed and the additional fire scenarios that each analyzed scenario represents. In these two ways, fire-hazard assessment and fire-risk assessment allow the user to support certain statements about the potential for harm caused by something when it is involved in fire, generally.

1.5 Fire-hazard assessment is appropriate when the goal is to characterize maximum potential for harm under worst-case conditions. Fire-risk assessment is appropriate when the goal is to characterize overall risk (average severity) or to characterize the likelihood of worst-case outcomes. It is important that the user select the appropriate type of assessment procedure for the statements the user wants to support.

1.6 Fire-hazard assessment is addressed in this guide and fire-risk assessment is addressed in Guide E1776.

1.7 *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 appro-*

priate safety and health practices and determine the applicability of regulatory limitations prior to use.

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

1.9 This standard is used to predict or provide a quantitative measure of the fire hazard from a specified set of fire conditions involving specific materials, products, or assemblies. This assessment does not necessarily predict the hazard of actual fires which involve conditions other than those assumed in the analysis.

2. Referenced Documents

2.1 ASTM Standards:²

D2859 Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials

E176 Terminology of Fire Standards

E603 Guide for Room Fire Experiments

E648 Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source

E1354 Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter

E1678 Test Method for Measuring Smoke Toxicity for Use in Fire Hazard Analysis

E1776 Guide for Development of Fire-Risk-Assessment Standards

2.2 ISO Standards:³

ISO 13943 Fire Safety – Vocabulary

2.3 NFPA Standards:⁴

NFPA 101 Code for Safety to Life from Fire in Buildings and Structures

NFPA 901 Uniform Coding for Fire Protection

2.4 SFPE Standards:⁵

SFPE Engineering Guide to Performance-Based Fire Protection

¹ This guide is under the jurisdiction of ASTM Committee E05 on Fire Standards and is the direct responsibility of Subcommittee E05.33 on Fire Safety Engineering.

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

⁴ Available from National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471, <http://www.nfpa.org>.

⁵ Available from Society of Fire Protection Engineers (SFPE), 7315 Wisconsin Ave., Suite 620E, Bethesda, MD 20814, <http://www.sfppe.org>.