



Standard Guide for Selection of Fire Test Methods for the Assessment of Upholstered Furnishings in Detention and Correctional Facilities¹

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1. Scope

1.1 This is a fire-test-response guide.

1.2 This guide is intended to provide guidance for the selection of test methods that are applicable to determining fire-test-response characteristics of upholstered furniture items contained within a detention cell.

1.3 This guide is intended for use by those interested in assessing the fire properties of the upholstery products and their component materials or composites, within cells and other areas (such as isolation lounges) of detention and correctional occupancies.

1.4 This guide includes standard test methods promulgated by ASTM, NFPA, Underwriters Laboratories, trade associations and government agencies and other proposed test methods. It does not include industrial materials specification tests. The guide indicates some means by which modifications of standard test methods lead to potential achievement of certain testing goals.

1.5 The values stated in SI units are to be regarded as standard; see [IEEE/ASTM SI 10](#) for further details. The units given in parentheses are for information only. Some individual standards referenced use inch-pound units for referee decisions.

1.6 This guide contains four types of test methods, namely: (1) generic small-scale methods, (2) specific applications of small-scale test methods to particular products or composites of products, associated with upholstery items, (3) real-scale test methods where actual upholstery products are exposed to heat or flame, and (4) guides explaining the concepts involved with room-scale testing.

1.7 The main fire-test-response characteristics investigated in this guide are: ignitability, ease of extinction, flame spread, heat release, smoke obscuration and toxic potency of smoke.

1.8 This guide 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.

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

1.10 *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

[D123 Terminology Relating to Textiles](#)

[D1929 Test Method for Determining Ignition Temperature of Plastics](#)

[D2863 Test Method for Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics \(Oxygen Index\)](#)

[D3675 Test Method for Surface Flammability of Flexible Cellular Materials Using a Radiant Heat Energy Source](#)

[E162 Test Method for Surface Flammability of Materials Using a Radiant Heat Energy Source](#)

[E176 Terminology of Fire Standards](#)

[E603 Guide for Room Fire Experiments](#)

[E662 Test Method for Specific Optical Density of Smoke Generated by Solid Materials](#)

[E906 Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using a Thermopile Method](#)

[E1321 Test Method for Determining Material Ignition and Flame Spread Properties](#)

¹ This guide is under the jurisdiction of ASTM Committee [F33](#) on Detention and Correctional Facilities and is the direct responsibility of Subcommittee [F33.05](#) on Furnishings and Equipment.

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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.