

NFPA®

260

**Standard Methods of
Tests and Classification System
for Cigarette Ignition Resistance
of Components of Upholstered
Furniture**

2019



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NFPA® 260

Standard Methods of

Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture

2019 Edition

This edition of NFPA 260, *Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture*, was prepared by the Technical Committee on Fire Tests. It was issued by the Standards Council on June 23, 2018, with an effective date of July 13, 2018, and supersedes all previous editions.

This edition of NFPA 260 was approved as an American National Standard on July 13, 2018.

Origin and Development of NFPA 260

Regulation of the manufacture of furniture has been a subject of research and debate since 1967, when the Flammable Fabrics Act was amended by Congress to include products in addition to wearing apparel and home textiles that might constitute an unreasonable flammability risk. The National Bureau of Standards (NBS), now the National Institute of Standards and Technology (NIST), began funding laboratory research on the subject in 1968. With its formation in 1973, the U.S. Consumer Product Safety Commission (CPSC) became the government agency responsible for administration of the Flammable Fabrics Act, including the adoption of any program or standard regulating upholstered furniture. The NBS retained responsibility for designing test methods related to flammable fabrics.

In 1976, the NBS submitted a draft to the CPSC for a proposed cigarette ignition resistance standard for upholstered furniture. Shortly thereafter, however, the CPSC was reorganized into separate program areas. This was followed by nearly a year's worth of study on its children's sleepwear standards, which was prompted by findings that a chemical used in sleepwear to make it flame-retardant might be carcinogenic. In November 1978, the CPSC staff, after modifying the originally proposed NBS standard on upholstered furniture, recommended to the CPSC commissioners that they publish the proposed standard.

In December 1978, at an informal meeting during which the CPSC asked that comments be submitted before publishing the final version of the standard, the upholstered furniture industry proposed its own voluntary program, the Upholstered Furniture Action Council (UFAC) Voluntary Action Program.

The UFAC voluntary program was adopted in April 1979. The 1983 edition of this standard (then NFPA 260A) was developed subsequent to that date by the Technical Committee on Fire Tests and drew heavily on the UFAC test method for components of upholstered furniture.

The 1986 edition brought the document into substantial agreement with the UFAC test method. The 1989 edition was renumbered as NFPA 260 and included refinements for further agreement with the UFAC test method.

The 1994 edition of this standard provided further refinements that reflected minor changes and editorial clarification. Those changes involved current definitions and technology used within the upholstered furniture industry.

The 1998 edition added a clarification defining the pretest cigarette burn length.

For the 2003 edition, the chapter layout of NFPA 260 was reorganized to meet the *Manual of Style for NFPA Technical Committee Documents*.

The 2009 edition contained mainly editorial revisions.

In 2013, the standard cigarette ignition source was replaced with an SRM 1196 (NIST) cigarette.

The 2019 edition includes substantial revisions to the standard cover fabric and the foam substrate cited in Chapter 4.

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NFPA 260

Standard Methods of

Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture

2019 Edition

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex C. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex C.

Chapter 1 Administration

1.1 Scope.

1.1.1* The tests described in this document apply to upholstered furniture components that are tested in a standard, defined composite.

1.1.2 These tests shall apply to cover fabrics, interior fabrics, welt cords, decking materials, barrier materials, and filling/padding materials including, but not limited to, battings of natural or man-made fibers, foamed or cellular filling materials, resilient pads of natural or man-made fibers, and loose particulate filling materials such as shredded polyurethane foam or feathers and down.

1.2 Purpose.

1.2.1 These test methods are designed to evaluate ignition resistance of upholstered furniture when exposed to smoldering cigarettes under specified conditions.

1.2.2 It is the intent of this standard to provide tests to determine whether covered upholstered furniture components such as cover fabrics, welt cords, decking materials, interior fabrics, and filling/padding materials are relatively resistant to ignition by smoldering cigarettes.

1.2.3* This standard establishes a classification system for determining the resistance of upholstered furniture components to cigarette ignition.

1.3 Application.

1.3.1 Tests specified by this standard are intended to measure the performance of upholstered furniture components under conditions of exposure to a smoldering cigarette.

1.3.2 Tests specified by this standard shall not be used to measure the performance of upholstered furniture under conditions of open flame exposure, and do not indicate whether the furniture will resist the propagation of flame under severe fire exposure or when tested in a manner that differs substantially from the test standard.

1.3.3 The test results obtained with a material component tested in a given mock-up, in accordance with this standard, do not necessarily indicate the performance of the same material component in the form of other geometric configurations, such as full-size furniture.

1.3.4 Tests specified by this standard shall be used to measure and describe the response of materials, products, or assemblies to a smoldering cigarette under controlled laboratory conditions, and do not necessarily describe or appraise the fire hazard or fire risk of materials, products, or furniture assemblies under actual fire conditions.

1.3.5 This standard is intended to assist in component selection and composite design for upholstered furniture in order to achieve a high level of resistance to cigarette ignition.

1.3.6 The effects of aging on components and on composites made from components have not been studied. As a result, the test methods contained in this standard might not predict changes caused by aging or contamination during normal use.

1.4 Test Selection.

1.4.1 All outer cover fabrics shall be subjected to the cover fabric test.

1.4.2 All interior fabrics used in intimate contact with outer fabrics shall be subjected to the interior fabric test.

1.4.3 All welt cord shall be subjected to the welt cord test.

1.4.4 All material used under the cover fabric in seats or within inside vertical walls (inside arms and inside backs) shall be subjected to the filling/padding component test.

1.4.5 Any material used in the deck under loose cushions shall be subjected to the decking materials test.

1.4.6 Any material intended to serve as a barrier between Class II cover fabrics and conventional polyurethane foam in a seat shall be subjected to the barrier materials test.

1.5* Precision. A repeatability and reproducibility study was conducted on the test methods of NFPA 260.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

2.2 NFPA Publications. (Reserved)

2.3 Other Publications.

2.3.1 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959. www.astm.org.

ASTM D737, *Standard Test Method for Air Permeability of Textile Fabrics*, 2016.

ASTM D3574, *Standard Test Methods for Flexible Cellular Materials — Slab, Bonded, and Molded Urethane Foams*, 2017.

2.3.2 GSA Publications. U.S. General Services Administration, 1800 F Street, NW, Washington, DC 20405.

Federal Specification CCC-C-436E, *Cloth, Ticking, Twill, Cotton: Type I*, Feb 14, 1986.

2.3.3 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections. (Reserved)

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1 Shall. Indicates a mandatory requirement.

3.2.2 Should. Indicates a recommendation or that which is advised but not required.

3.2.3 Standard. An NFPA Standard, the main text of which contains only mandatory provisions using the word “shall” to indicate requirements and that is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions are not to be considered a part of the requirements of a standard and shall be located in an appendix, annex, footnote, informational note, or other means as permitted in the NFPA Manuals of Style. When used in a generic sense, such as in the phrase “standards development process” or “standards development activities,” the term “standards” includes all NFPA Standards, including Codes, Standards, Recommended Practices, and Guides.

3.3 General Definitions.

3.3.1 Barrier/Barrier Fabric. The fabric or other material placed directly under the cover fabric when Class II cover fabric is used.

3.3.2 Char. Carbonaceous material formed by pyrolysis or incomplete combustion.

3.3.3 Filling Direction. In woven fabrics, that direction perpendicular to the warp direction.

3.3.4 Ignition. Continuous, self-sustaining, smoldering combustion of upholstered furniture substrates after exposure to burning cigarettes.

3.3.4.1* Obvious Ignition. Pronounced, continuous, and self-sustaining combustion of the test system.

3.3.5* Machine Direction. In the case of nonwoven or film-type materials, that direction parallel to the longest dimension of the roll goods.

3.3.6 Sample. Material being tested.

3.3.7 Selvage. The outermost edge of the width of the fabric.

3.3.8 Specimen. Individual pieces of a sample used in a single test assembly.

3.3.9 Warp Direction. In woven textiles, that direction on the roll of fabric that is parallel to the selvages.

3.3.10 Welt. The cord or piping sewn into the seam or border edge of a cushion, pillow, arm, or back of a furniture item.

Chapter 4 Test Apparatus

4.1 Mini-Mock-Up Tester.

4.1.1 The mini-mock-up tester shall consist of a base with a centrally located guide and a stationary vertical panel, a movable horizontal carriage, and a removable vertical support panel as shown in Figure 4.1.1.

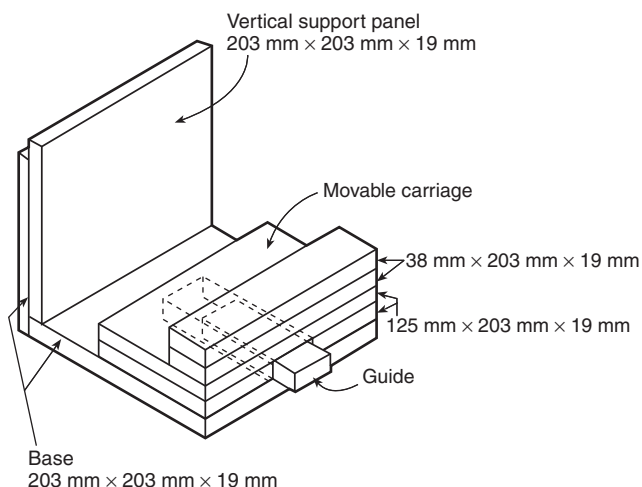


FIGURE 4.1.1 Mini-Mock-Up Tester.