Submitter: Technical Committee Furnishings and Contents

Recommendation: 10.2.1.2 The provisions of Section 10.2.1.1 shall not apply to materials having a total thickness of less than 1/28 in (0.9 mm) that are applied directly to the surface of walls and ceilings in a total thickness of less than 1/28 in. (0.9 mm) shall not be considered interior finish and shall be exempt from tests simulating actual installation if both of the following conditions are met:

(a) The wall or ceiling surface is a noncombustible or limited combustible material.

(b) The materials applied meet the requirements of Class A interior wall or ceiling finish when tested in accordance with 10.2.3 using fiber cement board as the substrate material.

10.2.1.3 If a material having a total thickness of less than 1/28 in (0.9mm) is being introduced on a surface that is not noncombustible or limited combustible, the provisions of 10.2.1.1 shall apply.

Statement: This section is intended to avoid the need to test very thin materials (such as the paper covering on gypsum board or other thin layers) applied directly to noncombustible surfaces. That is very reasonable, since very thin layers will not add a significant level of fire safety to a surface when there is no significant flame spread from the substrate itself. Unfortunately, however, this section has been used as the excuse for applying facings or veneers to wood surfaces and having them exempted. In that case the interpretation of this section results in the use of materials where there is no fire testing of the facing or veneer and no fire testing of the composite system (i.e. the facing or veneer and the wood backing).

If the surface is an untreated wood surface (with a typical flame spread index of 100-200), adding a combustible facing or veneer (and the corresponding adhesive) is likely to increase the flame spread index to exceed 200 and thus to go from a Class C to an unclassified material. If the surface is a fire-retardant-treated wood (FRTW) surface (which always has a flame spread index of less than 25), the effect of adding a combustible facing or veneer (which is not composed of FRTW) together with the corresponding adhesive, is virtually guaranteed to increase the flame spread index so as to exceed 25 and thus to go from a material classified as a Class A material to one classified as a Class B or worse. Note that specific test results cannot be presented because the available information is based on proprietary tests.

Please note that this code change proposal would not affect gypsum board as it is a limited combustible material. New Section 10.2.1.3 provides guidance for those materials not meeting the conditions of Section 10.2.1.2.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

10.2.2* Use of Interior Finishes.

10.2.2.1 Requirements for interior wall and ceiling finish shall apply as follows:

(1) Where specified elsewhere in this Code for specific occupancies (see Chapter 7 and Chapters 11 through 43)

(2) As specified in 10.2.4 through 10.2.6.

10.2.2.2* Requirements for interior floor finish shall comply with Section 10.2.7 apply under any of the following conditions:

(1) Where floor finish requirements are specified elsewhere in the Code

(2) Where carpet or carpet-like material not meeting the requirements of ASTM D 2859, Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials, is used

(4) Where the fire performance of the floor finish is unknown

Statement: A conflict exists in the current Code language. Section 10.2.7.1 requires carpet and carpet-like interior floor finishes to comply with ASTM D2859. However, Section 10.2.2.2(2) references some carpet or carpet-like interior floor finishes not meeting ASTM D2859, which would not be possible based upon the language of 10.2.7.1. The proposed changes to Section 10.2.2.2 clarify the application of interior floor finish provisions as well as addresses the application of interior floor finishes to existing and older installations. Current text applies in its entirety to all installations, which was not the intent of the committee.

Additional revisions were made to clarify the sections of the Code that are required to be following for interior wall and ceiling finish versus interior floor finish. Overall, the changes made to this Section improve the usability of the Code and clarify the intent of how the interior finish provisions should be applied to buildings.
10.2.3.4

Products required to be tested in accordance with ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials, or ANSI/UL 723, Standard for Test for Surface Burning Characteristics of Building Materials, shall be classified as follows in accordance with their flame spread index and smoke developed index, except as indicated in 10.2.3.4(4):

(1) Class A interior wall and ceiling finish shall be characterized by the following:
   (a) Flame spread index, 0–25
   (b) Smoke developed index, 0–450

(2) Class B interior wall and ceiling finish shall be characterized by the following:
   (a) Flame spread index, 26–75
   (b) Smoke developed index, 0–450

(3) Class C interior wall and ceiling finish shall be characterized by the following:
   (a) Flame spread index, 76–200
   (b) Smoke developed index, 0–450

(4) Existing interior finish shall be exempt from the smoke developed index criteria of 10.2.3.4(1)(b), (2)(b), and (3)(b).

10.2.3.4

Products required to be tested in accordance with ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials, or ANSI/UL 723, Standard for Test for Surface Burning Characteristics of Building Materials shall be grouped in the classes described in 10.2.3.4.1 through 10.2.3.4.3 in accordance with their flame spread index and smoke developed index, except as indicated in 10.2.3.4.4

10.2.3.4.1 Class A Interior Wall and Ceiling Finish. Class A interior wall and ceiling finishes shall be those finishes with a flame spread index of 0–25 and a smoke developed index of 0–450 and shall include any material classified at 25 or less on the flame spread index test scale and 450 or less on the smoke developed index test scale.

10.2.3.4.2 Class B Interior Wall and Ceiling Finish. Class B interior wall and ceiling finishes shall be those finishes with a flame spread index of 26–75 and a smoke developed index of 0–450 and shall include any material classified at more than 25 but not more than 75 on the flame spread index test scale and 450 or less on the smoke developed index test scale.

10.2.3.4.3 Class C Interior Wall and Ceiling Finish. Class C interior wall and ceiling finishes shall be those finishes with a flame spread index of 76–200 and a smoke developed index of 0–450 and shall include any material classified at more than 75 but not more than 200 on the flame spread index test scale and 450 or less on the smoke developed index test scale.

10.2.3.4.4 Existing interior finish shall be exempt from the smoke developed index criteria of 10.2.3.4.1 through 10.2.3.4.3.

Statement: Section 10.2.3.4 is being editorially revised to read the same as the companion provisions in NFPA 5000. The proposed change makes no technical changes and the reorganization of the section results in code language that is easier to read and user friendly.

10.2.3.7.1

New annex note was added to Section 10.2.3.7.1.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

10.2.4.2* Expanded Vinyl Wall and Expanded Vinyl Ceiling Materials. The use of expanded vinyl wall or expanded vinyl ceiling materials shall comply with one of the following conditions:

(1) Materials meeting the requirements of Class A when tested in accordance with ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials, or ANSI/UL 723, Standard for Test for Surface Burning Characteristics of Building Materials, using the specimen preparation and mounting method of ASTM E 2404, Standard Practice for Specimen Preparation and Mounting of Textile, Paper or Vinyl Wall or Ceiling Coverings to Assess Surface Burning Characteristics (see 10.2.3.4), shall be permitted on the walls or ceilings of rooms or areas protected by an approved automatic sprinkler system.

(2) Materials meeting the requirements of Class A when tested in accordance with ASTM E 84 or ANSI/UL 723, using the specimen preparation and mounting method of ASTM E 2404 (see 10.2.3.4), shall be permitted on partitions that do not exceed three-quarters of the floor-to-ceiling height or do not exceed 8 ft (2440 mm) in height, whichever is less.

(3) Materials meeting the requirements of Class A when tested in accordance with ASTM E 84 or ANSI/UL 723, using the specimen preparation and mounting method of ASTM E 2404 (see 10.2.3.4), shall be permitted to extend not more than 48 in. (1220 mm) above the finished floor on ceiling-height walls and ceiling-height partitions.

(4) Previously approved existing installations of materials meeting the requirements for the occupancy involved, when tested in accordance with ASTM E 84 or ANSI/UL 723 (see 10.2.3.4), shall be permitted to be continued to be used.

(5) Materials shall be permitted on walls and partitions where tested in accordance with NFPA 265, Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile or Expanded Vinyl Wall Coverings on Full Height Panels and Walls. (See 10.2.3.7.)

(6) Textile materials shall be permitted on walls, partitions, and ceilings where tested in accordance with NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth. (See 10.2.3.7.)

Statement: Section 10.2.4.2 contains provisions for expanded vinyl wall and ceiling materials, not textile materials.

Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

10.2.4.3.1* Cellular or foamed plastic materials shall be permitted where subjected to large-scale fire tests that substantiate their combustibility and smoke release characteristics for the use intended under actual fire conditions. The tests shall be performed on a finished foamed plastic assembly related to the actual end-use configuration, including any cover or facing, and at the maximum thickness intended for use. Suitable large-scale fire tests shall include those shown in 10.2.4.3.1.1.

Statement: The second sentence of Section 10.2.4.3.1 is being relocated after current 10.2.4.3.1.1. This change is editorial only, no technical changes have been made.
Submitter: Technical Committee Furnishings and Contents  
Recommendation: Add new text to read as follows:

10.2.4.3.1.2 The tests shall be performed on a finished foamed plastic assembly related to the actual end-use configuration, including any cover or facing, and at the maximum thickness intended for use.

Statement: The proposed text is not new. It is being relocated from current 10.2.4.3.1. This change breaks up the two separate requirements, per the Manual of Style, and correlates with the order of the Code text from NFPA 5000, which is more user friendly and easier to read.

Submitter: Technical Committee Furnishings and Contents  
Recommendation: Revise text to read as follows:

10.2.4.3.2 Cellular or foamed plastic shall be permitted for trim not in excess of 10 percent of the specific wall or ceiling area to which it is applied, provided that it is not less than 20 lb/ft\(^3\) (320 kg/m\(^3\)) in density, is limited to ½ in. (13 mm) in thickness and 4 in. (100 mm) in width, and complies with the requirements for Class A or Class B interior wall and ceiling finish as described in 10.2.3.4; however, the smoke developed index shall not be limited.

Statement: Proposed changes clarifies the permitted application of cellular or foamed plastic materials used as trim and assists in avoiding high concentrations of the materials on one wall or ceiling face.

Submitter: Technical Committee Furnishings and Contents  
Recommendation: Revise text to read as follows:

10.2.4.4* Light-Transmitting Plastics. Light-transmitting plastics shall be permitted to be used as interior wall and ceiling finish if approved by the authority having jurisdiction. (See 10.4.4 of this Code and Section 48.7 of NFPA 5000.)

Statement: Proposed text makes the requirement more user friendly and directs users to specific section for light transmitting plastics.

Submitter: Technical Committee Furnishings and Contents  
Recommendation: Revise text to read as follows:

10.2.5.1 General. Interior wall and ceiling trim and incidental finish, other than wall base in accordance with 10.2.5.2 and bulletin boards, posters, and paper in accordance with 10.2.5.3, not in excess of 10 percent of the aggregate specific wall and ceiling areas of any room or space to which it is applied shall be permitted to be Class C materials in occupancies where interior wall and ceiling finish of Class A or Class B is required.

Statement: Proposed changes clarifies the permitted application of materials used as trim and assists in avoiding high concentrations of the materials on one wall or ceiling face.
10.2.6.2 In new construction, surfaces of walls, partitions, columns, and ceilings shall be permitted to be finished with factory-applied fire-retardant coated assemblies that have been listed and labeled to demonstrate compliance with the requirements of ASTM E2768, Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials, on the coated surface following: (a) a flame spread index of 25 or less, when tested in accordance with ASTM E84, Standard Test Method of Surface Burning Characteristics of Building Materials, or ANSI/UL 723, Standard Test for Surface Burning Characteristics of Building Materials, (b) show no evidence of significant progressive combustion when the test is continued for an additional 20-minute period, and (c) result in a flame front that does not progress more than 10 ft 6 in. (3.2 m) beyond the centerline of the burners at any time during the test.

Statement: ASTM has now issued a test method, ASTM E2768 Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials, which contains the three requirements discussed in this section, namely that a product be tested in accordance with ASTM E84 or UL 723, and exhibit a flame spread index of 25 or less, show no evidence of significant progressive combustion when the test is continued for 30 minutes (i.e. an additional 20-minute period over the standard ASTM E84 duration of 10 minutes) and that the flame front not progress more than 10 1/2 feet (3200 mm) beyond the centerline of the burners at any time during the test.

(Note:) ASTM E2768 should be added to referenced documents in Chapter 3.

10.2.7 Interior Floor Finish Testing and Classification.

Statement: New Annex language is being added to Section 10.2.7.

10.2.7.1 Carpet and carpetlike interior floor finishes shall comply with ASTM D 2859, Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.

Statement: A new annex section is being added to Section 10.2.7.1. This revision adds the corresponding asterisk to the code section.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

10.2.7.4 Interior floor finishes shall be classified as follows in accordance with their critical radiant flux values:

1) Class I interior floor finish shall be characterized by a critical radiant flux not less than 0.45 W/cm², as determined by the test described in 10.2.7.3.

2) Class II interior floor finish shall be characterized by a critical radiant flux not less than 0.22 W/cm² but less than 0.45 W/cm², as determined by the test described in 10.2.7.3.

10.2.7.4 Interior floor finishes shall be grouped in the classes specified in 10.2.7.4.1 and 10.2.7.4.2 in accordance with the critical radiant flux requirements.

10.2.7.4.1 Class I Interior Floor Finish. Class I interior floor finish shall have a critical radiant flux of not less than 0.45 W/cm², as determined by the test described in 10.2.7.3.

10.2.7.4.2 Class II Interior Floor Finish. Class II interior floor finish shall have a critical radiant flux of not less than 0.22 W/cm², but less than 0.45 W/cm², as determined by the test described in 10.2.7.3.

Statement: Section 10.2.7.4 is being editorially reorganized to read the same as the companion provisions in NFPA 5000. The proposed change makes no technical changes and the reorganization results in a section that easier to read and user friendly.

Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

10.2.8.2 Where an approved automatic sprinkler system is installed in accordance with Section 9.7, throughout the fire compartment or smoke compartment containing the interior floor finish, Class II interior floor finish shall be permitted in any location where Class I interior floor finish is required, and where Class II is required, the provisions of 10.2.7.2 shall apply.

Statement: As written, Section 10.2.8.2 requires full building sprinkler coverage. The intent of the section is clarified by the proposed text which allows buildings undergoing rehabilitation to use the provisions, if they sprinkle fire or smoke compartments as part of the project. Buildings with sprinklered fire or smoke compartments should also be able to use the reduction allowed by Section 10.2.8.2. The proposed text exists in NFPA 5000 and should be added here for correlation.
10.3.1 Where required by the applicable provisions of this Code, draperies, curtains, and other similar loosely hanging furnishings and decorations shall meet the flame propagation performance criteria contained in Test Method 1 or Test Method 2, as appropriate, of NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films.

Statement: In 1989 the NFPA Technical Committee on Fire Tests eliminated the so-called “small-scale test” from NFPA 701 because the results had been shown not to represent a fire performance that corresponded to what happened in real scale. Instead of the “small-scale test” NFPA 701 now (and for over 20 years) contains two tests (Test 1 and Test 2), which apply to materials as indicated by the text of NFPA 701 (2010) that is shown at the bottom of this public input.

However, a large number of manufacturers continue stating that the materials or products that they sell have been tested to NFPA 701, when they really mean the pre-1989 small-scale test in NFPA 701. That test no longer exists and materials or products meeting that test do not exhibit acceptable fire performance.

Text of NFPA 701 (2010):

1.1.1.1 Test Method 1 shall apply to fabrics or other materials used in curtains, draperies, or other window treatments. Vinyl-coated fabric blackout linings shall be tested according to Test Method 2.

1.1.1.2 Test Method 1 shall apply to single-layer fabrics and to multilayer curtain and drapery assemblies in which the layers are fastened together by sewing or other means. Vinyl-coated fabric blackout linings shall be tested according to Test Method 2.

1.1.1.3 Test Method 1 shall apply to specimens having an areal density less than or equal to 700 g/m² (21 oz/yd²), except where Test Method 2 is required to be used by 1.1.2.

1.1.2.1 Test Method 2 (flat specimen configuration) shall be used for fabrics, including multilayered fabrics, films, and plastic blinds, with or without reinforcement or backing, with areal densities greater than 700 g/m² (21 oz/yd²).

1.1.2.2 Test Method 2 shall be used for testing vinyl-coated fabric blackout linings and lined draperies using a vinyl-coated fabric blackout lining.

1.1.2.3 Test Method 2 shall be used for testing plastic films, with or without reinforcement or backing, when used for decorative or other purposes inside a building or as temporary or permanent enclosures for buildings under construction.

1.1.2.4 Test Method 2 shall apply to fabrics used in the assembly of awnings, tents, tarps, and similar architectural fabric structures and banners.

Note also the following from the text of NFPA 701 (2010):

1.2 Purpose.

1.2.1 The purpose of Test Methods 1 and 2 shall be to assess the propagation of flame beyond the area exposed to the ignition source.

A.1.1 A small-scale test method appeared in NFPA 701 until the 1989 edition. It was eliminated from the test method because it has been shown that materials that “pass” the test do not necessarily exhibit a fire performance that is acceptable. The test was not reproducible for many types of fabrics and could not predict actual full-scale performance. It should not, therefore, be used.

A.1.1.1 For the purposes of Test Method 1, the terms curtains, draperies, or other types of window treatments, where used, should include, but not be limited to, the following items:

(1) Window curtains
(2) Stage or theater curtains
(3) Vertical folding shades
(4) Roll-type window shades
(5) Hospital privacy curtains
(6) Window draperies
(7) Fabric shades or blinds
(8) Polyvinyl chloride blinds
(9) Horizontal folding shades
(10) Swags

Examples of textile items other than window treatments to which Test Method 1 applies include:

(1) Table skirts
101    FR507    SAF-FUR

(10.3.2.1)

Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

10.3.2.1* Upholstered Furniture. Newly introduced upholstered furniture, except as otherwise permitted by Chapters 11 through 43, shall be resistant to a cigarette ignition (i.e., smoldering) in accordance with one of the following:

(1) The components of the upholstered furniture shall meet the requirements for Class I when tested in accordance with NFPA 260, Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture, or with ASTM E 1353, Standard Test Methods for Cigarette Ignition Resistance of Components of Upholstered Furniture.

(2) Mocked-up composites of the upholstered furniture shall have a char length not exceeding 1½ in. (38 mm) when tested in accordance with NFPA 261, Standard Method of Test for Determining Resistance of Mock-Up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes, or with ASTM E 1352, Standard Test Method for Cigarette Ignition Resistance of Mock-Up Upholstered Furniture Assemblies.

Statement: The CPSC has changed the cigarette used for 16 CFR 1632 from the low ignition propensity cigarette, which is likely to lead to all fabrics and foams passing the test, to a NIST standard reference material cigarette (NIST SRM 1196). Similarly NFPA 260 and NFPA 261 have accepted proposals (and received no comments) making the same change.

The standard commercial cigarette traditionally used for this test is now no longer available as commercial cigarettes sold in all U.S. states since July 2011 must comply with the requirements for reduced ignition propensity cigarettes of ASTM E2187. Therefore, continuing the use of U.S. commercial cigarettes, which comply with the cigarette ignition power test (ASTM E2187), makes the test meaningless as some furniture items that previously were ignited in the test will no longer be ignited. Thus fire safety will not be improved as intended. Cigarettes can be obtained from various sources, however, that do not comply with ASTM E2187. NIST developed SRM 1196 specifically for the purpose of replacing the traditional cigarettes and having a meaningful cigarette smoldering test.

ASTM E1352 and ASTM E1353 require the use of a cigarette that has no filter and is within a specified range of length, mass, and tobacco packing density. Historically, that was meant to mean a particularly strong igniting commercial cigarette. That cigarette has been replaced, by the manufacturer, with a banded cigarette that meets the regulations for reduced ignition propensity.

NIST has had some samples of the old cigarettes and was able to characterize their ignition propensity. They commissioned a large batch of cigarettes to be manufactured to those specifications. They then verified that the cigarettes met the physical and performance requirements. These are now available from NIST as SRM 1196, one of over 2000 Standard Reference Materials that produce for manufacturers, regulators, etc.

Despite the originally specified mean value of 85 mm, the prior standard test cigarette had been manufactured at a mean value of 83 mm for years. The mean length of SRM 1196 is 83 mm. The ignition propensity of SRM 1196 has a narrow variability, providing control over the property that directly leads to uniform test results. The linear burn rate is not a specified property of SRM 1196, and its variability has not been determined.

Unfortunately ASTM E1352 and ASTM E1353 have not been changed and use the low ignition propensity cigarette, meaning that they now have a very low effectiveness as tests assessing smoldering ignition.
101 FR508 SAF-FUR

(10.3.7)

Submitter: Technical Committee Furnishings and Contents
Recommendation: Revise text to read as follows:

10.3.7 Where required by the applicable provisions of this Code, furnishings and contents made with foamed plastic materials that are unprotected from ignition shall have a heat release rate not exceeding 100 kW when tested in accordance with ANSI/UL 1975, Standard for Fire Tests for Foamed Plastics Used for Decorative Purposes, or when tested in accordance with NFPA 289, Standard Method of Fire Test for Individual Fuel Packages, using the 20 kW ignition source.

Statement: The ANSI approval designation is being deleted from UL 1975 as UL 1975 is not ANSI approved.

101 FR531 SAF-FUR

(A.10.2 (New) )

Submitter: Technical Committee Furnishings and Contents
Recommendation: Insert new text to read as follows:

A.10.2 The requirements pertaining to interior finish are intended to restrict the spread of fire over the continuous surface forming the interior portions of a building.

Table A.10.2 shows the fire test methods and classification criteria that apply to different interior finish materials.

Statement: Table A.10.2 is being revised to reflect the changes made to other Sections throughout Chapter 10. The changes are consistent with other proposed text. It should be noted that the specific Code section references are not accurately reflected in this first revision, but will be updated editorially once the final numbering of the sections in Chapter 10 is complete.

101 FR512 SAF-FUR

(A.10.2.1)

Submitter: Technical Committee Furnishings and Contents
Recommendation: Revise text to read as follows:

A.10.2.1 The requirements pertaining to interior finish are intended to restrict the spread of fire over the continuous surface forming the interior portions of a building. The presence of multiple paint layers has the potential for paint delamination and bubbling or blistering of paint. Testing (NFPA Fire Technology, August 1974, “Fire Tests of Building Interior Covering Systems,” David Waksman and John Ferguson, Institute for Applied Technology, National Bureau of Standards) has shown that adding up to two layers of paint with a dry film thickness of about 0.007 in. (0.18 mm) will not change the fire properties of surface-covering systems. Testing has shown that the fire properties of the surface-covering systems are highly substrate dependent and that thin coatings generally take on the characteristics of the substrate. When exposed to fire, the delamination, bubbling, and blistering of paint can result in an accelerated rate of flame spread.

Statement: The proposed text exists in NFPA 5000. It is needed in NFPA 101 for correlation.

101 FR513 SAF-FUR

(A.10.2.2)

Submitter: Technical Committee Furnishings and Contents
Recommendation: Revise text to read as follows:

A.10.2.2 Table A.10.2.2 provides a compilation of the interior finish requirements of 7.1.4 and the occupancy chapters (Chapters 12 through 42) of this Code.

Statement: The proposed text exists in NFPA 5000. It is needed in NFPA 101 for correlation.
A.10.2 The requirements pertaining to interior finish are intended to restrict the spread of fire over the continuous surface forming the interior portions of a building.

Table A.10.2 shows the fire test methods and classification criteria that apply to different interior finish materials.

<table>
<thead>
<tr>
<th>Material</th>
<th>Test Method</th>
<th>Acceptance Criterion</th>
<th>Application Requirement</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior wall and ceiling finish materials, except as shown in this table</td>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td>As required by relevant sections</td>
<td>10.2.3</td>
</tr>
<tr>
<td></td>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class B, in accordance with 10.2.3.4 (2)</td>
<td>As required by relevant sections</td>
<td>10.2.3</td>
</tr>
<tr>
<td></td>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class C, in accordance with 10.2.3.4 (3)</td>
<td>As required by relevant sections</td>
<td>10.2.3</td>
</tr>
<tr>
<td></td>
<td>NFPA 286</td>
<td>In accordance with 10.2.3.7.2</td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.3.2</td>
</tr>
<tr>
<td>Materials having thickness &lt;1/28 in. (=0.90 mm) applied directly to the non combustible or limited combustible surface of walls or ceilings</td>
<td>No testing required</td>
<td></td>
<td></td>
<td>10.2.1.2</td>
</tr>
<tr>
<td>Exposed portions of structural members complying with requirements for buildings of Type IV (2HH) construction in accordance with NFPA 220</td>
<td>No testing required</td>
<td></td>
<td></td>
<td>10.2.3.1</td>
</tr>
<tr>
<td>Cellular or foamed plastics (exposed foamed plastics and foamed plastics used in conjunction with textile or vinyl facing)</td>
<td>NFPA 286</td>
<td>In accordance with 10.2.3.7.2</td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.3.1.1(1)</td>
</tr>
</tbody>
</table>
or cover)

<table>
<thead>
<tr>
<th>Standard</th>
<th>Test Method</th>
<th>Pass/Fail</th>
<th>Details</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANSI/UL 1715</td>
<td>Pass</td>
<td></td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.3.1.1(2)</td>
</tr>
<tr>
<td>ANSI/UL 1040</td>
<td>Pass</td>
<td></td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.3.1.1(3)</td>
</tr>
<tr>
<td>FM 4880</td>
<td>Pass</td>
<td></td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.3.1.1(4)</td>
</tr>
<tr>
<td>Suitable large-scale fire test</td>
<td>Pass</td>
<td></td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.3.1</td>
</tr>
<tr>
<td>Textile wall coverings</td>
<td>NFPA 286</td>
<td>In accordance with 10.2.3.7.2</td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.1(6)</td>
</tr>
<tr>
<td>NFPA 265, Method B</td>
<td>In accordance with 10.2.3.7.1</td>
<td></td>
<td>Permitted on walls and partitions</td>
<td>10.2.4.1(5)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td></td>
<td>Permitted on walls, but also requires sprinklers per Section 9.7</td>
<td>10.2.4.1(1)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td></td>
<td>Permitted on partitions not exceeding three-quarters of the floor-to-ceiling height or not exceeding 8 ft (2440 mm) in height, whichever is less</td>
<td>10.2.4.1(2)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td></td>
<td>Permitted to extend not more than 48 in. (1220 mm) above finished floor on ceiling-height walls and ceiling-height partitions</td>
<td>10.2.4.1(3)</td>
</tr>
<tr>
<td>ASTM E 84 or</td>
<td>Class A, in</td>
<td></td>
<td>Previously approved</td>
<td>10.2.4.1(4)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

101_FR531fm_FR229Tbl A.10.2/A2014
<table>
<thead>
<tr>
<th>Expanded vinyl wall coverings</th>
<th>NFPA 286</th>
<th>In accordance with 10.2.3.7.2</th>
<th>Permitted where Class A, B, or C is required by relevant sections</th>
<th>10.2.4.2(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFPA 265, Method B</td>
<td>In accordance with 10.2.3.7.1</td>
<td>Permitted on walls and partitions</td>
<td></td>
<td>10.2.4.2(5)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td>Permitted on walls, but also requires sprinklers per Section 9.7</td>
<td></td>
<td>10.2.4.2(1)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td>Permitted on partitions not exceeding three-quarters of the floor-to-ceiling height or not exceeding 8 ft (2440 mm) in height, whichever is less</td>
<td></td>
<td>10.2.4.2(2)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td>Permitted to extend not more than 48 in. (1220 mm) above finished floor on ceiling-height walls and ceiling-height partitions</td>
<td></td>
<td>10.2.4.2(3)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, B, or C, in accordance with 10.2.3.4</td>
<td>Existing installations of materials with appropriate wall finish classification for occupancy involved, and with classification in accordance with the provisions of 10.2.3.4</td>
<td></td>
<td>10.2.4.2(4)</td>
</tr>
<tr>
<td>Textile ceiling coverings</td>
<td>NFPA 286</td>
<td>In accordance with 10.2.3.7.2</td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.1(6)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4 (1)</td>
<td>Permitted on walls, but also requires sprinklers per Section</td>
<td></td>
<td>10.2.4.1(1)</td>
</tr>
<tr>
<td>Material Type</td>
<td>Code Requirement</td>
<td>Class/Classification</td>
<td>Explanations</td>
<td>Section</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Expanded vinyl ceiling coverings</td>
<td>NFPA 286</td>
<td>In accordance with 10.2.3.7.2</td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.4.2(6)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, in accordance with 10.2.3.4</td>
<td></td>
<td>Permitted on walls, but also requires sprinklers per Section 9.7</td>
<td>10.2.4.2(1)</td>
</tr>
<tr>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class A, B, or C, in accordance with 10.2.3.4</td>
<td>Existing installations of materials with appropriate wall finish classification for occupancy involved, and with classification in accordance with the provisions of 10.2.3.4</td>
<td>10.2.4.2(4)</td>
<td></td>
</tr>
<tr>
<td>Interior trim, other than foamed plastic and other than wall base</td>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Class C, in accordance with 10.2.3.4</td>
<td>Interior wall and ceiling trim and incidental finish, other than wall base not in excess of 10 percent of the aggregate specific wall and ceiling areas of any room or space to which it is applied where interior wall and ceiling finish of Class A or Class B is required</td>
<td>10.2.5.1</td>
</tr>
<tr>
<td>NFPA 286</td>
<td>In accordance with 10.2.3.7.2</td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.3.2</td>
<td></td>
</tr>
<tr>
<td>Foamed plastic used as interior trim</td>
<td>ASTM E 84 or ANSI/UL 723</td>
<td>Flame spread index ( \leq 75 )</td>
<td>(1) Minimum density of interior trim required to be 20 lb/ft(^3) (320 kg/m(^3))</td>
<td>10.2.4.3.2</td>
</tr>
<tr>
<td>NFPA 286</td>
<td>In accordance with 10.2.3.7.2</td>
<td>Permitted where Class A, B, or C is required by relevant sections</td>
<td>10.2.3.2</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Fire-retardant coatings</td>
<td>NFPA 703</td>
<td>Class A, B, or C, when tested by ASTM E 84 or ANSI/UL 723, in accordance with 10.2.3.4</td>
<td>Required flame spread index or smoke developed index values of existing surfaces of walls, partitions, columns, and ceilings permitted to be secured by applying approved fire-retardant coatings to surfaces having higher flame spread index values than permitted; such treatments required to be tested, or listed and labeled for application to material to which they are applied</td>
<td>10.2.6.1</td>
</tr>
<tr>
<td>Factory-applied fire – retardant coated assemblies (listed and labeled)</td>
<td>ASTM E2768 on the coated surface</td>
<td>Pass</td>
<td>Surfaces of walls, partitions, columns, and ceilings in new construction</td>
<td>10.2.6.2</td>
</tr>
<tr>
<td>Carpet and carpetlike interior floor finishes</td>
<td>ASTM D 2859</td>
<td>Pass</td>
<td>All areas</td>
<td>10.2.7.1</td>
</tr>
<tr>
<td>Floor coverings, other than carpet, judged to NFPA 253</td>
<td>Critical radiant flux</td>
<td>All areas</td>
<td>10.2.7.2</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>NFPA 253 Class</td>
<td>Radiant Flux Requirement</td>
<td>Testing Requirement</td>
<td>Reference</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>----------------</td>
<td>--------------------------</td>
<td>------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Interior floor finish, other than carpet and carpetlike materials</td>
<td>Class I: Critical radiant flux ≥ 0.45 W/cm²</td>
<td>As required by relevant sections</td>
<td>10.2.7.3</td>
<td></td>
</tr>
<tr>
<td>Wall base [interior floor trim material used at junction of wall and floor to provide a functional or decorative border, and not exceeding 6 in. (150 mm) in height]</td>
<td>Class II: Critical radiant flux ≥ 0.22 W/cm²</td>
<td>All areas</td>
<td>10.2.5.2</td>
<td></td>
</tr>
<tr>
<td>Floor finish of traditional type, such as wood flooring and resilient floor coverings</td>
<td>No testing required</td>
<td>If interior floor finish is required to meet Class I critical radiant flux</td>
<td>10.2.5.2</td>
<td></td>
</tr>
</tbody>
</table>

represent an unusual hazard (excluding traditional finish floors and floor coverings, such as wood flooring and resilient floor coverings)
Submitter: Technical Committee Furnishings and Contents
Recommendation: Delete text as follows:
A.10.2.2.2(2) — Compliance with 16 CFR 1630, “Standard for the Surface Flammability of Carpets and Rugs” (FFI-70), is considered equivalent to compliance with ASTM D 2859, Standard Test Method for Ignition Characteristics of Finished Textile Floor Covering Materials.
Statement: Annex language is being relocated to A.10.2.7.1.

Submitter: Technical Committee Furnishings and Contents
Recommendation: Revise text to read as follows:
A.10.2.3 ASTM E 84, Standard Test Method of Surface Burning Characteristics of Building Materials, and UL 723, Standard for Test for Surface Burning Characteristics of Building Materials, are considered nationally recognized consensus standard test methods for determining the flame spread index and smoke developed index of building materials and are likely to yield equivalent test results. See also A.10.2.4.1.
Statement: The proposed text exists in NFPA 5000. It is needed in NFPA 101 for correlation.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

A.10.2.3.4 It has been shown that the method of mounting interior finish materials might usually affects actual performance. The use of standard mounting methods will be helpful in determining appropriate fire test results. Where materials are tested in intimate contact with a substrate to determine a classification, such materials should be installed in intimate contact with a similar substrate. Such details are especially important for “thermally thin” materials. For further information, see ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials.

Some interior wall and ceiling finish materials, such as fabrics not applied to a solid backing, do not lend themselves to a test made in accordance with ASTM E 84. In such cases, the large-scale test outlined in NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, is permitted to be used. In 1989 the NFPA Technical Committee on Fire Tests eliminated the so-called “small-scale test” from NFPA 701 because the results had been shown not to represent a fire performance that corresponded to what happened in real scale. Since then, NFPA 701 no longer contains a “small-scale test” but it now contains two tests (Test 1 and Test 2), which apply to materials as a function of their areal density. Thus NFPA 701 Test 1 applies to fabrics (other than vinyl-coated fabric blackout linings) having an areal density less than or equal to 21 oz/yd² (700 g/m²) while NFPA 701 Test 2 applies to fabrics with an areal density greater than 21 oz/yd² (700 g/m²), vinyl-coated fabric blackout linings, decorative objects and films. Representations that materials or products have been tested to the small-scale test in NFPA 701 normally refer to the pre-1989 small-scale test, which no longer exists and which does not represent acceptable fire performance.

Prior to 1978, the test report described by ASTM E 84 included an evaluation of the fuel contribution as well as the flame spread index and the smoke developed index. However, it is now recognized that the measurement on which the fuel contribution is based does not provide a valid measure. Therefore, although the data are recorded during the test, the information is no longer normally reported. Classification of interior wall and ceiling finish thus relies only on the flame spread index and smoke developed index.

The 450 smoke developed index limit is based solely on obscuration. (See A.10.2.4.1.)

Statement: 1. In 1989 the NFPA Technical Committee on Fire Tests eliminated the so-called “small-scale test” from NFPA 701 because the results had been shown not to represent a fire performance that corresponded to what happened in real scale. Instead of the “small-scale test” NFPA 701 now (and for over 20 years) contains two tests (Test 1 and Test 2), which apply to materials as indicated by the text of NFPA 701 (2010) that is shown at the bottom of this public input.

However, a large number of manufacturers continue stating that the materials or products that they sell have been tested to NFPA 701, when they really mean the pre-1989 small-scale test in NFPA 701. That test no longer exists and materials or products meeting that test do not exhibit acceptable fire performance.

Text of NFPA 701 (2010):
1.1.1.1 Test Method 1 shall apply to fabrics or other materials used in curtains, draperies, or other window treatments. Vinyl-coated fabric blackout linings shall be tested according to Test Method 2.
1.1.2.1 Test Method 1 shall apply to single-layer fabrics and to multilayer curtain and drapery assemblies in which the layers are fastened together by sewing or other means. Vinyl-coated fabric blackout linings shall be tested according to Test Method 2.
1.1.3.1 Test Method 1 shall apply to specimens having an areal density less than or equal to 700 g/m² (21 oz/yd²), except where Test Method 2 is required to be used by 1.1.2.
1.1.2.1 Test Method 2 (flat specimen configuration) shall be used for fabrics, including multilayered fabrics, films, and plastic blinds, with or without reinforcement or backing, with areal densities greater than 700 g/m² (21 oz/yd²).
1.1.2.2 Test Method 2 shall be used for testing vinyl-coated fabric blackout linings and lined draperies using a vinyl-coated fabric blackout lining.
1.1.2.3 Test Method 2 shall be used for testing plastic films, with or without reinforcement or backing, when used for decorative or other purposes inside a building or as temporary or permanent enclosures for buildings under construction.
1.1.2.4 Test Method 2 shall apply to fabrics used in the assembly of awnings, tents, tarps, and similar architectural fabric structures and banners.

Note also the following from the text of NFPA 701 (2010):
1.2* Purpose.
1.2.1 The purpose of Test Methods 1 and 2 shall be to assess the propagation of flame beyond the area exposed to the ignition source.

A.1.1 A small-scale test method appeared in NFPA 701 until the 1989 edition. It was eliminated from the test method because it has been shown that materials that “pass” the test do not necessarily exhibit a fire performance that is acceptable. The test was not reproducible for many types of fabrics and could not predict actual full-scale performance. It should not, therefore, be used.

A.1.1.1 For the purposes of Test Method 1, the terms curtains, draperies, or other types of window treatments, where used, should include, but not be limited to, the following items:

1. Window curtains
2. Stage or theater curtains
3. Vertical folding shades
4. Roll-type window shades
5. Hospital privacy curtains
6. Window draperies
7. Fabric shades or blinds
8. Polyvinyl chloride blinds
9. Horizontal folding shades
10. Swags

Examples of textile items other than window treatments to which Test Method 1 applies include:

1. Table skirts
2. Table linens
3. Display booth separators
4. Textile wall hangings
5. Decorative event tent linings not used in the assembly of a tent

2. The term "might" is changed to "usually" which better represents the accuracy of the statement. An additional sentence is being added to further clarify common practices supporting the first sentence in the Annex and further confirming that the method of mounting interior finish materials usually affects their actual performance.

Submitter: Technical Committee Furnishings and Contents
Recommendation: Add new text to read as follows:
A.10.2.3.7.1 See A.10.2.3.7 and A.10.2.4.1.
Statement: The proposed text exists in NFPA 5000. It is needed in NFPA 101 for correlation.

Submitter: Technical Committee Furnishings and Contents
Recommendation: Revise text to read as follows:
A.10.2.4 Surface nonmetallic raceway products, as permitted by NFPA 70, National Electrical Code, are not interior finishes. Surface nonmetallic raceway products, as permitted by NFPA 70, National Electrical Code, are not interior finishes and are not subject to the provisions of Chapter 10.
Statement: The annex language for the companion sections of NFPA 101 and 5000 is inconsistent. The revisions editorially revise the language to be consistent and correlate. No technical changes are being made.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

A.10.2.4.3.1 Both NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth, and ANSI/UL 1715, Standard for Fire Test of Interior Finish Material, contain smoke obscuration criteria. ANSI/UL 1040, Standard for Fire Test of Insulated Wall Construction, and FM 4880, Approval Standard for Class I Insulated Wall or Wall and Roof/Ceiling Panels; Plastic Interior Finish Materials; Plastic Exterior Building Panels; Wall/Ceiling Coating Systems; Interior or Exterior Finish Systems, do not include smoke obscuration criteria. Smoke obscuration is an important component of the fire performance of cellular or foamed plastic materials. See A.10.2.4.3.1.2.

Statement: The current text of A.10.2.4.3.1 is already contained in A.10.2.4.3.1.2 and is not needed here.

Submitter: Technical Committee Furnishings and Contents

Recommendation: Insert new text to read as follows:

A.10.2.7 The flooring radiant panel provides a measure of a floor covering's tendency to spread flames where located in a corridor and exposed to the flame and hot gases from a room fire. The flooring radiant panel test method is to be used as a basis for estimating the fire performance of a floor covering installed in the building corridor. Floor coverings in open building spaces and in rooms within buildings merit no further regulation, provided that it can be shown that the floor covering is at least as resistant to spread of flame as a material that meets the U.S. federal flammability standard 16 CFR 1630, Standard for the Surface Flammability of Carpets and Rugs (FF 1-70). All carpeting sold in the United States since 1971 is required to meet this standard and, therefore, is not likely to become involved in a fire until a room reaches or approaches flashover. Therefore, no further regulations are necessary for carpet, other than carpet in exitways and corridors.

It has not been found necessary or practical to regulate interior floor finishes on the basis of smoke development. Full-scale fire tests and fire experience have shown that floor coverings in open building spaces merit no regulation beyond the U.S. federally mandated DOC FF 1-70 "pill test." This is because floor coverings meeting the pill test will not spread flame significantly until a room fire approaches flashover. At flashover, the spread of flame across a floor covering will have minimal impact on the already existing hazard. The minimum critical radiant flux of a floor covering that will pass the FF 1-70 test has been determined to be approximately 0.04 W/cm² (Tu, King-Mon and Davis, Sanford, Flame Spread of Carpet Systems Involved in Room Fires, NFSIR 76-1013, Center for Fire Research, National Bureau of Standards, June 1976). The flooring radiant panel is only able to determine critical radiant flux values to 0.1 W/cm². This provision will prevent use of a noncomplying material, which can create a problem, especially when the Code is used outside the United States where U.S. federal regulation FF 1-70 (16 CFR 1630) is not mandated.

Statement: Proposed text currently exists in NFPA 5000 and should be added here for correlation. In addition, the annex language provides additional valuable information regarding interior floor finish testing.

Submitter: Technical Committee Furnishings and Contents

Recommendation: Add new text to read as follows:


Statement: New annex note to Section A.10.2.7.1 is relocated from Section 10.2.2.2(2) which was deleted.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

A.10.2.7.3  The flooring radiant panel provides a measure of a floor covering’s tendency to spread flames where located in a corridor and exposed to the flame and hot gases from a room fire. The flooring radiant panel test method is to be used as a basis for estimating the fire performance of a floor covering installed in the building corridor. Floor coverings in open building spaces and in rooms within buildings merit no further regulation, provided that it can be shown that the floor covering is at least as resistant to spread of flame as a material that meets the U.S.-federal-flammability standard 16 CFR 1630, “Standard for the Surface Flammability of Carpets and Rugs” (FF 1-70). All carpeting sold in the U.S. since 1971 is required to meet this standard and, therefore, is not likely to become involved in a fire until a room reaches or approaches flashover. Therefore, no further regulations are necessary for carpet other than carpet in exitways and corridors.

It has not been found necessary or practical to regulate interior floor finishes on the basis of smoke development. Full-scale fire tests and fire experience have shown floor coverings in open building spaces merit no regulation beyond the United States federally mandated DOC FF 1-70 “pill test.” This is because floor coverings meeting the FF 1-70 regulation will not spread flame significantly until a room fire approaches flashover. At flashover, the spread of flame across a floor covering will have minimal impact on the already existing hazard. The minimum critical radiant flux of a floor covering that will pass the FF 1-70 regulation has been determined to be approximately 0.04 W/cm² (see Annex B, Tu, King Men and Davis, Sanford, “Flame Spread of Carpet Systems Involved in Room Fires”). The flooring radiant panel is only able to determine critical radiant flux values to 0.1 W/cm². This provision will prevent use of a noncomplying material, which might create a problem, especially when the Code is used outside the United States—where federal regulation FF 1-70 is not mandated. ASTM E 648, Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source and NFPA 253, Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source are considered nationally recognized consensus standard test methods for determining the critical radiant flux from floor covering systems and are likely to yield equivalent test results.

Statement: The current text of A.10.2.7.3 is already contained in A.10.2.7. It is lengthy and does not need to be repeated here. Similar text to the next proposed text is already contained in NFPA 5000 and should be included here for correlation.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

A.10.3.2.1 The Class I requirement associated with testing in accordance with NFPA 260, Standard Methods of Tests and Classification System for Cigarette Ignition Resistance of Components of Upholstered Furniture, or with ASTM E 1353, Standard Test Methods for Cigarette Ignition Resistance of Components of Upholstered Furniture, and the char length of not more than 1 ½ in. (38 mm) required with testing in accordance with NFPA 261, Standard Method of Test for Determining Resistance of Mock-Up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes, or with ASTM E 1352, Standard Test Method for Cigarette Ignition Resistance of Mock-Up Upholstered Furniture Assemblies, are indicators that the furniture item or mattress is resistant to a cigarette ignition. A fire that smolders for an excessive period of time without flaming can reduce the tenability within the room or area of fire origin without developing the temperatures necessary to operate automatic sprinklers.

The test results from NFPA 260 or ASTM E 1353, and from NFPA 261 or ASTM E 1352, are suitable for classification purposes but should not be used as input into fire models, because they are not generated in units suitable for engineering calculations.

Until recently NFPA 260 was equivalent to ASTM E1353, Standard Test Methods for Cigarette Ignition Resistance of Components of Upholstered Furniture, and NFPA 261 was equivalent to ASTM E1352, Standard Test Method for Cigarette Ignition Resistance of Mock-Up Upholstered Furniture Assemblies. However that changed when NFPA 260 and NFPA 261 adopted the new NIST standard reference material (SRM 1196) as the igniting cigarette and ASTM E1352 and ASTM E1353 did not, meaning that ASTM E1352 and ASTM E1353 use commercial cigarettes that are low ignition propensity and have a low likelihood of properly assessing smoldering potential.

Statement: The CPSC has changed the cigarette used for 16 CFR 1632 from the low ignition propensity cigarette, which is likely to lead to all fabrics and foams passing the test, to a NIST standard reference material cigarette (NIST SRM 1196). Similarly NFPA 260 and NFPA 261 have accepted proposals (and received no comments) making the same change.

The standard commercial cigarette traditionally used for this test is now no longer available as commercial cigarettes sold in all U.S. states since July 2011 must comply with the requirements for reduced ignition propensity cigarettes of ASTM E2187. Therefore, continuing the use of US commercial cigarettes, which comply with the cigarette ignition power test (ASTM E2187), makes the test meaningless as some furniture items that previously were ignited in the test will no longer be ignited. Thus fire safety will not be improved as intended. Cigarettes can be obtained from various sources, however, that do not comply with ASTM E2187. NIST developed SRM 1196 specifically for the purpose of replacing the traditional cigarettes and having a meaningful cigarette smoldering test.

ASTM E1352 and ASTM E1353 require the use of a cigarette that has no filter and is within a specified range of length, mass, and tobacco packing density. Historically, that was meant to mean a particularly strong igniting commercial cigarette. That cigarette has been replaced, by the manufacturer, with a banded cigarette that meets the regulations for reduced ignition propensity.

NIST has had some samples of the old cigarettes and was able to characterize their ignition propensity. They commissioned a large batch of cigarettes to be manufactured to those specifications. They then verified that the cigarettes met the physical and performance requirements. These are now available from NIST as SRM 1196, one of over 2000 Standard Reference Materials that produce for manufacturers, regulators, etc.

Despite the originally specified mean value of 85 mm, the prior standard test cigarette had been manufactured at a mean value of 83 mm for years. The mean length of SRM 1196 is 83 mm. The ignition propensity of SRM 1196 has a narrow variability, providing control over the property that directly leads to uniform test results. The linear burn rate is not a specified property of SRM 1196, and its variability has not been determined.

Unfortunately ASTM E1352 and ASTM E1353 have not been changed and use the low ignition propensity cigarette, meaning that they now have a very low effectiveness as tests assessing smoldering ignition.
Submitter: Technical Committee Furnishings and Contents

Recommendation: Revise text to read as follows:

A.10.3.7 Neither ANSI/UL1975, Standard for Fire Tests for Foamed Plastics Used for Decorative Purposes, nor NFPA 289, Standard Method of Fire Test for Individual Fuel Packages, is intended for evaluating interior wall and ceiling finish materials. Actual test results for heat, smoke, and combustion product release from ANSI/UL 1975 or from NFPA 289 might be suitable for use as input into fire models intended for performance-based design.

Statement: The ANSI approval designation is being deleted from UL 1975 as UL 1975 is not ANSI approved.