



National Fire Protection Association

1 Batterymarch Park, Quincy, MA 02169-7471
Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

MEMORANDUM

TO: NFPA Technical Committee on Forest and Rural Fire Protection

FROM: Stacey Van Zandt

DATE: November 4, 2011

SUBJECT: NFPA 1144 ROC TC Letter Ballot (A2012)

The ROC letter ballot for NFPA 1144 is attached. The ballot is for formally voting on whether or not you concur with the committee's actions on the comments. Reasons must accompany all negative and abstention ballots.

Please do not vote negatively because of editorial errors. However, please bring such errors to my attention for action.

Please complete and return your ballot as soon as possible but no later than **November 21, 2011**. As noted on the ballot form, please return the ballot to Stacey Van Zandt either via e-mail to svanzandt@nfpa.org or via fax to 617-984-7056. You may also mail your ballot to the attention of Stacey Van Zandt at NFPA, 1 Batterymarch Park, Quincy, MA 02169.

The return of ballots is required by the Regulations Governing Committee Projects.

Attachments: Comments
Letter Ballot

1144-1 Log #6
(3.3.4 Combustible)

Final Action: Reject

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-5

Recommendation: Revise text to read as follows:

~~3.3.4 Combustible. A combustible material is any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn or will add appreciable heat to an ambient fire.~~

3.3.4 Combustible (material). A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible. [101, 2012]

Substantiation: The definition adopted by the committee at the ROP stage is a new definition, which differs from all existing definitions of both the term “combustible” and the term “combustible material”. This goes against the attempts to obtain uniformity of definitions with NFPA codes and standards, which is the goal for which Standards Council appointed the Glossary of Terminology committee, which I chair.

The proposed definition, which would be extracted from NFPA 101 (2012) is similar to that chosen by the technical committee but would prevent the creation of a new (and different) definition.

The following definitions exist in the NFPA system for the terms combustible and combustible material, and several of them are inappropriate by using terms like flameproofed, and some are very specific to certain document needs. The simple one proposed originally and the one proposed here at the comment stage would serve the purposes of NFPA 1144 without adding a new definition to the NFPA family of documents.

Combustible A material or structure that will release heat energy on burning. 901

Combustible Any material that, in the form in which it is used and under the conditions anticipated, will ignite and burn or will add appreciable heat to an ambient fire. 1144

Combustible A substance that will burn. 430

Combustible Capable of burning, generally in air under normal conditions of ambient temperature and pressure, unless otherwise specified; combustion can occur in cases where an oxidizer other than the oxygen in air is present (e.g., chlorine, fluorine, or chemicals containing oxygen in their structure). 921

Combustible Capable of reacting with oxygen and burning if ignited. 1141

Combustible Capable of reacting with oxygen and burning if ignited. 220, 77

Combustible Capable of undergoing combustion. 69, 82, 120, 122, 214, 502, 804, 805, 820, 851, 853, 1126

Combustible Capable of undergoing combustion. (GAS) 99

Combustible Material A generic term used to describe a flammable gas, flammable liquid produced vapor, or combustible liquid produced vapor mixed with air that may burn or explode. 497

Combustible Material A generic term used to describe either a mixture of dust in air, or a hybrid mixture, that may burn, flame, or explode. 499

Combustible Material A material capable of undergoing combustion. 53, 90B, 126

Combustible (Material) A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible. 1, 101, 285, 850, 5000

Combustible Material A material that, in the form in which it is used and under the conditions anticipated, will ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat, when tested in accordance with ASTM E 136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C*. 52

Combustible Material Any material that will burn regardless of its autoignition temperature. 96, 301

Combustible Material Any material that will burn, regardless of its autoignition temperature. 220, 31

Combustible Material As pertaining to materials adjacent to or in contact with heat-producing appliances, vent connectors, gas vents, chimneys, steam and hot water pipes, and warm air ducts, materials made of or surfaced with wood, compressed paper, plant fibers, or other materials that are capable of being ignited and burned. Such material shall be considered combustible even though flame-proofed, fire-retardant treated, or plastered. 54

Combustible Material Material made of or surfaced with wood, compressed paper, plant fibers, plastics, liquids, or other material that will ignite and burn, whether flame-proofed or not, or whether plastered or unplastered. 306

Combustible Material Material made of or surfaced with wood, compressed paper, plant fibers, plastics, or other material that can ignite and burn, whether flameproofed or not, or whether plastered or unplastered. 211

Committee Meeting Action: Reject

Committee Statement: The committee rejected this comment because the term limited-combustible is not used or defined in the mandatory sections of the standard. There are multiple other definitions of combustible used throughout NFPA documents and the current definition meets the conditions that the committee is addressing within this standard.

1144-2 Log #2 Final Action: Accept
(3.3.13 Ignition-Resistant Material)

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-6

Recommendation: *Continue rejecting this comment.*

Substantiation: Requirements for smoke developed index should not apply to exterior materials and the concept of ignition-resistant materials applies to exterior materials.

Committee Meeting Action: Accept

1144-3 Log #3 Final Action: Accept in Principle
(3.3.13 Ignition-Resistant Material)

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-7

Recommendation: Revise text to read as follows:

3.3.13* Ignition-Resistant Material. Any product designed for exterior exposure that, when tested in accordance with ASTM E2768, Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test), an applicable test for surface burning characteristics of building materials, extended to a 30 minute duration, exhibits a flame spread index of not more than 25, shows no evidence of significant progressive combustion, and whose flame front does not progress more than 10½ ft (3.2 m) beyond the centerline of the burner at any time during the test.

Also, add ASTM E2768, Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test) (2011) into section 2.3.1 on referenced ASTM standards.

Substantiation: ASTM committee E05 has now issued ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)*, which is the test that was referenced in the section without designation.

An alternate approach is being proposed in another comment.

Committee Meeting Action: Accept in Principle

Revise Annex 3.3.13 to read as follows;

A.3.3.13 Ignition-Resistant Material. Applicable standards include UL 723, *Test for Surface Burning Characteristics of Building Materials* and; ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials* and ASTM E2768, Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)(2011), and NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*. Certain jurisdictions might have testing requirements that are different.

Committee Statement: The committee feels that the proposed addition belongs in the Annex so that other testing methods are not excluded by the definition.

1144-4 Log #1

Final Action: Reject

(3.3.13 Ignition-Resistant Material and 4.1.4)

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-7

Recommendation: Revise text to read as follows:

~~3.3.13* Ignition-Resistant Material. See 4.1.4. Any product designed for exterior exposure that, when tested in accordance with an applicable test for surface burning characteristics of building materials, extended to a 30 minute duration, exhibits a flame spread index of not more than 25, shows no evidence of significant progressive combustion, and whose flame front does not progress more than 10½ ft (3.2 m) beyond the centerline of the burner at any time during the test.~~

4.1.4 Ignition-Resistant Material.

4.1.4.1 A material that complies with the following shall be considered an ignition resistant material.

4.1.4.2 Any material designed for exterior exposure that, when tested in accordance with ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)*, exhibits a flame spread index of not more than 25, shows no evidence of significant progressive combustion, and whose flame front does not progress more than 10½ ft (3.2 m) beyond the centerline of the burner at any time during the test.

Also, add ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test) (2011)* into Section 2.3.1 on referenced ASTM standards.

Substantiation: ASTM committee E05 has now issued ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)*, which is the test that was referenced in the section without designation.

This is an alternate approach to the one that simply replaces ASTM E2678 in the definition. This approach would avoid including requirements in the definition, but still contain the same requirements in the NFPA 1144 standard. It is the preferred approach because it does not contain requirements within the definition.

Committee Meeting Action: Reject

Committee Statement: See Committee Comment 1144-10 (Log #CC1). The Committee has developed additional language for ANNEX 3.3.13 in order to clarify that there are other factors that need to be addressed in addition to burning characteristics. The committee also feels that the proposed addition belongs in the Annex so that other testing methods are not excluded.

1144-5 Log #4

Final Action: Reject

(3.3.17 Noncombustible and 4.1.4)

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-8

Recommendation: Revise text to read as follows:

~~3.3.17* Noncombustible (material). Any material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. See 4.1.4.~~

~~A.3.3.17 Additional information is available in NFPA 101, Life Safety Code®, 2012 Edition.~~

~~A material that complies with any of the following is considered a noncombustible material;~~

~~(1) A material passing ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C~~

~~(2) A material complying with the pass/fail criteria of ASTM E 136 when tested in accordance with the test method and procedure in ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C~~

~~(3) An inherently noncombustible material, including but not limited to steel, concrete, masonry and glass, is not required to be tested.~~

~~Additional information is available in NFPA 101, Life Safety Code®, 2009 Edition:~~

~~4.1.4* A material that complies with any of the following shall be considered a noncombustible material. [101, 4.6.14.1, 2012]~~

~~(1)* A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. [101, 4.6.14.1(1), 2012]~~

~~(2) A material that is reported as passing ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C, shall be considered a noncombustible material. [101, 4.6.14.1(2), 2012]~~

~~(3) A material that is reported as complying with the pass/fail criteria of ASTM E 136 when tested in accordance with the test method and procedure in ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C, shall be considered a noncombustible material. [101, 4.6.14.1(3), 2012]~~

~~A.4.1.4 The provisions of 4.1.4 do not require inherently noncombustible materials to be tested in order to be classified as noncombustible materials. [101, A.4.6.14, 2012]~~

~~A.4.1.4(1) Examples of such materials include steel, concrete, masonry and glass. [101, A.4.6.14.1(1), 2012]~~

~~Also, add ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C (2011) and ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C (2009a) to Section 2.3.1 on referenced ASTM publications.~~

~~Also, add NFPA 101 to Section 2.4 on references for extracts in mandatory sections.~~

~~Also, delete ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C (2011) and ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C (2009a) from Section D.1.2.2 on Informational References from ASTM.~~

Substantiation: The proposed action accomplishes the following:

1. It eliminates requirements from the definition of noncombustible (material)
2. It makes NFPA 1144 consistent with NFPA 101 and NFPA 5000 (as well as NFPA 1) in terms of the requirements for noncombustible materials.
3. It achieves consistency of definitions within the NFPA Glossary of Terms.

The proposed action is consistent with what NFPA 101 and NFPA 5000 did in the 2012 cycle.

The proposed action does not require the user of NFPA 1144 to follow NFPA 101 requirements but simply extracts materials so that the concept and the requirements for noncombustible materials are consistent between NFPA 1144 and NFPA 101.

Committee Meeting Action: Reject

Committee Statement: The committee feels that it is important to define terms in the definition chapter of the document per NFPA manual of style. The reference to NFPA 101 was included in the annex during the ROP in proposal 1144-9.

1144-6 Log #5

Final Action: Reject

(3.3.17 Noncombustible (Material) and 4.1.4)

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-9

Recommendation: Revise text to read as follows:

~~3.3.17* Noncombustible (material). Any material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. See 4.1.4.~~

~~A.3.3.17 Additional information is available in NFPA 101, Life Safety Code[®], 2012 Edition.~~

~~A material that complies with any of the following is considered a noncombustible material;~~

~~(1) A material passing ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C~~

~~(2) A material complying with the pass/fail criteria of ASTM E 136 when tested in accordance with the test method and procedure in ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750°C~~

~~(3) An inherently noncombustible material, including but not limited to steel, concrete, masonry and glass, is not required to be tested.~~

~~Additional information is available in NFPA 101, Life Safety Code[®], 2009 Edition:~~

~~4.1.4* A material that complies with any of the following shall be considered a noncombustible material. [101, 4.6.14.1, 2012]~~

~~(1)* A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. [101, 4.6.14.1(1), 2012]~~

~~(2) A material that is reported as passing ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C, shall be considered a noncombustible material. [101, 4.6.14.1(2), 2012]~~

~~(3) A material that is reported as complying with the pass/fail criteria of ASTM E 136 when tested in accordance with the test method and procedure in ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C, shall be considered a noncombustible material. [101, 4.6.14.1(3), 2012]~~

~~A.4.1.4 The provisions of 4.1.4 do not require inherently noncombustible materials to be tested in order to be classified as noncombustible materials. [101, A.4.6.14, 2012]~~

~~A.4.1.4(1) Examples of such materials include steel, concrete, masonry and glass. [101, A.4.6.14.1(1), 2012]~~

~~Also, add ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C (2011) and ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C (2009a) to Section 2.3.1 on referenced ASTM publications.~~

~~Also, add NFPA 101 to Section 2.4 on references for extracts in mandatory sections.~~

~~Also, delete ASTM E 136, Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C (2011) and ASTM E 2652, Standard Test Method for Behavior of Materials in a Tube Furnace with a Cone-shaped Airflow Stabilizer, at 750 Degrees C (2009a) from Section D.1.2.2 on Informational References from ASTM.~~

Substantiation: The proposed action accomplishes the following:

1. It eliminates requirements from the definition of noncombustible (material)
2. It makes NFPA 1144 consistent with NFPA 101 and NFPA 5000 (as well as NFPA 1) in terms of the requirements for noncombustible materials.
3. It achieves consistency of definitions within the NFPA Glossary of Terms.

The proposed action is consistent with what NFPA 101 and NFPA 5000 did in the 2012 cycle.

The proposed action does not require the user of NFPA 1144 to follow NFPA 101 requirements but simply extracts materials so that the concept and the requirements for noncombustible materials are consistent between NFPA 1144 and NFPA 101.

Committee Meeting Action: Reject

Committee Statement: The committee does not feel that 4.1.4 is the proper location for this information and the committee does not want to eliminate the definition. The committee recognizes the need to further define the terms and test methods in the text of the document in future revision cycles.

1144-7 Log #8
(5.2.1)

Final Action: Accept in Principle in Part

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-14

Recommendation: Revise text to read as follows:

5.2.1 The requirements for roof covering assemblies shall be as follows:

(1) Only listed roof covering, tested and rated in accordance with ASTM E 108, *Standard Test Methods for Fire Tests of Roof Coverings*, or equivalent, shall be used.

(2) The specific class shall be consistent with the wildland fire hazard assessment as determined by the AHJ.

(3) Roof gutters, down spouts and connectors shall be noncombustible and covered with an approved means to prevent the accumulation of debris.

~~(4) Roof gutters, down spouts and connectors shall be ignition-resistant.~~

5.2.2 Roof gutters, down spouts and connectors shall be noncombustible and covered with an approved means to prevent the accumulation of debris.

Renumber Sections 5.2.2 through 5.2.7 as 5.2.3 through 5.2.8.

Substantiation: The requirements in (3) and in (4) are not consistent with one another, since if a material is an ignition resistant material, in accordance with the requirements in NFPA 1144 (Section 3.3.13), it is likely to be combustible. The committee probably understood this and replaced the proposed language by the new language, but that was not fully clear in the ROP. This comment is, in that regard, simply confirmation of what probably was the intended committee action.

The renumbering of sections is recommended because roof gutters, downspouts and connectors are not part of roof covering assemblies and are not tested in accordance with ASTM E108. Moreover, they need not be tested at all, since they are noncombustible.

Committee Meeting Action: Accept in Principle in Part

Revise text and renumber accordingly;

5.2* **Roof Design and Materials.**

5.2.1 The requirements for roof covering assemblies shall be as follows:

(1) Only listed roof covering, tested and rated in accordance with ~~NFPA 256, *Standard Methods of Fire Tests of Roof Coverings*~~, ASTM E 108, *Standard Test Methods for Fire Tests of Roof Coverings*, or equivalent, shall be used.

(2) The specific class shall be consistent with the wildland fire hazard assessment as determined by the AHJ.

~~(3) Roof gutters, down spouts and connectors shall be noncombustible and covered with an approved means to prevent the accumulation of debris.~~

5.2.2 Roof gutters, down spouts and connectors shall be noncombustible and covered with an approved means to prevent accumulation of debris.

Committee Statement: The committee agrees with the intent of this comment, but recognizes that the Committee Action on Proposal 1144-14 already has excluded the following text;

~~(4) Roof gutters, down spouts and connectors shall be ignition-resistant.~~

The committee agrees with the creation of a new section.

1144-8 Log #7
(5.2.1(3))

Final Action: Accept

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-13

Recommendation: *Continue rejecting this comment.*

Substantiation: No light transmitting materials will comply with the requirements of ignition-resistant materials. If the technical committee were to accept this proposal it would be equivalent to banning skylights.

Committee Meeting Action: Accept

1144-9 Log #9
(5.6.1)

Final Action: Reject

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-19

Recommendation: Revise text to read as follows:

5.6.1* Exterior Glazing materials for exterior windows, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block, or have a fire resistance rating of no less than 20 minutes or glass blocks. The windows and skylights shall exhibit a fire resistance rating of no less than 20 minutes.

Substantiation: The proponent highlighted a potential problem. The section discusses the glazing materials only but the full windows or skylights (including their frames) also need to be ones exhibiting a fire resistance rating of no less than 20 minutes.

Committee Meeting Action: Reject

Committee Statement: The committee feels that the current text provides adequate protection and this comment would make the requirement more restrictive.

1144-10 Log #CC1
(A.3.3.13)

Final Action: Accept

Submitter: Technical Committee on Forest and Rural Fire Protection,

Comment on Proposal No:

Recommendation: Revise text to read as follows;

A.3.3.13 Ignition-Resistant Material. Applicable standards include UL 723, *Test for Surface Burning Characteristics of Building Materials* and; ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials* and ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)(2011)*; and NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*. Certain jurisdictions might have testing requirements that are different. There are other factors that should be considered in addition to burning characteristics when evaluating ignition-resistant materials; such as but not limited to weathering, abrasion, or other durability issues.

Substantiation: The committee added additional language to the annex in order to clarify that there are other factors that need to be addressed in addition to burning characteristics. The committee also feels that the proposed addition belongs in the Annex so that other testing methods are not excluded.

Committee Meeting Action: Accept

1144-11 Log #10
(D.1.2.2)

Final Action: Accept in Principle

Submitter: Marcelo M. Hirschler, GBH International

Comment on Proposal No: 1144-4

Recommendation: Revise text to read as follows:

D.1.2.2 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, 2011a ~~2010b~~.

ASTM E 96/E 96M, *Standard Test Methods for Water Vapor Transmission of Materials*, 2010 ~~2005~~.

Substantiation: Standards update.

Committee Meeting Action: **Accept in Principle**

Add Text to read as follows;

ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, 2011a ~~2010b~~.

ASTM E 96/E 96M, *Standard Test Methods for Water Vapor Transmission of Materials*, 2010 ~~2005~~.

ASTM E2768, *Standard Test Method for Extended Duration Surface Burning Characteristics of Building Materials (30 min Tunnel Test)* (2011)

Committee Statement: The committee agrees with these updates to the references in D.1.2.2 and would like to add a reference to ASTM E2768.