



## National Fire Protection Association

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# MEMORANDUM

TO: NFPA Technical Committee on Fire Test

FROM: Tracy Golinveaux, Staff Liaison

DATE: October 25, 2010

SUBJECT: NFPA 275 ROP TC **FINAL** Ballot Results (F2011)

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The Final Results of the NFPA 275 ROP Letter Ballot are as follows:

- 21 Members Eligible to Vote**
- 4 Not Returned** (A. Marshall, K. Newman, D. Sheppard and T. Talley)
- 12 Affirmative on All**
- 4 Negatives** (J. Beitel, W. Koffel, R. McPhee and K. Sumathipala on one or more proposal as noted in report)
- 1 Abstentions** on one or more proposals as noted in report (R. Thornberry)  
**Please note there was no more than 1 abstention on any ballot item.**

There are two criteria necessary to pass ballot [(1) affirmative  $\frac{2}{3}$  vote and (2) simple majority].

- (1) The number of affirmative votes needed for the proposal to pass is **11**.  
(21 eligible to vote - 4 not returned - 1 abstentions = 16 x 0.66 = 10.56)
- (2) In all cases, an affirmative vote of at least a simple majority of the total membership eligible to vote is required. This is the calculation for simple majority:  
[21 eligible  $\div$  2 = 10.5 = (**11**)

Reasons for negative votes, etc. from alternate members are not included unless the ballot from the principal member was not received.

According to the final ballot results, all ballot items received the necessary  $\frac{2}{3}$  required affirmative votes to pass ballot.

275-1 Log #CP1  
(Entire Document)

**Final Action: Accept**

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**Submitter:** Technical Committee on Fire Tests,

**Recommendation:** Review entire document to:

- 1) Update any extracted material by preparing separate proposals to do so, and
- 2) review and update references to other organizations documents, by preparing proposal(s) as required.

**Substantiation:** To conform to the NFPA Regulations Governing Committee Projects.

**Committee Meeting Action:** **Accept**

**Committee Statement:** See 275-6 (Log #CP3) for the committee action.

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

275-2 Log #9

Final Action: Accept in Principle

(Title, 1.1, 1.2, 1.3, 3.3.2 Metal Composite Material (MCM), 3.3.3 Thermal Barrier, 5.1.6.1, and A.1.1.1, )

Submitter: Rick Thornberry, The Code Consortium, Inc. / Rep. 3A Composites USA, Inc.

Recommendation: Revise text to read as follows:

Standard Method of Fire Tests for the Evaluation of Thermal Barriers ~~Used Over Foam Plastic Insulation~~

1.1 Scope.

1.1.1\* This method of fire tests for qualifying a thermal barrier for protecting foam plastic insulation or metal composite materials (MCM) ( herein referred to as a thermal barrier) is applicable to building construction materials, products, or assemblies intended to be used to protect foam plastic insulation or MCM from direct fire exposure.

1.1.2 The performance of the thermal barrier is evaluated by its ability to limit the temperature rise on its unexposed surface and by the ability of the thermal barrier to remain in tact in order to provide protection from ignition of the foam plastic insulation or MCM during a standard fire exposure.

1.2.2 Part II evaluates the ability of the thermal barrier to remain intact in order to provide protection from ignition of the foam plastic insulation or MCM by conducting a test of the thermal barrier and foam plastic insulation or MCM assembly in accordance with a standard room/corner fire test method.

1.3.1 This method of fire tests evaluates the ability of the thermal barrier to prevent ignition of foam plastic insulation or MCM from a standard fire exposure for a period of 15 minutes.

1.3.2 This method of fire tests also evaluates the ability of the thermal barrier to remain in place and prevent ignition of foam plastic insulation or MCM for a period of 15 minutes during a standard room/corner fire exposure.

3.3.2 Metal Composite Material (MCM). A factory-manufactured panel consisting of metal skins bonded to both faces of a core made of any plastic other than a foam plastic insulation as defined in 3.3.1. [5000, 2009]

3.3.3 Thermal Barrier for ~~Foam Plastic Insulation (Thermal Barrier)~~. A material, product, or assembly that prevents or delays ignition of foam plastic insulation or MCM by limiting the temperature rise on the surface of the foam plastic insulation or MCM and by acting as a flame exposure barrier to the foam plastic insulation or MCM for a 15-minute time period.

5.1 Test Method. The thermal barrier and foam plastic insulation or MCM shall be tested in accordance with NFPA 286, *Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*, FM 4880, UL 1040, or UL 1715.

5.1.1 The specific type of foam plastic insulation or MCM to be protected by the thermal barrier shall be installed on a substrate and shall form the interior surface of the test walls and ceiling.

5.1.2 The thermal barrier shall be installed over the interior face of the foam plastic insulation or MCM in the manner for which recognition is desired, ~~except as indicated in 5.1.3.~~

5.1.3 ~~If the thermal barrier is intended to be used over metal composite materials (MCM);~~ The foam plastic insulation or the MCM shall be tested at the maximum thickness intended for use.

5.1.4 The assemblage of foam plastic insulation or MCM and applied thermal barrier described in 5.1.2 ~~or 5.1.3, as applicable,~~ shall be considered the test assembly.

6.1 Test Report

(8) Density, thickness, and type of foam plastic insulation or MCM used in the Part II test

A.1.1.1 Model building codes require foam plastic insulation and, in some installations, metal composite materials (MCM) to be covered by, or separated from the interior of the building by, a thermal barrier to reduce the possibility of ignition or delay its occurrence. The typical time specified is 15 minutes based on a fire exposure similar to that in NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*, ASTM E119, or UL 263. The fire exposure conditions in these test methods are similar.

**Substantiation:** This test method also applies to Metal Composite Materials (MCM). See Section 5.1.3.

**Committee Meeting Action:** Accept in Principle

Accept all changes except for section 3.3.2 and 3.3.3 revised below:

3.3.2 Metal Composite Material (MCM). A factory-manufactured panel consisting of metal skins bonded to both faces of a core made of any plastic other than a foam plastic insulation. [5000, 2009]

3.3.3. Thermal barrier for ~~Foam Plastic Insulation (Thermal Barrier)~~: A material, product, or assembly that prevents or delays ignition of foam plastic insulation an unexposed surface by limiting the temperature rise ~~on the surface of the foam plastic insulation~~ and by acting as a flame exposure barrier ~~to the foam plastic insulation~~ for a 15-minute time period.

**Committee Statement:** The definitions should comply with the manual of style format and the definition of thermal

barrier should not be limited to foam plastic.

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 16 Abstain: 1

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

**Explanation of Abstention:**

THORNBERRY, R.: I am required to abstain on this proposal in accordance with the NFPA Regulations for Technical Committees since I have a direct client interest in this ballot item.

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275-3 Log #10

**Final Action: Accept**

(1.2, 1.3, 1.3.3 and 1.3.4)

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**Submitter:** Rick Thornberry, The Code Consortium, Inc. / Rep. 3A Composites USA, Inc.

**Recommendation:** Revise text to read as follows:

Re-number and redesignate Section 1.2 Purpose as Section 1.3 Application and re-number and redesignate Section 1.3 Application as Section 1.2 Purpose and relocate accordingly. Re-number Sections 1.3.3 and 1.3.4 as Sections 1.1.3 and 1.1.4, respectively, and relocate to Section 1.1 Scope. Also revise current Sections 1.3.1 and 1.3.2 as follows:

1.3.1 The purpose of this method of fire tests is to evaluate the ability of the thermal barrier to prevent ignition of foam plastic insulation from a standard fire exposure for a period of 15 minutes.

1.3.2 The purpose of this method of fire tests is to also evaluate the ability of the thermal barrier to remain in place and prevent ignition of foam plastic insulation for a period of 15 minutes during a standard room/corner fire exposure.

**Substantiation:** These revisions make the standard more consistent with the NFPA Manual of Style.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 16 Abstain: 1

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

**Explanation of Abstention:**

THORNBERRY, R.: I am required to abstain on this proposal in accordance with the NFPA Regulations for Technical Committees since I have a direct client interest in this ballot item.

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275-4 Log #1

**Final Action: Accept**

(1.2.1)

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

1.2.1 Part I measures the temperature rise on the unexposed face of the thermal barrier when it is subjected to a standard fire exposure specified in NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*, ASTM E 119, or ANSI/UL 263.

**Substantiation:** Add ANSI approval designation to ANSI/UL 263.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

275-5 Log #11

Final Action: Accept

(1.2.1, 2.2, 4.6.2.2, 6.1(4), A.1.1.1, and B.1.1)

**Submitter:** Rick Thornberry, The Code Consortium, Inc. / Rep. 3A Composites USA, Inc.

**Recommendation:** Delete text to read as follows:

Delete the reference to NFPA 252 in the following Sections:

1.2.1, 2.2, 4.6.2.2, 6.1(4), A.1.1.1, and B.1.1

**Substantiation:** NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*, is in the process of being deleted as an NFPA standard .

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 16 Abstain: 1

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

**Explanation of Abstention:**

THORNBERRY, R.: I am required to abstain on this proposal in accordance with the NFPA Regulations for Technical Committees since I have a direct client interest in this ballot item.

275-6 Log #CP3

Final Action: Accept

(Chapter 2)

**Submitter:** Technical Committee on Fire Tests,

**Recommendation:** Revise Chapter 2 as follows:

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.

National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

~~NFPA 251, Standard Methods of Tests of Fire Resistance of Building Construction and Materials, 2006 edition.~~

NFPA 286, Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth, 2006 edition.

2.3 Other Publications.

2.3.1 ASTM Publications.

ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM E 119, Standard Test Methods for Fire Tests of Building Construction and Materials, ~~2000~~, 2010a

2.3.2 FMGR Publications.

FM Global, 1301 Atwood Avenue, P.O. Box 7500, Johnston, RI 02919.

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, ~~1994~~, 2007

2.3.3 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 263, Standard for Fire Tests of Building Construction and Materials, 2003, reaffirmed 2007.

ANSI/UL 1040, Standard for Fire Test of Insulated Wall Construction, 1996, including revisions through September, 2007

ANSI/UL 1715, Standard for Fire Test of Interior Finish Material, 1997, including revisions through April 8, 2008

2.3.4 Other Publications.

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

2.4 References for Extracts in Mandatory Sections.

NFPA 5000®, Building Construction and Safety Code®, 2009 edition.

**Substantiation:** To conform to the NFPA Regulations Governing Committee Projects.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

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275-7 Log #2  
(2.3.3)

**Final Action: Accept**

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

2.3.3 UL Publications.

Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 263, Standard for Fire Tests of Building Construction and Materials, 2003, reaffirmed 2007.

ANSI/UL 1040, Standard for Fire Test of Insulated Wall Construction, 1996, including revisions through September 17, 2007.

ANSI/UL 1715, Standard for Fire Test of Interior Finish Material, 1997, including revisions through April 8, 2008.

**Substantiation:** Add ANSI approval designation as applicable. Update referenced standard to include most recent revisions.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

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275-8 Log #3  
(4.5.3)

**Final Action: Accept**

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

4.5.3 The test furnace shall be gas fired and shall be capable of generating and containing a fire exposure controlled to the time-temperature curve as specified in NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*, ASTM E 119, or ANSI/UL 263 for a period of 15 minutes.

**Substantiation:** Add ANSI approval designation to ANSI/UL 263.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

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275-9 Log #4  
(4.6.2.2)

**Final Action: Accept**

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

4.6.2.2 The furnace thermocouples shall be as described in NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*, ASTM E 119, or ANSI/UL 263.

**Substantiation:** Add ANSI approval designation to ANSI/UL 263.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

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275-10 Log #5  
(5.1)

**Final Action: Accept**

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

5.1 Test Method.

The thermal barrier and foam plastic insulation shall be tested in accordance with NFPA 286, *Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*, FM 4880, ANSI/UL 1040, or ANSI/UL 1715.

**Substantiation:** Add ANSI approval designation to ANSI/UL 1040 and ANSI/UL 1715.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

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275-11 Log #6  
(5.2.1)

**Final Action: Accept**

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

5.2.1 The conditions of acceptance for fire tests conducted in accordance with FM 4880, ANSI/UL 1040, or ANSI/UL 1715 shall be as specified in the fire test standard used.

**Substantiation:** Add ANSI approval designation to ANSI/UL 1040 and ANSI/UL 1715.

**Committee Meeting Action:** Accept

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

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275-12 Log #CP2  
(5.2.3)

Final Action: Reject

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Submitter: Technical Committee on Fire Tests,

Recommendation: Add new section 5.2.3:

5.2.3 When the fire performance of the thermal barrier does not meet the acceptance criteria described in 5.2.1 or 5.2.2, the thermal barrier shall be acceptable for use if it remains in place and prevents the foam plastic insulation from contributing to the fire growth for the test period conducted through visual inspection of the foam.

A.5.2.3 This alternate acceptance criterion recognizes that some materials can meet the Temperature Transmission test but may fail the acceptance criteria in the Integrity Fire test. Even though the thermal barrier protects the foam plastic insulation, its own nature may cause excessive flame-spread or flashover to occur, prior to any involvement of the foam plastic insulation. One example of this type of material is 19 mm (0.75 inch) thick plywood.

Substantiation: Some materials can be used as a thermal barrier even though they may not meet the test requirements of section 5.2.1.

Committee Meeting Action: Reject

Committee Statement: Accepting this proposal will be equivalent to removing the acceptance criteria.

Number Eligible to Vote: 21

Ballot Results: Affirmative: 12 Negative: 4 Abstain: 1

Ballot Not Returned: 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

Explanation of Negative:

BEITEL, J.: I vote negative because there are materials that can meet the fire-resistance test criteria and can provide protection to foam plastic in a room/corner test but due to their flammability fail the criteria for the room/corner tests. These materials should be allowed to be used as a thermal barrier.

KOFFEL, W.: I agree with the ballot comments of Beitel and Thornberry.

MCPHEE, R.: I agree with Jesse Beitel's comments that accompanied his own negative.

SUMATHIPALA, K.: Wood structural panels currently meets the thermal barrier requirements and should be continued to be allowed per NFPA 275

Explanation of Abstention:

THORNBERRY, R.: I am required to abstain on this proposal in accordance with the NFPA Regulations for Technical Committees since I have a direct client interest in this ballot item.

However, if I could vote, I would vote Negative on this item since I believe it is appropriate to allow such an exception to the testing of thermal barriers where the material used as the thermal barrier would actually cause the material to fail that portion of the thermal barrier test based on the acceptance criteria for the test. The purpose of this part of the acceptance criteria for testing thermal barriers is to determine that the foam plastic insulation or other material being protected by the thermal barrier (such as MCMs) does not become involved in the fire that may be exposing the thermal barrier protecting the material for a minimum duration of 15 minutes. If the thermal barrier material burns, yet still protects the foam plastic insulation or other material so that it does not become involved in the fire, so be it. Such performance should be satisfactory since the concern is to not have the foam plastic insulation involved in the early stages of a fire. Certainly, a visual inspection of the foam plastic insulation at the end of the test after the thermal barrier is removed would indicate if the foam plastic insulation became involved as a result of the fire exposure.

These room corner tests used as part of the thermal barrier fire test for the determination of the ability of the thermal barrier to remain in place during a room corner fire test exposure have acceptance criteria developed for other reasons. The test methods were referenced since they provided the most readily available and referenced test methods for implementing a test to determine the ability of the thermal barrier to remain in place and protect the foam plastic insulation or other material it is intended to protect for the 15 minute fire exposure in the room corner test apparatus. However, these room corner tests have been developed with acceptance criteria for assessing the performance of interior finish materials to satisfy other code requirements which may not be applicable to the material being used as the thermal barrier in actual applications in buildings. Therefore, it seems overly restrictive to require thermal barriers to meet the acceptance criteria for these room corner tests in order to demonstrate that they will remain in place for the duration of the 15 minute fire exposure.

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275-13 Log #7  
(A.1.1.1)

**Final Action: Accept**

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

A.1.1.1 Model building codes require foam plastic insulation to be covered by a thermal barrier to reduce the possibility of ignition or delay its occurrence. The typical time specified is 15 minutes based on a fire exposure similar to that in NFPA 251, *Standard Methods of Tests of Fire Resistance of Building Construction and Materials*, ASTM E 119, or ANSI/UL 263. The fire exposure conditions in these test methods are similar.

**Substantiation:** Add ANSI approval designation to ANSI/UL 263.

**Committee Meeting Action:** **Accept**

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.

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275-14 Log #8  
(B.1.2.2)

**Final Action: Accept**

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**Submitter:** Bob Eugene, Underwriters Laboratories Inc.

**Recommendation:** Revise text to read as follows:

B.1.2.2 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062-2096.

ANSI/UL 263, Standard for Fire Tests of Building Construction and Materials, 2003, reaffirmed 2007.

**Substantiation:** Add ANSI approval designation as applicable. Update referenced standard to include most recent revisions.

**Committee Meeting Action:** **Accept**

**Number Eligible to Vote:** 21

**Ballot Results:** Affirmative: 17

**Ballot Not Returned:** 4 Marshall, A., Newman, K., Sheppard, D., Talley, T.