



Standard Practice for Specimen Preparation and Mounting of Tapes to Assess Surface Burning Characteristics¹

This standard is issued under the fixed designation E2688; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice describes a procedure for specimen preparation and mounting when testing tapes up to and including 8 in. (203.2 mm) widths to assess flame spread and smoke development as surface burning characteristics using Test Method [E84](#). Tapes in excess of 8 in. (203.2 mm) are to be tested in full coverage as applied to fiber cement board as described in Test Method [E84](#).

1.2 This practice applies to tapes intended for various uses within buildings. The tapes addressed in this practice are not able to be supported by their own structural characteristics during the test.

1.3 Testing is conducted in accordance with Test Method [E84](#).

1.4 This practice does not provide pass/fail criteria that can be used as a regulatory tool.

1.5 This practice does not apply to materials for which the test specimen does not remain in place before and during the test until maximum flame propagation has occurred.

1.6 This practice is not for system evaluation. It is for the comparison of the materials only.

1.7 The results obtained by using this mounting procedure are confined to the materials themselves as tested and are not comparable to materials that are tested in a full tunnel width application.

1.8 Use the values stated in inch-pound units as the standard, in referee decisions. The values in the SI system of units are given in parentheses, for information only; see [IEEE/ASTM SI-10](#) for further details.

1.9 This fire standard cannot be used to provide quantitative measures.

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

1.11 This standard gives instructions on specimen preparation and mounting, but the fire-test-response method is given in Test Method [E84](#). See also Section [9](#).

1.12 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes shall not be considered requirements of the standard.

1.13 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

[C717](#) Terminology of Building Seals and Sealants

[E84](#) Test Method for Surface Burning Characteristics of Building Materials

[E176](#) Terminology of Fire Standards

[IEEE/ASTM SI-10](#) International System of Units (SI): The Modern Metric System

3. Terminology

3.1 *Definitions:* For definitions of terms used in this practice and associated with fire issues, refer to the terminology contained in Terminology [E176](#). For definitions of terms used in this practice associated with thin tapes refer to Terminology [C717](#).

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *self-supporting specimen, n*—a specimen that remains in place by its own structural characteristics both before and during the fire test.

4. Summary of Practice

4.1 This practice describes procedures for specimen preparation and mounting when testing tapes up to and including 8 in. (203.3 mm) in width to assess flame spread and smoke development as surface burning characteristics using Test Method [E84](#). Tapes in excess of 8 in. (203.2 mm) are to be tested in full coverage as applied to fiber cement board as described in Test Method [E84](#).

¹ This practice is under the jurisdiction of ASTM Committee [E05](#) on Fire Standards and is the direct responsibility of Subcommittee [E05.22](#) on Surface Burning.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

4.2 This practice applies only to those tapes from which it is not possible to develop specimens that are self-supporting by their own structural characteristics.

4.3 The tapes addressed in this practice shall be tested in accordance with the specimen preparation and mounting procedures described in this practice, using Test Method E84.

5. Significance and Use

5.1 Building products made with tapes are often used for applications for which Test Method E84 is used for compliance with building, life safety code or mechanical code requirements. This practice describes, in detail, specimen mounting procedures for those tapes which are not able to be supported by their own structural characteristics during the test.

5.2 Codes are often silent with regard to testing tapes for the assessment of flame spread and smoke development as surface burning characteristics. This practice describes specimen preparation and mounting procedures for such materials and products.

5.3 The material shall be representative of the materials used in actual field installations.

5.4 The limitations for this procedure are those associated with Test Method E84.

6. Conditioning

6.1 The specimens used for testing shall be conditioned as described in the section on specimen conditioning in Test Method E84.

7. Specimen Preparation and Mounting

7.1 *Tape width 2 in. (50.8 mm) or less:*

7.1.1 Specimens shall consist of two 24.5 ± 0.5 ft (7.47 ± 0.152 m) long lengths of tape installed down the center line of each burner (See Fig. 1) of the tunnel. Each length of tape shall be as supplied for use in the field. Each specimen shall consist of either one strip 2 in. (50.8 mm) wide or it shall consist of a number of smaller strips to be laid side by side to form a width of at least 2 in. (50.8 mm). See Fig. 1.

7.1.2 The specimens shall be centered so that they align on the center line of the burner nozzles.

7.1.3 The tape shall be applied directly to a fiber-cement board using only the manufacturer applied tape adhesive for testing. If the tape is intended to be used only on metal/foil surfaces, apply to sheet metal not less than 0.016 in. (0.4 mm) thick.

7.1.4 When there is a concern over adhesion to the fiber cement board, it is permissible to used nails or staples to hold the tape in place. No more than one staple per 2 ft (610 mm) of tape shall be used.

7.2 *Tapes with widths greater than 2 in. (50.8 mm) up to and including 8 in. (203.2 mm):*

7.2.1 Specimens shall consist of two 24.5 ± 0.5 ft (7.47 ± 0.152 m) long lengths of tape installed 8 inches (203.2 mm) on center down the center of the tunnel. Each length of tape shall be the width as supplied for use in the field. See Fig. 2.

7.2.2 The specimens shall be centered so that they align on the center line of the burner nozzles.

7.2.3 The tape shall be applied directly to a fiber-cement board using only the manufacturer applied tape adhesive for testing.

7.2.4 When there is a concern over adhesion to the fiber cement board, it is permissible to used nails or staples to hold the tape in place. No more than one staple per 2 ft (610 mm) of tape shall be used.

7.3 *Tapes with widths greater than 8 in. (203.2 mm):*

7.3.1 Tapes in excess of 8 in. (203.2 mm) are to be tested in full coverage as applied to fiber cement board as described in Test Method E84.

8. Testing of Specimens

8.1 All testing shall be conducted using the methodology described in Test Method E84.

9. Operator Safety

9.1 The primary concerns for operator safety are associated with the fire-test-response procedure, Test Method E84, and not with the specimen preparation procedure. Safety recommendations are included in Test Method E84.

10. Report

10.1 Report a detailed description of the specimen being tested.

10.2 Report a detailed description of the specimen preparation method used, per Section 7.

10.3 Report all the information required in the reporting section of Test Method E84, including observations, graphical results and the values of the flame spread index and of the smoke developed index in each test.

11. Keywords

11.1 fire test; flame spread; smoke developed; tapes

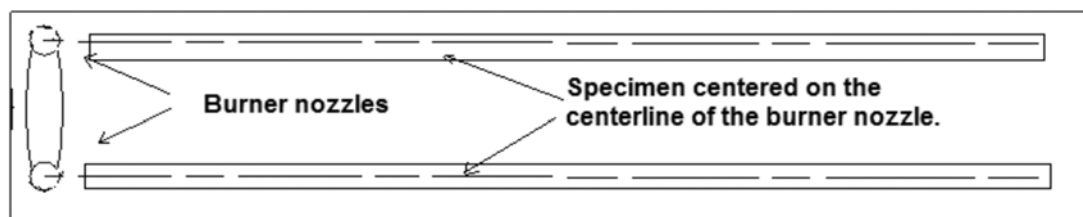


FIG. 1 Schematic of Specimen Placement

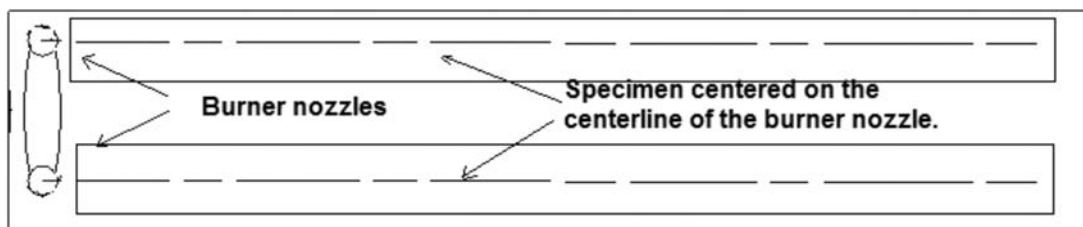


FIG. 2 Schematic of Specimen Placement for Tapes Larger than 2 in. up to 8 in.

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