



Standard Test Methods for Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members¹

This standard is issued under the fixed designation E605/E605M; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

^{ε1} NOTE—Designation was changed to dual and units information was corrected editorially in August 2015.

1. Scope

1.1 These test methods cover procedures for determining thickness and density of sprayed fire-resistive material (SFRM) used in structural assemblies. These include sprayed fiber and cementitious types. The test methods are applicable to both laboratory and field procedures, as indicated in Section 7.

1.2 These test methods require the application of SFRM in accordance with the manufacturers' published instructions. The apparatus, materials, and procedure used to apply the SFRM for laboratory tests shall be the same as is used for the construction of either of the test assemblies described in Test Methods E119 and E84.

1.3 There is no intent in these test methods to establish levels of performance.

1.4 The values stated in either SI units or inch-pound units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

1.5 *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

¹ These test methods are under the jurisdiction of ASTM Committee E06 on Performance of Buildings and is the direct responsibility of Subcommittee E06.21 on Serviceability.

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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.

E84 Test Method for Surface Burning Characteristics of Building Materials

E119 Test Methods for Fire Tests of Building Construction and Materials

E631 Terminology of Building Constructions

3. Terminology

3.1 *Definitions*—For definitions of terms found in these test methods, refer to Terminology E631.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *density, n*—the weight³ per unit volume of the SFRM.

3.2.2 *sprayed fire-resistive materials, n*—materials that are sprayed onto substrates to provide fire-resistive protection of the substrates.

3.2.3 *thickness, n*—the distance measured from the substrate sprayed with the SFRM, through the SFRM, to the outer surface of the SFRM.

4. Summary of Test Method

4.1 The basic properties of density and thickness are determined using a thickness gage, scales, steel rules, and templates.

5. Significance and Use

5.1 Certain properties, namely thickness and density, of SFRM are basic. It is the intent of these test methods to provide procedures to determine these properties.

6. Apparatus

6.1 *Steel Rule*, graduated in at least 1 mm [¹/₁₆ in.] intervals.

6.2 *Thickness Gage*, consisting of a needle or a pin and a sliding disk perpendicular to the needle (see Fig. 1). The pin shall be of sufficient length for the thickness of the material to be measured. This gage shall be graduated in 1 mm [¹/₁₆ in.] intervals. This disk shall be perpendicular to the needle at all times and shall have a friction device to grip the pin unless

³ Although *mass* is determined, the term *weight* is used in these test methods as a field-accepted substitute.