



Designation: F387 – 17 (Reapproved 2022)

Standard Test Method for Measuring Thickness of Resilient Floor Covering With Foam Layer¹

This standard is issued under the fixed designation F387; 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.

1. Scope

1.1 This test method covers the determination of the thickness of resilient non-textile floor coverings containing a foam layer as part of the construction.

1.2 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.3 *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.*

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method

E177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods

3. Significance and Use

3.1 The overall thickness or caliper of resilient flooring is a basic physical property. However, conventional means of measuring the thickness, such as a hand micrometer or regular

dial micrometer, are not applicable for foam-layer products due to the error from compressing the foam. This test method minimizes this type of measuring error and still retains the convenience and speed of measurement.

3.2 Measurement of the product thickness may be required for quality control purposes or to ensure compliance with applicable specifications.

4. Apparatus

4.1 The apparatus shall consist of a comparator stand having a flat anvil base at least 6 in. (15 cm) square, equipped with a thickness gauge graduated to 0.001 in. (0.02 mm). The gauge shall be equipped with a flat presser foot 0.250 in. $\pm$ 0.01 in. (6.35 mm $\pm$ 0.5 mm) in diameter. The foot shall exert a force of 1 ozf $\pm$ 0.1 ozf (0.28 N $\pm$ 0.03 N) maximum.

4.1.1 The contact surfaces of the anvil and thickness gauge presser foot shall be parallel within 0.0001 in. (0.003 mm).

5. Test Specimen

5.1 The specimen shall be approximately 2 in. by 4 in. (50 mm by 100 mm).

6. Calibration

6.1 Calibrate the gauge by means of gauge blocks or shim stock of known thickness appropriate to the thickness of the material being measured.

7. Conditioning

7.1 Condition the specimens at least 24 h at 73 °F $\pm$ 3 °F (23 °C $\pm$ 2 °C) and 50 $\pm$ 10 % relative humidity and test in the same environment.

8. Procedure

8.1 Level the instrument.

8.2 Clean the anvil and the presser foot surfaces.

8.3 Zero the instrument by allowing the presser foot to rest on the anvil.

8.4 Select an unembossed flat area that is substantially larger, if possible, than the presser foot and at least 0.75 in. (19 mm) from any edge of the specimen.

¹ This test method is under the jurisdiction of ASTM Committee F06 on Resilient Floor Coverings and is the direct responsibility of Subcommittee F06.20 on Test Methods.

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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.