Designation: F387 – 02 (Reapproved 2008)

Standard Test Method for Measuring Thickness of Resilient Floor Covering With Foam Layer[1]

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 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 *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. Significance and Use

2.1 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.

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

3. Apparatus

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

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

4. Test Specimen

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

5. Calibration

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

6. Conditioning

6.1 Condition the specimens at least 24 h at 73 ± 3°F (23 ± 2°C) and 50 ± 5 % relative humidity and test in the same environment.

7. Procedure

7.1 Level the instrument.

7.2 Clean the anvil and the presser foot surfaces.

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

7.4 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.

7.5 Raise the presser foot and insert the test specimen with the wearing surface down.

7.6 Lower the foot slowly to rest on the specimen without impacting it.

7.6.1 Hold the specimen flat taking precautions not to compress it in the vicinity of the foot.

7.7 Upon contact with the surface, take a reading from the gage to the nearest 0.001 in. (0.02 mm). Take all measurements at least 0.75 in. (19 mm) from any edge of the specimen.

7.8 Take five measurements per specimen distributed evenly across the length of the specimen unless otherwise specified.

8. Calculation

8.1 Calculate the average thickness of each specimen.

9. Report

9.1 Report the average thickness of each specimen to the nearest 0.001 in. (0.02 mm).

9.2 Report the minimum and maximum thickness, or both if required by specification.

[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 - Products Construction/Materials.

Current edition approved Nov. 1, 2008. Published December 2008. Originally approved in 1973. Last previous edition approved in 2002 as F387 – 02. DOI: 10.1520/F0387-02R08.