



Standard Test Method for Quality of Cut (Joint Tightness) of Resilient Floor Tile¹

This standard is issued under the fixed designation F 511; 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 test method covers a means of measuring and evaluating the quality of cut (joint tightness) of square or rectangular resilient floor tile. Characteristics that detract from a monolithic (seamless) appearance, such as burred, chipped, nicked, or beveled edges, or bow cut or rounded corners, are measured or observed, or both.

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. Referenced Documents

2.1 Federal Standard:²

501a Floor Coverings, Resilient, Non-Textile: Sampling and Testing

3. Significance and Use

3.1 Installations of resilient floor tile require tight joints if satisfactory appearance is to result. The quality of cut of resilient tile is determined by this test method.

4. Apparatus

4.1 *Shadow Box*, consisting of a backlighted poly(methyl methacrylate) (PMMA) plate measuring 28 by 28 by $\frac{3}{8}$ in. (710 by 710 by 9.5 mm). One metal strip, 28 in. long by $\frac{3}{4}$ in. (19 mm) wide by $\frac{1}{8}$ in. (3.2 mm) thick, and one metal strip, 27 $\frac{1}{4}$ in. (692 mm) long by $\frac{3}{4}$ in. wide by $\frac{1}{8}$ in. thick, are permanently attached to the PMMA plate to form an included $90^\circ \pm 10$ -sec angle at the lower left-hand corner of the PMMA plate. This is suitable for tiles up to 12 by 12 in. (305 by 305 mm). For larger tiles, longer metal strips will have to be used, such that the length of each strip is greater than twice the longest dimension of the tiles to be measured.

4.2 *Optical Comparator*³—Power illuminated magnifier, equipped to measure to the nearest 0.001 in. (0.02 mm).

4.3 *Feeler Gages*—As an alternative to the optical comparator described in 4.2, a set of feeler gages with a range from 0.001 to 0.035 in. (0.002 to 0.89 mm) for measuring to the nearest 0.001 in. (0.02 mm) may be used.

4.4 *Wire Gages*, sized in increments of 0.005 in. (0.13 mm) from 0.005 to 0.050 in. (0.13 to 1.3 mm).

5. Sampling

5.1 Sample in accordance with Paragraph 3, Section 5, of Federal Test Method 501a.

6. Test Specimen and Sample

6.1 The specimen (test unit) shall consist of four nominally square or rectangular tiles taken from a sample secured in accordance with Paragraph 4, Section 5, of Federal Test Method 501a.

7. Conditioning

7.1 Condition the test tiles in an atmosphere maintained at $73.4 \pm 3.6^\circ\text{F}$ ($23 \pm 1^\circ\text{C}$) and $50 \pm 5\%$ relative humidity for not less than 2 h prior to testing.

7.2 Conduct tests in an atmosphere maintained at $73.4 \pm 3.6^\circ\text{F}$ ($23 \pm 1^\circ\text{C}$) and $50 \pm 5\%$ relative humidity.

8. Procedure

8.1 After conditioning, place a tile from the four-tile test unit into the 90° angle formed by the two metal strips (4.1). Place the other three tiles of the test unit so as to form a four-tile square with tiles in firm contact. Do not force the tiles against each other. Normally, place each adjacent tile so that alternative tiles are at 90° to each other as regards manufacturing direction (a checkerboard design). If the tile being tested has arrows on the back and instructions call for all tile to be installed in one direction, lay the test tile on the PMMA plate in that manner. If manufacturing direction cannot be determined by a visual inspection of the tile, make the four-tile square in a random manner. Place rectangular tiles with the longer sides in the same direction to make a four-tile rectangle.

¹ This test method is under the jurisdiction of ASTM Committee F-6 on Resilient Floor Coverings, and is the direct responsibility of Subcommittee F06.20 on Test Methods—Products Construction/Materials.

Current edition approved March 10, 1998. Published June 1998. Originally published as F 511 – 77. Last previous edition F 511 – 93.

² Available from Specification Services, General Services Administration, 7th and D St., SW, Room 6654, Washington, DC 20407.

³ The sole source of supply of the apparatus known to the committee at this time is Titan Tool Supply Co., Inc., 68 Comet Ave., Buffalo, N.Y. 14216. If you are aware of alternative suppliers, please provide this information to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend.