



Designation: C499 – 09 (Reapproved 2014)

# Standard Test Method for Facial Dimensions and Thickness of Flat, Rectangular Ceramic Wall and Floor Tile<sup>1</sup>

This standard is issued under the fixed designation C499; 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 ( $\epsilon$ ) 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 facial dimensions and thickness of flat, rectangular ceramic wall and floor tile. This test method covers tile as defined in Terminology C242.

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.*

## 2. Referenced Documents

2.1 ASTM Standards:<sup>2</sup>

C242 Terminology of Ceramic Whitewares and Related Products

## 3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *major facial dimension*—the overall length or width of the tile, including the lugs on opposite sides.

3.1.2 *major thickness*—the thickness of tile, including any maximum protuberances or ridges on the back.

3.1.3 *minor facial dimension*—the length or width of the tile exclusive of the lugs.

3.1.4 *minor thickness*—the thickness of tile that does not include maximum protuberances or ridges.

<sup>1</sup> This test method is under the jurisdiction of ASTM Committee C21 on Ceramic Whitewares and Related Products and is the direct responsibility of Subcommittee C21.06 on Ceramic Tile.

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<sup>2</sup> 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. Significance and Use

4.1 This test method provides a means of determining whether a lot of tile meets specifications of variations in size and thickness. In specifications, the nominal size always refers to the minor facial dimension and the nominal thickness of a tile always refers to the major thickness.

## 5. Apparatus

5.1 A suitable measuring device such as a micrometer or dial indicator, reading in 0.001-in. (0.025-mm) divisions and accurate to  $\pm 0.001$  in. ( $\pm 0.025$  mm), shall be used. If a dial indicator is used, suitable jigs for holding the tile and the indicator shall be provided.

## 6. Test Specimens

6.1 At least ten tile specimens shall be selected at random from the lot to be tested. The same specimens may be used for the determination of facial dimensions and thickness. Brush the specimens to remove all adhering particles of clay or sand.

## 7. Procedure

7.1 *Major Facial Dimension*—Measure the length of the tile to the nearest 0.001 in. (0.025 mm) across two pairs of opposite lugs. Follow the same procedure for measuring the width of the tile. For tile whose lugs are not arranged opposite each other, it may be necessary to use a jig to obtain the major facial dimensions. For square tile, average all four measurements and call the result the average major dimension. For oblong tile, average the two length measurements and call the result the average major length of the tile; average the two width measurements and call the result the average major width of the tile.

7.2 *Minor Facial Dimension*—Measure the length of the tile exclusive of the lugs to the nearest 0.001 in. (0.025 mm) in two places. Follow the same procedure for measuring the width exclusive of the lugs. Points of measurement shall be at least 0.25 in. (6.4 mm) and not more than 0.50 in. (12.7 mm) from the corners of the tile. For tile with tapered sides, a jig is required to determine the minor facial dimension of such tile. For square tile, average all four measurements and call the