Designation: C 67 – 03a

American Association State Highway and Transportation Officials Standard
AASHTO No.: T 32-70

Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile[1]

This standard is issued under the fixed designation C 67; 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 These test methods cover procedures for the sampling and testing of brick and structural clay tile. Although not necessarily applicable to all types of units, tests include modulus of rupture, compressive strength, absorption, saturation coefficient, effect of freezing and thawing, efflorescence, initial rate of absorption and determination of weight, size, warpage, length change, and void area. (Additional methods of test pertinent to ceramic glazed facing tile are included in Specification C 126.)

1.2 The text of this standard references notes and footnotes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

NOTE 1—The testing laboratory performing this test method should be evaluated in accordance with Practice C 1093.

1.3 Unless otherwise indicated, the values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *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:*

C 43 Terminology of Structural Clay Products[2]

C 126 Specification for Ceramic Glazed Structural Clay Facing Tile, Facing Brick, and Solid Masonry Units[2]

C 150 Specification for Portland Cement[3]

C 1093 Practice for Accreditation of Testing Agencies for Unit Masonry[2]

E 4 Practices for Force Verification of Testing Machines[4]

E 6 Terminology Relating to Methods of Mechanical Testing[4]

3. Terminology

3.1 *Definitions*—Terminology E 6 and Terminology C 43 shall be considered as applying to the terms used in these test methods.

4. Sampling

4.1 *Selection and Preparation of Test Specimens*—For the purpose of these tests, full-size brick, tile, or solid masonry units shall be selected by the purchaser or by the purchaser's authorized representative. Specimens shall be representative of the lot of units from which they are selected and shall include specimens representative of the complete range of colors, textures, and sizes and shall be free of or brushed to remove dirt, mud, mortar, or other foreign materials unassociated with the manufacturing process.

4.2 *Number of Specimens*:

4.2.1 *Brick*—For the modulus of rupture, compressive strength, abrasion resistance, and absorption determinations, at least ten individual brick shall be selected for lots of 1 000 000 brick or fraction thereof. For larger lots, five additional specimens shall be selected from each additional 500 000 brick or fraction thereof. Additional specimens are taken at the discretion of the purchaser.

4.2.2 *Structural Clay Tile*—For the weight determination and for compressive strength and absorption tests, at least five tile shall be selected from each lot of 250 tons (226.8 Mg) or fraction thereof. For larger lots, five additional specimens shall be tested for each 500 tons (453.6 Mg) or fraction thereof. In no case shall less than five tile be taken. Additional specimens are taken at the discretion of the purchaser.

4.3 *Identification*—Each specimen shall be marked so that it may be identified at any time. Markings shall cover not more than 5 % of the superficial area of the specimen.

5. Specimen Preparation

5.1 *Weight Determination*:

[1] These test methods are under the jurisdiction of Committee C15 on Manufactured Masonry Units and is the direct responsibility of Subcommittee C15.02 on Brick and Structural Clay Tile.

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[2] *Annual Book of ASTM Standards*, Vol 04.05.

[3] *Annual Book of ASTM Standards*, Vol 04.01.

[4] *Annual Book of ASTM Standards*, Vol 03.01.

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***A Summary of Changes section appears at the end of this standard.**

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