



Designation: C34 – 12

# Standard Specification for Structural Clay Load-Bearing Wall Tile<sup>1</sup>

This standard is issued under the fixed designation C34; 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 specification covers structural clay loading-bearing wall tile.

1.2 The property requirements of this specification apply at the time of purchase. The use of results from testing of tile extracted from masonry structures for determining conformance or non-conformance to the property requirements (Section 4) of this standard is beyond the scope of this specification.

1.3 Tile covered by this specification are manufactured from clay, shale, or similar naturally occurring substances and subjected to a heat treatment at elevated temperatures (firing). The heat treatment must develop sufficient fired bond between the particulate constituents to provide the strength and durability requirements of this specification. (See *firing and fired bond* in Terminology C1232.)

1.4 The text of this specification 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.

1.5 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.

## 2. Referenced Documents

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

C67 Test Methods for Sampling and Testing Brick and Structural Clay Tile

C216 Specification for Facing Brick (Solid Masonry Units Made from Clay or Shale)

C1232 Terminology of Masonry

<sup>1</sup> This specification is under the jurisdiction of ASTM 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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<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.

## 3. Classification

3.1 Two grades of tile are covered, as follows:

3.1.1 *Grade LBX*—Suitable for general use in masonry construction and adapted for use in masonry exposed to weathering, provided they meet the durability requirements for Grade SW of Specification C216.

3.1.2 *Grade LB*—Suitable for general use in masonry where not exposed to frost action, or for use in exposed masonry where protected with a facing of 3 in. (76.2 mm) or more of stone, brick, terra cotta, or other masonry.

3.1.3 If tile having a particular color, texture, or finish are desired, these features shall be specified separately by the purchaser.

NOTE 1—Color of tile varies with the type of clay used and degree of firing; hence, it cannot be taken as indicative of classification until after it has been related to absorption and strength by actual tests.

## 4. Physical Properties

4.1 Structural clay load-bearing wall tile shall conform to the physical properties for the grade specified as prescribed in Table 1.

4.2 Tile of Grade LBX shall be accepted under all conditions instead of Grade LB.

4.3 End-construction tile are tile designed to be placed in the wall with axes of the cells vertical. Side-construction tile are tile designed to be placed in the wall with the axes of the cells horizontal. Where end-construction tile are used on the side they shall conform to the requirements of side-construction tile and vice versa.

4.4 Bonding tile shall be so designed as to provide recesses for header brick courses when laid up in brick-faced walls.

## 5. Dimensions and Permissible Variations

5.1 No overall dimension shall vary more than 3 % over or under the specified dimension for any form or size of tile.

NOTE 2—Purchasers and designers should ascertain the type and size of tile, modular or nonmodular, available in the locality under consideration and should specify accordingly, stating the size and type represented by the available tile.

Modular sizes are designated by the specified nominal dimensions which are equal to the actual manufactured dimensions plus the thickness of one mortar joint, not to exceed ½ in. (12.7 mm). For example, if the

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