



Standard Specification for Calcium Silicate Brick (Sand-Lime Brick)¹

This standard is issued under the fixed designation C 73; 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 brick made principally from sand and lime and intended for use in brick masonry. Two grades of brick are covered:

1.1.1 *Grade SW*—Brick intended for use where exposed to temperature below freezing in the presence of moisture.

NOTE 1—As a typical example, brick used for foundation courses and parapets in the northeastern quarter of the United States should conform to Grade SW.

1.1.2 *Grade MW*—Brick intended for use where exposed to temperature below freezing but unlikely to be saturated with water.

NOTE 2—As a typical example, brick exposed in the face of the wall other than parapet or foundations, or brick intended for structures located in regions of the United States characterized by less severe frost action or by drier climate than is found in the northeastern quarter of the United States should conform to Grade MW.

1.1.3 When the term brick is used in this specification, it is understood to mean brick or solid masonry units.

1.2 If brick having a particular color, texture, finish, or uniformity is desired, these features shall be specified separately by the purchaser.

1.3 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.

1.4 The values stated in inch-pound units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 ASTM Standards:

C 140 Test Methods for Sampling and Testing Concrete Masonry Units and Related Units²

C 1209 Terminology of Concrete Masonry Units and Related Units²

C 1232 Terminology of Masonry²

¹ This specification is under the jurisdiction of ASTM Committee C-15 on Manufactured Masonry Units and is the direct responsibility of Subcommittee C15.03 on Concrete Masonry Units and Related Units.

Current edition approved Nov. 10, 1999. Published January 2000. Originally published as C 73–28T. Last previous edition C 73–99.

² Annual Book of ASTM Standards, Vol 04.05.

TABLE 1 Physical Requirements

Designation	Compressive Strength min, psi (MPa), (brick tested flatwise) average gross area		Water Absorption, max lb/ft ³ (kg/m ³)
	Average of 3 Brick	Individual Brick	
Grade SW	5500 (37.9)	4500 (31.0)	15 (240)
Grade MW	3500 (24.1)	3000 (20.7)	18 (288)

3. Terminology

3.1 Terminology defined in Terminology C 1209 and Terminology C 1232 shall apply for this specification.

4. Physical Requirements

4.1 The brick shall conform to the physical requirements for the grade specified, as prescribed in Table 1.

4.2 Unless otherwise specified by the purchaser, brick of Grades SW and MW shall be accepted. Grade SW shall be accepted in lieu of Grade MW.

5. Dimensions and Permissible Variations

5.1 The size of brick shall be as specified by the purchaser and the average size of brick furnished shall approximate the size specified in the invitation for bids.

5.2 No overall dimension (width, height, and length) shall differ by more than $\pm \frac{1}{8}$ in. (3.2 mm) from the specified standard dimension. The width requirement does not apply to textured finishes such as split or rocked faces. Standard dimensions of units are the manufacturer's designated dimensions.

6. Finish and Appearance

6.1 All units shall be sound and free of cracks or other defects that interfere with the proper placement of the unit or significantly impair the strength or permanence of the construction. Minor cracks incidental to the usual methods of manufacture, or minor chipping resulting from customary methods of handling in shipment and delivery are not grounds for rejection.

6.2 Where units are to be used in exposed wall construction, the face or faces that are to be exposed shall not show chips or cracks not otherwise permitted or other imperfections, when viewed from a distance of not less than 20 ft (6.1 m) under diffused light.

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

6.2.1 Five percent of a shipment containing chips, not larger than ½ in. (12.7 mm) in any dimension, or cracks not wider than 0.02 in. (0.5 mm) and not longer than 25 % of the nominal height of the unit is permitted.

6.3 The color and texture shall be specified by the purchaser. The finished surface that will be exposed in place shall conform to an approved sample consisting of not less than four units, representing the range of color and texture specified.

7. Methods of Sampling and Testing

7.1 The purchaser or the purchaser's authorized representative shall be accorded proper facilities to inspect and sample the units at the place of manufacture from the lots ready for delivery. At least 10 days shall be allowed for completion of the tests.

7.2 Sample and test units in accordance with Test Methods C 140.

8. Compliance

8.1 If a sample fails to conform to the specified requirements, the manufacturer shall be permitted to remove units from the shipment. A new sample shall be selected by the purchaser from remaining units from the shipment with a similar configuration and dimension and tested at the expense of the manufacturer. If the second sample meets the specified requirements, the remaining portion of the shipment represented by the sample meets the specified requirements. If the second sample fails to meet the specified requirements, the remaining portion of the shipment represented by the sample fails to meet the specified requirements.

9. Keywords

9.1 absorption; brick; calcium silicate face brick; compressive strength; masonry units; sand-lime brick

SUMMARY OF CHANGES

Committee C-15 has identified the location of selected changes to this standard since the C 73-99 edition that may impact the use of this standard.

(1) The title was modified to remove the word "Face."

The American Society for Testing and Materials takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org).