



Designation: C 55 – 01a

## Standard Specification for Concrete Brick<sup>1</sup>

This standard is issued under the fixed designation C 55; 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 concrete brick and similar solid units (see Note 3) intended for use in structural masonry or facing for buildings and other structures, and are made from portland cement, water, and suitable mineral aggregates with or without the inclusion of other materials.

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.

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

NOTE 1—Concrete brick covered by this specification are made from lightweight or normal weight aggregates, or both.

NOTE 2—When particular features are desired, such as weight classification, high compressive strength, surface textures for appearance or bond, finish, color, fire resistance, insulation, acoustical properties, or other special features, such properties should be specified separately by the purchaser. Local suppliers should be consulted as to the availability of concrete brick having the desired features.

### 2. Referenced Documents

- 2.1 *ASTM Standards:*
- C 33 Specification for Concrete Aggregates<sup>2</sup>
  - C 140 Test Methods for Sampling and Testing Concrete Masonry Units and Related Units<sup>3</sup>
  - C 150 Specification for Portland Cement<sup>4</sup>
  - C 207 Specification for Hydrated Lime for Masonry Purposes<sup>4</sup>
  - C 331 Specification for Lightweight Aggregates for Concrete Masonry Units<sup>2</sup>
  - C 426 Test Method for Drying Shrinkage of Concrete Masonry Units<sup>3</sup>
  - C 595 Specification for Blended Hydraulic Cements<sup>4</sup>
  - C 618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee C15 on Manufactured Masonry Units and is the direct responsibility of Subcommittee C15.03 on Concrete Masonry Units and Related Units.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.02.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 04.05.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 04.01.

Portland Cement Concrete<sup>2</sup>

C 1157 Performance Specification for Hydraulic Cement<sup>4</sup>

C 1209 Terminology of Concrete Masonry Units and Related Units<sup>3</sup>

C 1232 Terminology of Masonry<sup>3</sup>

### 3. Terminology

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

### 4. Classification

4.1 *Grades*—Concrete brick manufactured in accordance with this specification shall conform to two grades as follows:

4.1.1 *Grade N*—For use as architectural veneer and facing units in exterior walls and for use where high strength and resistance to moisture penetration and severe frost action are desired.

4.1.2 *Grade S*—For general use where moderate strength and resistance to frost action and moisture penetration are required.

NOTE 3—The requirements for Grades N and S concrete brick are also applicable to solid concrete veneer and facing units larger than brick size, such as split block.

### 5. Materials and Manufacture

5.1 *Cementitious Materials*—Materials shall conform to the following applicable specifications:

5.1.1 *Portland Cement*—Specification C 150.

5.1.2 *Blended Hydraulic Cements*—Specification C 595.

5.1.3 *Hydraulic Cement*—Specification C 1157.

5.1.4 *Hydrated Lime, Type S*—Specification C 207.

5.1.5 *Pozzolans*—Specification C 618.

5.2 *Aggregates*—Aggregates shall conform to the following specifications, except that grading requirements shall not necessarily apply:

5.2.1 *Normal Weight Aggregates*—Specification C 33.

5.2.2 *Lightweight Aggregates*—Specification C 331.

5.3 *Other Constituents*—Air-entraining agents, coloring pigments, integral water repellents, finely ground silica, and other constituents shall be previously established as suitable for use in concrete masonry units and shall conform to applicable ASTM standards or shall be shown by test or experience not to be detrimental to the durability of the concrete masonry units or any material customarily used in masonry construction.

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