



Designation: **C129—22 C129 – 23**

Standard Specification for Nonloadbearing Concrete Masonry Units¹

This standard is issued under the fixed designation C129; 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 U.S. Department of Defense.

1. Scope*

1.1 This specification covers hollow and solid nonloadbearing concrete masonry units made from portland cement, water, and mineral aggregates with or without the inclusion of other materials. These units are intended for use in nonloadbearing partitions, but under certain conditions they may be suitable for use in nonloadbearing exterior walls above grade where effectively protected from the weather.

1.2 The text of this standard references notes and footnotes that 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 standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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

NOTE 2—When particular features are desired, such as density classification, surface texture for appearance or bond, finish, color, fire resistance, insulation, acoustical properties, or other special features, such properties should be specified separately by the purchaser. However, suppliers should be consulted as to the availability of units having the desired features.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- C33/C33M Specification for Concrete Aggregates
- C90 Specification for Loadbearing Concrete Masonry Units
- C140/C140M Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
- C150/C150M Specification for Portland Cement
- C331/C331M Specification for Lightweight Aggregates for Concrete Masonry Units
- C426 Test Method for Linear Drying Shrinkage of Concrete Masonry Units
- C595/C595M Specification for Blended Hydraulic Cements

¹ 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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² 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.

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

- C618 Specification for Coal Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
- C979/C979M Specification for Pigments for Integrally Colored Concrete
- C989/C989M Specification for Slag Cement for Use in Concrete and Mortars
- C1240 Specification for Silica Fume Used in Cementitious Mixtures
- C1157/C1157M Performance Specification for Hydraulic Cement
- C1232 Terminology for Masonry

3. Terminology

3.1 Terminology defined in Terminology C1232 shall apply for this specification.

4. Classification

4.1 Nonloadbearing concrete masonry units manufactured in accordance with this specification shall conform to one of three density classifications prescribed in Table 1.

5. Materials and Manufacture

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

5.1.1 *Portland Cement*—Specification C150/C150M.

5.1.2 *Modified Portland Cement*—Portland cement conforming to Specification C150/C150M, modified as follows:

- (1) *Limestone*—If calcium carbonate is added to the cement, the CaCO₃ content shall not be less than 85 %.
- (2) *Limitation on Insoluble Residue*—1.5 %.
- (3) *Limitation on Air Content of Mortar*—Volume percent, 22 % max.
- (4) *Limitation on Loss on Ignition*—7 %.

5.1.3 *Blended Hydraulic Cements*—Specification C595/C595M.

5.1.4 *Hydraulic Cement*—Specification C1157/C1157M.

5.1.5 *Pozzolans*—Specification C618.

5.1.6 *Blast Furnace Slag Cement*—Specification C989/C989M.

5.1.7 *Silica Fume*—Specification C1240.

5.2 *Aggregates*—Aggregates shall conform to the following specifications, except for grading requirements:

5.2.1 *Normal Weight Aggregates*—Specification C33/C33M.

5.2.2 *Lightweight Aggregates*—Specification C331/C331M.

NOTE 3—The grading requirements of Specifications C33/C33M and C331/C331M may not be suitable for concrete masonry production. Because of this, producers are allowed to modify grading to meet their needs and the requirements of this specification.

5.3 *Pigments for Integrally Colored Concrete*—Specification C979/C979M.

TABLE 1 Density Classification^A Requirements

Density Classification	Oven-Dry Density of Concrete, lb/ft ³ (kg/m ³) Average of 3 Units
Lightweight	Less than 105 (1680)
Medium Weight	105 to less than 125 (1680 to 2000)
Normal Weight	125 (2000) or more

^AConsult manufacturers for available densities