Designation: C139 – 05

Standard Specification for
Concrete Masonry Units for Construction of Catch Basins and Manholes[1]

This standard is issued under the fixed designation C139; 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 solid precast segmental concrete masonry units made from hydraulic cement, water, and suitable mineral aggregates, with or without the inclusion of other materials. The units are intended for use in the construction of catch basins and manholes.

1.2 The text of this standard referenced 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.

2. Referenced Documents

2.1 *ASTM Standards:*[2]
C33 Specification for Concrete Aggregates
C140 Test Methods for Sampling and Testing Concrete Masonry Units and Related Units
C150 Specification for Portland Cement
C207 Specification for Hydrated Lime for Masonry Purposes
C595 Specification for Blended Hydraulic Cements
C618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use in Concrete
C989 Specification for Slag Cement for Use in Concrete and Mortars
C1157 Performance Specification for Hydraulic Cement
C1209 Terminology of Concrete Masonry Units and Related Units[3]

C1232 Terminology of Masonry

3. Terminology

3.1 Terminology defined in Terminology C1209 and Terminology C1232 shall apply for this specification.

4. Materials

4.1 Cementitious materials shall conform to the following ASTM specifications:
4.1.1 *Portland Cement—* Specification C150.
4.1.2 *Blended Hydraulic Cements—*Specification C595.
4.1.3 *Hydraulic Cement—*Specification C1157.
4.1.4 *Ground Blast-Furnace Slag—*Specification C989.
4.1.5 *Hydrated Lime—* Type S of Specification C207.
4.1.6 *Fly Ash—*Specification C618.
4.1.7 *Siliceous and Pozzolanic Materials—*Siliceous and pozzolanic materials shall conform to applicable ASTM standards, or shall be shown by test or experience to be not detrimental to the durability of the concrete.

4.2 *Aggregates—*Aggregates shall conform to Specification C33, except grading requirements shall not apply.

4.3 *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.

5. *Physical Requirements* Physical Requirements

5.1 At the time of delivery to the site of the work, the units shall conform to the requirements prescribed in Table 1.

6. Dimensions and Permissible Variations

6.1 The thickness of any unit shall be not less than 5 in. (127 mm).

6.2 Overall dimensions shall not vary by more than $\pm$ 3 % from the specified dimensions.

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[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.
[3] Withdrawn. The last approved version of this historical standard is referenced on www.astm.org.

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