



Designation: **C1782/C1782M – 18** C1782/C1782M – 19

Standard Specification for Segmental Concrete Paving Slabs¹

This standard is issued under the fixed designation C1782/C1782M; 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.

1. Scope*

1.1 This specification covers the requirements for segmental concrete paving slabs manufactured for construction of pedestrian and roof applications for commercial and municipal projects. These slabs can be manufactured with a dry-cast, wet-cast, or hydraulically pressed process.

NOTE 1—Applications Pedestal-set applications and those applications subject to vehicular traffic may require alternate materials properties or structural support or both.

1.2 Concrete units covered by this specification shall be made with lightweight or normal weight aggregates or both.

NOTE 2—If particular features are desired, such as weight classification, higher modulus of rupture, surface textures, finish, color, or other special features, such properties should be specified by the purchaser. Local sellers, however, should be consulted as to availability of units having the desired features.

1.3 The values stated in either inch-pound units or SI units are to be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other. Combining values from the two systems may result in non-conformance with the standard.

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:*

C33/C33M Specification for Concrete Aggregates

C140/C140M Test Methods for Sampling and Testing Concrete Masonry Units and Related Units

C150/C150M Specification for Portland Cement

C207 Specification for Hydrated Lime for Masonry Purposes

C260/C260M Specification for Air-Entraining Admixtures for Concrete

C331/C331M Specification for Lightweight Aggregates for Concrete Masonry Units

C494/C494M Specification for Chemical Admixtures for Concrete

C595/C595M Specification for Blended Hydraulic Cements

C618 Specification for Coal Fly 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

C1157/C1157M Performance Specification for Hydraulic Cement

C1232 Terminology for Masonry

C1240 Specification for Silica Fume Used in Cementitious Mixtures

C1645 Test Method for Freeze-thaw and De-icing Salt Durability of Solid Concrete Interlocking Paving Units

D1056 Specification for Flexible Cellular Materials—Sponge or Expanded Rubber

3. Terminology

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

3.2 *Definitions of Terms Specific to This Standard:*

¹ This test method 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.

Current edition approved June 1, 2018 Dec. 1, 2019. Published July 2018 December 2019. Originally approved in 2016. Last previous edition approved in 2017 2018 as **C1782/C1782M – 17** **C1782/C1782M – 18**. DOI: 10.1520/C1782-C1782M-18.10.1520/C1782-C1782M-19.

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



3.2.1 *warpage, n*—the maximum vertical deviation from a straightedge placed across the full length, width or diagonal dimension of the paving slab surface.

4. Materials

4.1 *Cementitious Materials* shall conform to the following applicable ASTM specifications:

4.1.1 *Portland Cements*—Specification **C150/C150M**.

4.1.2 *Hydraulic Cements*—Specification **C1157/C1157M**.

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

4.1.4 *Hydrated Lime, Type S*—Specification **C207**.

4.1.5 *Fly Ash*—Specification **C618**.

4.1.6 *Ground Slag*—Specification **C989/C989M**.

4.1.7 *Silica Fume*—Specification **C1240**.

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

4.2.1 *Normal Weight*—Specification **C33/C33M**.

4.2.2 *Lightweight*—Specification **C331/C331M**.

4.3 *Chemical Admixtures* shall conform to the following applicable ASTM specifications:

4.3.1 *Air-entraining Admixtures*—Specification **C260/C260M**.

4.3.2 *Water-reducing, Retarding, and Accelerating Admixtures*—Specification **C494/C494M**.

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

4.4 *Other Constituents*—Integral water repellents, fibers, and other materials for which no ASTM standards exist shall be previously established as suitable for use in concrete or shall be shown by test or experience not to be detrimental to the concrete paving slab.

5. Physical Requirements

5.1 Units shall have a finished face area greater than 101 in.² [0.065 m²] and their length (L) divided by thickness (T) shall be greater than 4. The minimum thickness shall be 1.2 in. [30 mm]. The maximum length and width dimensions shall be 48 in. [1220 mm]. See Fig. 1.

5.2 *Modulus of Rupture*—At the time of delivery to the job site, the average modulus of rupture of the test specimens shall be 725 psi [5.0 MPa] with no individual unit less than 650 psi [4.5 MPa] as determined in accordance with **A1.37.4**.

5.3 *Resistance to Freezing and Thawing*—If the units are exposed to freezing and thawing during service, the manufacturer shall satisfy the purchaser either by proven field performance or a laboratory freezing-and-thawing test that the units have adequate resistance to freezing and thawing. If a laboratory test is used, test in accordance with **7.4**. Specimens sampled from units that will not be exposed to deicing salts in service shall be tested in tap water. Specimens sampled from units that will be exposed to deicing

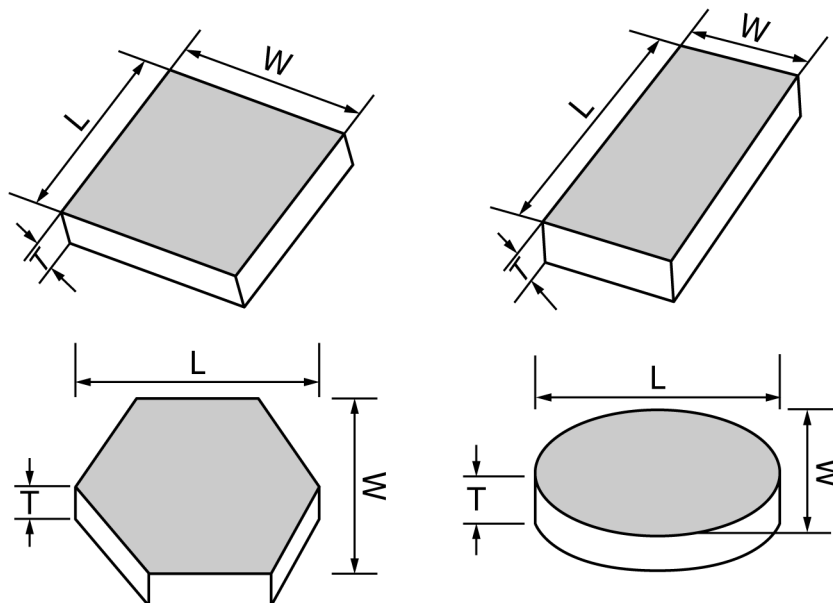


FIG. 1 L = Length, W = Width, T = Thickness