



Designation: C1884 – 18

## Standard Specification for Concrete Ballast Block<sup>1</sup>

This standard is issued under the fixed designation C1884; 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 reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 This specification covers dry-cast concrete ballast blocks that are primarily used for ballast of rooftop equipment. These units are machine-made from hydraulic cement, water, and suitable mineral aggregates with or without the inclusion of other materials.

NOTE 1—The design of concrete ballast block systems for resisting wind uplift is beyond the scope of this specification. Building codes and other standards should be consulted in designing for wind uplift resistance.

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.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *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
- C331/C331M Specification for Lightweight Aggregates for

#### Concrete Masonry Units

- 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
- C1262/C1262M Test Method for Evaluating the Freeze-Thaw Durability of Dry-Cast Segmental Retaining Wall Units and Related Concrete Units

### 3. Terminology

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

#### 3.2 Definitions of Terms Specific to This Standard:

- 3.2.1 *concrete ballast block, n*—a manufactured concrete unit used primarily to provide weight for stabilizing rooftop equipment.
  - 3.2.1.1 *Discussion*—An example application for concrete ballast block is ballast for photovoltaic arrays.

### 4. Material

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

- 4.1.1 *Portland Cement*—Specification C150/C150M.
- 4.1.2 *Modified Portland Cement*—Portland cement conforming to Specification C150/C150M, modified as follows:
  - 4.1.2.1 *Limestone*—Limestone, with a minimum 85 % calcium carbonate ( $\text{CaCO}_3$ ) content, shall be permitted to be added to the cement, provided the requirements of Specification C150/C150M are modified as follows:
    - (1) *Limitation on Insoluble Residue*—1.5 %.
    - (2) *Limitation on Air Content of Mortar*—Volume percent, 22 % max.
    - (3) *Limitation on Loss on Ignition*—7 %.
- 4.1.3 *Blended Cements*—Specification C595/C595M.
- 4.1.4 *Hydraulic Cement*—Specification C1157/C1157M.
- 4.1.5 *Pozzolans*—Specification C618.

<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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