



Standard Specification for Architectural Cast Stone¹

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1. Scope

1.1 This specification covers the physical requirements, sampling, testing, and visual inspection of architectural cast stone.

1.2 Units covered by this specification may be made from facing and backup mixtures or from a homogeneous mixture. Either wet cast or dry cast production methods may be used.

1.3 Surface textures, finish, color, or other special features should be specified separately by the purchaser.

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

1.5 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

- A 615/A615M Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement²
- C 33 Specification for Concrete Aggregates³
- C 150 Specification for Portland Cement⁴
- C 494 Specification for Chemical Admixtures for Concrete³
- C 618 Specification for Coal Fly Ash and Raw or Calcined Natural Pozzolan for Use as a Mineral Admixture in Concrete³
- C 666 Test Method for Resistance of Concrete to Rapid Freezing and Thawing³
- C 979 Specification for Pigments for Integrally Colored Concrete³
- C 1194 Test Method for Compressive Strength of Architectural Cast Stone⁵
- C 1195 Test Method for Absorption of Architectural Cast Stone⁵
- D 1729 Practice for Visual Appraisal of Colors and Color

¹ This specification is under the jurisdiction of ASTM Committee C-27 on Precast Concrete Products and are the direct responsibility of Subcommittee C27.20 on Architectural and Structural Products.

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² *Annual Book of ASTM Standards*, Vol 01.04.

³ *Annual Book of ASTM Standards*, Vol 04.02.

⁴ *Annual Book of ASTM Standards*, Vol 04.01.

⁵ *Annual Book of ASTM Standards*, Vol 04.05.

Differences of Diffusely Illuminated Opaque Materials⁶
D 2244 Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates⁶

3. Terminology

3.1 Definitions:

3.1.1 *cast stone*—an architectural precast concrete building unit intended to simulate natural cut stone.

3.1.2 *dry cast concrete products*—manufactured from zero slump concrete.

3.1.3 *wet cast concrete products*—manufactured from measurable slump concrete.

4. Materials and Design

4.1 *Raw Materials*—Materials shall conform to the following specifications:

4.1.1 *Portland Cement*—Specification C 150.

4.1.2 *Aggregates*—Specification C 33, except for grading requirements.

4.1.3 *Coloring Pigment*—Specification C 979, except that carbon black pigment shall not be used.

4.1.4 *Reinforcement*—Specification A 615/A 615M.

4.1.5 *Admixtures*—Specification C 494.

4.1.6 *Fly Ash*—Specification C 618.

4.2 *Design*—Samples shall be submitted for approval of color and texture. The manufacturer shall prepare drawings for approval showing shapes, sizes, reinforcement, exposed faces, and anchorage provisions. The purchaser or his authorized representative shall approve the samples and drawings before manufacture.

4.3 Reinforcement:

4.3.1 Reinforcement shall be new billet steel reinforcing bars meeting the requirements of Specification A 615/A 615M unless specified otherwise by the purchaser.

4.3.2 Reinforce units when necessary for safe handling and structural stress.

4.3.3 Reinforcement shall be noncorrosive where faces exposed to weather are covered with less than 1.5 in. (38 mm) of concrete material. All reinforcement shall have minimum coverage of twice the diameter of the bars.

4.3.4 Area of reinforcement in panels greater than 12 in. (300 mm) in more than one direction shall be not less than 0.25 % of the cross section area.

⁶ *Annual Book of ASTM Standards*, Vol 06.01.