




Why Specify a Cast Stone Institute® Certified Plant?

“Simply stating a plant complies with CSI Certification Guidelines is absolutely not enough.”

Recognizing the importance of quality Cast Stone production to the viability and longevity of a structural or landscape project, the Cast Stone Institute developed a plant certification program 15 years ago. Over the years, this certification program has been enhanced to make it one of the most rigorous certification programs in the construction industries. The CSI Certified Producers take great pride in the production of exceptional Cast Stone for each project for which they supply material.

In order for a non-certified producer plant to be considered equal to a CSI Certified Plant, there are very specific and very important criteria that a specifier should require as documentation. Simply stating a plant complies with CSI Certification Guidelines is absolutely not enough.

CAST STONE SPECIFICATION



Cast Stone is specified as per the current version of ASTM C-1364, Standard Specification for Architectural Cast Stone. In this document, referenced in the International Building Codes, there are very specific requirements for the physical properties, testing, appearance and tolerances for Cast Stone. The Institute uses these legally based requirements and expands on them to assure the best possible quality Cast Stone production. The Institute does not just make industry recommendations – we work within recognized reference documents to assure the specifier of the highest quality Cast Stone for a project.





CAST STONE PRODUCTION METHODS

The Cast Stone Institute follows the specification requirements according to the current version ASTM C1364 for Architectural Cast Stone. According to this document, Cast Stone can be produced in dry tamp, wet cast or machine made methods. No matter what the method, the Cast Stone produced MUST comply with all of the testing minimums in order to be compliant with the specification. Therefore any method of production will provide quality cast stone. ASTM C1364 specifically states that the method of production be chosen by the manufacturer and not the specifier.

Cast Stone manufacturers produce under one, two or all of these methods depending on the company. Why the different methods if they are all under the same technical standards? There are circumstances where the production by one method would be more beneficial for a specific project and the manufacturer is the best person to make that determination. Just as the specifier knows what they need to comply with various building codes and standards and how the cast stone is intended to function on the wall, so also does the manufacturer know how best to produce the Cast Stone to meet these performance criteria.

WHAT DOES IT TAKE TO BE CSI CERTIFIED?

Prior to admission, each potential Producer Member must submit to a rigorous examination of product quality, safety, testing (including freeze thaw), meticulous record keeping and financial viability of the company. Once certified, they undergo the recertification process every other year with unannounced inspections and test data reporting every six months in addition to numerous other requirements.

Testing requirements

The following two tests must be performed for every 500 cubic feet of Cast Stone produced and passing reports available for review for at least the most recent six months. These tests can be performed in house or by independent testing laboratory. Each test must also be performed at least every six months by a qualified independent testing laboratory that has successfully passed the CSI Testing Technician Training Course. Note that this required testing is completed on 2 inch cube samples –and NOT by cylinders as per ASTM requirements.

- Compressive Strength must be at least 6,500 psi at 28 days (ASTM C1194).
- Cold water absorption must be less than 6% at 28 days (ASTM C1195).

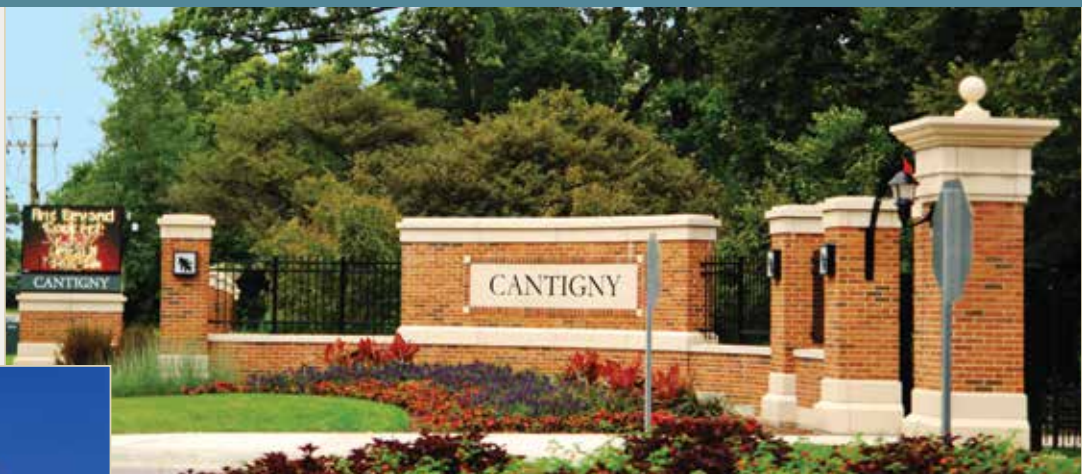
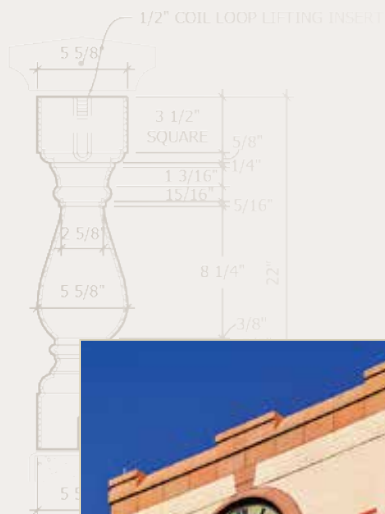


A passing Freeze Thaw test, ASTM C666, by a qualified independent testing laboratory should be available for each mix design. This test measures product weight loss after 300 cycles of rapid freezing and thawing in a wet environment with cumulative percentage mass loss less than 5% required for passing. Freeze Thaw testing shows durability of the Cast Stone over time and is a good indicator of quality Cast Stone Production.



Warranty

Continuing to lead the industry, the Cast Stone Institute Producer Members adopted language for a 10 year Limited Product Warranty in 2011. CSI Institute Producer Members are aware of the evolving environment for products in the marketplace demanding sustainability, durability and useable service life. This warranty demonstrates that CSI Producer Members embrace these principles and produce product that will stand the test of time.



This document is available on the Cast Stone Institute website, www.caststone.org, directly from the Home Page.

Other important quality checks

1. Cast Stone should be reinforced in accordance with ASTM C1364 and shop drawings should show the size and location of all reinforcing. Reinforcing covered by less than 1 and 1/2" of Cast Stone must be corrosion resistant (galvanized or epoxy coated).
2. All aggregates should comply with applicable portions of ASTM C33 to ensure that organic contamination and Alkali-Silica Reaction (ASR) are avoided.
3. Aggregates should be sieve tested every month to ensure continuity of mix design.
4. All materials used should comply with ASTM C1364 and the documents referenced within it. For example,

carbon black or other pigments not meeting the testing requirements of ASTM C979 may result in weakening the cast stone or fading over time and thus cannot be used.

5. The manufacturer should submit a list of projects similar in scope and at least 3 years of age along with owner, architect and contractor references. Field visits are recommended.

To ensure that the product is completely equal, "Quality Control Procedures Required for Plant Certification" may be downloaded from the Cast Stone Institute's website at www.caststone.org/certify.htm.





The results of these efforts include consistently high product quality, through continuous improvement in manufacturing methods and materials, and the assurance that Cast Stone Institute Certified member plants are “on the job” keeping cast stone a premier building material.





CSI Education Seminars



The Cast Stone Institute® is offering you three opportunities to learn about Cast Stone while Earning Health, Safety and Welfare (HSW) Learning Unit Credits.

The American Institute of Architects Continuing Education System AIA/CES Registered Provider Program Summaries.

UNDERSTANDING ARCHITECTURAL CAST STONE DETAILING

Length: 1 Hour | Credits: 1 AIA/CES LU/HSW

DELIVERY

A PowerPoint presentation by a Cast Stone Institute® member.

LEARNING OBJECTIVES

Participants will understand the properties of Architectural Cast Stone, learn the relationship of building movement and dead loads to Cast Stone installation, learn design and installation techniques as relate to anchors and exterior Cast Stone veneers, understand the use of anchors, mortar and sealant joints and kerfs in Cast Stone veneers.



ARCHITECTURAL DESIGN WITH CAST STONE

Length: 1 Hour | Credits: 1 AIA/CES LU/HSW

DELIVERY

A PowerPoint presentation by a Cast Stone Institute® member.

LEARNING OBJECTIVES

Attendees will have a clear understanding of Cast Stone: how it is produced and how it differs from associated materials; the various applications of Cast Stone for residential, commercial, municipal, educational and other uses; design recommendations as well as anchoring details and inherent sustainable attributes of Cast Stone and LEED®



THE MAKING OF CAST STONE: A PLANT TOUR

Length: 1 Hour | Credits: 1 AIA/CES LU/HSW

DELIVERY

An interactive tour of a Cast Stone Institute® Certified Producer member plant to understand how quality cast stone is produced.

LEARNING OBJECTIVES

Participants will be able to understand how cast stone production shop drawings are generated from architectural plans. Learn how molds are made to form the cast stone as specified in the drawings. Become familiar with at least one method of cast stone production. Understand the major aspects of the Cast Stone Institute® Quality Control Program for cast stone production and shipping.

