



Version 3.0

CMHA Manufactured Stone Veneer Product Certification Program



CONCRETE
**MASONRY &
HARDSCAPES**
ASSOCIATION



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About CMHA

The Concrete Masonry & Hardscapes Association (CMHA) represents a unification of the Interlocking Concrete Pavement Institute (ICPI) and National Concrete Masonry Association (NCMA). CMHA is a trade association representing US and Canadian producers and suppliers in the concrete masonry and hardscape industry, as well as contractors of interlocking concrete pavement and segmental retaining walls. CMHA is the authority for segmental concrete products and systems, which are the best value and preferred choice for resilient pavement, structures, and living spaces. CMHA is dedicated to the advancement of these building systems through research, promotion, education, and the development of manufacturing guides, design codes and resources, testing standards, and construction practices.

About This MSV Product Certification Program

CMHA member companies have exhibited a long-standing commitment to ensuring consistently high quality in the products and systems they manufacture. To that end, CMHA has been actively engaged in developing a product certification program for manufactured stone veneer units. The details of this program detailed herein represent the work and input of CMHA's committees and product specifiers interested in establishing a uniform set of criteria specifically applicable to manufactured stone veneer units.

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1.0 Introduction

- 1.1 This program provides certification for manufactured stone veneer product lines that comply with the requirements of this program. The program solely certifies that the product line meet the program requirements contained herein. No warranties for product performance are made relative to this program.
- 1.2 The program is owned and administered by the Concrete Masonry & Hardscapes Association.

2.0 Reference Documents

- 2.1 ASTM C1670/C1670M, *Standard Specification for Adhered Manufactured Stone Masonry Veneer Units*, ASTM International.

3.0 Definitions

- 3.1 *Manufactured Stone Veneer Product* – lightweight, architectural, non load-bearing unit that is manufactured by wet-cast blending of cementitious materials and aggregates, with or without pigments, admixtures, or other materials to simulate the appearance of natural stone and other masonry materials.
- 3.2 *Product Line* – a combination of individual units that are designated by the producer that constitutes the look and style for that system. All units in a given product line shall be manufactured with the same concrete mix design, production methods, and curing methods.

4.0 Product Line Certification Requirements

- 4.1 Certification is provided based on demonstrating compliance with all the requirements of this section.

4.2 Product Requirements

- 4.2.1 Products shall demonstrate compliance with the requirements of the most recent version of ASTM C1670/C1670M. Documentation of compliance with this specification shall be provided for the following properties:
 - 4.2.1.1 Compressive Strength – test results showing compliance with the compressive strength requirements for the mix design used to produce the product.
 - 4.2.1.2 Freeze-Thaw Durability – test results showing compliance with freeze-thaw durability requirements for the mix design used to produce the product.
 - 4.2.1.3 Drying Shrinkage – test results showing compliance with the drying shrinkage requirements for the mix design used to produce the product.
 - 4.2.1.4 Shear bond – test results showing compliance with the shear bond requirements for manufactured stone veneer product.
 - 4.2.1.5 Overall Dimensions – test results showing compliance with overall unit dimension requirements for manufactured stone veneer product.
 - 4.2.1.6 Saturated Unit Weight – test results showing compliance with saturated unit weight requirements for manufactured stone veneer product.
- 4.2.2 Testing for mix design properties (compressive strength, freeze-thaw durability and drying shrinkage) shall be based on results of mixes tested in accordance with either 4.2.2.1 or 4.2.2.2.
 - 4.2.2.1 For a single mix design, results are provided for testing of the actual mix design using materials and proportions that are used in actual production.
 - 4.2.2.2 For multiple mix designs, it is permitted to test the range of constituent materials that constitute the minimum and maximum amounts for those materials. Assuming the results of testing are satisfactory, the results will be considered representative



of the range of mix designs used between the minimum and maximum amounts tested

Commentary: Section 4.2.2.2 can be applied in the following way: A manufacturer uses three mix designs. Mix Design #1 uses 100% of a Type I gray cement. Mix Design #2 uses 100% of a Type I white cement. Mix Design #3 uses a 50/50 blend of the gray cement and white cement. All other mix constituents are the same in these mix designs. It is satisfactory to test Mix Designs #1 and #2 for mix properties. If these results are satisfactory, it can be considered that Mix Design #3 is satisfactory without additional testing.

- 4.2.3** All materials submitted for testing (both mix design samples and manufactured unit samples) shall be obtained from the same production location. Sampling shall be performed in accordance with ASTM C1670/C1670M.
- 4.2.4** Test results demonstrating compliance with this section shall be provided by an independent third party testing laboratory accredited by a nationally recognized accreditation agency to perform all the necessary tests.
 - 4.2.4.1** Test results from the CMHA Research and Development Laboratory are satisfactory.
 - 4.2.4.2** Test results from in-house laboratories operated by the producer that are not third-party accredited are not acceptable.
- 4.3** Production Plant Quality Control Program
 - 4.3.1** The production plant where the product is produced shall provide a quality control program. At a minimum, the quality control plan shall include the following:
 - 4.3.1.1** Statement of commitment to quality.
 - 4.3.1.2** Name of responsible Quality Manager.
 - 4.3.1.3** Standard Operating Procedures for all aspects of unit production.
 - 4.3.1.4** In-house and third-party product testing requirements.
 - 4.3.1.5** Procedure for handling non-compliant test results.
- 4.4** Personnel Requirements
 - 4.4.1** A minimum of one person employed at the production location shall have completed general education on manufactured stone veneer units and systems. The education shall be provided by a nationally recognized third-party. At a minimum, this education must cover the following topics:
 - 4.4.1.1** Constituent materials used in MSV units
 - 4.4.1.2** Overview of the materials and products used in MSV systems (backup, mortar, accessories, etc.)
 - 4.4.1.3** Basics of installation methods
 - 4.4.1.4** Quality control of units
 - 4.4.1.5** Quality assurance and inspection of installation
 - 4.4.1.6** Available resources for technical information
 - 4.4.2** One acceptable education option is CMHA's online education module S101, *Manufactured Stone Veneer Overview*. Other equivalent education courses are also acceptable. Approval of education courses is at the discretion of the program administrator.
- 4.5** Additional Requirements
 - 4.5.1** At the time of application to the program, the applicant shall affirm the following:
 - 4.5.1.1** All specimens and samples provided for testing in accordance with Section 4.1 were obtained in accordance with ASTM C1670/C1670M.



- 4.5.1.2 All constituent materials used in production of the manufactured stone veneer units conform to the requirements of ASTM C1670/C1670M.
- 4.5.1.3 All specimens and samples provided to the testing laboratory all came from the same production location and within the time frame required by Section 4.

5.0 Application Requirements

5.1 All applicants shall submit an application for certification and recertification.

5.2 This application shall contain the following:

- 5.2.1 Name of company.
- 5.2.2 Address of production location.
- 5.2.3 Name of manufactured stone veneer unit product line.
- 5.2.4 Name and contact information of applicant.
- 5.2.5 Quality Control Program demonstrating Compliance with Section 4.3.
- 5.2.6 Documentation of completion of personnel requirements in accordance with Section 4.4.
- 5.2.7 Affirmation of requirements in Sections 4.5.1.1, 4.5.1.2, and 4.5.1.3.
- 5.2.8 The certification fee as outlined in Section 6.3.
- 5.2.9 Third-party test results demonstrating compliance with ASTM C1670/C1670M shall be provided for certification and recertification except as noted below:
 - 5.2.9.1 Shear bond – one shear bond test for each combination of mix design and production method (including back texture or raking technique) demonstrating compliance with Section 4.2 for certification and recertification. See example below.
 - 5.2.9.2 Overall dimensions and saturated unit weight –For recertification, one set of results from a certified product line using the same mix design. The saturated unit weight will be compared with the values from the initial certification to determine compliance. If a change in saturated weight is more than 10% different than the previous reported value or would cause the unit to exceed the requirements of ASTM C1670/C1670 relative to unit weight or average thickness, individual results for the product line will be required for recertification. See example below in the commentary below.

Commentary: Example of required testing for certification and recertification: Consider a manufacturer with one production location who has five product lines that are to be certified. They are all made with the same mix design (pigment changes excluded) and production methods, but with different sizes and shapes. For initial certification, the manufacturer would provide one (1) test for compressive strength, one (1) test for freeze-thaw durability, one (1) test for linear drying shrinkage, one (1) test for shear bond, and five (5) tests for overall dimensions and unit weight (one test for each product line). For recertification, the manufacturer would provide one (1) test for compressive strength, one (1) test for freeze-thaw durability, one (1) test for linear drying shrinkage, one (1) test for shear bond, and one (1) test for overall dimensions and unit weight on one of the product lines certified. The saturated weight from that test will be compared to the initial certification test for each product line, and if that weight is not more than 10% different nor exceeding non-compliance with unit weight or average thickness requirements, all product lines would be recertified.

6.0 Certification Process and Fees

6.1 Upon receipt of application, CMHA staff will review the submitted information and determine if the submitted application meets all the requirements.



- 6.1.1 If the application meets all the requirements, the applicant will be notified that the submission satisfies all requirements and certification will be issued
- 6.1.2 If the application does not meet all the requirements, the applicant will be notified with information why the application is denied, and will be offered the opportunity to provide additional information.
- 6.1.3 If additional information requested is not received within 90 days of notification from CMHA, the application will be considered void.

6.2 Fees

- 6.2.1 Certification fees are non-refundable and due at the time of application. No fees will be returned if the application for certification is not granted.
- 6.2.2 The cost for certification for CMHA Manufactured Stone Veneer Producer Members is \$250. The cost for each additional product line certified using the same concrete mix design as the first is \$50.
 - 6.2.2.1 The fee for CMHA Manufactured Stone Veneer Producer Members is waived if all test results provided are from the CMHA Research and Development Laboratory.
- 6.2.3 The cost for certification for any other applicant is \$5,000 per product line.
- 6.2.4 Fees for certification do not include testing fees.

7.0 Document Retention

- 7.1 CMHA shall maintain all documents on certified product lines relative to certification for a period of five years the date of certification.
- 7.2 Documents shall be maintained in secure storage. Following the retention period, certification documentation shall be shredded and disposed.

8.0 Rules and Requirements

- 8.1 Certification is provided on a given manufactured stone veneer product line from a given manufacturing location.
- 8.2 The certification will be valid for one year from the date of the test reports.
- 8.3 The certification will be recognized with an official certificate and a directory of certified products will be maintained on the CMHA website.
- 8.4 All certified products will be eligible to use the “*CMHA CERTIFIED MSV PRODUCT*” logo.
 - 8.4.1 A color version and a black and white version will be provided.
 - 8.4.2 It is prohibited to alter the logo in any way, except to increase or decrease the size.
 - 8.4.3 The use of the logo on a product line for which the certification does not apply is prohibited, and may be grounds for revocation of certification.

9.0 Revocation and Suspension

- 9.1 CMHA reserves the right to suspend or revoke certification for cause at any time.
 - 9.1.1 Cause may include, but is not limited to, improper use of branding, misrepresentation of certification, or failure to maintain compliance with all aspects of the program (such as change of personnel relative to education requirements).
- 9.2 When CMHA becomes aware of an issue with a certified product, staff will immediately contact the producer to understand the problem.
- 9.3 When an issue is identified that would affect certification, an official letter is sent that the producer is ‘on notice’ and must correct the issue and provide official notification of resolution to CMHA.



- 9.3.1** While on notice, the producer is allowed to utilize the logo and no change will be made to the website listing.
- 9.4** If the issue is not resolved within 30 days from the ‘on notice’ letter, the certification will be suspended.
- 9.4.1** When certification is suspended, a note will be added to the website listing stating that the certification is currently suspended.
- 9.5** If the issue is not resolved within 60 days from the ‘on notice’ letter, the certification will be revoked.
- 9.5.1** When revoked, the website listing will be removed and the producer must cease use of the certification logo.
- 9.6** CMHA staff has the discretion to extend the ‘on notice’ time period if an action plan is submitted to resolve the issue.
- 9.6.1** An example would be if new test results are needed and it will take more than 90 days to receive them, the ‘on notice’ period can be extended if proof that testing being underway is provided.
- 9.7** Following the ‘on notice’ period, CMHA’s President makes the decision to suspend or revoke the certification consistent with the procedures above.
- 9.8** The decision to suspend or revoke a certification can be appealed.
- 9.8.1** In order to appeal, the affected party must provide notification in writing to CMHA within 30 days of receipt of the decision to suspend or revoke.
- 9.8.2** CMHA’s President will review the appeal and all relevant information related to the matter. The President has the authority to overturn the decision to suspend or revoke certification.
- 9.8.3** In the instance the President does not overturn the decision, the appeal will be referred to CMHA’s Board of Directors, who will hear the appeal at their next regularly scheduled meeting. The company appealing the decision will have the opportunity to address the Board of Directors relative to their appeal.
- 9.8.4** The decision of the Board of Directors to either uphold or overturn the decision to revoke or suspend is final.

NOTE: END OF DOCUMENT.