

SPECIFICATION GUIDELINE

SECTION 04700 - Simulated masonry (Manufactured stone veneer and

Environmental StoneWorks specification guideline should be used to assist design professionals in the preparation of projects. Edit and delete items that may not be applicable. Verify all referenced section numbers / titles.

SECTION 04730 - Simulated Stone (Manufactured stone veneer and trim)

PART 1 - GENERAL

1.1 Related documents

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section includes:
 - I. Manufactured Stone Veneer and Trim
- B. Related Sections:
 - I. Division 06 Sections for Wood Framing: Framing design compliance with mechanical adhered stone veneer
 - II. Division 07 Sections for Water-resistive Barriers, Sealants and Flashings.

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM); Philadelphia, PA. (215) 299-5420,
 - 1. ASTM C 39 - Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 2. ASTM C 140 - Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
 - 3. ASTM C 144 - Standard Specification for Aggregate for Masonry Mortar.
 - 4. ASTM C 150 - Standard Specification for Portland cement.
 - 5. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
 - 6. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete.
 - 7. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 - 8. ASTM F 1667 - Standard Specification for Driven Fasteners, Nails, Spikes & Staples.
 - 9. ASTM D 1761 – Mechanical Fasteners
 - 10. ASTM D 3498- Construction Adhesive
 - 11. ASTM C 1262 Standard Test Method for Evaluating the Freeze Thaw Durability of Manufactured Concrete Masonry Units and Related Concrete Units.
 - 12. ASTM A641 - Standard Specification for Zinc-Coated. (Galvanized) Carbon Steel Wire.

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1.3 REFERENCES (con'd)

RILEM 11.4 – Measurement of Water Absorption Under Low Pressure.

UL 723 – Standard for Safety for Surface Burning Characteristics of Building Materials.

A Building Code Compliance:

I. The International Association of Plumbing and Mechanical Officials (IAPMO)

B Masonry Veneer Manufacturers Association (MVMA)

1.4 SUBMITTALS

A. Submit under provisions of section 01300.

B. Product Data: For each type of product indicated.

C. Shop Drawings: Indicate layout, show profiles and product components, including anchorage, accessories, finish colors, patterns, and textures.

D. Qualification Data: ClipStone manufacturing and installing qualifications, safety and quality documents.

E. Test Reports: Certified test reports showing compliance with specified performance requirements and physical properties.

F. Samples: Two complete sets of color cards representing manufacturer's full range of available colors and styles.

G. Manufacturer's Instructions: ClipStone Installation Procedures.

H. Certificates: IAPMO - ER-383.

I. Minutes of pre-installation conference.

J. Maintenance Data: ClipStone Installation Procedures.

K. Warranty: ClipStone product and installation warranties.

1.5 QUALITY ASSURANCE

A. IAMPO Certification: Environmental StoneWorks current IAMPO report - ER-383, which include AC-51 testing data.

B. Single Source Responsibility: Obtain primary manufactured stone veneer and trim from a single manufacturer with not less than five years of successful experience in manufacturing mortarless stone veneer products and four years of successful experience in installing principal materials described in this section. Manufacturer and Installer shall have completed at least ten projects of similar size and complexity. Provide secondary materials only of type and from source recommended by manufacturer of primary materials.

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1.5 QUALITY ASSURANCE (con'd)

C. Manufacturer Qualifications:

ClipStone...

1. has over 35 years' experience in producing simulated masonry.
2. provides field service representative.
3. has IAMPO certification.
4. has a 50 year product warranty.
5. is in good standing with the MVMA.

D. Installer Qualifications:

Environmental StoneWorks...

1. provide installers with a minimum of 5 years' experience installing mechanical adhered masonry.
2. has documented installation procedures and field quality control program.
3. provides OSHA 10/30 Hour trained project management.
4. provides extensive jobsite safety programs including scaffold safety, fall protection and personal protective equipment.

E. Product Compatibility: Manufacturers of products and systems certify in writing that products are compatible.

F. Pre-Installation Conference:

1. General contractor shall arrange a meeting not less than thirty days prior to starting work.
2. Attendance:
 - a. General Contractor
 - b. Architect/Owner's Representative
 - c. Installers' representative.

G. Warranty: Single Source Warranty.

- I. ClipStone Fifty (50) year product warranty.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials in ClipStone original, unopened, undamaged containers with identification labels intact.

B. Storage and Protection: Store materials to comply with ClipStone written instructions to prevent deterioration from moisture, temperature or other detrimental effects.

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1.7 SITE CONDITIONS

- A. Environmental Site Conditions: Comply with ClipStone Installation Procedures for environmental conditions.

PART 2 - PRODUCTS

2.1 MANUFACTURER

ClipStone stone veneer is a precast concrete product engineered from Portland cement, light weight aggregates, mineral oxide, and chemical additives to resemble natural stone in both texture and color. Each veneer unit has galvanized metal mounting clips and is engineered to resist the effects of weathering. ClipStone manufactured stone veneers units are installed in a non- load bearing veneer and trim capacity e.g., drip ledge and quoins, caps, etc.

1. Acceptable Manufacturer: ClipStone, which is located at
Email: jbaley@estoneworks.com; Web: www.myclipstone.com
 2. Substitutions: Not permitted
 3. Manufactured Stone Veneer Properties:
 4. Stone Thickness: 1 1/8" to 2 1/2"
 5. Stone Width: 1 1/8" to 3 1/2"
 6. Stone Length: 6" to 19"
 7. Weight: maximum of 15 lbs./sq.ft.
 8. Density to be determined under ASTM C 567
 9. Compressive Strength: Minimum of 1,800 PSI when tested in accordance with ATSM C 192
 10. Water absorption: less than 18% when tested in accordance with ASTM C 140 or UBC standard 15-5
 11. Freeze-thaw: less than 3% mass loss when tested in accordance with ASTM C 67
 12. Thermal Resistance: $R \geq .865$ when tested at a thickness of 1.0" (25.4 mm) in accordance with ASTM C 518
 13. Smoke and fuel contribution: UL listed 0/0
 14. Flexural strength: tested in accordance with ASTM C 348, Section 4.4
 15. Tensile strength: tested in accordance with ASTM C 190, Section 4.5
 16. Weather resistance: Mix design proven by test results to be resistant to degradation by weather.
- A. Architectural Trim:
- a. Products: Single source from ClipStone.
 - b. Water table/sill:
 - i. Color: As selected by Architect from manufacturer's full range.
 - ii. Size: As selected from manufactured full range.
 - iii. Provide sloped top surface and drip edge.

- B. Water Resistant Barrier: ASTM D 226, 2 layers of No. 15 non-perforated asphalt-saturated organic



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(Manufactured stone veneer and felt paper or 1 layer and a house-wrap product supported by a current evaluation report showing equivalency to Grade D building paper. Install weather resistive barrier (per manufacturer's instructions) over all exterior surfaces designated to receive stone veneer and require waterproofing. WRB shall be applied horizontally with the upper layer lapped over the lower layer at not less than 2". Lap weather-resistive barrier not less than 6" at the vertical joints. In the case of applications with two layers, start with two horizontal layers at the bottom of exterior wall or structure.

- c. Fasteners: #8 stainless steel or zinc plated Phillips head screws 1 1/4" long and should penetrate the OSB a minimum of 3/4". There should be a minimum of 2 (two) screws per stone, for units over 16".
- D. Starter Strip: Foundation Starter Strip shall be G60 coated hot-dipped galvanized and a minimum 0.012" (No. 28 gauge material) with a minimum vertical attachment of 3 1/2". Starter Strip should have weep holes with a minimum diameter of 3/16" spaced at a maximum of 12" on center. Install Foundation Starter Strip per manufacturer's instructions and integrate with WRB. Starter Strip shall have a minimum of 3 1/2" attachment flange at or below the foundation plate line on exterior walls in accordance with ASTM C 926.
- E. Clearances: Starter Strip should be held a minimum of 4" above finished grade or per Local building code. Starter Strip shall be held at a clearance above hard surfaces a minimum of 2" or as per local code and building practices. Starter Strip terminations that meet concrete surfaces that are supported by a footing shall be held at a clearance above the concrete a minimum of 1/2".

PART 3 - EXECUTION

A. ClipStone Installation Procedures:

- I. Comply with ClipStone product data, including but not limited to: product technical bulletins, manufacturer's installation procedures and product carton procedures for installation.

B. Examination:

- I. Examine substrates, with Installer present, for conditions affecting performance and proceed with application only after unsatisfactory conditions have been corrected.

C. Preparation:

- I. General: Prepare and clean substrate according to ClipStone Installation Procedures.

D. Application:

- I. General: Comply with ClipStone Installation Procedures.



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2. Corners: Provide ClipStone pre-manufactured corner units.

E. Cleaning:

I. Clean stone veneer in accordance with ClipStone Installation Procedures.