

SECTION 04 70 00

MANUFACTURED STONE VENEER

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Manufactured stone veneer masonry, accessories, and related materials.

1.2 SUBMITTALS

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

1. For manufactured stone veneer units, include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
2. Provide manufacturer's written installation instructions and recommendations.

Retain first paragraph below for Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ projects only. <http://www.usgbc.org/DisplayPage.aspx?CategoryID=19>

B. LEED Submittals:

1. Product Certificates for LEED Credit(s) _____ for Regional Materials under LEED System _____, Version____: For products and materials required to comply with requirements for regional materials indicating location and distance from Project of material manufacturer and point of extraction, harvest, or recovery for each raw material. Include statement indicating cost for each regional material and the fraction by weight that is considered regional.

Delete shop drawings below if stock units.

C. Shop Drawings: Show fabrication and installation details for manufactured stone veneer units including dimensions.

D. Samples for Initial Selection: For colored mortar.

Retain below.

E. Samples for Verification:

1. For each color and texture of manufactured stone veneer required, 10 inches by 16 inches in size.
2. For colored mortar. Make Samples using same sand and mortar ingredients to be used on Project. Label Samples to indicated types and amounts of pigments used.

Retain below if desired.

F. Field Panel Samples: For each color, texture and shape of manufactured stone veneer unit required, minimum 4 feet by 4 feet in size.

1. Make available for Architect's review at Project site (or at distributor showroom, if acceptable to Architect).
2. Make Samples from materials to be used for units used on Project.

G. Material Test Reports:

1. Provide ICC (International Code Council) ES Report No. 2593.
2. Provide ICC Acceptance Criteria for Precast Stone Veneer (ICC-ES AC51) Test Reports for physical properties.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: Member of the Masonry Veneer Manufacturers Association www.masonryveneer.org and the International Code Council (ICC) www.iccsafe.org.

B. Source Limitations for Manufactured Stone Veneer: Obtain manufactured stone veneer units through single source from single manufacturer.

C. Source Limitations for Raw Materials: Obtain ingredients of a uniform quality, including color, from one manufacturer for each cementitious component and from one source or producer for each raw material.

D. Certification: Manufacturer's ICC-ES evaluation report certifying that a qualifying inspection of the facilities manufacturing process has been successfully completed and manufacturer is in compliance with ICC operational standards and Acceptance Criteria for Precast Stone Veneer (AC 51).

1. Density: ASTM C 567, Standard Test Method for Density of Structural Lightweight Concrete.
2. Freeze/Thaw: ASTM C 67, Standard Test Method for Sampling and Testing Brick and Structural Clay Tile.
3. Compressive Strength: ASTM C 39, Standard Test Method Compressive Strength in Cylindrical Concrete Specimens.
4. Flexural Strength: ASTM C 348, Standard Test Method for Flexural Strength of Hydraulic-Cement Mortars.
5. Tensile Strength: ASTM C 190-85, Method of Test for Tensile Strength of Hydraulic Cement Mortars.
6. Absorption: ICC-ES AC 51 Section 4.6, "Acceptance Criteria for Precast Stone Veneer."
7. Thermal Properties: ASTM C518, Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.

Retain mockups below if desired.

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Build 4 feet by 4 feet mockup of typical wall area as shown on Drawings in location directed by Architect.
2. Show penetrations, terminations, corner detail, mortar color and tooling.
3. May remain as part of the work once approved by Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Coordinate delivery of manufactured stone veneer to avoid delaying the Work and to minimize the need for on-site storage.
- B. Pack, handle, and ship manufactured stone veneer units in suitable handi-packs or crates on 40 by 48 inch wooden pallets.
 - 1. Pack units so that faces do not rub against other units.
 - 2. When using flatbed delivery equipment, use brick boards to securely strap the load to prevent damage to the units.
 - 3. Keep units ventilated under covers to prevent condensation.
- C. Store cementitious materials and metal lath on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- D. Store mortar aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

1.5 PROJECT CONDITIONS

- A. Environmental Requirements: Maintain materials and ambient temperature in area of installation at minimum 40 degrees F prior to, during, and for 48 hours following installation.
- B. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Do not use units containing visible frozen moisture. Do not use calcium chloride or anti-freeze admixtures.
- C. Hot-Weather Requirements: If temperature exceeds 90 degrees F, additional water may be needed on the scratch-coated surface and the backs of the manufactured stone veneer units being applied. Providing shade and/or frequent misting of the wall may be required. Consult with mortar manufacturer to determine if mortar mix hot weather mix options are available. Local building code hot weather methods should be followed.

1.6 WARRANTY

- A. Limited Warranty on Materials: 50 year material-only on veneer installed in accordance with manufacturer's written instructions and recommendations.
 - 1. Provide new materials in lieu of defective materials.

1.7 EXTRA MATERIALS

- A. Provide extra units in shapes, colors and sizes employed.
 - 1. Provide 5 percent of the coverage area for corners and flats.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Heritage Stone Veneer, P.O. Box 2174 (2225 Greif Road), Zanesville OH 43702, Phone: 740.450.4236, Fax: 740.450.4370, Email: sales@heritagestone.com, Website: <http://www.heritagestone.com/> .
1. No Substitutions.

Specify Distributor below if desired, delete if not desired.

- B. Authorized Distributor: [Contact Information]

Using Heritage Stone's website, samples or published literature, select type(s) below and delete unused.

2.2 MANUFACTURED STONE VENEER

- A. Limestone Profiles (with matching corner pieces): [Buff] [Tan] [Shoreline] [Sandusky Shore] [Allegheny] [Southern] [Amherst] [Nantucket] [Ohio Vintage] [Blue Ridge] [Buckingham].
- B. LedgeStone Profiles (with matching corner pieces): [Osage] [Saginaw] [Santee] [Susquehanna] [Scioto].
- C. DryStack Profiles (with matching corner pieces): [Erie] [Ottawa] [Seneca] [Catawba] [Huron] [Shawnee] [Saltfork].
- D. Fieldstone Profiles (with matching corner pieces): [Buff] [Pennsylvania] [Top Rock] [Shenandoah] [Old Dominion] [Potomac] [Grey] .
- E. River Rock Profiles (with matching corner pieces): [Michigan] [Mountain].
- F. Blended Profiles (with matching corner pieces): [_____] percent [_____] and [_____] percent [_____].

2.3 MANUFACTURED STONE ACCESSORIES

- A. Hearthstone:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [19-1/2 inches by 19-1/2 inches by 2 inch thickness] [As shown on Drawings].
- B. Half Hearthstones:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [12 inches by 20 inches by 2 inch thickness] [As shown on Drawings].

- C. Wall Capstones:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [15 inches wide by 19-3/4 inches long] [11-1/4 inches wide by 19-3/4 inches long] [As shown on Drawings].
- D. Hydrant Stone:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [6-5/8 inches wide by 7-1/2 inches high by 2 inch thickness] [As shown on Drawings].
- E. Keystones:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [11-3/4 inches top width by 11 inches high by 7 inches bottom width by 2 inch thickness] [8-3/4 inches top width by 8 inches high by 6 inches bottom width by 2 inch thickness] [As shown on Drawings].
- F. Light Base Trim:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [7-1/2 inches wide by 10-1/2 inches high by 1-3/4 inch thickness, 4 inch diameter hole] [As shown on Drawings].
- G. Receptacle Stone:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [6-5/8 inches wide by 7-1/2 inches high by 1-3/4 inch thickness] [As shown on Drawings].
- H. Watertable/Sill:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [23-1/4 inches long by 3 inches high by 3 inches deep] [As shown on Drawings].
 3. Provide sloped top surface and drip edge.
- I. Shutter block:
1. Color: [Buff] [Grey] [As shown on Drawings].
 2. Size: [2 inches wide by 13-1/2 inches long by 2-3/4 inches deep] [As shown on Drawings].
- J. Flat Window Trim:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [6-1/2 inches wide by 22-3/4 inches long] [As shown on Drawings].
- K. Trim Stone:
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [6 inches wide by 8 inches high] [As shown on Drawings].
- L. Row Locks
1. Color: [Buff] [Grey] [Brown] [Ivory] [Natural] [As shown on Drawings].
 2. Size: [5-1/2 inches wide by 7-1/2 inches high by 2 inch thickness] or [4-1/2 inches wide by 5-1/2 inches high by 2 inch thickness] [As shown on Drawings].

2.4 MANUFACTURED STONE VENEER - MATERIALS

Retain article for LEED projects only.

- A. Regional Materials: Provide manufactured stone veneer units, accessories, metal lath, and mortar ingredients that have been manufactured within 500 miles of Project site from aggregates and cement that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

2.5 MANUFACTURED BRICK VENEER

2.6 MANUFACTURED BRICK ACCESSORIES

- A. Brick Stretchers:
 - 1. Color: [Rosewood] [As shown on Drawings].
 - 2. Size: [2-1/4 inches wide by 7-1/2 inches high by 2 inch deep] [As shown on Drawings].
- B. Brick Headers:
 - 1. Color: [Rosewood] [As shown on Drawings].
 - 2. Size: [2-1/4 inches wide by 3-1/2 inches high by 2 inch deep] [As shown on Drawings].
- C. Brick Still with drip:
 - 1. Color: [Rosewood] [As shown on Drawings].
 - 2. Size: [23-1/2 inches wide by 3-1/2 inches high by 3 inch deep] [As shown on Drawings].
 - 3. Provide sloped top surface and drip edge.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Prevent work from occurring on the opposite side of walls to which veneer is applied during and for 48 hours following installation
- B. Surface Preparation: Follow manufacturer's written instructions and recommendations for appropriate type of substrate.

3.3 INSTALLATION

- A. Install manufactured stone veneer in accordance with manufacturer's Installation Guidelines for Adhered Concrete Masonry Veneer.
- B. Install metal lath and scratch-coat of mortar in accordance with manufacturer's Installation Guidelines for Adhered Concrete Masonry Veneer.
- C. Install manufactured stone veneer as indicated on Drawings.
 - 1. Install units in accordance with manufacturer's Installation Guidelines for Adhered Concrete Masonry Veneer.
 - 2. Coordinate installation of manufactured stone veneer with installation of flashing specified in other Sections.
- D. Before tooling the mortar grout, allow mortar to become "thumb-print hard."
- E. Brush joints within 2 hours.

3.4 CLEANING

- A. Clean manufactured stone veneer in accordance with manufacture's recommendations.

3.5 PROTECTION

- A. Protect finished work from rain during and for 48 hours following installation.
- B. Protect finished work from damage during remainder of construction period.

END OF SECTION 04 70 00