



## SECTION 04 73 00 MANUFACTURED STONE VENEER

### PART 1 GENERAL

#### 1.1 SECTION INCLUDES

- A. Cultured Stone Veneer.
- B. Architectural Trim Stone.

#### 1.2 RELATED SECTIONS

- A. Section 04 20 00 - Unit Masonry.
- B. Section 06 10 00 - Rough Carpentry.
- C. Section 05 40 00 - Cold-Formed Metal Framing.
- D. Section 07 27 00 - Air Barriers.
- E. Section 07 28 00 - Underlayments.\*
- F. Section 07 62 00 - Sheet Metal Flashing & Trim.
- G. Section 07 90 00 - Joint Protection.
- H. Section 09 24 13 - Adobe Finish.
- I. Section 10 30 00 - Fireplaces and Stoves.

#### 1.3 REFERENCES

- A. ASTM C 39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
- B. ASTM C 67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- C. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
- D. ASTM C 192 - Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
- E. ASTM C 482 - Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
- F. ASTM C 1670 - Standard Specification for Adhered Manufactured Stone Masonry Veneer Units.
- G. ASTM C 1780 - Standard Practice for Installation Methods for Adhered Manufactured Stone Masonry Veneer
- H. UL 723 - Standard for Safety for Surface Burning Characteristics of Building Materials.
- I. ICC ES AC 51 Acceptance Criteria for Manufactured Stone Veneer
- J. Masonry Veneer Manufacturers Association (MVMA): Installation Guide for Adhered Manufactured Stone Veneer
- K. US Department of Housing and Urban Development (HUD): Material Release Numbers 910Fs
- L. LEED: US Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System.



#### 1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Building Code Compliance:
  - 1. International Code Council (ICC):
    - a. ES Report: ICC ESR 1364
    - b. UBC Standard No. 14-1, Kraft Waterproof Building Paper.
  - 2. Florida Product Approval Number FL15047
  - 3. Texas Department of Insurance: Product Evaluation–EC 21
  - 4. US Department of Housing & Urban Development (HUD): MR 1316.
  - 5. Tested by Underwriters Laboratories, Inc.
- B. Average Recycled Content of 58 percent validated by 3rd party analysis.
- C. Backup Wall System and installation method for manufactured stone veneer shall meet the requirements of ASTM C 1780–Standard Practice for Installation Methods for Adhered Manufactured Stone Masonry Veneer.

#### 1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer’s data sheets on each product to be used, including:
  - 1. Preparation instructions and recommendations.
  - 2. Storage and handling requirements and recommendations.
  - 3. Installation standards and methods.
- C. Shop Drawings: Submit drawings depicting proper installation and flashing techniques. Coordinate locations with those found on the Drawings.
- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
  - 1. LEED v 4, Product Data for Credit MR 4: For products having recycled content documentation; indicating percentages by weight of post-consumer and pre-consumer recycled content. Include statement indicating cost for each product having recycled content.
  - 2. LEED v 4, Product Data for Credit MR 4: For products having recycled content documentation; indicating percentages by weight of post-consumer and pre-consumer recycled content. Include statement indicating cost for each product having recycled content.
  - 3. LEED v 4, Product Data for Credit EQ 2: For products and materials to comply with low emittance standards, provide documentation substantiating that products comply with requisite low emittance standards.
  - 4. LEED v 4, Product Data for Credit for location and distance from Project of material manufacturer and point of extraction, harvest or recovery for main raw material.
- E. Selection Samples: For each finish product specified, two complete sets of color sample representing manufacturer’s full range of available colors and textures.
- F. Verification Samples: For each finish product specified, two samples, minimum size 8 inches (203 mm) square, representing actual product, color, and texture.
- G. Manufacturer’s Certificates: Certify products meet or exceed specified requirements.
- H. Closeout Submittals: Provide manufacturer’s maintenance instructions that include recommendations for cleaning and repair of components.



## 1.6 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer who is a current member of Masonry Veneer Manufacturers Association (MVMA) with a minimum of 5 years documented experience manufacturing and marketing all Manufactured Stone products of the type specified in this section.
- B. Installer Qualifications: Company with documented experience in installation of manufactured masonry of the type specified including at least five projects within a 400 mile (650km) radius of the Project.
- C. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
  - 1. Finish panel of size and location designated by Architect.
  - 2. Minimum size 3 foot by 3 foot and showing transition to adjacent materials anticipated.
  - 3. Do not proceed with remaining work until workmanship, color, texture and pattern are approved by Architect.
  - 4. Refinish mock-up area as required to produce acceptable work.
- D. Pre-Installation Conference:
  - 1. Contractor shall arrange a meeting not less than thirty days prior to starting stone veneer work.
  - 2. Attendance: Contractor, Architect/Owner Representative, veneer stone installer and manufacturer's representative.

## 1.7 DELIVERY, STORAGE & HANDLING

- A. Store and handle products in conformance with the manufacturer's requirements and recommendations.
- B. Store products off the ground on pallets in manufacturer's unopened packaging until ready for installation.
- C. Protect materials from precipitation and freezing temperatures. Product with visible frozen moisture should not be installed.

## 1.8 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Cold weather installations: Maintain materials and ambient temperature at minimum 40 degrees F (4 degrees C) prior to, during, and 48 hours after installation.
- C. Hot weather installations: Mist water on the scratch coated surface and the backs of the masonry veneer for installations that exceed 90 degrees (32 degrees C).

## 1.9 WARRANTY

- A. Provide manufacturers 50-year limited warranty.



## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Acceptable Manufacturer: **Cultured Stone®** by **Boral®**, which is located at: 200 Mansell Court E. Suite 305; Roswell, GA 30076; Toll Free Tel: 800-255-1727; Email to request info: [cs@culturedstone.com](mailto:cs@culturedstone.com); Web: [www.culturedstone.com](http://www.culturedstone.com)
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

### 2.2 MANUFACTURED STONE VENEER—GENERAL

- A. Manufactured Stone Veneer Performance Requirements: Conforming to ASTM C 1670 and as follows:
  1. Compressive Strength: Not less than 1800 psi (12.4 MPa) average for 5 specimens and not less than 2100 psi (14.4 MPa) for individual specimen when tested in accordance with ASTM C 39 & ASTM C 192.
  2. Bond Between Manufactured Masonry Unit, Mortar and Backing: Not less than 50 psi (345 kPa) when tested in accordance with ASTM C 482 using Type S mortar.
  3. Thermal Resistance: R-value of not less than 0.355 per inch (25.4 mm) of thickness when tested in accordance with ASTM C 177.
  4. Freeze/Thaw: No disintegration and less than 3 percent weight loss when tested in accordance with ASTM C 67.
  5. Water Absorption: Tested in accordance with UBC 15-5 9-22% depending on density value.
  6. Unit Weight: Not more than 15 psf (73 kg/m<sup>2</sup>) saturated.
  7. Surface Burning Characteristics: Not more than the following when tested in accordance with UL 723:
    - a. Flamespread: 25.
    - b. Smoke Development: 450.
  8. UV Stable - Mineral oxide pigments.
- B. Certifications:
  1. ICC ES AC 51 Acceptance Criteria for Manufactured Stone Veneer
  2. ICC Evaluation Service - Evaluation Report ESR 1364 & ASTM C 1670.
  3. HUD Material Release Number 1316c
  4. UL Tested for Surface Burning Characteristics
  5. Texas Department of Insurance Product Evaluation EC-21
  6. Florida Product Approval Number FL15047

## 2.3 CULTURED STONE VENEER

### Materials

#### A. Stone Veneer & Brick Veneer:

SELECT DESIRED PROFILE FROM THE CULTURED STONE WEBSITE [PRODUCTS](#) PAGE; INSERT PROFILE AND COLOR SPECIFICATION BELOW.

1. Profile: \_\_\_\_\_ . Include matching corner pieces.
2. Color: \_\_\_\_\_ .

#### B. Accessories

SELECT DESIRED STONE ACCESSORIES FROM THE CULTURED STONE WEBSITE [ACCESSORIES](#) PAGE; INSERT DESIRED ACCESSORIES BELOW AND INSERT TEXTURE IF REQUIRED. VERIFY THAT DIMENSIONS, IF REQUIRED, ARE SHOWN ON THE DRAWINGS.

1. Stone Accessories: \_\_\_\_\_ .
2. Color: \_\_\_\_\_ .

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared in conformance with ASTM C 1780 for the backup wall system indicated on the Drawings.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

### 3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Install manufactured stone masonry veneer in accordance with MVMA Installation Guide for Adhered Manufactured Stone Veneer, ASTM C 1780 and applicable Codes.
- C. Install/Apply Related Materials in accordance with type of substrate and manufactured stone veneer manufacture's installation instructions.
- D. General:
  1. Walls: Provide with Single Color and Texture throughout.
  2. Walls: Provide with Blended Color / Texture specified.
  3. Special Shapes: Color to match stones specified.
    - a. Provide Stones manufactured specifically for installation at corners where located on the Drawings.
    - b. Install Quoins on corners as indicated on the Drawings.
  4. Mortar Joints
    - a. Style:
      - 1) Tight Fit joints.
      - 2) Standard 1/2 inch tooled
      - 3) Wide joint
      - 4) Wide Overgrout
    - b. Strike all grout joints flush.
    - c. Tool all grout joints.
    - d. Overgrout all grout joints.
  5. Stone Direction:
    - a. Random placement



- b. Horizontal placement
    - c. Vertical placement
  - 6. Windows, Doors & Wall Openings:
    - a. Butt field stones to wall opening.
    - b. Install specified trim stones where located on the Contract Drawings.
  - 7. Sills: Install Sills where located on the Drawings.
  - 8. Caps: Install Capstones where located on the Drawings.
  - E. Seal all joints at wall openings and penetrations with a sealant approved for use with masonry products.
  - F. Flashing: Coordinate with Flashings specified in Section 07 62 00 - Sheet Metal Flashing and Trim.
  - G. Rainscreen: Coordinate with Rainscreens specified in Section 07 27 00 - Air Barriers.
- 3.4 FIELD QUALITY CONTROL
- A. Manufacturer's Field Services: Provide periodic site visits as requested by Architect. Report any discrepancies to the Contractor with copies to the Architect within 24 hours of each visit.
- 3.5 CLEANING
- A. Clean manufactured masonry in accordance with manufacturer's installation instructions
- 3.6 PROTECTION
- A. Protect finished work from rain and work on either side of the wall during and for 48 hours following installation.
  - B. Protect installed products until completion of project.
  - C. Clean prior to project closeout.
  - D. Touch-up, repair or replace damaged products before Substantial Completion.

**END OF SECTION**