**SECTION 04 73 00**

**MANUFACTURED STONE VENEER**

# PART 1 GENERAL

## SECTION INCLUDES

* + 1. Cultured Stone Veneer.
		2. Architectural Trim Stone.

## RELATED SECTIONS

* + 1. Section 04 20 00 - Unit Masonry.
		2. Section 06 10 00 - Rough Carpentry.
		3. Section 05 40 00 - Cold-Formed Metal Framing.
		4. Section 07 27 00 - Air Barriers.
		5. Section 07 28 00 - Underlayments.\*
		6. Section 07 62 00 - Sheet Metal Flashing & Trim.
		7. Section 07 90 00 - Joint Protection.
		8. Section 09 24 13 - Adobe Finish.
		9. Section 10 30 00 - Fireplaces and Stoves.

## REFERENCES

* + 1. ASTM C 39 - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
		2. ASTM C 67 - Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
		3. ASTM C 177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
		4. ASTM C 192 - Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
		5. ASTM C 482 - Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
		6. ASTM C 1670 - Standard Specification for Adhered Manufactured Stone Masonry Veneer Units.
		7. ASTM C 1780 - Standard Practice for Installation Methods for Adhered Manufactured Stone Masonry Veneer
		8. UL 723 - Standard for Safety for Surface Burning Characteristics of Building Materials.
		9. ICC ES AC 51 Acceptance Criteria for Manufactured Stone Veneer
		10. Masonry Veneer Manufactures Association (MVMA): Installation Guide for Adhered Manufactured Stone Veneer
		11. US Department of Housing and Urban Development (HUD): Material Release Numbers 910Fs
		12. LEED: US Green Building Council’s Leadership in Energy and Environmental Design Green Building Rating System.

## DESIGN / PERFORMANCE REQUIREMENTS

* + 1. Building Code Compliance:
			1. International Code Council (ICC):
				1. ES Report: ICC ESR 1364
				2. 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.
		2. Average Recycled Content of 58 percent validated by 3rd party analysis.
		3. 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. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. 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.
		3. Shop Drawings: Submit drawings depicting proper installation and flashing techniques. Coordinate locations with those found on the Drawings.
		4. 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.
		5. Selection Samples: For each finish product specified, two complete sets of color sample representing manufacturer’s full range of available colors and textures.
		6. Verification Samples: For each finish product specified, two samples, minimum size 8 inches (203 mm) square, representing actual product, color, and texture.
		7. Manufacturer’s Certificates: Certify products meet or exceed specified requirements.
		8. Closeout Submittals: Provide manufacturer’s maintenance instructions that include recommendations for cleaning and repair of components.

## QUALITY ASSURANCE

* + 1. Manufacturer Qualifications: Manufacturer who is a current member of Masonry Veneer Manufactures Association (MVMA) with a minimum of 5 years documented experience manufacturing and marketing all Manufactured Stone products of the type specified in this section.
		2. 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.
		3. 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.
		4. 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.

## DELIVERY, STORAGE & HANDLING

* + 1. Store and handle products in conformance with the manufacturer’s requirements and recommendations.
		2. Store products off the ground on pallets in manufacturer’s unopened packaging until ready for installation.
		3. Protect materials from precipitation and freezing temperatures. Product with visible frozen moisture should not be installed.
	1. PROJECT CONDITIONS
		1. 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.
		2. Cold weather installations: Maintain materials and ambient temperature at minimum 40 degrees F (4 degrees C) prior to, during, and 48 hours after installation.
		3. 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).

## WARRANTY

* + 1. Provide manufacturers 50-year limited warranty.

# PART 2 PRODUCTS

## MANUFACTURERS

* + 1. 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**; Web: [**www.culturedstone.com**](http://www.culturedstone.com/)
		2. Substitutions: Not permitted.
		3. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

## MANUFACTURED STONE VENEER–GENERAL

* + 1. 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/m2) saturated.
			7. Surface Burning Characteristics: Not more than the following when tested in accordance with UL 723:
				1. Flamespread: 25.
				2. Smoke Development: 450.
			8. UV Stable - Mineral oxide pigments.
		2. 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

## CULTURED STONE VENEER

## Materials

### Stone Veneer & Brick Veneer:

SELECT DESIRED PROFILE FROM THE CULTURED STONE WEBSITE [PRODUCTS](https://www.culturedstone.com/products) PAGE; INSERT PROFILE AND COLOR SPECIFICATION BELOW.

#### Profile: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Include matching corner pieces.

* + - 1. Color: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
		1. Accessories

SELECT DESIRED STONE ACESSORIES FROM THE CULTURED STONE WEBSITE [ACCESSORIES](https://www.culturedstone.com/products#accessories) PAGE; INSERT DESIRED ACCESSORIES BELOW AND INSERT TEXTURE IF REQUIRED. VERIFY THAT DIMENSIONS, IF REQUIRED, ARE SHOWN ON THE DRAWINGS.

#### Stone Accessories: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

##### Color: ­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

# PART 3 EXECUTION

## EXAMINATION

* + 1. 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.
		2. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

## PREPARATION

* + 1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

## INSTALLATION

* + 1. Install in accordance with manufacturer’s instructions.
		2. Install manufactured stone masonry veneer in accordance with MVMA Installation Guide for Adhered Manufactured Stone Veneer, ASTM C 1780 and applicable Codes.
		3. Install/Apply Related Materials in accordance with type of substrate and manufactured stone veneer manufacture’s installation instructions.
		4. 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.
				1. Provide Stones manufactured specifically for installation at corners where located on the Drawings.
				2. Install Quoins on corners as indicated on the Drawings.
			4. Mortar Joints
				1. Style:

Tight Fit joints.

Standard 1/2 inch tooled

Wide joint

Wide Overgrout

* + - * 1. Strike all grout joints flush.
				2. Tool all grout joints.
				3. Overgrout all grout joints.
			1. Stone Direction:
				1. Random placement
				2. Horizontal placement
				3. Vertical placement
			2. Windows, Doors & Wall Openings:
				1. Butt field stones to wall opening.
				2. Install specified trim stones where located on the Contract Drawings.
			3. Sills: Install Sills where located on the Drawings.
			4. Caps: Install Capstones where located on the Drawings.
		1. Seal all joints at wall openings and penetrations with a sealant approved for use with masonry products.
		2. Flashing: Coordinate with Flashings specified in Section 07 62 00 - Sheet Metal Flashing and Trim.
		3. Rainscreen: Coordinate with Rainscreens specified in Section 07 27 00 - Air Barriers.

## FIELD QUALITY CONTROL

* + 1. 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.

## CLEANING

* + 1. Clean manufactured masonry in accordance with manufacturer’s installation instructions

## PROTECTION

* + 1. Protect finished work from rain and work on either side of the wall during and for 48 hours following installation.
		2. Protect installed products until completion of project.
		3. Clean prior to project closeout.
		4. Touch-up, repair or replace damaged products before Substantial Completion.

# END OF SECTION

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