



Cultured Stone®

This MANU-SPEC® utilizes the Construction Specifications Institute (CSI) *Project Resource Manual* (PRM), including MasterFormat™, SectionFormat™ and PageFormat™. A MANU-SPEC is a manufacturer-specific proprietary product specification using the proprietary method of specifying applicable to project specifications and master guide specifications. Optional text is indicated by brackets []; delete optional text in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

This MANU-SPEC specifies manufactured stone veneer, manufactured brick veneer and manufactured stone trim. These products are manufactured by Boral Stone Products LLC. Revise MANU-SPEC section number and title below to suit project requirements, specification practices and section content. Refer to CSI *MasterFormat* for other section numbers and titles.

Specifier Note—SUSTAINABILITY: LEED: This section includes general requirements and procedures for compliance with the US Green Building Council's (USGBC) LEED US-NC prerequisites or credits required for LEED project certification.

SECTION 04 70 00 MANUFACTURED MASONRY

PART 1 GENERAL

1.01 SUMMARY

Specifier Note—Retain material(s) below to conform to project requirements.

- A. Section Includes: [Manufactured stone veneer] [Manufactured brick veneer] [Manufactured stone trim].
- B. Related Sections:
 - 1. Flashing: Division 07 flashing sections.
 - 2. Sealants: Division 07 sealant sections.

Specifier Note—Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Section 01 42 19 - Reference Standards may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

1.02 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens.
 - 2. ASTM C67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
 - 3. ASTM C177 Standard Test Method for Steady-State Heat Flux Measurement and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
 - 4. ASTM C192 Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
 - 5. ASTM C270 Standard Specification for Mortar for Unit Masonry.
 - 6. ASTM C482 Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.



- B. South Coast Air Quality Management District (SCAQMD), California State (SCAQMD):
 1. SCAQMD Rule 1168 Adhesives and Sealants Applications.
- C. US Green Building Council (USGBC):
 1. LEED US-NC Version 2.2, Leadership in Energy and Environmental Design (LEED): Green Building Rating System Reference Package for New Construction and Major Renovations.
- D. Underwriters Laboratories, Inc. (UL):
 1. UL 723 Standard for Safety for Surface Burning Characteristics of Building Materials.

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements:
 1. Compressive Strength: Not less than 1800 psi (12.4 MPa) average for 5 specimens and not less than 1500 psi (10.3 MPa) for individual specimen when tested in accordance with ASTM C39 and ASTM C192.
 2. Bond Between Manufactured Masonry Unit, Mortar and Backing: Not less than 50 psi (345 kPa) when tested in accordance with ASTM C482 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 C177.
 4. Freeze/Thaw: No disintegration and less than 3% weight loss when tested in accordance with ASTM C67.
 5. Veneer Product Unit Weight: Not more than 15 psf (73 kg/m²).
 6. Surface Burning Characteristics: Not more than the following when tested in accordance with UL 723:
 - a. Flamespread
 - b. Smoke Development
 7. Minimum Recycled Content of 50%: Validated by 3rd Party Analysis.

Specifier Note—Article below includes submittal of relevant data to be furnished by Contractor either before, during or after construction. Coordinate this article with Architect’s and Contractor’s duties and responsibilities in Conditions of the Contract and Section [01 33 00—Submittals Procedures] [_____].

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Section [01 33 00 - Submittal Procedures] [_____].
- B. Product Data: Submit product data, including manufacturer’s SPEC-DATA® sheet, for specified products.
- C. Shop Drawings: Indicate layout, show profiles and product components, including anchorage, accessories, finish colors, patterns and textures.

Specifier Note—SUSTAINABILITY: LEED: Use the following paragraphs when LEED Submittals are required.

- D. LEED Submittals: In accordance with [LEED US-NC] [And] [Section 01 35 21—LEED Requirements] [_____].
 1. Submit required letters, calculations, spreadsheets and templates prepared by [Engineer] [Consultant] [Architect] [_____] for submitting to USGBC for Credit Interpretation Requests.
 2. Submit Project Materials and Cost Data: Provide statement for total cost for building materials used for Project.
 3. Provide LEED submittals indicating how following requirements will be met.

Specifier Note—SUSTAINABILITY: LEED: Paragraphs below require Contractor to make early submittals indicating how certain LEED requirements will be met. Edit the following paragraphs to suit Project.

- A. Materials and Resources Credit: [MRc2.1 Construction Waste Management: Divert 50% From Landfill] [MRc2.2 Construction Waste Management]: Divert 75% From Landfill]: Submit Construction Waste Management plan in accordance with Section [01 74 21—Construction/Demolition Waste Management and Disposal] [_____].

Specifier Note—SUSTAINABILITY: LEED: Delete paragraph below if recycled content of various materials is specified, rather than giving the Contractor the option to determine how recycled content requirement will be met

- b. Materials and Resources Credit: [MRc4.1—Recycled Content: 7.5% (Post-Consumer + 1/2 Post-Industrial)] [MRc4.2—Recycled Content: 15% (Post-Consumer + 1/2 Post-Industrial)]: Submit product data, list [And certification letter(s)] of proposed materials with recycled content:
 - 1) Showing their cost and percentages by weight of post-consumer and pre-consumer recycled content.
- c. Materials and Resources: [Credit MRc5.1 Regional Materials: 10% Extracted and Manufactured Regionally] [MRc5.2 Regional Materials: 20% Extracted and Manufactured Regionally]: Submit [Product data and] list of proposed regionally manufactured materials [And regionally extracted, harvested and recovered materials] [_____] indicating:
 - 1) [Minimum of 10% of building materials or products for which at least 80% of the mass is extracted, processed and manufactured within 497 miles (800 km) of Project site].
 - 2) [Minimum of 20% of building materials or products for which at least 80% of the mass is extracted, processed and manufactured within 1491 miles (2400 km) of Project site, and shipped by rail or water].
- d. Materials and Resources: [Credit MRc6 Rapidly Renewable Materials]: Submit product data for rapidly renewable materials.
 - 1) Include statement indicating costs for each rapidly renewable material.
- e. Indoor Environmental Quality Credit: [EQc4.1 Low-Emitting Materials: Adhesives and Sealants]: Submit product data ensuring that VOC content in g/L for adhesives and sealants used is calculated in accordance with SCAQMD Rule 1168.
- E. Samples: Submit 8 1/2 inch × 11 inch (216 × 279 mm) samples of specified manufactured masonry showing color, pattern and texture.
- F. Quality Control Submittals:
 - 1. Test Reports: Certified test reports showing compliance with specified performance requirements and physical properties.
 - 2. Manufacturer's Instructions: Manufacturer's installation instructions.
- G. Operation and Maintenance Data: Manufacturer's maintenance and cleaning instructions.

Specifier Note—Article below should include prerequisites, standards, limitations and criteria that establish an overall level of quality for products and workmanship for this section. Coordinate article below with Division 01 Quality Assurance Section.

1.05 QUALITY ASSURANCE

Specifier Note—Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Section 01 41 00—Regulatory Requirements. Repetitive statements should be avoided.

- A. Regulatory Requirements: In accordance with Section [01 41 00—Regulatory Requirements] [_____].
- B. Mock-Ups:

Specifier Note—If mock-up configuration is not indicated on the drawings, insert a description below.

- 1. Provide a mock-up panel for each type of manufactured masonry specified and as indicated on the drawings.
- 2. Locate mock-up(s) as directed by the Architect. Do not move, alter or destroy mock-up(s) until directed to do so by the Architect.
- 3. For each mock-up, provide manufactured masonry of color, finish and cut that represents the manufactured masonry to be used in the work.
- 4. Do not begin installation of manufactured masonry work until the Architect accepts the mock-up(s). Build as many mock-ups as required to obtain the Architect's acceptance. Remove unacceptable mock-ups from the site.

1.06 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Section [01 61 00—Common Product Requirements] [_____].
- B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- C. Storage and Protection: Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.

Specifier Note—Coordinate article below with Conditions of the Contract and with Section 01 78 36—Warranties.



PART 2 PRODUCTS

2.01 SUSTAINABILITY REQUIREMENTS

Specifier Note—SUSTAINABILITY: LEED: Edit the following paragraph to include sustainable requirements related to the construction and verification of this project for attaining environmental performance goals. Choose products and materials with recycled content or resource efficient characteristics whenever possible. Use least toxic and low VOC content sealants, adhesives, sealers and finishes necessary to comply with the requirements of the project.

- A. Do materials and products in accordance with Section [01 47 15 - Sustainable Requirements: Construction] [_____].
- B. Do verification requirements in accordance with Section [01 47 17 - Sustainable Requirements: Contractor's Verification] [_____].

Specifier Note—Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

2.02 MANUFACTURED MASONRY

Specifier Note—Paragraph below is an addition to CSI SectionFormat and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

- A. Manufacturer: Boral Stone Products LLC
 1. Contact: One Owens Corning Parkway, Toledo, OH 43659; Telephone: (800) 255-1727; Fax: (866) 213-3037; website: www.culturedstone.com.
- B. Cultured Stone:

Specifier Note—Insert either single or blended texture and color selections below. Refer to manufacturer's product data for range of textures and colors available. If both are retained, create designators and coordinate with the drawings.

1. Single Texture/Color: [_____] [As indicated on the drawings].
2. Blended Texture/Color:
 - a. [_____] percent [_____].
 - b. [_____] percent [_____].
 - c. [As indicated on the drawings].

Specifier Note—Insert veneer color below. Refer to manufacturer's product data for range of colors available. If more than one is selected, create designators and coordinate with the drawings.

- C. Cultured Brick: [_____] [As indicated on the drawings].

Specifier Note—Retrain trim pieces below to conform to project requirements.

- D. Architectural Trim:
 1. Pier Capstones:
 - a. Texture: [Flagstone]
 - b. Color: [_____] [As indicated on the drawings].
 - c. Size: [24 inches x 24 inches (610 x 610 mm)] [32 inches x 32 inches (813 x 813 mm)] [As indicated on the drawings]. Dimensions are nominal.
 2. Wall Capstones:
 - a. Texture: [Flagstone]
 - b. Color: [_____] [As indicated on the drawings].
 - c. Size: [12 inches x 20 inches (305 x 508 mm)] [16 inches x 20 inches (406 x 508 mm)] [As indicated on the drawings]. Dimensions are nominal.

3. Hearthstones:

- a. Color: [_____] [As indicated on the drawings].
- b. Size: [Nominal 19 inches × 20 inches (483 × 508 mm)].

4. Trimstones:

- a. Color: [_____] [As indicated on the drawings].
- b. Size: Nominal 6 inches × 8 inches × 1 7/8 inches (152 × 203 × 48 mm).

5. Keystones:

- a. Color: [_____] [As indicated on the drawings].
- b. Size: Nominal 8 1/2 inches × 10 inches × 1 7/8 inches (216 × 254 × 48 mm).

6. Tuscan Lintels—Stone Textured:

- a. Color: [_____] [As indicated on the drawings].
- b. Size: Nominal 22 inches × 6 inches × 2 5/8 inches (559 × 152 × 67 mm).

7. Watertable/Sill—Stone Textured:

- a. Color: [_____] [As indicated on the drawings].
- b. Size: Nominal 2 inches (front) × 2 1/2 inches (back) × 3 inches × 18 inches (51 (front) × 64 (back) × 76 × 457 mm).
- c. Provide sloped top surface and drip edge.

8. Light Fixture Stones—Chamfered Edge with Grooved Border:

- a. Color: [Gray] [Taupe] [As indicated on the drawings].
- b. Size: [Nominal 8 inches × 10 inches × 1 7/8 inches (203 × 254 × 48 mm)] [Nominal 9 inches × 15 inches × 1 7/8 inches (229 × 381 × 48 mm)] [As indicated on the drawings].
- c. Provide 4 inch × 1 1/2 inch (102 × 38 mm) UL approved metal octagon extension box.

9. Receptacle Stones—Raised Chamfered Edge:

- a. Color: [Gray] [Taupe] [As indicated on the drawings].
- b. Size: [Nominal 6 inches × 8 inches × 1 3/4 inches (152 × 203 × 45 mm)] [8 inches × 8 inches × 1 3/4 inches (203 × 203 × 45 mm)].
- c. Provide single receptacle 2 inch × 4 inch × 1 1/2 inch (51 × 102 × 38 mm) UL approved metal extension box.



2.03 ACCESSORIES

Specifier Note—Retain accessories below to conform to project requirements.

A. Fasteners:

1. Into Wood Studs: Minimum 0.120 inch (3.05 mm) shank diameter galvanized nails or staples of sufficient length to penetrate 1 inch (25 mm) minimum into the stud.
2. Into Metal Studs: Minimum 7/16 inch (11.1 mm) head diameter, corrosion resistant, self-drilling, self-tapping, pancake head screws of sufficient length to penetrate 3/8 inch (9.5 mm) minimum into the stud.

B. Mortar: Premixed Type N, Type S or mortar mixed using components and proportions in accordance with manufactured masonry manufacturer's installation instructions.

1. Mortar Color: Iron oxide pigments.

C. Sealants: Type [____], in accordance with Section [07 92 00 - Joint Sealants] [____].

D. Weep Screed as required for installation over framed construction.

Specifier Note—SUSTAINABILITY: LEED: Use the following subparagraph if low-emitting materials are required for LEED Credit EQc4.1 where VOC content of sealants must be less than VOC content limits of SCAQMD Rule 1168.

1. Sealant: Maximum VOC limit [250] g/L [To SCAQMD Rule 1168].

2.04 MIXES

A. Proportions: ASTM C270, Type N or Type S.

B. Procedure: In accordance with manufactured masonry manufacturer's installation instructions.

2.05 PRODUCT SUBSTITUTIONS

A. Substitutions: Substitutions in accordance with Section [01 25 13—Product Substitution Procedures] [No substitutions permitted] [Any substitution must meet or exceed 1.03 A System description performance requirement].

PART 3 EXECUTION

Specifier Note—Paragraph below is an addition to CSI SectionFormat and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.02 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.03 PREPARATION

- A. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.04 CLEANING

- A. Upon completion, clean manufactured masonry in accordance with Section 01 74 00 - Cleaning and Waste Management.

3.05 PROTECTION

- A. Protect finished work from rain during and for 48 hours following installation.
- B. Protect finished work from damage until the date of Substantial Completion.

END OF SECTION

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