



SIMULATED/ MANUFACTURED STONE 04730

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This specification is a manufacturer specific proprietary product specification. Optional text is indicated by brackets []; delete optional text in final copy of specification.

This specification specifies simulated masonry, including manufactured stone veneer and trim as manufactured by Landmark Stone. Revise the section number and title below to suit project requirements, specification practices and section content.

SECTION 04730 SIMULATED MANUFACTURED STONE (MANUFACTURED STONE VENEER AND TRIM)

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes: Simulated stone veneer and trim.
- B. Related Sections: Section(s) related to this section include:
 - 1. Frame Support for Substrate: Division 5 Cold Formed Metal Framing Section.
 - 2. Wall Framing and Sheathing: Division 6 Rough Carpentry Section.
 - 3. Flashing: Division 7 Flashing Section.
 - 4. Perimeter Sealing at Openings: Division 7 Joint Sealers Section.
 - 5. Finish Plaster: Division 9 Lath and Plaster Section.
 - 6. Fireplaces and Stoves: Division 10 Fireplace and Stove Section.

1.02 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority.

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- B. American Society for Testing and Materials (ASTM):
 - 1. ASTM C67 Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
 - 2. ASTM C91 Standard Specification for Masonry Cement.
 - 3. ASTM C150 Standard Specification for Portland cement
 - 4. ASTM C177 Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate-Apparatus.
 - 5. ASTM C207 Standard Specification for Hydrated Lime for Masonry Purposes.
 - 6. ASTM C270 Standard Specification for Mortar for Unit Masonry
 - 7. ASTM C 482 Standard Test Method for Bond Strength of Ceramic Tile to Portland cement.
 - 8. ASTM C567 Standard Test Method for Density Structural Lightweight Concrete.

- C. Underwriter's Laboratories, Inc. (UL):
 - 1. UL 723 Standard for Safety for Surface Burning Characteristics of Building Materials.

- D. Uniform Building Code (UBC):
 - 1. UBC Standard No. 32-12 for Water Absorption.
 - 2. UBC Standard No. 14-1 Kraft Waterproof Building Paper.
 - 3. UBC Standard No. 26-10 Parts 1 and 1V: Test Method for Compressive Strength of Cylindrical Concrete Specimens.

1.03 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide [Section/Product/Title] which has been manufactured and installed to withstand loads from [Specify code/standard reference] and to maintain [Specify performance criteria.] performance criteria stated [Certified] by manufacturer without defects, damage or failure.

1.04 SUBMITTALS

- A. General: Submit listed submittals in accordance with conditions of the contract and Division 1 Submittal Procedures Section.
- B. Product Data: Submit product data, including manufacturer's specifications sheet, for specified products.
- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors, patterns and textures.
- D. Samples: Submit selection and verification samples for finishes, colors and textures.
- E. Quality Assurance Submittals: Submit the following:

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1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
2. Manufacturer's Instructions: Manufacturer's installation instructions.
3. Manufacturer's Field Reports: Manufacturer's field reports specified herein.

F. Closeout Submittals: Submit the following:

1. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products, and precautions against cleaning materials and methods detrimental to finishes and performance.
2. Warranty: Warranty documents specified herein.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Installer Qualifications: Installer experienced in installing simulated stone and has specialized in installation of work similar to that required for this project.
2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method.

B. Regulatory Requirements: [Specify applicable requirements of regulatory agencies].

C. Mock-Ups: Install at project site a job mock-up using acceptable products and manufacturer approved installation methods. Obtain Owner's and Architect's acceptance of finish color, texture, pattern, and workmanship standard. Comply with Division 1 Quality Control (Mock-Up Requirements) Section.

1. Mock-Up Size: [Specify mock-up size] sample panel at jobsite as directed.
2. Pattern: Illustrate field pattern of stone, color, and tooling of joints.
3. Maintenance: Maintain mock-up during construction for workmanship comparison; remove and legally dispose of mock-up when no longer required.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer. Store mortar and other moisture-sensitive materials in protected enclosures; handle by methods that avoid exposure to moisture.

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1.07 PROJECT CONDITIONS

- A. Environmental Requirements/Conditions: Ambient air temperature shall be in accordance with manufacturer's requirements.
 - 4. Maintain materials and surrounding air temperature to minimum 40 degrees prior to, during and for 48 hours after completion of work.
 - 5. Protect materials from rain, moisture and freezing temperatures prior to, during, and for 48 hours after completion of work.
 - 6. Allow no construction activity on opposite side of wall during installation and for 48 hours after completion of work.

1.08 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for owner's acceptance, manufacturer's standard warranty document.
 - 1. Warranty Period: Specify term in years commencing on date of project completion.

PART 2 PRODUCTS

2.01 MANUFACTURED STONE VENEER

- A. Manufacturer: Landmark Stone Products
 - 1. Contact: P.O. Box 176, Cynthiana, KY 41031;
Telephone: (866) 273-5214; Email: info@Landmarkstone.com
- B. Proprietary Products/Systems: Landmark Stone Products
 - 1. Sizes and Shapes: [Specify random shapes, sizes, and textures of finished product to duplicate natural stones. Stone diameter varies from 2" to 30". The average thickness of Landmark Stone veneers is 1 3/4". Thickness may vary from 1" to 3 1/2 " depending on the texture.
 - 2. Colors and Textures: [Specify colors and textures. Refer to manufacturer's published literature for available colors.]

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3. Landmark Stone Texture: Type as indicated below:

- [Fieldstone: Canyon Creek, Allegheny]
- [River Rock: Timber Lake, Misty Bay, Niagra]
- [Ledgestone: Blue Ridge, Allegheny, Sienna]
- [Cut Cobble: Allegheny, Chisel Gray, Ohio, Southern Malt]
- [Limestone: Amherst, Kentucky Gray, Ozark, North Shore, Chisel Gray, Antique]
- [Stackstone: Mountain Stream, Chisel Gray, Deerskin, Mohave, Prestige]
- [Mountain Ledge: Wheat, Crimson, Granite, Sienna]

4. Landmark Stone Accessories:

- [Water Table/Sill: Sandstone, Brown, Granite, White]
- [Trim Stone: Sandstone, Brown, Granite, White]
- [Keystone: Sandstone, Brown, Granite, White]
- [Cap Stone: Sandstone, Brown, Granite, White]
- [Hearthstone: Sandstone, Brown, Granite, White]
- [Wall Cap: Sandstone, Brown, Granite, White]
- [Pier Cap: Sandstone, Brown, Granite, White]
- [Light Box: Sandstone, Brown, Granite, White]
- [Receptacle Box: Sandstone, Brown, Granite, White]

C. Proprietary Products System Testing:

1. Shipping weight of manufactured stone units: 8 – 12 psf
2. Compressive strength: Tested in accordance with UBC Standard No. 26-10, Parts I and IV.
3. Shear (Adhesion) strength: Tested in accordance with ASTM C482 using a unit thickness of approximately the same as the stone unit.
4. Thermal Resistance: K-Factor 2.82 in accordance with ASTM C177. R-factor is 0.355 per 1" (25.4mm) of thickness.
5. Freeze/Thaw: Tested in accordance with ASTM C67

D. Fire Hazard Test: Flame spread of 0. Smoke development of 0 in accordance with UL723.

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2.02 RELATED MATERIALS

- A. Related Materials: Refer to other sections listed in related sections specified herein for related materials
- B. Mortar:
 - 1. Portland Cement, ASTM C150, Type I or masonry cement (Type N), ASTM C91.
 - 2. Masonry sand.
 - 3. Lime: ASTM C207
 - 4. Iron Oxide Pigments
- C. Masonry Sealer: [If specifying use: breather type (non-film forming) sealer].
- D. Weather Resistant Barrier: Kraft waterproof building paper, UBC Standard No.14-1 or ASTM D226 for Type 1 felt.
- E. Lath:
 - 1. Metal Lath: 18 gauge galvanized woven wire mesh or galvanized [2.5 lb flat diamond mesh]
 - 2. Plastic Lath:

2.03 MORTAR MIXES

- A. Mixing: Mix proprietary materials in accordance with manufacturer's instructions including product data and product technical bulletins. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270, Type N. Do not use antifreeze compounds to lower the freezing point of mortar.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical data, and product installation instructions.

3.02 EXAMINATION

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

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3.03 PREPARATION

- A. Surface Preparation: [Specify applicable product preparation requirements].
1. Open Stud: Install paperbacked [metal lath] [plastic lath] to studs using galvanized nails or staples which penetrate a minimum of 1" and 4" on center. Apply $\frac{1}{2}$ " – $\frac{3}{4}$ " scratch coat and allow to dry 48 hours. Wrap weather resistant barrier and [metal] [plastic] lath a minimum of 16" around all outside and inside corners.
 2. Sheathed Surfaces: Install 1 layer of weather resistant barrier with lap joints 4" shingle fashion. Apply code approved [metal] [plastic] lath, attach with galvanized nails or staples which penetrate a minimum of 1". Apply 6" on center vertically and 16" on center horizontally. Wrap weather resistant barrier and [metal] [plastic] lath a minimum of 16" around all outside and inside corners.
 3. Concrete and Masonry Surfaces - New, Clean and Untreated: No preparation needed. Examine newly poured concrete closely to ensure that its finished surface contains no releasing agents (form oil). If it does contain form oil, etch surface with muriatic acid, rinse thoroughly and/or score with a wire brush, or use high pressure water or sandblasting to remove.
 4. Existing Concrete and Masonry Surfaces: If required, remove paint, coatings, sealers, and dirt as recommended herein.
 5. Apply [metal] [plastic] lath to surfaces, attach with galvanized concrete nails which penetrate a minimum of 1". Apply 6" apart, 16" on center.

3.04 MANUFACTURED STONE VENEER INSTALLATION

- A. Mortar: Apply $\frac{1}{2}$ " – $\frac{3}{4}$ " of mortar to [lath] [dampened masonry, stucco, or concrete surfaces], covering a maximum of 10 square feet at one time. Press the units firmly into position in soft mortar bed, wiggle and apply slight pressure to unit to ensure firm bonding, causing mortar to extrude slightly around edges of units.
- B. Joints: Place units with uniform mortar joints. Stone joints should not be over $\frac{1}{2}$ " – $\frac{3}{4}$ " in width. When installing stones without a mortar joint, [dry stacked installations, Castlestone, Dri-Stak], units should be fitted tight against each other with no allowance for mortar joints.
1. Remove excess mortar; do not allow mortar to set up on face of units. Point and tool joints before mortar has set. Clean and finish joints in accordance with manufacturer's instructions.

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- C. Setting Units: Press each stone into the mortar setting bed firmly enough to squeeze some mortar out around the stone's edges. Apply pressure to the stone to ensure a good bond. Ensure complete coverage between the mortar bed and back surface of the stone. Mortar may also be applied to entire back of the stone.
 - 1. Install hearth pieces in a ½" – ¾" deep mortar setting bed.
- D. Cutting: Perform necessary cutting with proper tools to provide uniform edges; take care to prevent breaking unit corners or edges.
- E. Finish Color/Textures/Patterns: [Specify installation finishes coordinated with finishes specified in Part 2 Products].

3.05 FIELD QUALITY REQUIREMENTS

- A. Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

3.06 CLEANING

- A. Cleaning: Use a strong solution of granulated soap or detergent and water with a bristle brush. So not use a wire brush as it will cause damage to the surface. Rinse immediately with fresh water. Do not attempt to clean using acid or acid based products. Do not clean with high-pressure power washer.
- B. Salt and De-icing Chemicals: Do not use de-icing chemicals on areas immediately adjacent to a Landmark Stone Products application.
- C. Scuffing: Remove scuff marks by cleaning as specified herein.
- D. Efflorescence: To remove efflorescence, allow stone to dry thoroughly, then scrub vigorously with a stiff brush and clean water. Rinse thoroughly. Do not use a wire brush. For difficult efflorescence problems, scrub thoroughly with a solution of 1 part white household vinegar to 5 parts water. Rinse thoroughly.

3.07 PROTECTION

- A. Protection: Protect installed product and finish surfaces from damage during construction.

END OF SECTION