



Texas Stone Designs, Inc.
2001 W. Mayfield Road
Arlington, Texas 76015
(800) 336-1131
FAX (817) 277-9488

E-mail: info@texasstonedesigns.com

Website: <http://www.texasstonedesigns.com>

3-PART SPECIFICATION

SECTION 04730

MANUFACTURED STONE VENEER

(Stone Veneer and Trim)

GENERAL NOTES TO SPECIFIER:

THIS SPECIFICATION SECTION HAS BEEN PREPARED TO ASSIST DESIGN PROFESSIONALS IN THE PREPARATION OF PROJECT OR OFFICE MASTER SPECIFICATIONS. IT FOLLOWS GUIDELINES ESTABLISHED BY THE CONSTRUCTION SPECIFICATIONS INSTITUTE (CSI), AND THEREFORE MAY BE USED WITH MOST MASTER SPECIFICATION SYSTEMS WITH MINOR EDITING.

EDIT CAREFULLY TO SUIT PROJECT REQUIREMENTS. MODIFY AS NECESSARY AND DELETE ITEMS THAT ARE NOT APPLICABLE. VERIFY THAT REFERENCED SECTION NUMBERS AND TITLES ARE CORRECT.

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01330-SUBMITTAL PROCEDURES, 01620-PRODUCT OPTIONS, 01630-PRODUCT SUBSTITUTION PROCEDURES, 01660-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01740-CLEANING, 01770-CLOSEOUT PROCEDURES, AND 01780-CLOSEOUT SUBMITTALS. CLOSE COORDINATION WITH DIVISION 1 SECTIONS IS REQUIRED. IF THE PROJECT MANUAL DOES NOT CONTAIN THESE SECTIONS, ADDITIONAL INFORMATION SHOULD BE INCLUDED UNDER THE APPROPRIATE ARTICLES.

THIS IS A CLOSED PROPRIETARY SPECIFICATION.

NOTES TO THE SPECIFIER ARE CONTAINED IN LINES HIGHLIGHTED IN YELLOW AND SHOULD BE DELETED FROM FINAL COPY.

ITEMS REQUIRING SELECTION BY SPECIFIER ARE ENCLOSED WITHIN BRACKETS. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE SELECTED OR DELETED AS DESIRED ARE SHOWN IN BOLD FACE TYPE. DELETE BOLD FACE TYPE WHEN RETAINING THESE PARAGRAPHS OR FEATURES.

Alternates

1. Reference Section 01230 - Alternates.

1.2 REFERENCES

- A. Building code applicable to project site.

- B. American National Standards Institute (ANSI)
 - 1. ANSI A118.4 Specifications for Latex-Portland Cement Mortar

- C. American Society for Testing and Materials (ASTM)
 - 1. ASTM C 39 – Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
 - 2. ASTM C 67 – Test Methods for Sampling and Testing Brick and Structural Clay Tile
 - 3. ASTM C 144 – Specification for Aggregate for Masonry Mortar
 - 4. ASTM C 190 – Method of Test for Tensile Strength of Hydraulic Cement Mortars
 - 5. ASTM C 207 – Specification for Hydrated Lime for Masonry Purposes
 - 6. ASTM C 270 – Specification for Mortar for Unit Masonry
 - 7. ASTM C 348 – Standard Test Method for Flexural Strength of Hydraulic Cement Mortars
 - 8. ASTM C 513 – Test Method for Obtaining and Testing Specimens of Hardened Lightweight Insulating Concrete for Compressive Strength
 - 9. ASTM C 567 – Test Method for Unit Weight of Structural Lightweight Concrete
 - 10. ASTM C 847 – Specification for Metal Lath
 - 11. ASTM C 979 – Specification for Pigments for Integrally Colored Concrete
 - 12. ASTM D 226 – Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing

- D. **Uniform Building Code Standards**
 - 1. UBC Standard 14-1 – Kraft Waterproof Building Paper
 - 2. UBC Standard 15-5 – Roof Tile

1.3 SUBMITTALS

- A. Reference Section 01330 – Submittal Procedures; submit following items:
 - 1. Product Data.
 - 2. Samples:
 - a. Standard sample board consisting of small-scale pieces of veneer units showing full range of textures and colors.
 - b. Full range of mortar colors.
 - 3. **Verification Samples: Following initial sample selection submit “laid-up” sample board using the selected stone and mortar materials and showing the full range of colors expected in the finished work; minimum sample size: 3 feet by 3 feet (1 meter by 1 meter).**
 - 4. Quality Assurance/Control Submittals:
 - a. Qualifications:
 - 1) Proof of manufacturer qualifications.
 - 2) Proof of installer qualifications.
 - b. Veneer manufacturer’s installation instructions.

c. Installation instructions for other materials.

B. Closeout Submittals: Reference Section 01780 – Closeout Submittals; submit following items:

1. Maintenance Instructions.
2. Special Warranties.

1.4 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer Qualifications: 15 Years Experience
2. Installer Qualifications: Experienced mason familiar with installation procedures for manufactured veneer.

B. Field Sample:

Complete following subparagraph to include desired details such as corners, trim, mortar joints and joint details abutting other materials.

1. Prepare [4 foot by 4 foot (1200 mm by 1200 mm)] [__ foot by __ foot (__ mm by __ mm)] sample at a location on the structure as selected by the Architect. Use approved selection sample materials and colors. Include _____.
2. Obtain Architect's approval.
3. Protect and retain sample as a basis for approval of completed manufactured stone work. Approved sample may be incorporated into completed work.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Reference Section 01660 – Product Storage and Handling Requirements.

1. Store mortar materials on pallets in a dry place.
2. Protect materials from rain, moisture, and freezing temperatures.
3. Protect reinforcement and accessories from elements.

B. Follow manufacturer's instructions.

1.6 PROJECT/SITE CONDITIONS

A. Environmental Requirements: Maintain materials and ambient temperature in area of installation at minimum 40° F (4° C) prior to, during, and for 48 hours following installation.

1.7 WARRANTY

- E. Fasteners:
1. Into Wood Studs: Minimum 0.120 inch (3 mm) shank diameter galvanized nails or staples of sufficient length to penetrate 1-3/8 inches (35 mm) minimum into the stud.
 2. Into Metal Studs: Minimum 3/8 inch (10 mm) head diameter, corrosion-resistant, self-drilling, self-tapping, pancake head screws of sufficient length to penetrate 3/8 inch (10 mm) minimum into the stud.
- F. Mortar:
1. Cement: Premixed Type N or mortar mixed using components and proportions following manufactured masonry manufacturer's installation instructions. Comply with ASTM C 270.
 2. Lime: ASTM C 207.
 3. Sand: ASTM C 144, natural or manufactured sand.
 4. Pigment: ASTM C 979, mineral oxide pigments.
 5. Water: Potable.
 6. Pre-Packaged Latex-Portland Cement Mortar: ANSI A118.4.

For drystack (joint-less) applications, include either subparagraph 7, subparagraph 8, or both below.

7. [Tilesetter's Thinset: Mix thinset (tilesetter's) into mortar in accordance with manufacturer's instructions for drystack applications. Formula: 2 parts thinset, 3 parts Portland cement, 7 parts masonry sand.]

For applications in which stone is to be applied directly to clean masonry or concrete substrates when not using metal lath, include subparagraph 8 below.

8. [Bonding Agent: As recommended by simulated stone manufacturer for direct bonding of simulated stone to masonry or concrete substrates when not using metal lath.]

PART 3 – EXECUTION

3.1 EXAMINATION

- A. Examination: Examine conditions and proceed with work in accordance with Section 01400.
1. Verify that field conditions are acceptable and are ready to receive work.
 2. Verify items provided by other Sections of work are properly sized and located.

3. Verify that built-in items are in proper location and ready for roughing into masonry work.
4. Verify correct product and accessories prior to installation.

The following subparagraph and its subparagraph (a.) below, will be kept only if lath is to be omitted and stone is to be applied directly to masonry or concrete substrates, which you specified earlier.

5. Verify that masonry and concrete substrates do not have residual coatings (paint, bond breaker, curing compounds, mold release, etc.) present, which may affect bonding of mortar to substrate.
 - a. Install metal lath if residual coatings are present on substrate.
 6. Consult Owner and manufacturer if deficiencies exist. Correct deficiencies in accordance with stone manufacturer's recommendations.
- B. Protect surrounding area from possible damage during installation work.
- C. Initiating installation constitutes Installer's acceptance of existing surfaces and substrate.

3.2 APPLICATION

Moisture barrier is only needed over sheathing substrates, and is required by most codes.

- A. Moisture Barrier:
1. Apply sheets horizontally, starting at the base of the wall, and lapping each successive upper sheet over the previous lower sheet.
 2. Lap horizontal joints 2 inches and vertical joints 6 inches.
 3. [Cut and seal joints, penetrations, openings, and projections with manufacturer's recommended tape.]
 4. Install with corrosion-resistant staples.

For applications where stone will be directly adhered to masonry or concrete substrates, lathing in B below is recommended, but is not mandatory.

- B. Lathing: Apply metal lath taut, with long dimension perpendicular to supports.
1. Lap ends minimum 4 inches.
 2. Lap sides of lath minimum 4 inches.
 3. Attach metal lath to framing using nails or screws of type, size, and spacing as recommended by system manufacturer.
 4. Continuously reinforce internal angles with corner mesh, except where the metal lath returns 3 inches from corner to form the angle reinforcement; fasten at perimeter edges only.
 5. Place 4 inch wide strips of metal lath centered over junctions of dissimilar backing materials. Secure rigidly in place.

C. Mortar:

The following paragraph will be kept for applications in which lathing is used, which was specified earlier.

1. Apply 1/2-3/4 inch scratch coat of mortar to lath and allow to dry 24 hours.

The following paragraph will be kept for applications in which stone is to be applied directly to masonry or concrete substrates, as specified earlier.

2. Apply bonding agent to masonry or concrete substrates in accordance with bonding agent manufacturer's recommendations.

The following paragraph will be kept for drystack applications, which was specified earlier.

3. Apply mortar-thinset adhesive mixture to the back of the stone.

D. Manufactured Stone Veneer: Install in accordance with manufacturer's installation instructions for [Standard (Grouted Joint) (Joint-less/Drystack)] installation.

E. Plan work to minimize jobsite cutting. Perform necessary cutting with proper tools to provide uniform edges; take care to prevent breaking unit corners or edges.

F. Remove excess mortar; do not allow mortar to completely dry on face of stone veneer.

1. Point and tool joints when mortar is in a clay-like consistency.
2. Clean and finish joints in accordance with architect's and manufacturer's instructions.

G. Control Joints: Size in accordance with Section 07920 for sealant performance, but in no case larger than adjacent mortar joints in exposed stone units.

H. Expansion Joints: Provide where indicated on Drawings or as recommended by system manufacturer.

I. Built-In Work: As work progresses, build in door and window frames, nailing strips, anchor bolts, plates, and other items specified in various sections.

1. Build in items plumb and level.
2. Bed anchors of metal door and glazed frames in mortar joints. Fill frame voids solid with mortar.
3. Do not build in organic materials subject to deterioration.

3.3 ADJUSTING

- A. Cutting and Fitting: Cut and fit for chases, pipes, conduit, sleeves, and grounds. Cooperate with other sections of work to provide correct size, shape, and location.
 - 1. Obtain approval prior to cutting or fitting any area not indicated or where appearance or strength of masonry work may be impaired.

3.4 CLEANING AND SEALING

- A. Cleaning: Comply with Section 01740.
 - 1. Remove excess mortar and smears when mortar is in a clay-like consistency using brush or steel wool.
 - 2. Replace defective mortar. Match adjacent work.
 - 3. Clean soiled surfaces with non-acidic solution, acceptable to the stone manufacturer, which will not harm masonry or adjacent materials.
 - 4. Leave surfaces thoroughly clean and free of mortar and other soiling.
 - 5. Use non-metallic tools in cleaning operations.
- B. Removing Efflorescence:
 - 1. Allow veneer to dry thoroughly.
 - 2. Scrub with soft bristle brush and clean water.
 - 3. Rinse immediately with clean water; allow to dry.
 - 4. If efflorescence is still visible, repeat above procedure using a solution of 1 part household vinegar and 5 parts water.
 - 5. Rinse immediately with clean water.

The sealing process, described in C below is discretionary, but is advisable in situations where the stone veneer will be exposed to soot or extremely dirty conditions.

- C. Sealing
 - 1. Use a masonry-type breathable waterproof sealer.
 - 2. Allow mortar to dry for approximately one month before applying sealer.
 - 3. Apply sealer in accordance with sealer manufacturer's installation instructions.

END OF SECTION