



SUBMITTAL

TO: Reid Weigle
PROJECT: Wellstar Paulding
DATE: February 5, 2013
SUBJECT: Segmental Retaining Wall Units

The following items are hereby submitted for your review:

Item	Date
Product Data for Quikrete Veneer Stone Mortar – Polymer Modified	n/a
MSDS for Quikrete Veneer Stone Mortar – Polymer Modified	5/9/12
Veneerstone Installation Instructions	n/a
Sample Specification for Adhered Concrete Masonry Veneer	n/a
Product Testing for Precast Stone Veneer	5/9/08

NOTES & COMMENTS:

1. None.

REVIEW STAMPS

This submittal has been reviewed for compliance with the Contract Documents. Any deviations from the documents are noted herein.

Global Stability, LLC

A handwritten signature in blue ink, appearing to read "Bill Johnson", with a long horizontal flourish extending to the right.

BY: Bill Johnson
DATE: February 6, 2013

VENEER STONE MORTAR – POLYMER MODIFIED

PRODUCT NO. 1137-85

DIVISION 4

Veneer Masonry
04 20 00



PRODUCT DESCRIPTION

QUIKRETE® Veneer Stone Mortar – Polymer Modified is a contractor-grade polymer modified mortar designed for veneer applications and tuck-pointing of manufactured and natural stone.

PRODUCT USE

QUIKRETE® Veneer Stone Mortar – Polymer Modified (PM) can be used as a bond coat, scratch and brown coat and as a mortar joint grout over concrete and masonry surfaces or galvanized, expanded metal lath. QUIKRETE® Veneer Stone Mortar can also be manufactured with integral color for mortar joint applications or by adding QUIKRETE® Stucco and Mortar Color (No. 1319), available in 20 standard colors.

SIZES

- Available in 80 lb (36.3 Kg) bags, and in 3000 lb (1360.8 Kg) Bulk bags.

YIELD

- Each 80 lb (36.3 kg) bag will yield approximately 0.71 cu. ft. (20 L, 0.02 M³) and as a scratch coat will cover approximately 17 sq. ft. (1.6 M²) at ½" (13 mm) thickness. Coverage in joints will vary with width.

TECHNICAL DATA

APPLICABLE STANDARDS

- ASTM C 144 Standard Specifications for Aggregate for Masonry Mortar
- ASTM C 91 Standard Specification for Masonry Cement
- ASTM C 150 Standard Specification for Portland Cement
- ASTM C 207 Standard Specification for Hydrated Lime for Masonry Purposes
- ASTM C 270 Standard Specification for Mortar for Unit Masonry

PHYSICAL/CHEMICAL PROPERTIES

The minimum physical properties of QUIKRETE® Veneer Stone Mortar-PM, when tested under laboratory conditions are identified in the table below:

Compressive Strength, 28 Days	>1,800 psi (12.4 MPa)
Water Retention	> 75%
Tensile Bond Strength ¹	~100 psi (0.7 MPa)

¹Bond of mortar to concrete substrate when tested in accordance with C 1583

INSTALLATION

MIXING

QUIKRETE® Veneer Stone Mortar-PM can be mixed in a paddle-type mixer. Add approximately 4.5 quarts (4.3L) of clean mixing water into the mixing container for each 80 lb (36.3 kg) bag. Slowly pour the contents of the bag(s) into the mixing water. Mix until a firm, workable consistency is achieved. If more water is needed, add small amounts at a time and continue to mix until the desired consistency is achieved. Do not exceed a total volume of 1.78 gallons (6.6 L) of water for each 80 lb (36.3 kg) bag. Color can be added to QUIKRETE® Veneer Stone Mortar-PM by adding QUIKRETE® Stucco and Mortar Color (No. 1319) to the mixing water. Twenty standard colors are available.

APPLICATION

Application Instructions

The application of Veneer Stone Mortar is intended for use over galvanized diamond-mesh metal lath (2.5 or 3.4 lbs per sq.yd., 1.4-1.8 kg/m²) and two layers of grade D water resistant building paper or over solid bases such as masonry, stone, cast-in-place or pre-cast concrete. Installation over these surfaces shall be in accordance with ASTM C 926 or local governing building codes.

Concrete & Masonry Surface Preparation

Prior to application over unpainted and unsealed concrete and masonry surfaces, all loose material, dirt, dust, grease and efflorescence must be removed. Paint and sealers must be completely removed or galvanized metal lath and grade D building paper must be secured over the surface.

Wood Frame Construction Preparation

A ½" (13 mm) scratch coat of Veneer Stone Mortar must be applied over metal lath to provide a rigid backing for the veneer stone. The scratch coat must be allowed to cure for minimum of 48 hours prior to installation of stone with additional QUIKRETE® Veneer Stone Mortar-PM as described below.

Installation

Dampen the concrete, masonry or scratch coat substrate with a fine spray of water, but do not soak. Use a trowel to apply a ½" (13 mm) mortar base of Veneer Stone Mortar or completely cover the back of the veneer stone with ½" (13 mm) of mortar. Stone must be set within 30 minutes of applying mortar bed. Press the veneer stone firmly into the mortar bed in a twisting motion. Joints between stones should be a consistent ½" (13 mm) or less.

Grouting Joints

Partially fill a grout bag with mixed Veneer Stone Mortar Mix. Squeeze the grout bag to fill joints around each stone. Once the material has become thumbprint hard, use a jointing tool to consolidate, smooth and seal the joints. Remove all dry, loose mortar with a dry masonry brush.

CURING

Curing of masonry mortars is required only if conditions are very hot, dry or windy. In such cases, a gentle mist of water applied to the surface will prevent premature drying and improve the strength of the mortar.

PRECAUTIONS

• Variations in mix water amount, mixing time, curing conditions and finishing will cause color variations.

WARRANTY

The QUIKRETE® Companies warrant this product to be of merchantable quality when used or applied in accordance with the instructions herein. The product is not warranted as suitable for any purpose or use other than the general purpose for which it is intended. Liability under this warranty is limited to the replacement of its product (as purchased) found to be defective, or at the shipping companies' option, to refund the purchase price. In the event of a claim under this warranty, notice must be given to The QUIKRETE® Companies in writing. This limited warranty is issued and accepted in lieu of all other express warranties and expressly excludes liability for consequential damages.

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Rd., NE, Suite 1300, Atlanta, GA 30305
(404) 634-9100 • Fax: (404) 842-1425

**CEMENT & CONCRETE PRODUCTS™**

Engineering Controls: Local exhaust can be used, if necessary, to control airborne dust levels.

Personal Protection: The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

Exposure Limits: Consult local authorities for acceptable exposure limits

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray to gray-brown colored powder;		
Specific Gravity: 2.6 to 3.15	Melting Point:	>2700°F
Boiling Point: >2700°F	Vapor Pressure:	Not Available
Vapor Density: Not Available	Evaporation Rate:	Not Available
Solubility in Water: Slight	Odor:	Not Available

SECTION X - REACTIVITY DATA

Stability: Stable.

Incompatibility (Materials to Avoid): Contact of silica with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, or oxygen difluoride may cause fires

Hazardous Decomposition or By-products: Silica will dissolve in Hydrofluoric Acid and produce a corrosive gas – silicon tetrafluoride.

Hazardous Polymerization: Will Not Occur.

Condition to Avoid: Keep dry until used to preserve product utility.

SECTION XI – TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, Ingestion

Toxicity to Animals:

LD50: Not Available

LC50: Not Available

Chronic Effects on Humans: Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.

Special Remarks on Toxicity: Not Available

SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity: Not Available

BOD5 and COD: Not Available

Products of Biodegradation: Not available

Toxicity of the Products of Biodegradation: Not available

Special Remarks on the Products of Biodegradation: Not available

SECTION XIII – DISPOSAL CONSIDERATIONS

CEMENT & CONCRETE PRODUCTS™

Waste Disposal Method: The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302).

SECTION XIV – TRANSPORT INFORMATION

Not hazardous under U.S. DOT and TDG regulations.

SECTION XV – OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: Considered hazardous under this regulation and should be included in the employers' hazard communication program

SARA (Title III) Sections 311 & 312: Qualifies as a hazardous substance with delayed health effects

SARA (Title III) Section 313: Not subject to reporting requirements

TSCA (May 1997): Some substances are on the TSCA inventory list

Federal Hazardous Substances Act: Is a hazardous substance subject to statues promulgated under the subject act

California Regulation: WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Canadian Environmental Protection Act: Not listed

Canadian WHMIS: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E- Corrosive Material) and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

SECTION XVI – OTHER INFORMATION

HMIS-III:	Health –	0 = No significant health risk
		1 = Irritation or minor reversible injury possible
		2 = Temporary or minor injury possible
		3 = Major injury possible unless prompt action is taken
		4 = Life threatening, major or permanent damage possible
Flammability-	0 = Material will not burn	
	1 = Material must be preheated before ignition will occur	
	2 = Material must be exposed to high temperatures before ignition	
	3 = Material capable of ignition under normal temperatures	
	4 = Flammable gases or very volatile liquids; may ignite spontaneously	
Physical Hazard-	0 = Material is normally stable, even under fire conditions	
	1 = Material normally stable but may become unstable at high temps	
	2 = Materials that are unstable and may undergo react at room temp	
	3 = Materials that may form explosive mixtures with water	
	4 = Materials that are readily capable of explosive water reaction	

Abbreviations:**ACGIH**

American Conference of Government Industrial Hygienists

CEMENT & CONCRETE PRODUCTS™

CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CPR	Controlled Products Regulations (Canada)
DOT	Department of Transportation
IARC	International Agency for Research
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicity Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TWA	Time-weighted Average
WHMIS	Workplace Hazardous Material Information System

Last Updated: May 8, 2012

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products. END OF MSDS.



Producers of Quality Manufactured Stone & Thin Brick

A close-up photograph of a person's hands working with a brick. The person is wearing a brown work glove on their left hand and a dark sweater on their right. They are holding a grey, textured brick. A metal trowel is being used to apply mortar to the side of the brick. The background is a blurred wall of similar bricks.

INSTALLATION INSTRUCTIONS

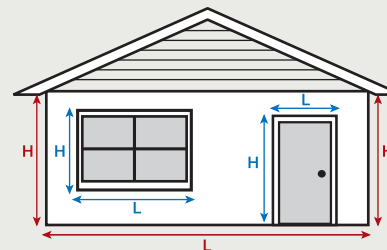
Step-by-Step Easy Installation Instructions

How Much Stone Do You Need?

Just follow these easy steps to determine how much Veneerstone by Tejas you will need:

To Order Corners (Linear Feet):

1. Determine how many linear feet of 90 degree outside corner pieces you will need. See Illustration below. (H)



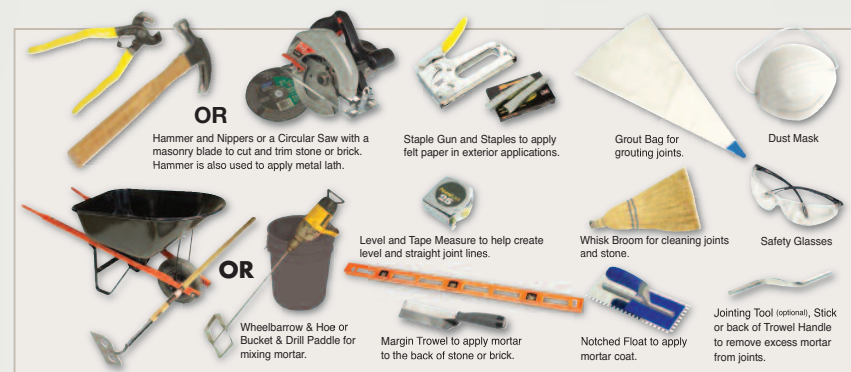
$$L \times H (\text{wall}) - \{ L \times H (\text{window}) + L \times H (\text{door}) \} = \text{Square Footage}$$

To Order Flats (Square Feet)

1. Measure the width and the height of the area to be covered and convert to square footage (width x height = square footage).
2. Figure the square footage of any windows and doors and subtract this amount from the first figure (total square footage – windows and doors). See Illustration A above.
3. Measure the linear feet of outside 90 degree corner pieces and convert to square feet. One linear foot of corners will cover about 1/2 square foot of flat area – ie, 20 linear feet of corners = 10 square feet of flat area. Subtract this flat area amount from the total square feet to determine how much total stone you will need. You should allow an extra 5 to 10% stone for cutting and trimming.

What Tools Will You Need?

- **Hammer:** Used for applying felt paper and metal lath.
- **Wheel Barrow & Hoe or Bucket & Drill Paddle:** Used for mixing mortar mix.
- **Notched Float or Float & Rake:** Used for applying scratch coat to metal lath and raking scratch coat.
- **Circular Saw with Masonry Blade:** Used for cutting stone.
- **Mason's Trowel:** Used for applying mortar to Veneerstone.
- **Grout Bag:** Used for grouting joints.
- **Jointing Tool:** Used for finishing mortar joints.
- **Whisk Broom:** Used for cleaning joints and stone.



Materials You Will Need

Materials Needed For Installation - Over Masonry

If Installing Veneerstone by Tejas over existing masonry (brick, block, stucco, or concrete that is sound, clean, not painted or sealed, free from form oil, dust, and dirt):

Mortar: Used to set stones, and to grout the mortar joint between stones. You may use premixed masonry mortar, masonry cement and sand, or portland cement, lime, and sand.

Masonry cement: Mix 1 part masonry cement (Type N or Type S) with 2 1/4 parts masonry sand and potable water or
Cement/Lime: Mix 1 part Portland cement, 1 part lime, and 4.5 parts sand or

Premixed Mortar: Check with the manufacturer to determine if their product is suitable for installation of manufactured stone (building requirement of 50 psi shear bond strength).

Bonding Agent: Latex brush-on or integral bonding agent recommended for this application.

Masonry Sealer: Use a breathable type, non-film forming sealer. Dry stack applications (mortarless joint) should be sealed.



Shown in Sequence:

1. Concrete, Brick, Block, Stucco or Masonry
2. Bonding Adhesive on Wall and in Mortar
3. Veneerstone or Thin Brick and Grout

Materials Needed For Installation - Over Framing

If Installing Veneerstone over framing (wood or metal) with sheathing (plywood, OSB, rigid insulation, gypsum wall board, concrete board, fiber board):

Water Resistive Barrier: Used to prevent moisture from penetrating the exterior wall. Veneerstone recommends two separate layers of WRB:

Use: 15# felt (ASTM D226 no. 15 type 1) or Grade D Paper (ICC-ES Acceptance Criteria AC 38) or House Wrap (ICC-ES Acceptance Criteria AC 38)

*1 layer of House Wrap or felt and 1 layer of paper backed lath meets the requirement for two layers of Water Resistive Barrier.

Metal Lath: Used to hold mortar when forming a mortar scratch coat. Use a minimum 2.5 lb. self-furring corrosion resistant metal lath or 18 gauge galvanized woven wire mesh. For metal buildings or open studs, use a galvanized, rib expanded metal lath (minimum 3.4 lb./yd²). Check your local building codes for other acceptable lath or mesh.

Fasteners: Used to attach lath to the framing members to support the stone system.

Use corrosion resistant fasteners (ASTM C 1063) capable of penetrating wood studs 1" or metal studs 3/8". Screws or nails should have a 7/16" head or washers to prevent pulling through the lath.

Mortar: Used to make a mortar scratch coat, to set stones, and to grout the mortar joint between stones. You may use premixed masonry mortar, masonry cement and sand, or portland cement, lime, and sand.

NOTE: For new construction exterior applications, ensure that all penetrations (doors, windows, etc.) are properly flashed and sealed in accordance with manufacturer's instructions.



Shown in Sequence:

1. Sheetrock, Paneling, Plywood or Sheathing
2. Water Resistive Barrier (2 Layers)
3. Metal Lath
4. Mortar Scratch Coat
5. Veneerstone or Thin Brick and Grout

Mortar mixes

Masonry cement: Mix 1 part masonry cement (Type N or Type S) with 2 1/4 parts masonry sand and potable water.

Cement/Lime: Mix 1 part portland cement, 1 part lime, and 4.5 parts sand.

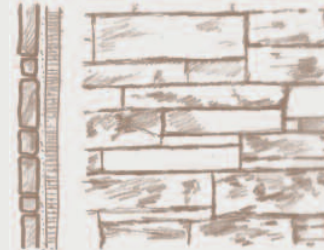
Premixed Mortar: Check with the manufacturer for determine if their product is suitable for installation of manufactured stone (building requirement of 50 psi shear bond strength).

Masonry Sealer: Use a breathable type, non-film forming sealer. Dry stack applications (mortarless joint) should be sealed.

Grouting Techniques

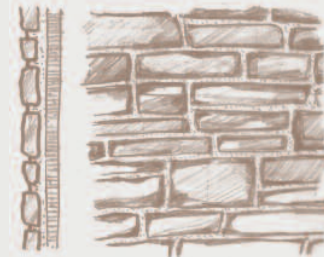
Dry-Stack Joint:

This style will give a contemporary or sleeker look to your project. Each stone should be meticulously placed for a tightly fitted look. No mortar joints are used with this application. For best results, stone should be installed from the corner pieces in and from bottom up.



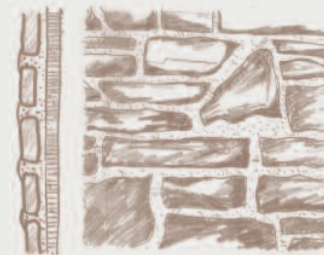
Standard Striked Joint:

This application will give the appearance of a more tailored look. Each stone is laid with one half inch of mortar between each stone. For best results, stone should be installed from the corners in and from top to bottom.



Over Grout Joint:

This style is sure to give you a more European and Tuscan look. This application is one of the oldest techniques still used today. Grout is applied between the joints and beyond the edge of the stones' surface. Overlapping of the grout joints is applied in an irregular fashion.



* As with all Tejas Textured Stone products, it is important that you follow our recommended installation instructions.

How To Prepare Your Wall

Follow all local building codes for exterior application. Wall penetrations and transitions between sidings must be properly flashed to shed water. See detailed drawings for transitions from other sidings, including flashing, casing bead, weep screed, and sealants.

Preparing Your Wall - Over Masonry

Over Concrete, Masonry, Stucco, or Brick that is Clean and Untreated:

Check new concrete surfaces for form oil. If form oil is present, use muriatic acid to etch the surface then rinse thoroughly and score the surface with a wire brush.

For best results always use a bonding agent when installing Veneerstone by Tejas directly over clean and untreated concrete, masonry stucco, brick or block.

Concrete, Masonry, Stucco, or Brick that is dirty, Sealed or Painted.

Return surface to original condition by sandblasting or waterblasting (wash area to remove sandblast dust) or attach lath with concrete nails. Use a bonding agent on the wall and in the mortar mix.

Unacceptable Bonding Surfaces: Painted, sealed, dirty concrete, brick, or masonry, unsound/deteriorating masonry, EIFS, Fiber cement board.



Do Not Use: In direct contact with chemicals (de-icing minerals, salt, chlorine), submerged in water, or below grade.

Preparing Your Wall - Over Framing

If Installing Veneerstone by Tejas over framing (wood or metal) with sheathing (plywood, OSB, rigid insulation, gypsum wall board, concrete board, fiber board):

STEP 1: Ensure all penetrations are properly flashed in a watershed fashion.

STEP 2: Install two layers of Water Resistant Barrier, overlapping the horizontal joints 2", shingle fashion. Vertical seams should overlap 6". **Double wrap Water Resistant Barrier at inside and outside corners a minimum of 16" both sides**

STEP 3: Following local building codes, install mesh or lath. Lath should be installed horizontally, overlapping sheets 1" at the edges. Fasteners should be spaced 6" on center vertically and 16" on center horizontally and driven into the studs at least 1". **Wrap lath around corners to next framing member and lap lath at framing member.**

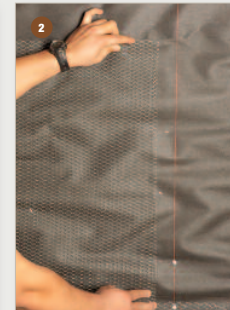
STEP 4: Trowel a 3/8" nominal thick coat of mortar to the metal lath to create a mortar scratch coat. Press hard enough to firmly embed the lath with mortar.

STEP 5: Score or scratch the surface horizontally when mortar is "thumbprint dry".

Do Not Use: In direct contact with chemicals (de-icing minerals, salt, chlorine), submerged in water, or below grade.



1 Install Water Resistant Barriers. (exterior applications)



2 Install corrosion resistant metal lath.



3 Mix mortar.



4 Apply mortar for scratch coat.

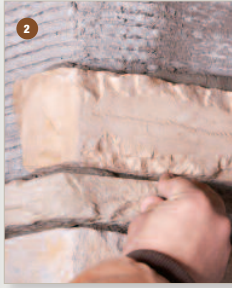


5 Rake mortar to create scratch coat.

Applying Veneerstone by Tejas



1 Apply mortar to the entire back of the stone.



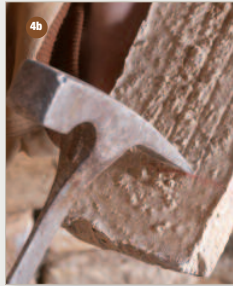
2 Install corner stones first.



3 Install flat stones.



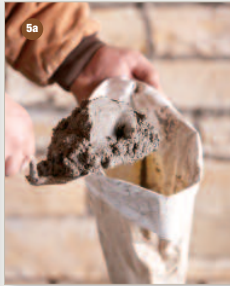
4a Trim stones to fit.
Option A - Circular Saw



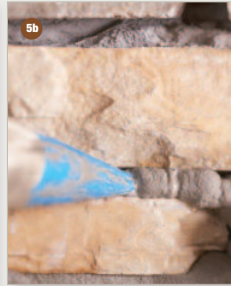
4b Trim stones to fit.
Option B - Hammer



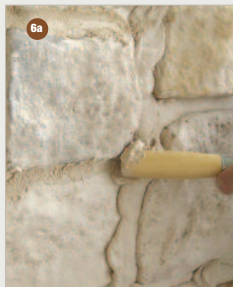
4c Trim stones to fit.
Option C - Nippers



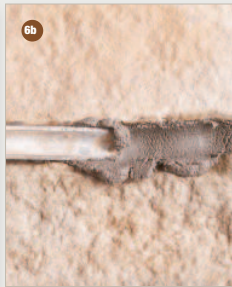
5a Fill Grout Bag.



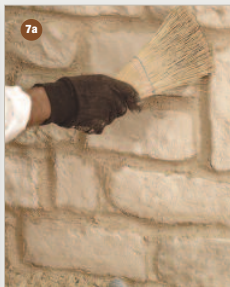
5b Grout Joints.



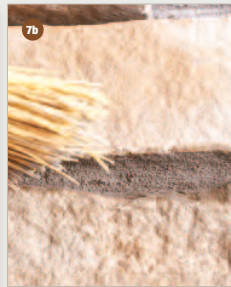
6a Strike Joints.



6b Strike Joints.



7a Brush off excess mortar
with a dry brush.



7b Brush off excess mortar
with a dry brush.

Stone Application

Setting Stones in Mortar:

STEP 1: Completely cover the back of the stone with mortar, at least ½ inch thick, and press the stone firmly into the scratch coat to ensure a good bond. Press hard enough to squeeze out a little mortar around the edges of the stone. Make sure you have complete coverage between the mortar bed and the surface of the stone.

STEP 2: Corner pieces should be installed first. Alternate the long and short legs of the corner pieces in opposite directions.

STEP 3: After the corner pieces are installed, apply flat pieces starting at the outside working toward the center of the wall.

STEP 4: Cutting and Trimming.

Use the edge of a trowel, nippers, or a circular saw with an abrasive blade to cut and shape stones. If necessary, broken stones can be trimmed and shaped to fill in any gaps. For the most attractive finished appearance, coat with mortar any cut or broken edges. Also, try to place cut edges up when they are above eye level and down when they are below eye level.

STEP 5: Grouting Joints.

In applications where a mortar joint is used, fill in the joints with a mortar bag, taking care to avoid getting mortar on the stones' surface. Joints should be 1/2" to get the most natural look. Any accidental smears can be removed with a whisk broom after the mortar is crumbly. Never use a wet brush, wire brush, acid or acid-based product to clean the stone.

STEP 6: Finishing Joints.

Proper jointing gives your project an appealing and professional finish. Before finishing, allow mortar joints to become firm (approximately 30-60 minutes), then point them up with a jointing tool. Weather conditions and the type of surface both influence drying time.

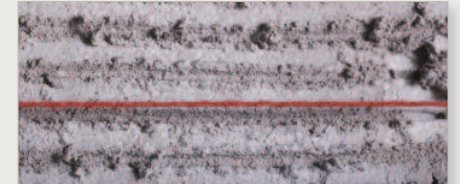
STEP 7: Brush Joints. Remove excess mortar then firmly compress and seal the edges around the stones. Brush stones and joints with a dry whisk broom to finish and clean the project.

Mortarless (Dry Stack) Application.

In dry stack application where no mortar joints are used, add a bonding agent to the mortar mix and seal the finished project with a breathable (non-film-forming) sealer. Install from the bottom up and keep joints as level as possible.

Cleaning and Sealing.

Clean Veneerstone by Tejas with a soft bristle brush and water. If stained with mineral deposits or efflorescence, stone may be cleaned with a diluted household vinegar solution (7 parts water, 1 part vinegar). Rinse thoroughly with clean water after cleaning. Do not use wire brushes or acid to clean Veneerstone. Seal Veneerstone in dry-stacked applications or in harsh environments with a breathable, non-film forming masonry sealer.



Joint lines should be level and plumb. Snapping horizontal chalk lines every 8" will help keep the installation level.



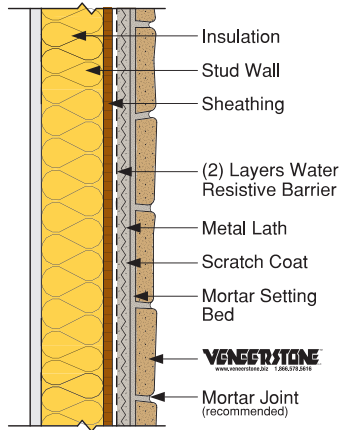
Moisten the scratch coat and the back of the Stone, especially in hot or windy climates



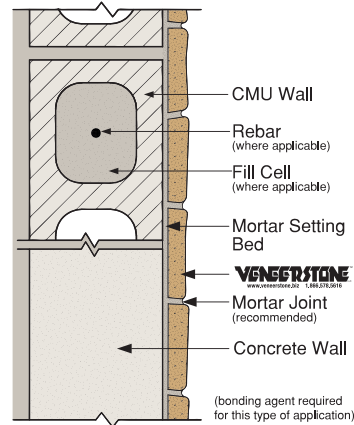
Mortar Consistency is best for application when it starts to stick to your trowel.

Installation Over Common Substrates

Over Sheathing

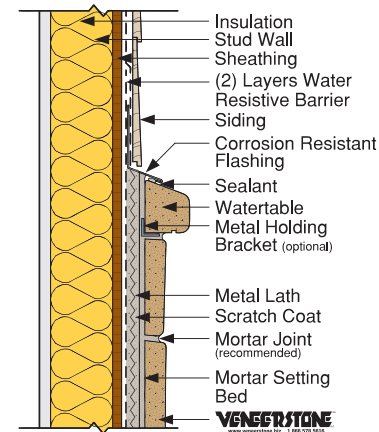


Over CMU or Concrete

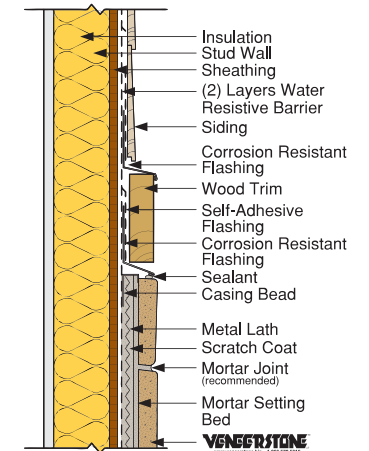


Transitions

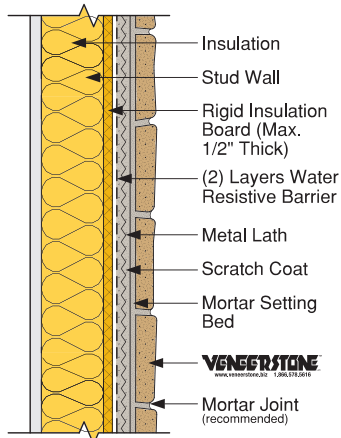
Transition - Watertable Siding



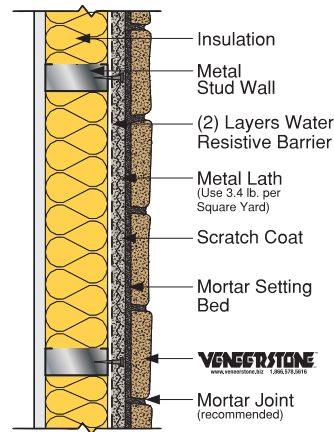
Transition - Wood Trim



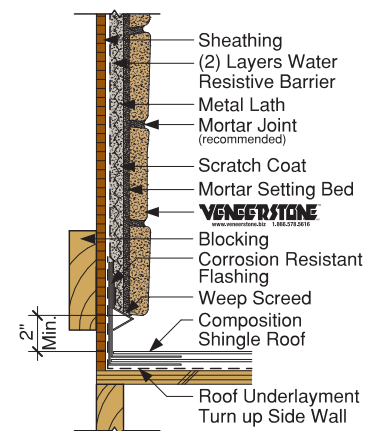
Over Rigid Insulation



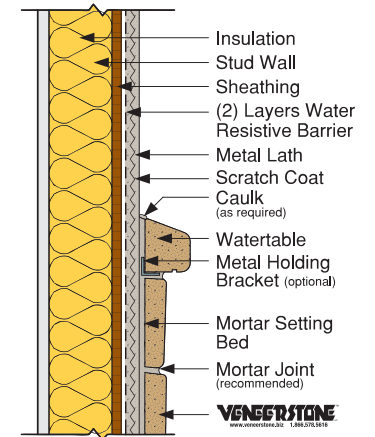
Over Open Stud Framing



Transition - Wall To Roof

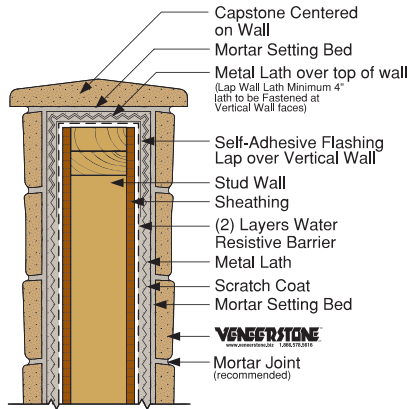


Transition - Watertable Stucco

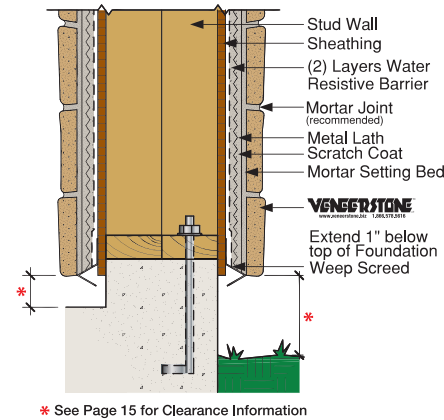


Installation Of Walls

Stud Wall - Cap

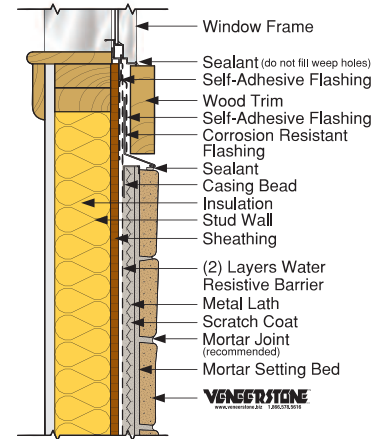


Wood Column Base

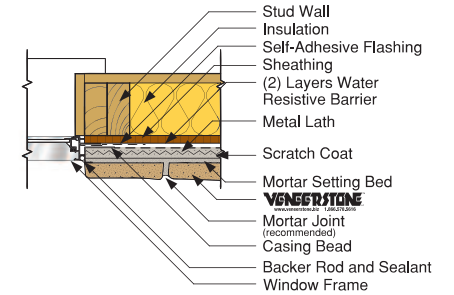


Installation Details

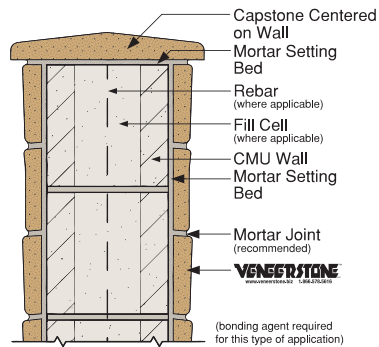
Window Sill - Wood Trim



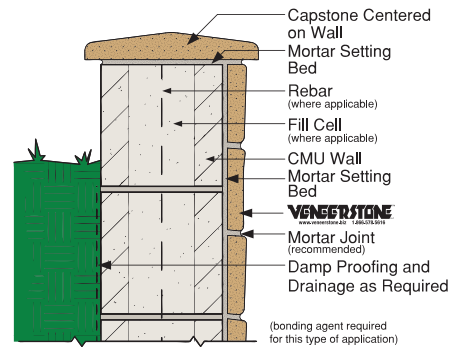
Window Jamb



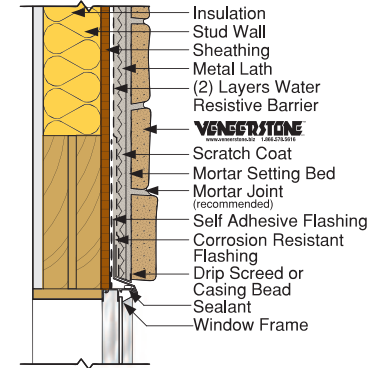
CMU Wall - Cap



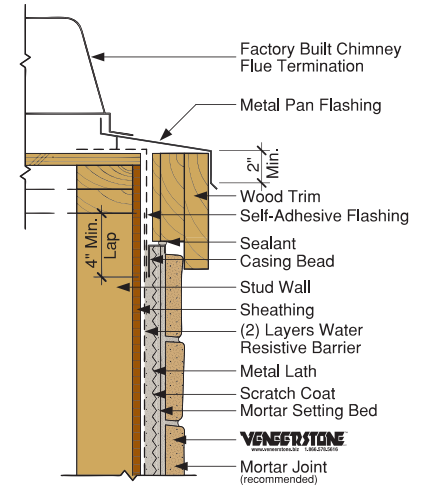
Retaining Wall - Cap



Window Head

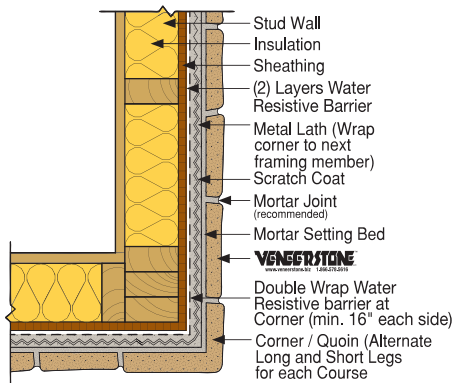


Chimney Cap

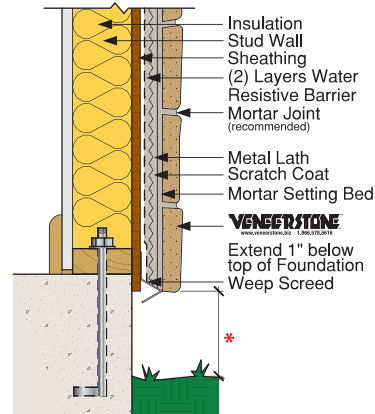


Installation Details

Corners / Quoins (Top View)



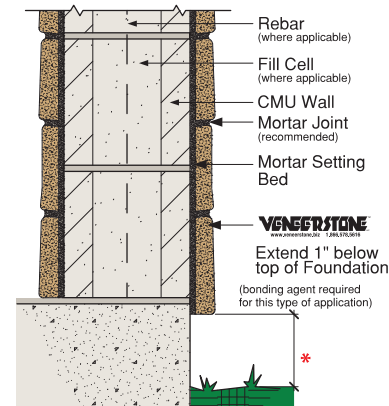
Foundation Wood



* See Page 15 for Clearance Information

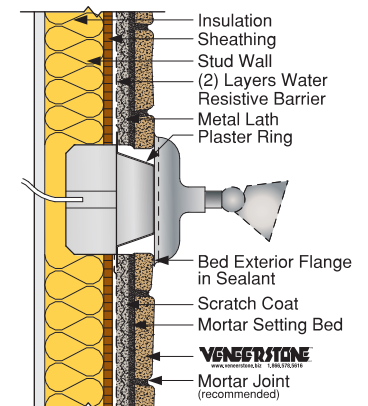
Installation Details

Foundation CMU Wall

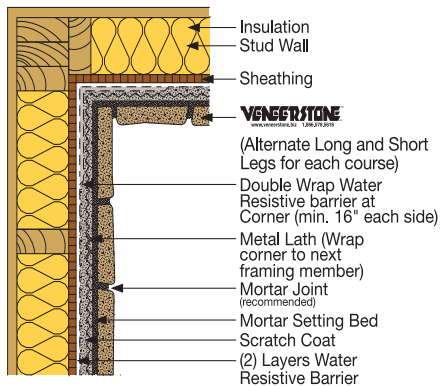


* See Page 15 for Clearance Information

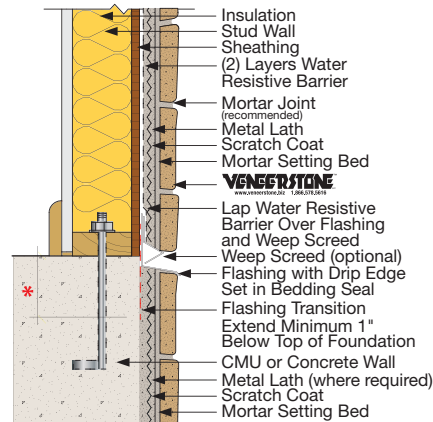
Fixture Penetration



Inside Corners (Top View)



Foundation - Stone Continuing



* See Page 15 for Clearance Information

* Clearance Information

On exterior stud walls, weep screeds and other base flashings should be held a minimum of 4" above grade or a minimum of 2" above paved surfaces such as driveways, patios, etc. This minimum can be reduced to 1/2" if the paved surface is a walking surface supported by the same foundation supporting the wall.

On exterior stud walls where Veneerstone continues down a concrete or CMU foundation wall, and where a weep screed is incorporated into the wall-to-foundation transition, at the bottom maintain minimum 2" clearance from grade, or 1/2" clearance from a paved surface.

On exterior stud walls where Veneerstone continues down a concrete or CMU foundation wall, with WRB and lath installed down to the weep screed at bottom, maintain minimum 4" clearance from grade, or 2" clearance from a paved surface.

Where Veneerstone is applied over an exterior concrete or CMU wall, maintain 2" clearance from grade or 1/2" from a paved surface.

Over an exterior concrete or CMU wall that is not enclosing conditioned space (e.g. landscape walls, pillars, columns, etc) maintain minimum 2" clearance from grade or 1/2" from a paved surface.





Producers of Quality Manufactured Stone & Thin Brick



PACKAGING:

Flat Stones: Pallets are packaged 150 square feet per pallet. 10 square feet Handy Box packages are available for smaller quantities.
Corner Stones: Pallets are packaged with 100 linear feet per pallet. 10 linear feet Handy Box packages are available for smaller quantities.
Thin Brick Flat Stones: 30 square feet per box. Thin Brick Corner Stones: 15 linear feet per box.
All packaged quantities are figured with half inch mortar joint except for Stack Stone and Ledge Stone.
When installing stone, it has been determined that broken pieces can and should be used.

PHYSICAL REQUIREMENTS:

Veneerstone by Tejas meets or substantially exceeds the minimum physical requirements specified by the ICC-ES AC 51.
Density: ASTM C 567 • Moisture absorption: UBC Standard 15-5 • Compressive Strength: ASTM C 192, C 39
Tensile Strength: ASTM C 190 • Flexural Strength: ASTM C 348 • Bond Strength: ASTM C 482 • Freeze/Thaw: ASTM C 67

WARNING:

Concrete veneer contains Crystalline Silica (quartz) and traces of other hazardous substances which are released as dust and can be inhaled when dry-cutting, drilling, or shaping the product. Crystalline Silica is a chemical known to the State of California to cause cancer, birth defects, and other reproductive harm. Use appropriate safety precautions. Raw materials used in production may vary slightly. We recommend that you blend stones from different boxes throughout your installation area. Variations are inherent in all manufactured stone and concrete products. Questions regarding suitability and/or acceptability must be resolved before installation. Use constitutes acceptance.

LIMITED WARRANTY:

Veneerstone carries a 75-year limited warranty when used on structures that conform to all local building codes.
Material must be installed according to manufacturer's installation instructions.
Warranty is limited to replacement of defective materials only and does not cover labor to remove or replace stone. Warranty does not cover damage resulting from building settlement, wall movement, contact with chemicals or paint, discoloration due to airborne contaminants or stains caused by material applied to or allowed to come in contact with stone. Warranty is non-transferable and is limited to the original purchaser.

Available nationwide from plants and distributors coast to coast.

1720 COUCH DRIVE • MCKINNEY, TEXAS 75069 • Tel. 214.491.5100 • Fax 214.491.5090

2155 WEST LANDSTREET ROAD • ORLANDO, FLORIDA 32809 • Tel. 407.240.6444 • Fax 407.240.6226

4342 DUDLEY BOULEVARD BLDG. 475A • McCLELLAN, CALIFORNIA 95652 • Tel. 916.640.8140 • Fax 916.640.8143

TOLL FREE 866.578.5616 • www.veneerstone.biz

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MADE IN THE USA



Producers of Quality Manufactured Stone & Thin Brick

Veneerstone
by Tejas Textured Stone
World Headquarters
1720 Couch Drive
McKinney, Texas 75069
Toll Free: 866.578.5616
Fax: 214.491.5090

info@venerstonellc.com
www.venerstone.biz

3-PART SPECIFICATION FOR ADHERED CONCRETE MASONRY VENEER



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, 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. (NUMBERS AND TITLES REFERENCED ARE BASED ON *MASTERFORMAT*, 2004 EDITION).

THIS SECTION ASSUMES THE PROJECT MANUAL WILL CONTAIN COMPLETE DIVISION 1 DOCUMENTS INCLUDING SECTIONS 01 25 13-PRODUCT SUBSTITUTION PROCEDURES, 01 33 00-SUBMITTAL PROCEDURES, 01 62 00-PRODUCT OPTIONS, 01 66 00-PRODUCT STORAGE AND HANDLING REQUIREMENTS, 01 74 00-CLEANING AND WASTE MANAGEMENT, 01 77 00-CLOSEOUT PROCEDURES, AND 01 78 00-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 AN OPEN PROPRIETARY SPECIFICATION ALLOWING USERS THE OPTION OF APPROVING OTHER MANUFACTURERS THAT COMPLY WITH THE CRITERIA SPECIFIED HEREIN.

NOTES TO THE SPECIFIER ARE CONTAINED IN BOXES AND SHOULD BE DELETED FROM FINAL COPY.

GREY HIGHLIGHTED GREEN TEXT AND NOTES RELATE TO LEED® PROJECTS AND CAN BE DELETED IF THE PROJECT IS NOT INTENDED TO ATTAIN LEED® CERTIFICATION. CREDIT REFERENCES REFER TO LEED® FOR NEW CONSTRUCTION, V2.2.

OPTIONAL ITEMS REQUIRING SELECTION BY THE SPECIFIER ARE ENCLOSED WITHIN BRACKETS, E.G. [35] [40] [45]. MAKE APPROPRIATE SELECTIONS AND DELETE OTHERS.

ITEMS REQUIRING ADDITIONAL INFORMATION ARE UNDERLINED BLANK SPACES, E.G. _____ .

BOLD FACE TYPE IDENTIFIES OPTIONAL PARAGRAPHS AND FEATURES THAT MAY BE INCLUDED OR DELETED DEPENDING ON PROJECT REQUIREMENTS. CONVERT THE BOLD FACE TYPE TO REGULAR TYPE WHEN INCLUDING THESE PARAGRAPHS OR FEATURES. WHEN DELETING A PARAGRAPH, BE CERTAIN THAT ALL SUBPARAGRAPHS ARE ALSO DELETED.

REVISE FOOTER TO SUIT PROJECT/OFFICE REQUIREMENTS.

ELECTRONIC VERSIONS OF THIS SPECIFICATION UTILIZE AUTOMATIC PARAGRAPH NUMBERING.

WHEN EDITING IS COMPLETE, DELETE ALL TEXT ON THIS PAGE, THEN REMOVE THE SECTION BREAK AT THE TOP OF THE NEXT PAGE TO REMOVE THIS PAGE FROM THE DOCUMENT.

SPECIFICATION BEGINS ON THE FOLLOWING PAGE.

SECTION 04 70 00

(MasterFormat, 1995 Edition, 04700)

ADHERED CONCRETE MASONRY VENEER

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Manufactured [stone veneer,] [brick veneer,] [stone trim,] related materials, **and sealer**.
- B. Related Sections:

INCLUDE ALL DIVISION 01 SECTIONS AND TITLES CONTAINING LEED® REQUIREMENTS.

- 1. 01 _____.

ENTER SECTIONS BELOW USED TO SPECIFY THE WALL SUBSTRATE, WEATHER RESISTANT BARRIER IF ANY, FLASHING, SEALANTS, AND PORTLAND CEMENT PLASTERING. INCLUDE FIREPLACES AND STOVES AND OTHER SECTIONS AS APPROPRIATE.

- 2. _____.
- 3. _____.
- 4. _____.

INCLUDE APPROPRIATE LANGUAGE BELOW IF PRODUCTS SPECIFIED IN THIS SECTION ARE TO BE BID AS ALTERNATES. OTHERWISE DELETE FOLLOWING PARAGRAPH.

- C. Alternates:
 - 1. Reference Section 01 23 00–Alternates.

1.02 REFERENCES

- A. Abbreviations and Acronyms:
 - 1. ACI: American Concrete Institute.
 - 2. ASTM: American Society for Testing and Materials.
 - 3. LEED®: Leadership in Energy and Environmental Design.
 - 4. MVMA: Masonry Veneer Manufacturers Association.
 - 5. NCMA: National Concrete Masonry Association.
- B. Reference Standards:
 - 1. American Concrete Institute: Building Code Requirements for Masonry Structures.
 - 2. American Society for Testing and Materials:
 - 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 136](#): Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
 - d. [ASTM C 138](#): Standard Test Method for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete.

- e. [ASTM C 140](#): Standard Test Methods for Sampling and Testing Concrete Masonry Units and Related Units.
 - f. [ASTM C 143](#): Standard Test Method for Slump of Hydraulic-Cement Concrete.
 - g. [ASTM C 172](#): Standard Practice for Sampling Freshly Mixed Concrete.
 - h. [ASTM C 173](#): Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method.
 - i. [ASTM C 192](#): Standard Practice for Making and Curing Concrete Test Specimens in the Laboratory.
 - j. [ASTM C 270](#): Standard Specification for Mortar for Unit Masonry.
 - k. [ASTM C 482](#): Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement.
 - l. [ASTM C 567](#): Standard Test Method for Determining Density of Structural Lightweight Concrete.
 - m. [ASTM C 847](#): Standard Specification for Metal Lath.
 - n. [ASTM C 932](#): Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.
 - o. [ASTM C 933](#): Standard Specification for Welded Wire Lath.
 - p. [ASTM C 1032](#): Standard Specification for Woven Wire Plaster Base.
 - q. [ASTM C 1059](#): Standard Specification for Latex Agents for Bonding Fresh To Hardened Concrete.
 - r. [ASTM C 1064](#): Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete.
 - s. [ASTM D 226](#): Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.
 - t. Uniform Building Code Standards:
 - u. UBC Standard No. 17-1, Kraft Waterproof Building Paper.
3. [US Green Building Council: LEED Green Building Rating System™](#).

1.03 SUBMITTALS

- A. Reference Section 01 33 00–Submittal Procedures; submit following items:
- 1. Product Data:
 - a. Manufactured masonry and application materials **including mortar color charts, weather resistant barrier, and sealer.**
 - b. **Minimum 2-1/2 by 3-1/2 inch photographic swatches of specified masonry style and color.**
 - 2. Samples: Panel containing full-size samples of specified manufactured masonry showing representative range of colors and textures.
 - 3. Quality Assurance/Control Submittals:
 - a. Qualifications:
 - 1) Proof of manufacturer qualifications.
 - 2) Proof of installer qualifications.
 - b. Certificates: Underwriters Laboratories Classification Listing.
 - c. Manufacturer’s Installation Instructions.

CONTACT VENEERSTONE, (866) 578-5616, TO VERIFY APPLICABILITY OF CREDIT 2.1 OR 2.2 AND MR 5.1 OR 5.2 TO A PARTICULAR PROJECT. SOME VENEERSTONE PLANTS USE RECYCLABLE PLASTIC PACKAGING THAT CAN CONTRIBUTE TO CREDIT MR 2.1 OR 2.2.

- 4. [LEED® Submittals:](#)
 - a. [Credit MR 5.1, or 5.2, Regional Materials: Product data, indicating materials extraction sources and location of manufacture.](#)

b. Credit MR 2.1 or 2.2, Construction Waste Management: Product data indicating that packaging materials are recyclable.

- B. Closeout Submittals: Reference Section 01 78 00–Closeout Submittals; submit following items:
1. Maintenance and Cleaning Instructions.
 2. Special Warranties.

1.04 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer Qualifications:
 - a. Minimum five years experience in producing manufactured masonry.
 - b. Member of following trade organizations: ASTM, MVMA, NCMA.
 - c. Maintain documentable quality control program.
2. Installer Qualifications: Minimum three years documentable experience in installation of adhered concrete masonry veneer.

B. Certifications: Underwriters Laboratories Classification Listing.

C. Field Samples:

COMPLETE FOLLOWING SUBPARAGRAPH TO INCLUDE DESIRED DETAILS SUCH AS CORNERS, TRIM, MORTAR JOINTS AND JOINT DETAILS ABUTTING OTHER MATERIALS.

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

D. Pre-Installation Meeting:

1. Convene meeting at project site within one week of scheduled start of installation with representatives of the following in attendance: Owner, Architect, General Contractor, Sub-Contractor.
2. Review substrate conditions, requirements of related work, installation instructions, storage and handling procedures, and protection measures.
3. Keep minutes of meeting including responsibilities of various parties and deviations from specifications and installation instructions.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Reference Section 01 66 00–Product Storage and Handling Requirements.
- B. Follow manufacturer's instructions.
- C. Packaging:

INCLUDE THE LEED STATEMENT BELOW FOLLOWING VERIFICATION THAT THE PLANT PROVIDING MATERIALS TO THIS PROJECT CAN PROVIDE THE RECYCLABLE WRAPPING AND PALLET MATERIALS AS INDICATED IN THE SUBMITTALS ARTICLE ABOVE.

1. Package manufactured masonry in waterproof bulk pallets. **Waterproof wrapping and pallet material shall be recyclable.**
2. Include following information on pallets:
 - a. Style and color.
 - b. Warranty information.
 - c. Manufacturer's contact information.
3. Provide anti-scuffing inter-layer material between faces of masonry products.

D. Cure product minimum 3 days prior to shipment.

1.06 PROJECT/SITE CONDITIONS

A. Environmental Requirements:

1. If temperatures exceed 90 degrees F, comply with the hot weather construction requirements of local building codes, the recommendations of the manufacturer, and hot weather construction provisions of ACI 530.1/ASCE 6/TMS 602, Article 1.8D.
2. Applications shall be protected in temperatures below 40 degrees F. If temperatures are below 40 degrees F, comply with the cold weather construction provisions of ACI 530.1/ASCE 6/TMS 602, Article 1.8C. Manufactured units containing visible frozen moisture shall not be installed.

1.07 WARRANTY

- A. Special Warranty: 75 year limited warranty from date of [Substantial Completion] [Final Acceptance] covering defects in materials.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- | | |
|--|---|
| <p>A. Veneerstone by Tejas Textured Stone
McKinney, TX
Orlando, FL
McClellan, CA</p> | <p>Tel: (866) 578-5616
Fax: (214) 491-5090
E-mail: info@veneerstonellc.com
Website: www.veneerstone.biz</p> |
|--|---|

INSERT NAME, ADDRESS AND PHONE NUMBERS OF LOCAL DISTRIBUTOR BELOW.

1. Local Distributor]:

B. Substitutions: Reference Section 01 25 13–Product Substitution Procedures.

2.02 MANUFACTURED MASONRY MATERIAL

A. General Description: Cast masonry using a mixture of cement, lightweight aggregates, concrete additives, and color pigments.

B. Physical Properties:

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Density: ASTM C 567: 2. Efflorescence: ASTM C67: 3. Compressive Strength: ASTM C 39: 4. Bond Strength: ASTM C 482: 5. Freeze/Thaw: ASTM C 67: 6. Absorption: ASTM C 140: | <p>15 psf. (73 kg/m²) maximum.
None visible.
2100 psi (17 MPa) (5 sample average).
50 psi (345 kPa).
Less than 3 percent weight loss.
Less than 29 percent.</p> |
|--|--|

7. Surface Burning Characteristics: UBC Standard 7-1:
 - a. Flame Spread: 0
 - b. Smoke Developed: 0

C. Style and Color:

SELECT THE MASONRY STYLE AND COLOR FROM THE VENEERSTONE [MASONRY FAMILY](#) WEBSITE AND INSERT THE FAMILY NAME BELOW. THEN, CLICK ON THE DESIRED FAMILY FOR COLORS AVAILABLE FOR EACH FAMILY AND INSERT THE COLOR NAME BELOW. CUSTOM COLORS ARE AVAILABLE DEPENDING ON QUANTITY REQUIRED; CONTACT TEJAS TEXTURED STONE FOR INFORMATION. TEJAS TEXTURED STONE RECOMMENDS VIEWING AN ACTUAL SAMPLE PANEL BEFORE MAKING FINAL SELECTION.

1. Veneerstone Style: [_____ Family] [As shown on Drawings].
2. Veneerstone Color: [_____] [As shown on Drawings].

RETAIN DESIRED TRIM PIECES IN THE FOLLOWING LIST AND DELETE THOSE NOT USED. SEE THE TEJAS STONE [ACCESSORIES](#) WEBSITE. CLICK ON THE "STONE STYLE AND COLOR GUIDE" TO SEE THE COMPANION COLORS RECOMMENDED FOR USE WITH EACH STONE COLOR. VERIFY THAT TRIM PIECES ARE SHOWN ON THE DRAWINGS.

D. Trim Pieces:

1. Watertable/Window Sill:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
2. Quoin Corner:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
3. Cobble Accent Stone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
4. Keystone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
5. Headerstone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
6. Capstone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
7. Hearthstone:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
8. Flat Wall Coping:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
9. Pyramid Wall Coping:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].
10. Lightbox/Switchbox:
 - a. Color: [Companion Color] [_____] [As shown on Drawings].

2.03 RELATED MATERIALS

EDIT FOLLOWING MATERIALS BASED ON LOCAL USAGE AND BUILDING CODE REQUIREMENTS. DELETE MATERIALS SPECIFIED IN SEPARATE SECTIONS.

- A. Bonding Agent: ASTM C 932 or C 1059 Type II, Latex integral or surface applied bonding agent.
- B. Weather Resistant Barrier: ASTM D 226 for type 1 felt or UBC Standard 17-1 for Kraft waterproof building paper.
- C. Metal Lath: ASTM C 847 corrosion resistant minimum 2.5 lbs per square yard (1.36 kg/m²), ASTM C 1032 corrosion resistant minimum 18 gauge woven wire, ASTM C 933 corrosion

resistant welded wire lath, or corrosion resistant alternate lath material that carries an ICC Evaluation Report.

- D. Fasteners: Comply with local building code.
- E. Mortar: ASTM C 270 Type N or Type S capable of achieving shear bond strength of 50 psi (345 kPa) when tested in accordance with ASTM C 482. **Use colored mortar for grouting joints.**
 - 1. **Pigment: Iron oxide.**

INSERT COLOR NAME/NUMBER AND MANUFACTURER'S NAME BELOW.

2. **Color:** _____ **as manufactured by** _____.

- F. Sealer: Penetrating, non-film forming breathable sealer (silane or siloxane).

2.04 SOURCE QUALITY CONTROL

- A. Perform following minimum material quality control tests; comply with ASTM C 172 for sample collection:
 - 1. Sieve analysis test: ASTM C 136–random sample.
 - 2. Slump test: ASTM C 143–3 per shift.
 - 3. Temperature test: ASTM C 1064–3 per shift.
 - 4. Air content test: ASTM C 173–2 per shift.
 - 5. Unit weight test: ASTM C 138–2 per shift.
 - 6. Compressive strength specimens: ASTM C 192–2 sets of 3 samples per shift.
 - 7. Compressive strength tests: ASTM C 39–break all collected samples .
- B. Perform following minimum color control tests; comply with manufacturer's quality control procedures.
 - 1. Smear for color.
 - 2. Smear (paste test) for fresh concrete.
 - 3. Surface color evaluation.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine substrates upon which manufactured masonry will be installed.
- B. Coordinate with responsible entity to correct unsatisfactory conditions.
- C. Commencement of work by installer is acceptance of substrate conditions.

3.02 PREPARATION

- A. Protection: Do not allow other trades to work on opposite side of walls to which manufactured masonry is applied during and for 48 hours following installation of the manufactured masonry.
- B. Surface Preparation: Follow masonry manufacturer's instructions for preparing substrate.

3.03 INSTALLATION

VENEERSTONE [INSTALLATION INSTRUCTIONS](#) COVER NORMAL INSTALLATION CONDITIONS. UNUSUAL CONDITIONS MAY REQUIRE ADDITIONAL INFORMATION IN THIS ARTICLE.

- A. Install manufactured masonry and related materials in accordance with masonry manufacturer's installation instructions, or product manufacturer's installation instructions if not covered by masonry manufacturer's installation instructions.
 - 1. Wet back of masonry units prior to applying mortar during hot, dry weather.
- B. Joint Type: [Grouted] [Dry stack].
- C. Apply sealer in accordance with sealer manufacturer's installation instructions.

3.04 CLEANING

- A. Reference Section 01 74 00–Cleaning and Waste Management.

3.05 PROTECTION

- A. Protect finished work from damage during remainder of construction period.

END OF SECTION¹

¹ This specification was prepared specifically for Veneerstone by Tejas Textured Stone by ASC Specification Consultants. Comments or suggestions for improvement should be addressed to: Veneerstone by Tejas Textured Stone, Toll Free 866.578.5616, McKinney, TX (214.491.5100), Orlando, FL (407.240.6444), McClellan, CA (916.640.8140), info@venerstonellc.com

Issue Date: Feb 20, 2008