

Cooper Stone Corporation

SECTION 04852

NATURAL THIN VENEER STONE

GENERAL

SECTION INCLUDES

Section includes thin cut veneer masonry construction of natural stone set in cement mortar over a structural wall backing of:

- Plywood sheathing.
- Concrete masonry.
- Metal building.

Section includes special decorative veneer cut stone shapes for trim.

Section includes installation of built-in accessories.

RELATED SECTIONS

Section 03300 - Cast-In-Place Concrete: Concrete Foundations.

Section 04810 - Unit Masonry Assemblies: Masonry supporting wall.

Section 05500 - Metal Fabrications: Shelf angles, structural supports, anchors and other built-in components for building into stone veneer masonry by this section.

Section 05400 - Cold-Formed Metal Framing: Formed steel framed supporting wall.

Section 06112 - Framing and Sheathing: Wood frame supporting wall.

Section 07620 - Sheet Metal Flashing and Trim.

Section 07650 – Flexible Flashing

Section 07900 - Joint Sealers: Sealant for perimeter and control joints.

Section 09220 - Cement Plaster: Metal lath and scratch coat back-up over supporting walls.

Section 13121 - Pre-Engineered Metal Buildings.

REFERENCES

ASTM C 91 - Standard Specification for Masonry Cement.

ASTM C 97 - Standard Specification for Absorption and Bulk Specific Gravity of Dimension Stone.

ASTM C 144 - Aggregate for Masonry Mortar.

ASTM C 150 - Standard Specification for Portland Cement.

ASTM C 170 - Standard Specification for Compressive Strength of Dimension Stone.

ASTM C 207 - Standard Specification for Hydrated Lime for Masonry Purposes.

ASTM C 270 - Mortar for Unit Masonry.

ASTM C 568 - Standard Specification for Limestone Dimension Stone.

ASTM C 616 - Standard Specification for Quartz Based Dimension Stone.

ASTM C 780 - Preconstruction Evaluation of Mortar for Plain & Reinforced Masonry.

ASTM C 847 - Standard Specification for Metal Lath.

ASTM C 880 - Standard Specification for Flexural Strength of Dimension Stone.

ASTM C 1063 - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster.

ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing.

ACI 530/ASCE 5/TMS 402 - Building Code Requirements for Masonry Structures.

ACI 530.1/ASCE 6/TMS 602 - Specifications for Masonry Structures.

PCA - Portland Cement Plaster (Stucco) Manual

SUBMITTALS

Submit under provisions of Section 01300.

Quarrier or natural stone data sheets on stone and mortar mix to be used, including:

- Preparation instructions and recommendations.
- Storage and handling requirements and recommendations.
- Installation methods.
- Cleaning methods.

Design Data: Submit design mix when Property specification of ASTM C270 is to be used, with required environmental conditions, and admixture limitations.

Selection Samples: For each stone product specified, submit two samples, minimum size 6 inches square, representing actual product, color, and texture.

Samples: Submit samples of mortar representing actual mortar color and color range.

Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

- Size:
 - 4 feet by 4 feet.

Include all stone unit types and sizes to be used including a typical corner condition, special shapes and mortar joint treatment. Clean the sample panel using the same

materials and tools as planned for the final stone masonry construction.
Do not proceed with remaining work until workmanship and color is approved by Architect.
Do not remove sample panel until construction activities of this section have been accepted by the Architect.

QUALIFICATIONS

Stone Source: Cooper Stone Corporation specializes in quarrying and processing products specified in this section with minimum five years documented experience.

Stone Masonry Company: Company specializing in performing Work of this section with minimum five years documented experience.

QUALITY ASSURANCE

Preconstruction Meetings: Conduct preconstruction meetings including the Architect, Contractor, stone masonry subcontractor, and the flashing subcontractor to verify project requirements, substrate conditions, manufacturer's installation instructions and other requirements. Comply with Division 1 requirements.

Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.

Finish areas designated by Architect

Do not proceed with remaining work until workmanship, color, and texture are approved by Architect.

Refinish mock-up areas as required to produce acceptable work.

DELIVERY, STORAGE, AND HANDLING

Store products on pallets, under cover and in manufacturer's unopened packaging until ready for installation.

Store stone materials on pallets on a dry level surface. Pallets shall not be stacked and shall be covered with tarps.

Store mortar under cover and in an area where temperature is maintained between 40 degrees F to 110 degrees F.

PROJECT CONDITIONS

Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

Hot and Cold Weather Requirements: In accordance with ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures.

Ambient temperature shall be 40 degrees F or above during erection of stone masonry. When ambient temperature falls below 50 degrees F, mortar mixing water shall be heated.

PRODUCTS

MANUFACTURERS

Acceptable Manufacturer: Cooper Stone Corporation, P.O. Box 678, Jarrell, TX 76537.
Phone: 512-746-2210. Fax: 512-746-2270. Website: www.cooperstone.com, email:
info@cooperstone.com.

Substitutions: Not permitted.

Requests for substitutions will be considered in accordance with provisions of Section 01600.

THIN VENEER STONE

- A. Limestone/Sandstone: Provided in the following sizes and colors:
1. Style: Dimensional Ashlar - Sawn Top and Bottom, Split Face
 - a. Pattern: Cooper Stone Corporation – Antique
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Grey, Light to Dark Brown, Buff.
 - b. Pattern: Cooper Stone Corporation – Austin White
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: White to Off-White.
 - c. Pattern: Cooper Stone Corporation – Caramel
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Brown.
 - d. Pattern: Cooper Stone Corporation – Cordova Cream
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream.
 - e. Pattern: Cooper Stone Corporation – Sierra
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream, Mustard, Light to Dark Gold.
 - f. Pattern: Cooper Stone Corporation – Texas Mix
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream, Mustard, Grey, Brown.
 - g. Pattern: Cooper Stone Corporation – Castle Grey
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Grey.
 - h. Pattern: Cooper Stone Corporation – Rusted Earth
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream, Mustard, Rust, Light to Dark Gold.
 - i. Pattern: Cooper Stone Corporation – Goldstone
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".

- 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Mustard, Light to Dark Gold, Cream.
 - j. Pattern: Cooper Stone Corporation – Georgia Blend
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Grey, Brown, Cream.
 - k. Pattern: Cooper Stone Corporation – Texas Mix
 - 1) Heights: 4" -6" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream, Mustard, Grey, Brown.
2. Style: Random Ashlar – Chopped All Sides
- a. Pattern: Cooper Stone Corporation – Mocha
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Brown, Dark Reds and Dark Tan
 - b. Pattern: Cooper Stone Corporation – Oklahoma
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Dark Tan, Dark Grey, Red and Gold.
 - c. Pattern: Cooper Stone Corporation – Santa Cruz
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream, Mustard, Rust, Light to Dark Gold
 - d. Pattern: Cooper Stone Corporation – Montana Chop
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Grey, Light to Dark Brown, Buff
 - e. Pattern: Cooper Stone Corporation – Aztec Squares
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Rust, Mustard, Light Grey, Off-White
 - e. Pattern: Cooper Stone Corporation – Yukon Chop
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Brown and Buff
 - f. Pattern: Cooper Stone Corporation – Autumn Blend
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Tans and Browns
 - g. Pattern: Cooper Stone Corporation – Tucson Mix
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Gold, Mustard, Grey, Brown, Cream
 - h. Pattern: Cooper Stone Corporation – Texas Tan
 - 1) Heights: 3" -8".

- 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light Tan, Light Brown
 - i. Pattern: Cooper Stone Corporation – Wichita White
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: White to Off-White
 - j. Pattern: Cooper Stone Corporation – Ozark Chop
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Grey
 - k. Pattern: Cooper Stone Corporation – Santa Maria
 - 1) Heights: 3" -8".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Grey, Brown, Cream
3. Style: Flagstone - Random Shape, Split Face
- a. Pattern: Cooper Stone Corporation – Coffee Flagstone
 - 1) Heights: 3" -10".
 - 2) Lengths: 6" -12".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Brown, Dark Reds and Dark Tan.
 - b. Pattern: Cooper Stone Corporation – Dakota Flagstone
 - 1) Heights: 3" -10".
 - 2) Lengths: 6" -12".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Rust, Mustard, Light Grey, Off-White.
 - c. Pattern: Cooper Stone Corporation – Tulsa Flagstone
 - 1) Heights: 3" -10".
 - 2) Lengths: 6" -12".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Tan, Gold, Rust and Butterscotch.
 - d. Pattern: Cooper Stone Corporation – Delaware Flagstone
 - 1) Heights: 3" -10".
 - 2) Lengths: 6" -12".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Tan, Brown with some Red Tones.
 - e. Pattern: Cooper Stone Corporation – Alaska Flagstone
 - 1) Heights: 3" -10".
 - 2) Lengths: 6" -12".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: White to Off-White.
 - f. Pattern: Cooper Stone Corporation – Sonoma Flagstone
 - 1) Heights: 3" -10".
 - 2) Lengths: 6" -12".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Tan.
 - g. Pattern: Cooper Stone Corporation – Dover Flagstone
 - 1) Heights: 3" -10".
 - 2) Lengths: 6" -12".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Dark Tan, Dark Grey, Red Tones and Gold.
 - h. Pattern: Cooper Stone Corporation – Bedford Flagstone

- 1) Heights: 3" -10".
- 2) Lengths: 6" -12".
- 3) Nominal Thickness: .75" -1.25".
- 4) Color: Red Tones and Tan.

4. Style: LedgeStone

- a. Pattern: Cooper Stone Corporation – Mountain LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Grey, Light to Dark Brown, Buff.
- b. Pattern: Cooper Stone Corporation – Chestnut LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Tan.
- c. Pattern: Cooper Stone Corporation – Kaffee LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Brown, Dark Reds and Dark Tan.
- d. Pattern: Cooper Stone Corporation – Seminole LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Gold, Mustard, Rust and Cream.
- e. Pattern: Cooper Stone Corporation – Brazos LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream and Off-White.
- f. Pattern: Cooper Stone Corporation – Smokey LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Grey.
- g. Pattern: Cooper Stone Corporation – Desert LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Cream, Mustard, Light to Dark Gold.
- h. Pattern: Cooper Stone Corporation – Cimarron LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Gold, Mustard, Grey, Brown, Cream.
- i. Pattern: Cooper Stone Corporation – Navajo LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Light to Dark Brown.
- j. Pattern: Cooper Stone Corporation – Alpine LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: White to Off-White.

- k. Pattern: Cooper Stone Corporation – Java LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Tan, Brown, Red Tones.
- l. Pattern: Cooper Stone Corporation – Carolina LedgeStone
 - 1) Heights: 1" -4".
 - 2) Lengths: 10" -18".
 - 3) Nominal Thickness: .75" -1.25".
 - 4) Color: Dark Tan, Dark Grey, Red and Gold.

SPECIAL SHAPES

Provide special shapes as indicated on the Drawings and as follows:

- Quoins.
- Sills.
- Transition Pieces
- Surrounds
- Pier Cap
- Wall Cap

Color shall be:

- Cream
- Grey
- Caramel

ACCESSORIES

Expanded Metal Lath Paper Backed: ASTM C847; galvanized, self furring mesh of weight to suit application; backed with paper.

Expanded Metal Lath: ASTM C847, galvanized, self-furring.

Lath Anchorage: Tie wire, nails, screws and other metal supports, galvanized, of type and size to suit application and to rigidly secure materials in place.

Building Paper: ASTM D 226, No. 30 asphalt saturated felt or approved moisture barrier.

Concrete Bonding Agent: Latex type.

Setting Buttons and Shims: Lead or Plastic.

MORTAR

Masonry Cement: Complying with ASTM C91:

- Type S.
- Color, gray is recommend
- Color, white or brown is optional

Portland Cement: Complying with ASTM C150:

- Type I.
- Color, gray is recommended
- Color, white or brown is optional

Mortar Aggregate: Complying with ASTM C144, standard masonry type.

Hydrated Lime: Complying with ASTM C207:

Type S.
Type SA.

Water: Clean and potable.

MIXES

Mortar Mixes:

Mortar for Structural Masonry: Complying with ASTM C270, using Proportion Specification.
Type S.

Mortar Mixing:

Mix mortar ingredients in accordance with ASTM C270. Mix only in quantities needed for immediate use.
Do not use anti-freeze compounds to lower freezing point of mortar.

EXECUTION

EXAMINATION

Do not begin installation until backing structure is plumb, bearing surfaces are level and substrates are clean and properly prepared.

Verify that built-in items are in proper location, and ready for roughing into stone masonry.

Notify Architect of unsatisfactory preparation before proceeding.

PREPARATION FOR INSTALLATION OVER PLYWOOD SHEATHING

Cover sheathing with moisture proof barrier with all joints lapped shingle style a minimum of 4 inches.

Install metal lath in accordance with ASTM C1063. Apply metal lath taut, with long dimension perpendicular to supports. Lap ends minimum 1 inch (4" recommended). Secure end laps with tie wire where they occur between supports.

Attach metal lath to wood supports using galvanized nails at maximum 6 inches on center vertically and 16 inches on center horizontally. Fasten with a minimum of a 1 inch penetration of the wood studs. Stop lath no more than 1 inch from finished edges.

Continuously reinforce internal angles with corner mesh.

Place lath vertically above each top corner and each side of door and glazed frames.

PREPARATION FOR INSTALLATION OVER CONCRETE OR CONCRETE MASONRY

Clean or sandblast concrete masonry to assure a proper mortar bond. Verify no bituminous, water repellent, or form release agents exist on concrete surface that are detrimental to mortar bond.

Apply bonding agent in accordance with the manufacturers printed instructions.

PREPARATION FOR INSTALLATION OVER METAL SIDING

Install paperbacked metal lath in accordance with ASTM C1063. Apply metal lath taut, with long dimension perpendicular to supports. Lap ends minimum 1 inch (4" recommended). Secure end laps with tie wire where they occur between supports.

Attach metal lath to metal siding support members using galvanized 1-1/4 inch (32 mm) type S-12 Panhead Super Tight Screws as manufactured by United States Gypsum. Screws shall penetrate a minimum of 3/8 inch (0.9525 cm) into the metal siding support members. Provide 1 fastener per SF of surface area and do not exceed 6 inches on center in any one direction.

Place minimum 4inch wide strips of metal lath centered over junctions of dissimilar backing materials. Secure rigidly in place.

Place lath vertically above each top corner and each side of door and glazed frames.

Apply scratch coat in accordance with PCA Plaster (Stucco) Manual.

Apply scratch coat to nominal thickness of 1/2 to 3/4 inch over metal lath surfaces.

Moist cure scratch coat for minimum period of 48 hours.

After curing, dampen previous coat prior to applying mortar and thin stone veneer.

PREPARATION FOR INSTALLATION OF THIN VENEER STONE

Stone back should be moistened with water prior to installation.

Coordinate placement of reinforcement, anchors and accessories, flashings and weep holes and other moisture control products supplied by other sections.

Clean all built-in items of loose rust, ice, mud, or other foreign matter before incorporating into the wall. All ferrous metal built into the wall shall be primed or galvanized.

If required, provide temporary bracing during installation of masonry work. Maintain bracing in place until building structure provides permanent support.

INSTALLATION OF THIN VENEER STONE

Install thin veneer stone and mortar in accordance with ACI 530.1/ASCE 6/TMS 602 Specifications for Masonry Structures.

Maintain masonry courses to uniform dimension(s). Form vertical and horizontal joints of uniform thickness.

Pattern:

Lay stone with the split-face, honed-face, or weather edge exposed, as described in stone veneer section 2.2. Take care to avoid a concentration of any one color to any one wall surface.

Maintain an approximate 3/8 inch joint, as stone allows.

Do not use stacked vertical joints.

Lay out work in advance and distribute color range of stone uniformly over total work area.

Placing and Bonding:

Dampen substrate as required to reduce excessive suction.

Apply mortar in accordance with PCA Plaster (Stucco) Manual to a thickness of 1/2 to 3/4 inch. Do not spread more than a workable area of 5 to 10 SF so that mortar will not set before stone is applied.

Lay thin veneer stone in a full bed of mortar with full head joints.

Work from the bottom up laying corner pieces first.

Remove excessive mortar as work progresses.

Do not shift or tap veneer stone after mortar has achieved initial set. Where adjustment is required, remove mortar and replace.

Isolate top of veneer stone from horizontal structural framing members and slabs or decks with compressible joint filler and sealant in accordance with Section 07900.

Joining Work: Where fresh masonry joins partially set masonry.

Remove loose stone and mortar.

Clean and lightly wet surface of set masonry.

To avoid a horizontal run of masonry, rack back 1/2 the length of stone in each course.

Joints:

Lay stone with an approximate 3/8 inch mortar joint, as stone allows.

Tool joints when "thumb-print" hard with a round jointer slightly larger than the width of the joint.

Trowel-point or concave tool exterior joints below grade.

Flush cut joints to be finished with a soft brush only.

Retempering or mortar is not permitted.

Flashing:

Clean surface of masonry smooth and remove any projections, which could damage flashings.

Place flashing on a bed of mortar.

Cover flashing with mortar.

Control and Expansion Joints: Keep joints open and free of debris. Coordinate control joint in accordance with Section 07900 for sealant performance.

Sealant Recesses: Provide open joint 3/4 inch deep and 1/4 inch wide, where masonry meets doors, windows and other exterior openings. Coordinate sealant joints in accordance with Section 07900 for sealant performance.

Cutting And Fitting: Cut and fit for chases, pipes, conduit, sleeves, grounds, and other penetrations and adjacent materials. Coordinate with other sections of work to provide correct size, shape, and location.

FIELD QUALITY CONTROL

Test mortar and grout in accordance with Section 01110.

Testing of Mortar Mix: In accordance with ASTM C780, Annex A4, for mortar aggregate ratio and ASTM C 780, Annex A5, for mortar water content.

PROTECTION

Protect installed products until completion of project.

Cover the top of unfinished stone masonry work to protect it from the weather.

Touch-up, repair or replace damaged products before Substantial Completion.

CLEANING

Keep the face of stone free of mortar as the work progresses. If residual mortar is on the face of the stone, allow to dry partially and brush the mortar off the surface and sponge off the residue.

When the work is completed and the mortar has set for 2 to 3 days the surface may be cleaned from top to bottom using a mild masonry detergent acceptable to the stone manufacturer. Do not use metal brushes or acids for cleaning.

END OF SECTION