

est. 1976

QUALITY STONE VENEER
EST. 1976



INSTALLATION GUIDE

RECOMMENDED TOOLS

- Masonry, circular or table saw, or hand grinder with diamond or carborundum blade.
(Wet cutting recommended to reduce dust exposure)
- Dust mask, respirator
- Gloves
- Grout bag
- Hammer
- Hatchet
- Hock and trowel
- Jointing tool
- Level
- Margin trowel
- Mason's trowel
- Masonry hoe
- Personal protection equipment
- Razor knife
- Safety glasses
- Snips
- Staple gun or hammer tacker
- Wheelbarrow or mortar tub
- Whisk broom
- Wide-mouth nippers

INTRODUCTION TO ADHERED MANUFACTURED STONE VENEER (AMSV) INSTALLATION

There are two basic types of stone installation: jointed / standard installation and joint-less / drystack. You can apply Quality Stone Veneer to any interior or exterior application, whether it's new construction, remodeling, or adding stone to a fireplace.... We
Bring Your Ideas to Life!



Jointed/Standard



Jointless/Dry-stacked

GETTING STARTED

Building codes vary, so check with local authorities for your area's requirements. Read all directions carefully before installing Quality Stone Veneer, and observe safety precautions at all times.

STEP 1: ESTIMATE QUANTITY

TOTAL PROJECT

length
x height
– square footage of openings
total project square footage

CORNERSTONES

linear feet of all outside corners
within stonework

FLAT STONES

total project square footage
– cornerstone square footage*
flat stone square footage

*each linear foot of cornerstones will
cover approximately 1/2 square foot of
surface area.

Most projects require both cornerstones and flat stones. To find out the total amount of each stone needed for your project, measure in the following order:

Total Project

After deciding where to place the stone, multiply the area's length by its height to determine square footage. If you are covering more than one area, add the total of each area to get the gross surface area. Remember to subtract the square footage of openings such as doors and windows.

Cornerstones

Cornerstones are applied to the outer corners of a surface and are measured in linear feet. If using cornerstones in your project, measure the linear feet of all outside corners to be covered by stone. Add these measurements together (One lineal foot of cornerstones equals 1/2 square foot of flat stone).

Flat Stones

As the name implies, flat stones are applied to flat surfaces and are measured in square footage. To determine how many flat stones your project requires, subtract the corner square footage from the total project square footage. We recommend buying extra flat stones for trimming and fitting.

STEP 2: PREPARE THE SURFACE



Fig. 1 Cover the area with two layers of weather barrier. Adhere rubber flashing around all openings.

For Plywood, Paneling, Sheet Rock, Wallboard or Other Rigid Sheathing

Cover the area with two separate layers of weather resistant barrier in accordance with the Weather Resistant Barrier Manufacturer's Installation Instructions. Overlap vertical layers by a minimum of 6" and horizontal layers by a minimum of 2" in shingle-like fashion. Adhere rubber flashing around all openings in a shingle-like fashion to prevent penetration of water into the wall cavity (Fig. 1). Contractor should install metal flashing (drip edge) above windows and doors in addition to rubber flashing. Attach the galvanized metal self-furring lath to the barrier with small cups pointing upward (Fig. 2). Overlap both horizontal and vertical lath layers. Staple or nail the lath 6" in all directions, hitting studs where possible. Continuously wrap lath around all inside and outside corners (Fig. 3). When finished, apply a 1/2" scratch coat over the lath (Fig. 4). Scratch coat should be applied with sufficient material and pressure to embed the lath and provide a sufficient thickness of material over the metal to allow for scoring the surface. As soon as the scratch coat becomes somewhat firm, the entire surface must be scored in a horizontal direction only.

For Unpainted, Unsealed & Untreated Block, Concrete or Other Masonry

Depending on the surface condition, apply a bonding agent OR attach metal self-furring lath with corrosion-resistant concrete nails and continuously wrap lath around all inside and outside corners (Fig. 2 & Fig. 3). Prior to installation of lath or if applying the stone veneer directly onto the substrate be sure to adhere rubber flashing around all openings in a shingle-like fashion to prevent penetration of water into the wall cavity (Fig. 1). Contractor should install metal flashing (drip edge) above windows and doors in addition to rubber flashing. When finished, apply a 1/2" scratch coat over the lath or bonding agent depending on the surface condition (Fig. 4). Scratch coat should be applied with sufficient material and pressure to embed the lath and provide a sufficient thickness of material over the metal to allow for scoring the surface. As soon as the scratch coat becomes somewhat firm, the entire surface must be scored in a horizontal direction only.

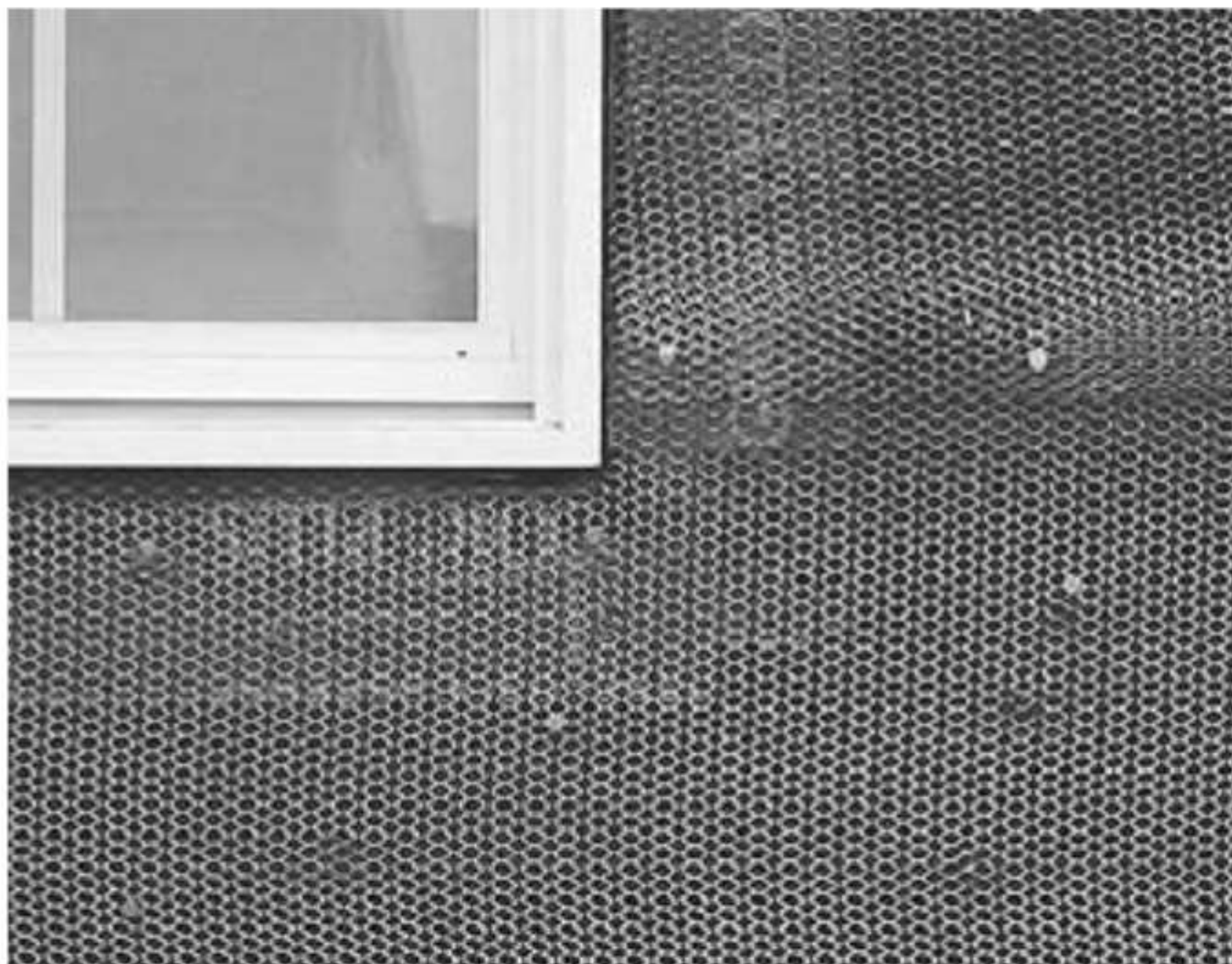


Fig. 2 Attach the galvanized metal self-furring lath.



Fig. 3 Wrap the lath around corners.



Fig. 4 Apply the scratch coat over the lath.

For Painted, Sealed or Treated Brick, Block, Concrete or Other Masonry

Either restore to the original surface by bead blasting, sandblasting, water blasting or appropriate solvent to form a substrate suitable for bonding OR attach metal self-furring lath with corrosion-resistant concrete nails and continuously wrap lath around all inside and outside corners (Fig. 2 & Fig. 3). Prior to installation of lath, or if applying the stone veneer directly onto the substrate, be sure to adhere rubber flashing around all openings to prevent penetration of water into the wall cavity (Fig. 1). Contractor should install metal flashing (drip edge) above windows and doors in addition to rubber flashing. When finished, apply a 1/2" scratch coat over the lath or bonding agent depending on the surface condition (Fig. 4). Scratch coat should be applied with sufficient material and pressure to embed the lath and provide a sufficient thickness of material over the metal to allow for scoring the surface. As soon as the scratch coat becomes somewhat firm, the entire surface must be scored in a horizontal direction only.

For Metal Framing

Cover the area with two separate layers of weather resistant barrier in accordance with the Weather Resistant Barrier Manufacturer's Installation Instructions. Overlap vertical layers by a minimum of 6" and horizontal layers by a minimum of 2" in shingle-like fashion. Adhere rubber flashing around all openings to prevent penetration of water into the wall cavity (Fig. 1). Contractor should install metal flashing (drip edge) above windows and doors in addition to rubber flashing. Using a drill and self-tapping screws attach the galvanized metal self-furring lath to the barrier with small cups pointing upward (Fig. 2). Overlap both horizontal and vertical lath layers. Continuously wrap lath around all inside and outside corners (Fig. 3). When finished, apply a 1/2" scratch coat over the lath (Fig. 4). Scratch coat should be applied with sufficient material and pressure to embed the lath and provide a sufficient thickness of material over the metal to allow for scoring the surface. As soon as the scratch coat becomes somewhat firm, the entire surface must be scored in a horizontal direction only.



Fig. 5 When preparation is complete, your surface should include:
 A. a layer of weather barrier (installed by the builder before windows and doors), B. a second layer of weather barrier, C. metal flashing on windows and doors (installed by builder), D. rubber flashing around all openings, E. galvanized metal self-furring lath, and F. a 1/2" scratch coat.

For Open Stud Framing & Metal Building Panels

Cover the area with one layer of weather resistant barrier in accordance with the Weather Resistant Barrier Manufacturer's Installation Instructions. Overlap vertical layers by a minimum of 6" and horizontal layers by a minimum of 2" in shingle-like fashion. Adhere rubber flashing around all openings to prevent penetration of water into the wall cavity (Fig. 1). Contractor should install metal flashing (drip edge) above windows and doors in addition to rubber flashing. Attach paperbacked 3.4 lb., 3/8" rib self-furring lath to the studs with galvanized nails or staples (Fig. 2). Nail or staple the lath every 6" inches vertically on stud centers, penetrating at least 1" into the stud. Overlap lath sides by no less than 1/2" and ends by no less than 1". Continuously wrap lath around all inside and outside corners (Fig. 3). For metal studs use a drill and corrosion-resistance self-tapping screws. When finished, apply a 1/2" scratch coat over the lath (Fig. 4). Scratch coat should be applied with sufficient material and pressure to embed the lath and provide a sufficient thickness of material over the metal to allow for scoring the surface. As soon as the scratch coat becomes somewhat firm, the entire surface must be scored in a horizontal direction only. Allow scratch coat to cure for at least 48 hours. Scratch coat must be evenly dampened with water prior to adhering stone veneer.

STEP 3: PREPARE THE MORTAR



Fig. 6 Mixing the mortar.

For the mortar, use type N or S masonry cement, sand and water. To avoid clumps, dry mix the sand and cement together first. Then add water slowly until the mixture has a paste-like consistency.

Mortar Mix for Standard Stone & Brick Installation with Grouted Joints

- Two parts type N or S masonry cement
- Five parts sand
- Water

OR

- One part Portland cement
- One part lime
- Five parts sand
- Water

Use iron oxide pigments to tint mortar to a complementary color.

Mortar Mix for Jointless/Dry Stack Installation

- Two part type-S masonry cement
- Five parts sand
- Water

To conceal joint lines and create a finished appearance, blend the jointless/dry-stacked mortar color with the stone base color using iron oxide pigments.

STEP 4: APPLYING STONE VENEER



Fig. 7 Trimming the stone.



Fig. 8 Mortaring the stone.



Fig. 9 Setting the stones.



Fig. 10 Grouting the stones.

Laying Out the Stones

Spread the stones near your work area to get an idea of the selection. On the ground, move the stones around to achieve a balance of colors, sizes, shapes and textures. This will help you create a unified look when installing your Quality Stone Veneer.

Starting

Attach cornerstones first to ensure a good fit. Alternate the long and short legs in opposite directions, then place flat stones to fit, working in toward the center. Always apply stones at the top of the project and work down. Keep space between stones tight and uniform to avoid long unbroken joint lines. In warm weather, be sure to dampen masonry surfaces to keep the mortar moist.

Trimming Stones

Use a hatchet, nippers or mason's trowel on stones to create a tighter fit. Use a diamond blade saw for straight cuts (Fig. 7). Try to position cut or trimmed stones so that the cut edge does not show. To help hide edges, cover the unfinished edge with mortar when grouting.

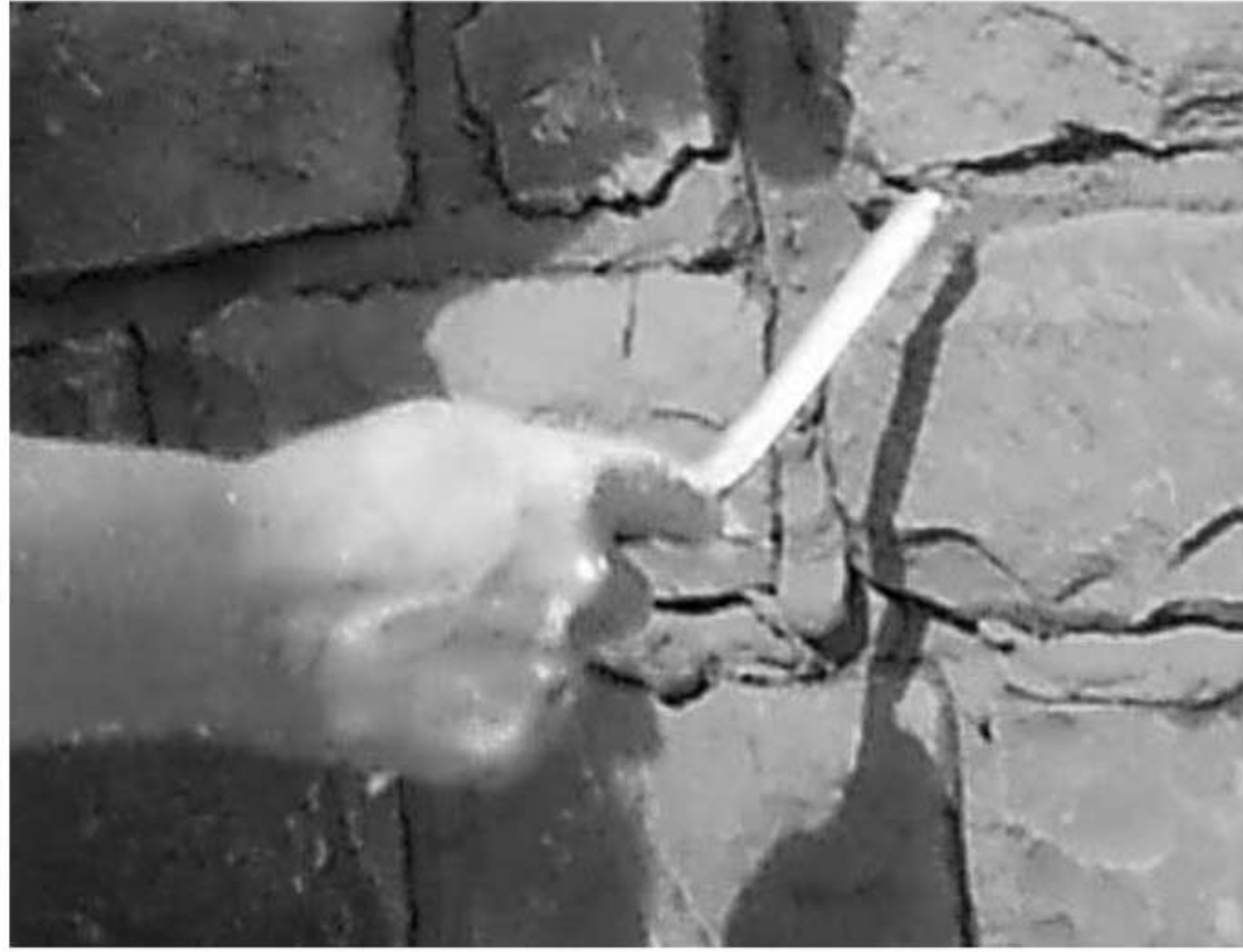


Fig. 11 Striking the joints.

Setting the Stones

To ensure a strong bond, dampen masonry surfaces to keep the mortar moist. Mud the back of stones with 1/2" of mortar, building the edges to 1-1/2". The back of each stone should be entirely covered with mortar to a thickness of 1/2" (Fig. 8). The mortar should have a loose texture to allow joints to seal to the next stone. When pressing stones to the surface, use a gentle wiggling motion using enough pressure to fill textures and voids to ensure a good bond (Fig. 9). The mortar should squeeze out around the entire perimeter of the stone. Use a level or chalk line as you work to keep stones level.

Grouting the Joints

After installing the stone veneer, fill a grout bag with mortar and partially fill each joint between the stones (Fig. 10). Be sure to cover any broken or trimmed edges. If mortar gets on the stones, wait until it becomes crumbly and then gently scrape it off with a dry bristle brush or whisk broom. Never use a wet or wire brush, which can damage the stone.

Striking the Joints

After 30–60 minutes, the mortar should feel firm to the touch or “Thumb Print” hard. Use a wooden or metal striking tool to pack in mortar and tool mortar to desired shape and depth (Fig. 11). This will force mortar into the joints, sealing the joint edges and giving your project a professional-looking finish. Setting time will vary depending on temperature and also humidity. Do not strike too early or the mortar will smear.

Brushing or Cleaning the Joints

Once mortar is sufficiently set, use a whisk broom to smooth the joints and brush off any loose mortar. Never use acid based products or a wire brush. Clean any mortar spots on stone immediately, do not allow the mortar to completely set.

Completion

A high-quality waterproofing sealer is recommended on any Quality Stone Veneer. Follow manufacturer's instructions. (See Technical Data on page 11.)

SPECIFICATIONS/TECHNICAL DATA

PRODUCT DESCRIPTION

Basic Use

Product is intended for interior or exterior, non-structural, lightweight veneer facing on masonry, metal, or frame construction for architectural appeal.

- Interior or exterior walls of new construction.
- Remodeling and redecorating of existing walls.
- Fireplaces: around openings, hearth, exterior chimney finish, or chase finish.

Note — Manufactured stone does not add strength to load-bearing capacity of wall. Should not be used in below-water applications.

Composition and Materials

Quarried natural stones of varying sizes and shapes are used to make flexible molds. The molds are then painted with iron oxide pigments and filled with a mix of Portland cement and lightweight aggregates. Filled molds are vibrated to integrate surface coloration. Mix in molds is raked to provide scratched surface texture on product back to ensure installation bond. After stone mix sets, cast product is pulled from molds, packaged, and cured.

Sizes

Varied. Sizes, shapes, and textures of finished product duplicate natural stones used as mold masters. Stone diameters will vary. Right-angle corner stones have return lengths varying from 1.5 inches to 2.5 inches inside. Product pieces designed for fireplace hearth use are 24 x 24 inches and can be cut to fit.

Types

Stone Veneer in 11 styles and 30+ colors, as well as: Keystones, Soldiers, Date & Address Stones, Light Blocks, Faucet Blocks, Receptacle Blocks, Quoins, Hearthstones, Mantle Brackets, Sills, Corner Bands, Accessory Bands, Window Casings, Shutter Blocks, Lintels, Arches, Window Headers, Window Lintels, Wall Caps, Pier Caps, Brick Veneer, Brick Sills, and Brick Row Locks.

TECHNICAL DATA

Product Performance

Applicable Standards:

Professional Service Industries, Inc.
— Project No. 812-50301

Test Results

Product thickness	.15 ft.
Density (per cu. ft.)	82.2 lbs.
Temperature hot side	95°F
Temperature cold side	55°F
Average mean temperature	75°F
Thermal conductivity	1.569K
Thermal resistance	1.148 r
Absorption (24 hours)	15.1%
Maximum Veneer Unit Weight	15 lbs. per sq ft

Heat/Fire Performance

Applicable Standards:

Underwriter's Laboratories, Inc.
— Project No. 05CA22150

Test Results

(CFS) Calculated Flame Spread	0
(FSI) Flame Spread Index	0
(CSD) Calculated Smoke Developed	5.9
(SDI) Smoke Developed Index	5

Installation Product Standards

Weather Resistant Barrier (WRB)

Grade D Paper	ASTM D 828, D779, E96
Type 1 #15 Felt	ASTM D 226

Lath

Corrosion Resistant	
- Minimum 2.5lbs	ASTM C 847

Mortar

Type N or S	ASTM C 270
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General Maintenance

Most applications require no maintenance.

Applications where dirt or dust may accumulate can be washed occasionally.

- Use of garden hose and soft bristle brush can be used. (Do NOT use wire brush.)
- Mild soap or detergent and water can be used and rinsed immediately with fresh water. (Do NOT attempt to clean with acid or acid based products or Power Wash.)

Efflorescence

This is normal and common in all masonry products and easily remedied.

To Remove:

- Allow stone to dry
- Scrub with stiff bristle brush and clean water. If this does not remove, scrub with solution of 50% household white vinegar and 50% water and rinse thoroughly.

Salt and Calcium Chloride Products

Do NOT use any of these products on areas adjacent to a stone veneer product.

Sealers

Sealers are not necessary on stone veneer products, although Quality Stone does

recommend a sealer to prevent staining.

Make sure the product used is a saline base and breathable. Follow manufacturer's instructions.

Note — Sealers can darken stone color, and may also slow the natural movement of moisture out of the stone.

Technical Drawings

Detailed technical drawings are available by calling Quality Stone Veneer or by visiting our Web site.

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QualityStoneVeneer.com 1.800.795.3229



GUARANTEE — LIMITED

When installed in accordance with the manufacturer's application specifications, Quality Stone Veneer unconditionally guarantees their products to the original purchaser for a period of 50 years from the date of purchase.

The warranty applies to the veneer units only and does not cover application replacement nor does it cover defects or damages resulting from or connected with misuse or improper installation.

Quality Stone Veneer warrants that their product will endure in normal use if such application is according to the manufacturer's instructions.

In the event of defects, the consumer must notify Quality Stone Veneer in writing. Upon receipt of such notification and after a factory representative inspection, Quality Stone Veneer will provide, free of charge, new materials to replace those which were defective. This warranty covers only manufacturing defects. The consumer is responsible for any labor costs incurred in replacement.

