



Thin Stone Veneer Installation Procedures

Introduction

Thin Stone Veneer is sold in two units: flats and corners. The flats are used to cover the flat wall surface and are sold by the square foot. The corners are used to cover the outside corners of the project, and are sold by the linear foot. Since there is a 3-5" return on the corners, they provide depth and dimension to the stone not only on the outside corners, but on window openings, door openings and archways as well.

There are two installation procedures available when installing thin stone veneer.

- 1) Standard installation
 - a. Grouted
 - b. Overgrouted
- 2) Dry-Stack installation

The details of each technique will be discussed further in these instructions, but the basic installation procedure is similar for both.

Surface Preparation

OVER SHEETROCK, WALLBOARD, PANELING, PLYWOOD OR OTHER RIGID WOOD-RELATED SHEATHING

Cover the wall with a weather-resistive barrier. The barrier should be equal to the specifications provided for in the U.B.C Standard No. 14-1 for kraft waterproof building paper or asphalt-saturated rag felt. Apply the building paper or felt horizontally with the upper layer overlapping the lower layer at least 2 inches. Where vertical joints occur, the paper or felt should overlap at least 6 inches. After applying the barrier, install a 2.5 lb diamond mesh expanded metal lath. On exterior applications, use a galvanized metal lath, however on interior installations you may use a non-galvanized black metal lath. Lath sides should overlap at least 3/8", and lath ends should overlap by at least 1". Attach the lath with small cups pointing upwards using galvanized nails or staples 6" on center vertically and 16" on center horizontally, making sure to penetrate the studs at least 1". Double wrap the metal lath at least 16" around all outside and inside corners.

After attaching the lath, apply a ½” thick N or S type mortar scratch coat over the lath and allow it to set.

OVER CLEAN (UNPAINTED, UNSEALED, UNTREATED) BRICK, BLOCK, CONCRETE OR OTHER MASONRY SURFACES

No additional surface preparation is needed, however it is imperative that the surface is clean of any contaminating agents that may interfere with the bonding process.

OVER PAINTED, SEALED OR TREATED BRICK, BLOCK, CONCRETE OR OTHER MASONRY SURFACES

- 1) Clean surface back to original by sandblasting, water blasting, acid etching or wire brushing
...or...
- 2) Install metal lath using corrosion-resistant concrete nails and apply a mortar scratch coat over the lath.

OVER RIGID INSULATION BOARD

Use same preparation as over sheetrock, wallboard, paneling, plywood or other rigid wood related sheathing, but the spacing for the galvanized nails or staples should be 6” on center vertically and 16” on center horizontally making sure to penetrate the studs at least 1”.

Application

SETTING THE STONE

Using a mason’s trowel, apply a ½” thick even layer of mortar to the entire back of the stone. Press the stone firmly into place squeezing the mortar out around all the edges. Gently tapping or wiggling the stone will assist in establishing a good bond. For dry-stack applications, it is important when setting the stone that the edges are sealed with mortar to ensure a good bond. If any mortar accidentally gets on the stone, let it set until it is dry and crumbly, and then brush it off with a dry whisk broom.

SPECIAL CONSIDERATIONS: HOT/DRY SURFACE AND HOT/DRY CLIMATE

Under these conditions, the wall surface and stone will need to be wetted to prevent excessive absorption of moisture from the mortar. This can be accomplished by spraying or brushing water onto the wall surface and stone, or simply dipping the stone into water. In either case, the stone and wall surface should be allowed to dry for a few minutes to remove excess surface water.

SPECIAL CONSIDERATIONS: WATER DIVERSION AND FREEZE THAW CONDITIONS

Due to the effects of water and freeze thaw conditions, it is imperative to divert water run-off away from stone surfaces. Properly placed flashing and gutters will prevent damage from these conditions.

Grouting the Joints

STANDARD JOINT

Lay stones at desired distance apart from one another, then use a grout bag to fill the joints with mortar, being sure to fill any voids.

DRY-STACK JOINT

Dry fit each stone prior to installation to ensure tight fit. Grout the joints in order to fill voids and conceal cut or broken stone edges. The dry-stack appearance is obtained by raking back the mortar with a wooden or metal striking tool after the mortar has become firm. (30-60 minutes)

OVERGROUT JOINT

When applying grout, overfill the joint so that the grout overlaps the face of the stone, thus widening the joint and making it more irregular. This method produces more of an old-world appearance.

Finishing the Joints

After the mortar joints become firm, rake out excess mortar to the desired depth using a wooden or metal striking tool. This action also forces the mortar into the joints thus sealing the stone edges thoroughly. To avoid smearing, do not work the joints too soon. Upon completion of working the joints, using a whisk broom will smooth the joints as well as clean any loose mortar away from the stone and joints. Do not allow loose mortar or mortar spots to set up more than a few hours as they will be difficult to clean.

Cleaning

In order to clean and enhance the color of our products, it may be necessary to wash the stone. For easy cleaning, you may use a standard granulated detergent mixed with water and scrub with a bristle brush. For more aggressive cleaning, scrub the stone with a bristle brush using a solution of 5 parts water mixed with 1 part muriatic acid. Upon completion, rinse the stone with clean water. Be aware that using acid will require special consideration for your personal safety, as well as any other items with which the acid will come into contact. To clean efflorescence (the salty deposits sometimes occurring on stone), brush the stone with a solution of 5 parts water, one part white household vinegar.

Mortar Preparation

1) SUGGESTED MIX: LATEX THINSET MIX

- a. 3 parts Portland cement
- b. 2 parts latex thinset mortar (meeting ANSI – A118.4 specifications)
- c. 7 parts masonry sand
- d. water
- e. NOTE: mortar should be firm yet workable

2) ALTERNATE MIX #1: BONDING AGENT MIX

- a. 3 parts type-S masonry cement
- b. 7 parts masonry Sand
- c. bonding agent & water

3) ALTERNATE MIX #2: NO BONDING AGENT MIX

- a. Mix Type-N Mortar
 - i. 2 parts type-N masonry cement
 - ii. 3-5 parts masonry sand
 - iii. wateror
 - iv. 1 part Portland cement
 - v. 1 part lime
 - vi. 3-5 parts masonry sand
 - vii. water
- b. Mix Type-S Mortar
 - i. 3 parts type-S masonry cement
 - ii. 5-7 parts masonry sand
 - iii. Wateror
 - iv. 2 parts Portland cement
 - v. 1 part lime
 - vi. 5-7 parts masonry sand
 - vii. water