Stone Veneer Installation

Stone Type

Natural Thin Stone Veneer is to be 100% natural quarried stone. No concrete composite stone is to be accepted. Stone is to be sound type and is recommended to be tested to ATSM specifications. It is also recommended that this material be packaged carefully in boxes or on pallets, stored off the ground and protected from the elements.

Packaging

Consider that packaging by different fabricators varies from waxed cardboard containers, wooden pallets with wire wrapping, to wooden crates. The thin stone product is to be packaged in a durable non-staining, protective packaging designed to minimize damage to products during shipping and outdoor storage. The name of the product should be identified on each package of product.

Quality Criteria

Natural Thin Stone Veneer should meet minimum quality standards as follows:

✓ Thickness range: 3/4” minimum to 1-1/2” maximum
✓ Weight per square foot: Stone should weigh no more than 15 lbs per square foot for the thickest stone.
✓ Natural Formation: No open seams or starts or cracks. No high percentages of rusting or oxidizing minerals which may cause excess staining and bleeding after installation.
✓ Face area: Minimum 1/8 sq. ft. per face with minimum dimension of 2” in any direction.
✓ Corner stones: Minimum of 3” length on return on any exposed side of corner stones.
✓ Tests: Meets or exceeds required ASTM testing levels for absorption, compressive strength, and flexural strength for the appropriate geological stone type.
Usage

Natural Thin Stone Veneer is fabricated to offer the original beauty that only natural stone can provide but is designed for a lightweight non-structural installation. A support ledge is not needed for a successful installation, provided the natural thin stone veneer weight is 15 lbs. per square foot or less.

Waterproofing Procedures

Listed below are general procedures used to waterproof areas before the installation of Natural Thin Stone Veneer. Waterproofing is an extremely important process which must meet or exceed all local building codes and BSI recommends that a highly qualified waterproofing company/contractor handle this portion of the installation or knowledgeable mason subcontractor adhering to industry standard.

Moisture Control

If additional moisture control is desired, a moisture-resistant barrier can be applied to all vertical wood or moisture-sensitive backup walls. Overlap adjoining sheets of moisture barrier a minimum of 2” on horizontal joints and minimum 6” on vertical joints. It is recommended by BSI to include a weep system behind an exterior installation of Natural Full Veneer and Natural Thin Stone Veneer.

Flashing

It is important to provide a weather shield, flashing, or caulk at all material transition points and at all areas that could lead to possible moisture penetration, including but not limited to all window and door openings, electrical outlets, electrical fixtures and plumbing fixtures. It is important to follow manufacturer’s specifications for correct installations. Flashing needs to be applied under water tables and sills, and the base of walls where this veneer meets a brick or other ledge.
Caulk

Cut paper-backed lath as close as possible around electrical outlets, and then caulk between the outlet and the lath. Apply silicone caulk to the sides of all windows and doorways. Caulk all joints which occur between thin stone veneer and dissimilar materials like wood, glass, vinyl, and also at all control and movement joints which occur in the structure. Use backer rods in caulked control joints to allow for proper joint movement during expansion and contraction.

General Surface Preparation

If there is a chemical film on the wall it needs to be removed. In many instances the film may be removed with sandblasting or etching with masonry detergents. The use of acid to remove the film is also a consideration however; in all cases you should check with the manufacturer of the product(s) to make sure it will not damage the underlying surface. The removal process will also make the wall surface less smooth which will aid in the installation process.

Concrete Block or Brick

Natural Thin Stone veneer can be applied directly to any new or existing concrete block or brick surface. It is important to make sure that the existing surface and wall is sound and without defects, and that the surface has not been painted or sealed. In the case of a poured concrete wall, all form release chemicals should be either sandblasted or removed with a masonry detergent before the application of the natural thin stone veneer.

Framed Exterior Walls

For exterior walls a non-corrosive paper-backed lath is applied. All wood surfaces require the application of non-corrosive wire lath and a setting mix (between 1/2” - 1” thick) before applying natural thin stone veneer. Studs in walls are covered with exterior grade wood sheathing or cement mesh mortar units as chosen by builder. Minimum thickness of 1/2” is recommended.
Metal Lath

For applications that involve installing paper-backed corrosion resistant wire lath: After the first piece of lath is correctly placed at the bottom of the wall, continue up the wall overlapping a minimum of 3” for each piece of lath from the bottom to the top. Wrap metal lath around and overlap at corners a minimum of 16”. Use self-furring, non-corrosive, expanded metal lath, 3.4 lbs per yard weight. Use Galvanized, barbed nails (or another quality anchor system such as galvanized screws and washers) at 6” vertical centers, in line with wall stud horizontal spacing. Place nails in furring groove or dimples to preserve 1/4” furring away from wall of metal lath. Overlap horizontal joints of lath a minimum of 1” and vertical joints a minimum of 1”. A paper-backed metal lath can be utilized to avoid the need for a separate moisture control barrier being applied prior to the metal lath.

Applying Stone Veneer

Always begin installation at the bottom.

It is helpful to install a temporary ledge to keep stone off of the floor (usually 1/2 inch above floor for interior walls), or 4 inches above grade for exteriors. This will create a level starting point, and aid in speed of installation. Also, horizontal chalk lines are beneficial every 12”-16” for the same reason. Install some corner stones before flats.

Spread approximately 1/2 inch of mortar to entire back of stone (leave no air pockets). With firm pressure, press stone into place with a slight wiggle, allowing mortar to ooze around the outer edges of the stone. Take care to prevent mortar from getting on surface of stone.

Hold in place for a few seconds or until stone feels relatively secure in its wet mortar bed. Small stone chips or wood wedges can aid in immobilizing stones. Remove excess mortar from around stone using trowel or tuck pointer. Once placed, allow to set.

If stone loosens, it must be removed. Mortar must be completely cleaned off of the stone and the area where the stone was located. Then, reinstall stone per steps above.