

INSTALLATION PRECEDURES

TYPE

Natural Thin Veneer is 100% natural quarried stone.

PACKAGING

Modern Stone Inc. packages in pallet form in a durable non-staining protective packaging intended to minimize damage during shipping and outdoor storage. It is recommended to stay on pallets and stored off the ground to protect stone from environmental elements.

QUALITY

Our Natural Thin Stone Veneer meets minimum quality standards as follows:

- Thickness range: 3/4" minimum to 2" maximum
- Weight per square foot: no more than 15 lbs per square foot
- 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.

USAGE

Natural Thin Stone Veneer offers unique 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 PRECEDURES

Waterproofing is an extremely important process which must meet or exceed all local building codes and Modern Stone Inc. recommends that a highly qualified waterproofing company/contractor or knowledgeable mason adhering to industry standards handle this portion of the installation.

MOISTURE CONTROL

Moisture-resistant barrier can be applied to all vertical wood or moisture-sensitive backup walls. Overlap adjacent sheets of moisture barrier at a minimum of 2" on horizontal joints and a minimum of 6" on vertical joints.

FLASHING

It is imperative 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 all window and door openings, electrical outlets, electrical fixtures, and plumbing fixtures. Flashing needs to be applied under water tables and sills, and the base of walls where the veneer meets a brick or other ledge types.

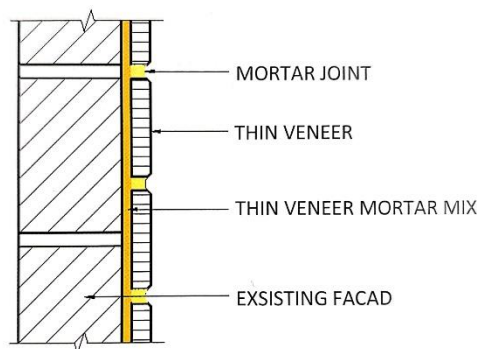
CAULK

Bring 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 to 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 PREPERATION

CONCRETE BLOCK OR BRICK

Stone veneer can be applied directly over any new or existing concrete block or brick surface provided that the existing surface is sound and without defects, and that the surface has not been painted or sealed, for poured concrete walls, all form release chemicals should be either sandblasted or removed with a masonry detergent before application.

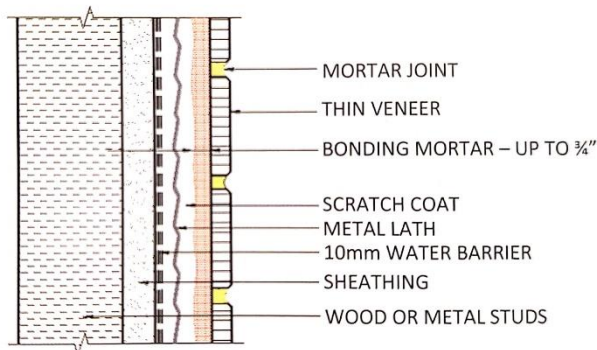


FRAMED EXTERIOR WALLS

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

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, 2.5 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" vertical joints a minimum of 1". A paper-backed metal lath can be utilized to avoid the need for a separate moisture control barrier applied prior to the metal lath.



DESCRIPTION

MORTAR TYPE

Type N or S mortar is used for installing Natural Thin Stone Veneer depending upon the type of stone being installed.

BONDING ADMIXTURE

The use of a bonding admixture with the mortar may be recommended to add bonding strength. Please refer to the selected bonding agent instructions for recommended mixture quantities. Extra care should be taken when using bonding agents since dropping can be difficult to remove once they cure. The use of an epoxy, thin set and/or construction adhesives should only be used in interior applications. Admixtures are necessary for all soffit or overhead conditions.

SETTING NATURAL STONE THIN VENEER

Once the metal lath and the scratch coat have been applied, installation of the natural thin stone can proceed.

- If corner pieces are required for the application, it will be best to start with the corners first. This will provide a better guide for your pattern to continue around the corner.
- Most corner pieces will have a long end and a short end. These pieces should alternate in opposite directions, as they are stacked, one upon the other.
- The back of each stone should be covered 100% with a thickness of at least 1/2" of mortar. A bit more mortar can be added towards the center of the back of each stone.
- The stone should be pressed firmly against the scratch coat wall to ensure a sound bond.
- Extra mortar will ooze out around the edges as each stone is set in place. This extra mortar will fill in around the stone creating your grout joints.
- If you choose not to use this method to fill the joints, then the joints can be filled with grout using a grout bag and/or a tuck-pointing tool.
- Make sure to create control and movement joints in the veneer in the same places that they exist in the structure. These control and movement joints serve to allow for the movement of the structure as settles and moves from environmental changes. Consult a local contractor, your builder, or structural engineering professional to determine the need for these special joints.

MAINTENANCE

CLEANING

If mortar contacts the face of the stone, allow it to dry slightly and then pick the mortar from the face. If removed when very wet, the mortar can smear and cause more work later. If a bonding admixture is used in the mortar then remove the mortar as soon as possible by dry brushing and then damp sponge. Do not attempt to smear the mortar. It is suggested to wet the stonework down with water and then to apply a mild cleaning detergent with a soft bristle brush to remove any dirt or prevent over-absorption of the cleaning solution. Cleaners perform differently and your needs will vary depending upon the stone used. Pressure washing is recommended yearly to avoid natural environmental buildup.

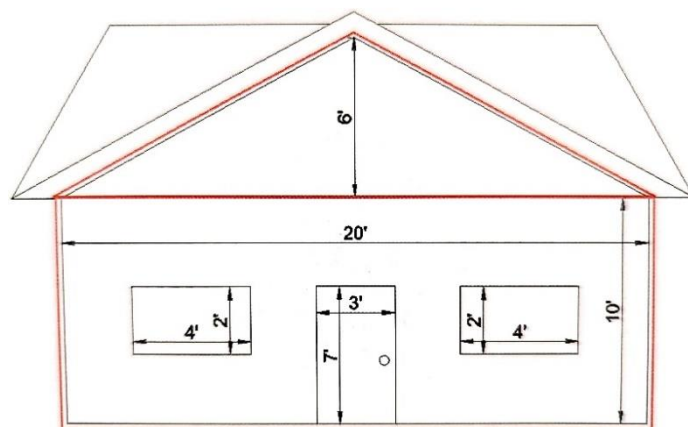
SEALING (OPTIONAL)

Type N or S mortar is used for installing Natural Thin Stone Veneer depending upon the type of stone being installed.

BONDING ADMIXTURE

If a sealer is required, first check with Modern Stone Ltd. As to a sealer that may be recommended for your stone. Topical sealers and impregnators are available for application when enhancement of the color or water repellency is required. Make sure to choose products which are not 'harmed by ultra-violet rays, alkali, do not yellow, and do not interfere with evaporation of moisture through the stone. Always test a small area before full application. Once sealers are applied to the stone it must be considered that re-application of the sealers will be necessary over time. Longevity varies and re-sealing times can range from 1 year to 10 years depending on the product, application, and exposure. The sealer should not be applied until the stonework and mortar has time to completely cure. **EXTREMELY IMPORTANT:** The installation instructions by the sealer manufacturer must be followed.

CALCULATING MATERIAL REQUIREMENTS



1. Establish and measure surface to be cladded.
Ex. Rectangle and Triangle
2. Calculate area of each shape.
*Ex. (rectangle) $H _ \text{ft.} \times W _ \text{ft.} = _ \text{sq. ft.}$
(triangle) $H _ \text{ft.} \times W _ \text{ft.} \div 2 = _ \text{sq. ft.}$*
3. Add amounts together.
4. Calculate areas of the shapes not to be cladded.
(i.e.) windows, doors, etc. and subtract from the overall cladded area.
5. Subtract the area of the windows/ doors, etc. from the total amount to be cladded.
6. Add 10% for breakage and overage

EXAMPLE

Rectangle: $10' \times 20' = 200 \text{ sq. ft.}$

Triangle: $6' \times 20' \div 2 = 60 \text{ sq. ft.}$

Windows: $2' \times 4' = 8 \text{ sq. ft.} \times 2 \text{ windows} = 16 \text{ sq. ft.}$

Door: $7' \times 3' = 21 \text{ sq. ft.}$

TOTAL: $200 + 60 - 16 - 21 = 223 + 10\% = 245.3 \text{ sq. ft.}$