

# INSTALLATION INSTRUCTIONS

## HELPFUL TOOLS

- ☒ Angle Grinder or Nippers
- ☒ Drill with mixing paddle
- ☒ Wheelbarrow or Bucket
- ☒ Margin Trowel
- ☒ Chalk line and Level
- ☒ Grout Bags
- ☒ Whisk broom or Stiff Bristle Brush

## MATERIALS

- ☒ Grade D Vapor Barrier Building Paper
- ☒ 1¼ inch roofing nails or 1 inch roofing staples
- ☒ Metal Lath or #17 gauge 1½ inch woven wire stucco mesh
- ☒ Type N Mortar OR Type S Mortar
- ☒ Thin Set (for dry stack install only)
- ☒ Sealer (ProCast Stone InnerSeal DPS and ProCast Stone Hydro-Top)

## ESTIMATING MATERIALS

To determine the amount of ProCast Stone needed multiply length x height of the project area to calculate approximate square footage. Corner stones needed are calculated by measuring vertical linear ft of outside corners. One linear foot of corner, covers approximately  $\frac{3}{4}$  (.75) of a square foot. Subtract square footage of area covered by corner stones to determine remaining square footage for flat stones. Don't forget to subtract square footage of any area where there is a door or window. If you are measuring to the nearest inch, multiply the length in inches by the height in inches and divide by 144. This will give you the square footage. We recommend you purchase a few extra stones for cutting and trimming.

**Example:** 60 feet long by 3 feet high wainscot that wraps around 2 corners.

- 1) Square footage of project = 60 feet length by 3 feet high (60' x 3') = 180 square feet.
- 2) Total linear feet of corners needed; 2 (corners) x 3 feet (height) = 6 linear feet
- 3) Multiply linear feet of outside corners by .75 (6 x .75 = 4.5)
- 4) Subtract from square footage (180 - 4.5 = 175.5) Round up to the next foot to allow for cutting and trimming = 176 sq/ft flats.
- 5) Total square footage of order; 182 sq/ft (176 sq/ft FLATS; 6 ln/ft corners)

## **METAL LATH**

Most metal lath for veneer stone is about 28"x96" and covers about 18 sq/ft. This will give you an idea of how many sheets you will need. Please refer to the preparation instructions to determine if metal lath is needed for your project surface. Wrap around each outside corner at least 16 inches in both directions if possible. Double wrapping corners will help prevent cracking if settling occurs.

## **MORTAR**

An 80 lb bag will cover about 15 sq/ft. This includes scratch coat, laying the stone and grouting. There are two types of mortar recommended for installation, type S and type N. Type S is for commercial application, it will cure faster than type N in cooler weather. Type N has a longer curing time, and is stickier than type S, which makes installation easier for the novice and allows more time for working the joints after grouting. Most dealers sell pre-mixed bags so all you need to do is add water and mix according to instructions on the bag. Many masons use type S in cooler weather and type N in warmer weather. Dry Stack - If you are not going to grout joints, you should add 1 part "thin set" to 2 parts mortar mix when applying mortar to back of stone during installation.

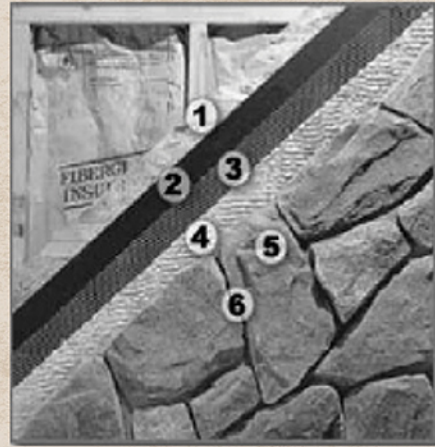
## **GROUT BAGS**

If you are laying stone that needs to be grouted buy grout bags. Throw-away bags are good for about 150 square feet, but can be reused if you are careful. If you are using a throw-away bag, make sure to get a bag for everyone that will be grouting, plus one extra for every three installers in case one develops a tear, which is not uncommon.

## **PREPARING WOOD SURFACES**

Wood substrate (**Picture 1**) must be structurally sound and installed in accordance with local and regional building codes. Apply two layers of Grade -D building paper making sure you over lap the paper on top over the paper on the bottom at least 3 inches. All tears in the paper must be repaired before putting up the wire lath. Attach metal lath or #17 gauge, 1 ½ inch woven wire stucco mesh by nailing or stapling on centers every 6 inches, hitting studs whenever possible. Make sure you wrap around each outside corner at least 16 inches in both directions if possible. Double wrap corners. Double wrap

corners. This will help prevent cracking if settling occurs. Always attach lath right side up with small cups pointing upward. Go to Scratch Coat Instructions. Allow scratch coat to dry for 48 hours.

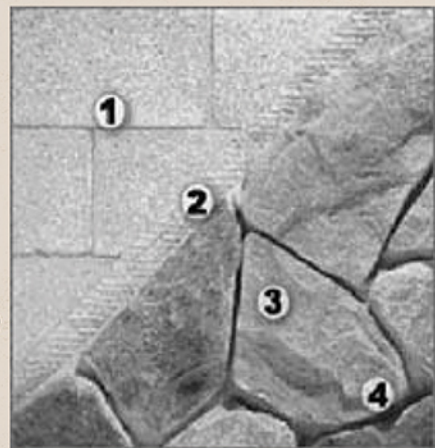


1. Wood
2. Building Paper
3. Metal Lath
4. Scratch Coat
5. ProCast Stone
6. Grout

**Picture 1** - Application to Wood

## PREPARING CEMENT SURFACES

ProCast Stone may be applied directly to a masonry backing with cement scratch coat that has been constructed in accordance with regional and local building codes (**Picture 2**). Clean, unpainted concrete surfaces do not require wire mesh. Painted or waterproofed masonry surfaces, such as Stucco or synthetic Sto, must be prepared by attaching metal lath and concrete scratch coat to provide a good bond surface.



1. Concrete Block
2. Scratch Coat
3. ProCast Stone
4. Grout

**Picture 2** - Application to Masonry

## APPLICATION

You must lay out ProCast Stone on the ground first to give you a good mixture of shapes, colors and sizes. You want to be careful not to get too many big ones together, small ones together or too many of the same color together. As you lay, step back and check for this often. Also, if you are laying stone with someone else, make sure that all your mixture of sizes and colors is the same.

## INSTALL PROCAST STONE

Always install corner stones first. Apply remaining stones by working from bottom up or top down (this will protect stones from falling mortar). Be extra careful to keep your lines straight and level by using chalk lines or guidelines every few feet high. Apply a ½ inch thick mortar setting bed to the back of

each stone and press it into place over a moistened scratch coat OR directly to DuraRock; Hardi-Backer; or equivalent substrate. (For dry stack, read mortar mix instructions on page 2. Under arches, apply mortar around the back edges of stone only, this creates suction as you place the stone overhead. Press stone firmly into place with a gentle wiggling motion to promote bonding. The mortar on back of stone should squeeze out and surround stone. Mortar joints between stones should be as tight and uniform as possible. Stone may need to be supported in place while the mortar cures. Use a masonry blade or a diamond blade in a mason saw, skill saw, table saw or chop saw to cut stone.

## **GROUT**

For grouting make your mortar a little thinner than you had for laying. Cut about a ½ inch, angled hole in the grout bag. Put the mortar in the grout bag, it should run out a little when you do this. If none runs out, you may need to add more water. When you are filling the joints the mortar should come out easily. But if the mortar is too wet, it will run out of the joints.

## **DRESS PROCAST STONE**

When mortar joints are firm use a wooden or metal striking tool and remove excess mortar. At the same time, firmly press mortar into the joints so edges are thoroughly sealed. Rake out any extra mortar to get the look that you want. Using a whiskbroom brush off any loose mortar on face of stones and brush mortar joints until smooth and all loose mortar has been brushed away. Never use a wire brush. If you are leaving brush marks, the joint is too wet and needs to dry longer. Never let mortar set overnight before brushing joints.

## **COMPLETION**

Clean any remaining grout off stone with water and a damp stiff bristle brush. Never use a wire brush. Never scrub more than 70 to 80 square feet before rinsing. Do not use an acid based cleaner and do not power wash. You may apply a waterproof sealer to the surface of the stone. It is not necessary, but sealing may help protect areas that may get hit with mud splash, or around a fireplace to help clean ash and smoke soot. You must use a Silicon based sealer that is a breathable sealer. It is recommended that you test the sealer on some extra stones before applying.