

Getting Started

Congratulations on your decision to enhance the look of your home with Canyon Stone products. Canyon Stone products are made from a lightweight composite material that replicates the look and texture of natural stone, and offers the benefit of being able to be directly installed on any surface.

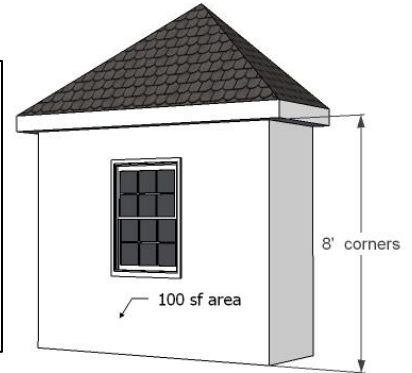
Calculating Materials Necessary

If you haven't already purchased your materials, you may be wondering how much stone will be necessary to complete your project

- First, measure the square footage of the total area to be covered by stone.
- If you will be using corners on your project, plan for each linear foot of corner pieces to cover ½ square foot of area.
- Example: If you had a 100 square foot wall with an 8 foot corner, the corner pieces would cover 4 square feet of wall. So subtracting 4 from 100, you would need 96 square feet of flat stone to cover the face of the wall, and 8 linear feet of corner pieces.

Example:

Total surface area = 100sf
 Corner height = 8 lf
 $8 \times \frac{1}{2} = 4\text{sf}$
 (coverage by corners)
 $100\text{sf} - 4\text{sf} = 96\text{sf}$



Tips

Some things to keep in mind before, during and after installation process:

Keep the Stone Clean During Installation

- Keep your hands clean
- If you get mortar on the stone, let it dry (like grout) until it becomes firm, then flick it off.
- If wet cement is smeared on the stone, it leaves a thin film that dulls the stone. Take a sponge and clean water right away and keep washing with clean water until film is all gone

Salt will Damage the Stone

- Do not use salt where it may splash or get on the stone.

Prevent mud splashing

- Where rainfall may splash mud on the stone, put down hay or straw to prevent mud splashing.

Check Local Building Codes

- Building codes vary from area to area.
- The absence or incorrect installation of water proofing, flashing, J-weep, stucco stop, caulking around doors, windows, gutters and down spouts may result in water infiltration and cause damage in later years.













****DO NOT USE ACID TO CLEAN STONE****

****DO NOT POWERWASH****

Tools and Materials

For the installation, we recommend the following tools and materials:

- Hammer
- 1 ¾" Roofing Nails
- Hammer Tacker
- Wide Crown Stapler
- Tin Snips
- Wheel Barrow
- Hoe
- Masonry Trowel
- Level
- Grinder
- Circular Saw
- Safety Glasses
- Dust Mask
- Grout Bag
- Medium Bristle Brush

hammer 	hammer tacker 	tin snips 	wheel barrow 
hoe 	masonry trowel 	level 	grinder 
circular saw 	safety glasses / dust mask 	grout bag 	medium bristled brush 

It's not absolutely necessary that you have all of these tools to complete your project, but they are all available for rent from your local hardware rental shops.

Step 1: Preparing the Surface

Water Resistive Barrier (WRB)

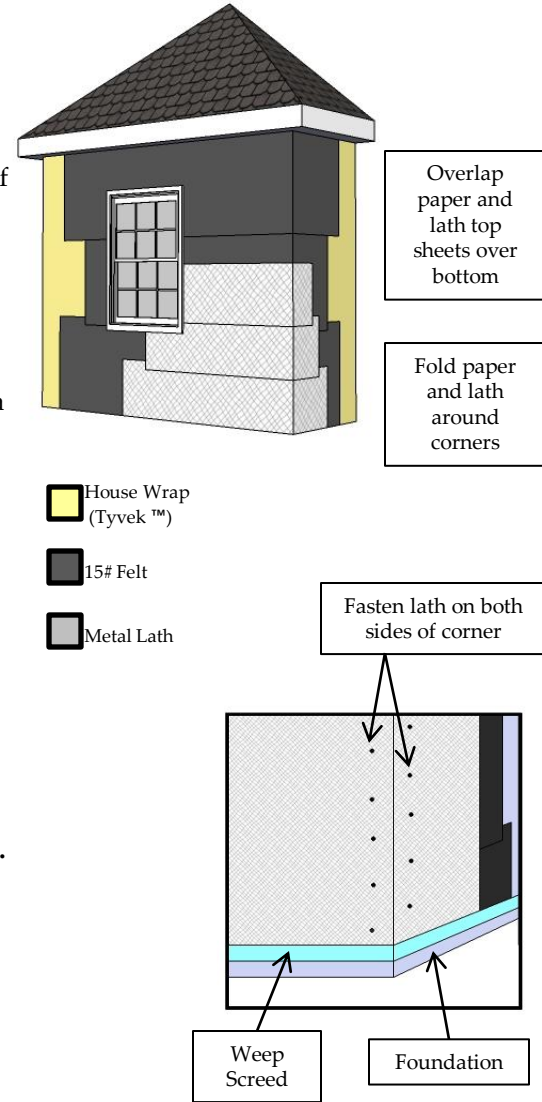
If you will be installing the stone on an exterior non-masonry surface, it is recommended to apply a WRB such as an "All Weather" 15# Asphalt Saturated Felt paper meeting ASTM D4869 (Grade D paper) on top of house wrap. First, install a weep screed (optional – local building code may not require but supersedes these instructions) no more than 4" above concrete or paved surfaces or right where framing meets foundation, then apply WRB starting with the bottom edge at the lip of the weep screed continuing upward in a shingle like fashion. Overlap WRB a minimum of 2" on horizontal seams and 6" on vertical seams. (optional – sealing WRB with caulk or tape to corner boards or window jams may be required by local building code and supersedes these instructions)

Wire Lath

- Directly over WRB, or directly over the sheeting on an interior project, cover the area with metal wire lath. Cambridge recommends using a 2.5 lb/sq yd self-furring diamond metal lath meeting ASTM C847.
- Install the lath horizontally overlapping a minimum of 2" the horizontal seams and 6" on the vertical seams.
- The lath should feel smooth as you run your hand down over the lath and rough as you run your hand up over the lath.
- Use fasteners (nails, staples, etc. meeting ASTM C1063 sec.7.10.2) that will penetrate the framing or OSB a minimum of 1 inch. Fasteners to be every 6 inches vertically and horizontally.
- When working with corners, fold the lath tightly around the corner. This rule applies for inside corners also; fold lath 90 degrees and fit it tightly into the corner. See diagram to right.
- Never have a seam in a corner.
- Very important to fasten the lath on both faces of the corner. See diagram to right.**

Masonry Surface

When installing to any masonry surface (brick, block, etc), no metal lath or WRB is recommended unless the masonry surface has been treated with any waterproofing, paints or stains, then the use of a Hilti™ gun is required to attach lath to masonry as described above.



Step 2: Mortar Mixture

You will need to mix batches of mortar, one for scratch coat, one for setting bed, and one for the grout (if applicable). Each requires a specific ratio of sand and mortar depending on the use, see mixing instructions per brand of mortar mix. Cambridge recommends using Type S mortar meeting ASTM C91.

Scratch Coat	1 part Type S mortar (ASTM C91) to 2.25 parts sand (ASTM C144)
Setting Bed	1 part Type S mortar (ASTM C91) to 2.25 parts sand (ASTM C144)
Grout	1 part Type S mortar (ASTM C91) to 2.25 parts sand (ASTM C144)

- Dry mix the sand and cement together with a shovel or hoe either in a wheelbarrow or flat surface area. This will avoid creating clumps in the mixture.
- Slowly add water to the mixture a little at a time and continue to mix. You can always add more water later, but if you add too much, the mixture will become runny and unusable. If this happens, add more dry mix.
- Continue mixing mortar adding small amounts of water as needed until it has the consistency of peanut butter.
- If using a pre-mixed mortar, ensure it will meet the ratios of sand and cement noted above.

Step 3: Scratch Coat

- Use a masonry trowel to work the mortar into and over lath. Cover the entire area of lath with the mortar mixture.
- While the mortar is slightly wet, use a medium bristle brush to rough up the scratch coat. **Tip:** use a trowel and level to mark horizontal lines that will be used as guides to apply your stone veneer.
- Cambridge recommends the application of stone before the scratch coat is fully cured. This results in a "wet joint" for better adhesion.
- If the scratch coat has become sufficiently cured, this area shall be dampened with water prior to applying the stone. There should be no collecting water on the surface when stone is applied.

Apply the scratch coat over the lath using a trowel



Use a medium bristle brush to rough up the scratch coat



Step 4: Applying Stone

Mix Mortar

Mix the setting bed mortar as described in section 2.

Layout the stone

Before you apply any stone, lay out several pieces of stone for your project. This will give you a sense for the variety of shapes and colors you'll be working with. Arrange the stones so they fit and look natural next to each other, and try to avoid putting the same color of stones all together in one area.

Install corners first

Start at the corners and work toward the center of the wall. Be sure to alternate the long and short returns on corner pieces.

Size the stone

It's always a good idea to size the stone up before you apply any mortar or to avoid having to chisel any of the stone to make a proper fit.

Moisten surfaces

Thoroughly wet a cured scratch coat surface with water prior to applying setting mortar and stone. It may be necessary to also wet the back of stone prior to applying the setting bed in very dry conditions.

Apply the stone

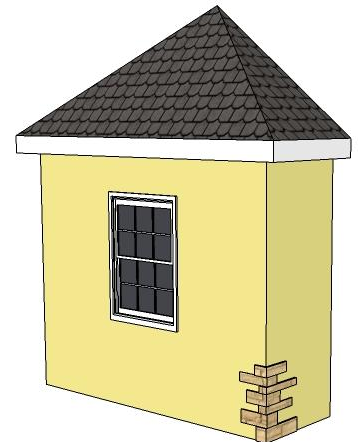
The back of each stone should be entirely buttered to a nominal 1/2" thickness. Firmly work the stone onto the scratch coat with a slight back and forth or rotating motion to set the stone. Mortar should ooze or squeeze out around the edges of the stone during this process. Once the stone begins to take hold, no other movement should occur.

Inside corners

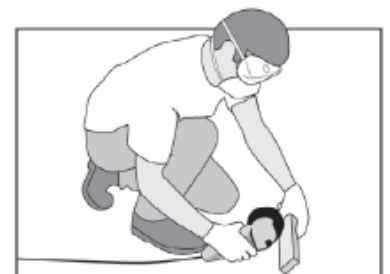
For a professional look, interlock or "weave" the inside corner by alternating the flat stone "killing" into the opposite wall. This will avoid a straight vertical joint on inside corners and provide a professional look.

Cutting the stone

Any grinder with a masonry blade will work. Cutting stone is very dusty, so be sure to wear safety glasses and a dust mask and perform all cutting outdoors. Sometimes you may want to cut stone with a masonry hammer for a more natural look. Cambridge recommends skimming a thin layer of mortar to cut or broken edges to conceal any exposed aggregate in stone.



- Apply corners first
- Alternate long and short returns on corners



Step 5: Applying the Grout

If you desire a grout joint as opposed to a dry fit application, the following section describes installing a grout joint

Mix Grout

Mix a batch of mortar with 1 part masons cement (Type S) and 2 parts sand.

Cut Grout Bag

Cut about ½" hole in the tip of your bag. It's best to start by cutting a smaller hole, and you can always cut more later, but if the hole is too big, the cement will drip out and stain the stone.

Using Grout Bag

- Fill your grout bag about half full with the grout mixture.
- Twist the top end of the bag and squirt some grout back into the bucket. This will prevent air pockets from causing the grout to accidentally squirt out explosively.
- Keeping the top end of the bag twisted, gently squeeze the grout into the joints. Fill the gaps between the stones with grout mortar to slightly above the desired finish depth. The grout will tighten and seal up the area around the stone.



Letting the Grout Dry

Let the grout dry until it is firm but not solid (sometimes about 1 hour or less). You want to be able to push on it without leaving fingerprints, but don't let the grout turn gray or it will be difficult to strike.

Striking the Grout

- Striking the grout gives your project a finished look. Strike the grout to achieve the desired look. Use your striking stick to scrape along the joints until the grout has a clean, even look to it.
- We recommend using a hardwood stick such as oak for striking. Keep the stick square by cutting the tops off of them if they get worn down.
- The grout should crumble away like sand. If it smears, or crumbles away in large chunks, that means the grout is still too wet.

Sweeping the Stone

- Finally, use your medium bristle brush to sweep the dust off the stone.