

Getting Started

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

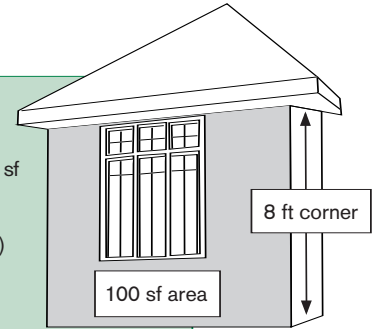
Calculating Materials Necessary

If you haven't already purchased your materials, you may be wondering how much Boulder Creek 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 $\frac{3}{4}$ square foot of area.
- Example: if you had a 100 square foot wall with an 8 foot corner, the corner pieces would cover 6 square feet of the wall. So, subtracting 6 from 100, you would need 94 square feet of flat stone to cover the face of the wall, and 8 linear feet of corner pieces.
- The product is packaged assuming a $\frac{3}{4}$ " grout joint. If your grout joint will be different than this, it may be necessary to order more or less product accordingly.

example:

total surface area = 100 sf
 corner height = 8 ft
 $8 \times \frac{3}{4} \text{ sf} = 6 \text{ sf}$
 (coverage by corners)
 $100 \text{ sf} - 6 \text{ sf} = 94 \text{ sf}$



Tips

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

Keep the Stone Clean During Installation

- Keep your hands clean.
- If you get cement 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, flashings, caulking around doors and windows, cant strips, gutter and down spouts may result in water infiltration and cause damage in later years.

Keep Stone at Least 3" Above Grade Level

- If the stone is installed too close to the ground, water can get behind the stone and damage the structure of the building.





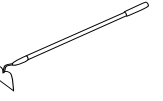

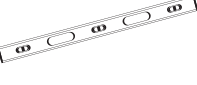



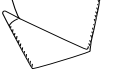

DO NOT USE ACID TO CLEAN THE STONE

Tools and Materials

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

- Hammer
- 1 $\frac{3}{4}$ " Roofing Nails
- Hammer Tacker
- $\frac{1}{2}$ " Staples
- Tin Snips
- Wheel Barrow
- Hoe
- Masonry Trowel
- Level
- Grinder
- Circular Saw
- Safety Glasses
- Dust Mask
- Grout Bag
- Soft 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.

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

Stone Installation Instructions

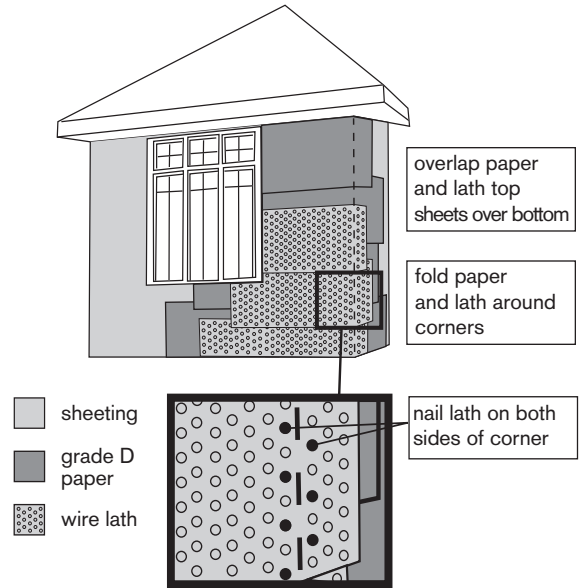
Step 1: Preparing the Surface

Moisture Barrier

If you'll be installing the stone product on an exterior project, current building code requires a moisture barrier such as 2 layers of two-ply 60 minute grade D paper be applied directly to the building's surface. First, install a "J-weep", 3" above grade. Then lay the paper from the bottom up so that the top sheets overlap the bottom and the bottom sheet tucks into the "J-weep". Overlap 2 inches on the horizontal seams and 6 inches on the vertical seams. Check your local building code for other specific moisture barrier requirements in your area.

Wire Lath

- Directly over 2 layers of grade D paper, or directly over the sheeting on an interior project, cover the area with wire lath. Boulder Creek recommends using a 3.4 diamond wire lath.
- Hang the lath horizontally
- Overlap the lath at least 6 inches on the vertical seams, and at least 2 inches on the horizontal seams.
- The lath should feel rough as you run your hand up over it, and smooth as you run your hand down over it.
- Use a hammer and 1 3/4" roofing nails, or an air stapler to fasten the lath to the studs every 6 inches. Then use an air stapler or a hammer tacker to fasten any loose areas or bulges between the studs.
- Cut the lath using a tin snips.
- When working with corners, fold the lath tightly around the corner, and overlap a new piece on the other side as you would anywhere else. This rule applies for inside corners also; fold the lath at a 90 degree angle and fit it tightly into the corner, overlapping the lath on each side.
- Never have a seam on a corner.
- It is very important to nail the lath on both faces of the corner.



Step 2: Mixing Cement

You will need to mix three separate batches of cement, one for the scratch coat, one for the mortar, and one for the grout. Each requires a specific ratio of sand, and either portland or masons cement.

Scratch Coat - 1 part Portland cement to 2 1/2 parts sand

Mortar - 1 part Portland cement to 2 parts sand

Grout - 1 part Mason's cement to 2 parts sand

Note: An alternative cement **for interior work only** is to use "Type M" cement for the scratch coat, mortar, and the grout. The ratios of cement to sand remain the same.

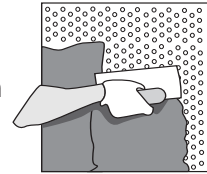
- Dry mix the sand and cement together with a hoe in a wheelbarrow or mud box. This will avoid creating clumps in the mixture.
- Slowly add water to the mixture a little at a time and continue to mix. You can always add more water later, but if you add too much, the mixture will become runny and unusable.
- Continue mixing the cement adding small amounts of water as needed until it has the consistency of paste.
- Pre-mixed cements generally have too much sand and not enough cement in them. This creates a weak bond. If you do use a pre-mixed cement, we recommend "Spec-Mix Stone Veneer Base Coat" for the scratch coat and mortar. We recommend "Spec-Mix Stone Veneer Grout Mix" for the grout. These are the only pre-mixed cements that have passed the ICBO testing for stone veneer installation.

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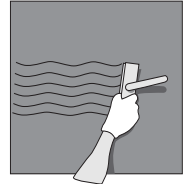
Step 3: Scratch Coat

- Use a masonry trowel to spread an even layer of cement over the wire lath. Cover the entire area of lath with the cement mixture. Work the cement into the holes of the lath, and scrape off the excess.
- While the cement is still slightly wet, use a soft bristled brush to rough up the scratch coat a little. This will give the stone a better surface to grab to. Virtually no cement should be removed with the brushing process.
- Let the scratch coat dry before going on to the next step. Drying time will depend on temperature, humidity and airflow, and could take anywhere from 2 to 24 hours. You'll know its dry when it turns a light gray color.

Apply the scratch over the lath using a masonry trowel



Use a soft bristled brush to rough up the scratch coat



Step 4: Applying the Stone

Mix mortar

Mix a batch of mortar, using 1 part portland cement and 2 parts sand.

Layout the stone

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

Install corners first

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

Work from the top down

Whenever possible work from the top down to prevent cement from dripping on stones beneath. That is unless you're working with one of our dry-stackable patterns, which are designed to be laid from the bottom up.

Dry Stackable Patterns

With these patterns, you should work from the bottom up. There are no joints or gaps between these pieces of stone, the pieces stack directly on top of the pieces below, and tightly against the pieces next to it. Be sure to check your work often with a level. If you'll be working with one of these dry stackable patterns, Boulder Creek recommends you mix your mortar with a latex bonding agent, available from your supplier. Also, these stones should be laid in rows of pieces with the same height, so that when you start each row, you should have a flat level surface to work on.

Guidelines

With some patterns, it's a good idea to lightly etch guide lines into the scratch coat, using a 4' level and a pencil.

Size the stone

It's always a good idea to size the stone up before you apply any mortar, just to make sure it will fit properly and look good next to the other pieces.

Apply mortar

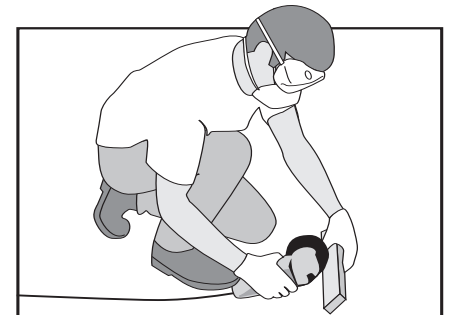
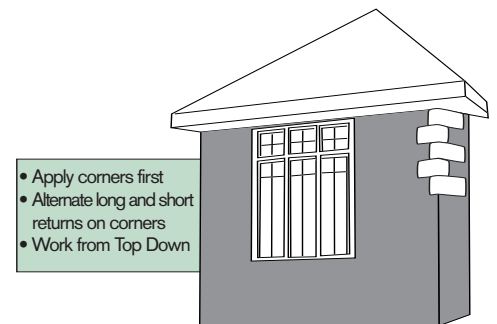
To lay the stone, use a trowel to spread about a 1/2 inch layer of mortar to the back of the stone. Lay the stone against the wall, press and shake it gently into place.

Inside Corners

There are no special pieces for working on inside corners, just meet the two pieces together.

Cutting the stone

Any power saw with a masonry blade will work. This cutting will be very dusty, so be sure to wear safety glasses and a dust mask and do all cutting outdoors. Other times you may want to break the stone to keep a more natural looking rough edge. You can use a nipper to trim small amounts off the stone, or the back of your masonry hammer to crack a piece in half.



Stone Installation Instructions

Accessories

Boulder Creek offers a variety of accessories to accent your stone, such as our 6 by 6 inch Bavarian Castle® stones for window trimming, and our chisel faced and flat sill pieces for under windows and between stone and siding.

- 6x6 castle accents

These are laid against the window and should be applied before you lay anything next to it.

- Chisel face and flat sills

These should be applied last. Leave a small gap, about $\frac{1}{2}$ to $\frac{3}{8}$ of an inch between the sill pieces. They are heavier than regular stone pieces so you should prop them up using a wood shim or a couple of deck screws to keep them from sliding down.

Step 5: Applying the Grout

Mix Grout

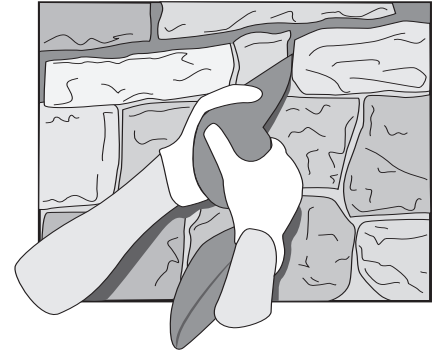
Mix a batch of cement with 1 part masons cement and 2 parts sand.

Cut Grout Bag

Cut about a $\frac{1}{2}$ " hole in the tip of your grout 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 all the gaps between the stones with about a half inch layer of grout. 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. You want to be able to push on it without leaving fingerprints, but don't let the grout turn gray or it will be very difficult to strike.

Striking the Grout

- We recommend using a hardwood stick such as oak for striking. Keep the sticks square by cutting the tops off of them if they get worn down.
- Striking the grout gives your project a finished look. Use your striking stick to scrape along the joints until the grout has a clean, even look to it.
- 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 soft bristled brush to sweep the dust off the stone.

For further information about Boulder Creek Stone products, please visit us online at www.boulder creekstone.com or call us at 763-786-7138

