



INSTALLATION MANUAL

Estimating Material Needed:

- A. Measure total square footage of area to be covered with Kodiak Mountain stone veneer. For example, a wall may be 12 feet at the base and 12 feet high— $12 \times 12 = 144$ square feet.
- B. Determine the area of all large openings such as windows and doors. For example, the wall in part A) may have a window measuring 3 feet by 4 feet— $3 \times 4 = 12$ square feet.
- C. Determine the linear footage of corner stones needed. Each linear foot of corner stones also accounts for approximately $\frac{1}{2}$ square foot of area. For example, the wall in part A) may have 24 linear feet of corners— $24 \times \frac{1}{2} = 12$ square feet of area.
- D. Deduct the area of openings and corner area square footage from total square footage: $A - B - C =$ needed square footage of rock. Example from parts A), B), and C) yields the following: $144 - 12 - 12 = 120$ square feet of flats are needed, along with 24 linear feet of corners.
- E. Some extra quantity of stone is desirable for fitting and cutting—please add 10%.

Tools Needed:

- Hammer
- Level
- Grinder complete with masonry cutting blade
- Circular Saw complete with both wood and masonry blade
- Safety Glasses
- Dust Mask
- Grout Bag
- Soft Bristled Brush
- 1 $\frac{3}{4}$ " Roofing Nails
- Tin Snips
- Wheel Barrow
- Hoe
- Masonry Trowel
- Hawk
- Spacers or "shims"
- $\frac{1}{4}$ " Margin Trowel
- Hammer Tacker complete with Staples
- Stiff Bristle Brush



I. Preparing the Surface

1. Moisture Barrier

If you are installing the stone over wallboard, paneling, plywood, or other rigid wood-related sheathing, it is necessary to cover the wall surface with a moisture barrier. In most cases, building codes are satisfied by using 2 layers of tar paper or two-ply 60 minute grade D paper. Be sure that the sheets overlap from the bottom up. Overlap 2 inches on the horizontal seams and 6 inches on the vertical seams. Flashing, weep screed, and appropriate drainage means are required at stoppage points of stone veneer and at any places of potential penetration.

When stone is to be installed over clean brick, block, cement board or other masonry surfaces, no moisture barrier is necessary.

Check your local building codes for required flashing specifics and to ensure these instructions meet specific moisture barrier requirements.

2. Wire Lath

Directly over the moisture barrier, cover the area with a wire lath. We recommend using at least a 2.5 lb (1.71 Kg) diamond mesh expanded wire lath meeting the requirements of ASTM C 847. Overlap lath sides and ends no less than 1". Be sure the lath is attached with the small cups pointing upward. Attach the lath using galvanized nails or staples every 6" on center vertically, and 16" on center horizontally, trying to penetrate studs with each nail. Use staples or fasten any loose areas between the studs. Use tin snips to cut the lath. With corners, ensure that the lath is tightly folded—never have a seam on the corner, and nail the lath on both faces of the corner.

II. Mixing the Setting Mortars

You will need three different mixes for your stone veneer installation: scratch coat, mortar, and grout. Each differs and requires specific amounts of different materials. While each mason tends to have their own recipes, we have found the following proportions to work well:

Scratch Coat—1 part Type S Masonry Mortar, 2 parts Masonry Sand

Mortar—1 part Type S Masonry Mortar, 2 parts Masonry Sand



Grout—1 Part Type S Masonry Mortar, 3 Parts Sand

NOTE: If mixing your own mortar from scratch, ensure that all ingredients comply with, and are mixed to meet ASTM standards and/or local building codes:

- Cement: ASTM C 150, Type I, or masonry cement meeting ASTM C 91.
- Masonry sand: ASTM C 144, natural or manufactured.
- Pigments: ASTM C 979, mineral oxide type. Do not exceed color manufacturer's limitations.
- Mixed mortar should comply with ASTM C 270, Type S requirements
- Mixed grout should comply with ASTM C 270, Type S proportions

Steps:

1. Combine mortar and sand in a wheelbarrow and mix them together. Do this before adding any water.
2. Add water slowly, mixing continually while mixing. Avoid adding too much water as this can make the mix an unsuitable consistency.
3. Continue adding water and mixing until a consistent paste is formed, free of excess clumps.

III. Scratch Coat

1. Cover the entire wire lath with an even, ½” layer of mortar. Work the mortar with a cement trowel then scrape off the excess.
2. While the cement is still wet, gently scrape it with a fine bristled brush or hair pick. The resulting grooves rough up the scratch coat—this added friction creates a better bond when the stone is applied. The brushing should be gentle enough that no mortar is removed.
3. Let the scratch coat dry sufficiently. Drying can take anywhere from 8 to 24 hours depending on temperature, humidity, airflow, and mix used. Once dry, the scratch coat should have a light gray color.

IV. Applying the Stone

1. Before applying stone, ensure that proper measures are taken to divert water runoff away from the stone. This can be done through the use of cant strips, gutters,



and flashing. Excess run-off and splashing can, over time, stain the material. Also ensure that the stone will not be applied below the water level, and will not be subjected to chlorine or other chemicals that may discolor the stone.

2. Mix a batch of mortar according to the recipe and directions in this manual.
3. Before any installation, it is always wise to lay out a section of stone on the ground—preferably 15-30 square feet. This exercise will help you better blend colors and stone sizes when you apply the stones. The goal is to achieve a balance of stone sizes, shapes, colors, textures, and thicknesses. Proper blending can also be achieved by selecting and mixing different stones from different boxes during installation.
4. Corners—it is helpful to install the corners first. Alternate the short and long returns as you install them.
5. When installing flats, start from the top and work your way down; this will help keep the stones clean from dripping mortar. However, with Ready Stack, we recommend starting from the bottom and working your way up.

When using Ready Stack, work your way up, pushing each piece tightly against the stone next to it and below it. Use a level as you work. We recommend these stones be installed side by side to keep the entire row the same height. This will ensure that with each new row, you have a flat level surface to work on.

6. Before mortaring and installing, dry fit each stone to ensure it will fit in the desired place.
7. Using a trowel, apply a ½ inch layer of mortar to the back of the individual stones. Press the stone against the wall, and gently press it into place. If mortar drips onto another stone, wait until the mortar is dry, then brush it off with a dry whisk broom.
8. Stones can be cut or trimmed for fitting purposes. A power saw with a masonry blade works best. You can also trim small pieces off with a widemouth nipper, or cut a stone in half with the back of your hammer, a trowel, or a hatchet. Cut at an angle so as to best disguise the cut. Cutting can also be concealed through the grouting process.
9. In extraordinarily hot weather, dampen the back of each stone just prior to installation, as well as the surface to which the stone will be applied. Note that in cold weather below 40 degrees Fahrenheit (5 degrees Celsius), mortar will not cure properly.



V. Grouting

1. Mix a batch of grout according to the recipe and directions given in this manual.
2. The hole in the tip of the grout bag should be no larger than a $\frac{1}{2}$ inch to begin with. You can always cut the hole bigger if needed, so it is best to start small.
3. The grout bag should be approximately half full with the mixture. Twist the top end of the bag until some grout is pushed back into the bucket. This will eliminate air bubbles, and help the grout stream to be smooth and consistent.
4. Keeping the top end twisted, gently squeeze the grout into the joints. Gaps between stones should receive a $\frac{1}{2}$ inch layer of grout.
5. Let the grout begin to dry until it is firm, but not solid. This usually takes 30 to 60 minutes. Be sure to not let grout fully dry or striking will be impossible.
6. Use a wooden or metal striking tool to rake out the excess mortar. This helps you achieve the proper depth, and also forces the mortar into the joints to achieve a thorough seal along the stone edges. When striking, the grout should crumble away. If it smears or gathers too much, then it is too wet and needs to dry for a few more minutes.
7. Use a soft bristled brush to sweep excess dust off the stone and further smooth the joints. Never use wire brushes, and make sure brushes used are dry, as wet brushes, combined with the grout, may stain the rock.