

PROLINE  
**Stone & Veneer**  
By NORSE

# Stack Stone Installation Guide

## IMPORTANT SPECIAL INSTRUCTIONS

Our Stack Stone patterns are designed for a “tight-stack” or “dry-stack” installation. With tight-stack patterns there is no visible grout joint surrounding each piece, and as a result, less mortar bonding the stone to the wall. Proper installation technique requires a compliant modified mortar. A full mortar bed is mandatory and critical to providing an effective bond behind and at the edges of the back of the stone.

## Tools and Materials Needed

- Modified mortar. Modified mortars must meet the requirements of ANSI A118.4 or ANSI A118.15 or equivalent
- Bucket or trough for mixing and holding mortar
- Drill & mortar paddle for mixing mortar
- Measuring tape
- Level
- Trowels – notched 1/2” by 1/2” depth
- Masonry saw (wet saw is optimal, but masonry blade on dry cut acceptable)
- Stone or tile file- to help fit stone

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## Canyon Stack and Country Stack stone veneer material:

Purchase enough Canyon Stack or Country Stack masonry veneer units for your project. Measure the length and width of the wall space and multiply to get the square footage. Round up to the nearest whole number, then add 5% to allow for waste. For corners, measure the linear footage of your corners. Corners are sold in linear feet, so purchase enough to complete the combined vertical feet of your corners. Note: Multiply the linear footage needed by .75 to calculate square footage covered by corners. Subtract this from the square footage calculation for flats to determine the total amount of square footage flats that you will need.

- |   |                        |
|---|------------------------|
| A. Total square footage to be covered                                       | <b>A</b> _____ sq. ft  |
| B. Total lineal footage of outside corners                                  | <b>B</b> _____ lin. ft |
| C. Multiply <b>B</b> x .75 to figure square footage covered by corners      | <b>C</b> _____ sq. ft  |
| D. Subtract <b>C</b> from <b>A</b> to determine the square footage of flats | <b>D</b> _____ sq. ft  |

OR for even easier project estimating use our online calculator under the planning tab of [www.castnaturalstone.com](http://www.castnaturalstone.com). Click here to take you directly to the estimating page.

## Substrate:

Both traditional installation (mortared stone with grout joints) and tight-stack installation (tightly fitted stones without visible grout joints) require a masonry substrate over an approved sheathing such as plywood or OSB. This masonry substrate can be a mortar and scratch coat substrate or direct masonry such as concrete walls or cement board. See our full installation guide for information on preparing a mortar scratch coat, and for information on grouting.

For this tight-stack installation guide, we assume the installer has already completed steps 1 & 2\* of scratch coat installation or is installing the stone directly to masonry. This installation guide shows stone being applied over cement board.

Note: Cement backer board must comply with ASTM C1325, and should be installed per the manufacturer's instruction which includes the requirement of "taping" the seams.

\*For steps 1 & 2 of scratch coat installation, see traditional installation guide

## Application of Stack Stone

Begin by mixing the modified mortar in a bucket. We recommend a hand drill with a universal mixing paddle. Once mixed according to the manufacturer's instructions, typically a thick pancake batter-like consistency, trowel the mortar onto your surface. It is important to have a full mortar bed, sufficient that you can set the stone with a slight wiggle back and forth. A notched trowel with a minimum of ½ inch depth will give you the mortar depth you need. You will have about 30-60 minutes to work with the modified mortar before it hardens to an unworkable point. As a rough guide, apply enough mortar to the wall for no more than 5 square feet at a time. Finish applying stone to that section before continuing on with additional troweling.

## Installing Flats

Our County and Canyon Stack stones have a modular design, where the sum of the lengths and heights of the smaller stones will fit with the larger stones. This unique design requires less cutting and less time and effort to install.

Unlike traditional manufactured stone installations, where you start at the top and work down, with the tight-stack pattern, you can begin at the bottom. Start from either side (or next to your bottom row of corners on either side), placing your first stone with firm pressure and slight wiggle to squeeze and push the stone into the mortar bed. Carefully check the level of each stone. Position your next stone in the same manner, continuing to hold a level, horizontal course, building your wall from side to side, then vertically. Level each stone and each row as you move up the wall. Use a stone file to shave off minor variations to ensure a level stone pattern.

## Installing Corners

If you have corners to install, begin your stone installation with corners first. Start at the bottom, and work your way up the wall and horizontally, keeping the corner progress ahead of filling in the horizontal flat pieces. For tighter-fitting corner pieces, you may need to rasp the inside corner with a general purpose file.

## Windows/Light Boxes/Utility Boxes

As you work across the wall horizontally, cut and fit stones tightly to work around windows, light boxes, utility boxes, etc.

## Cleaning

Because tight-stack installations have an added benefit of being a cleaner installation, you won't have much clean up. If you do get modified mortar on the stone, be sure remove with a cloth after it has begun to harden, but is still in a pliable state.

