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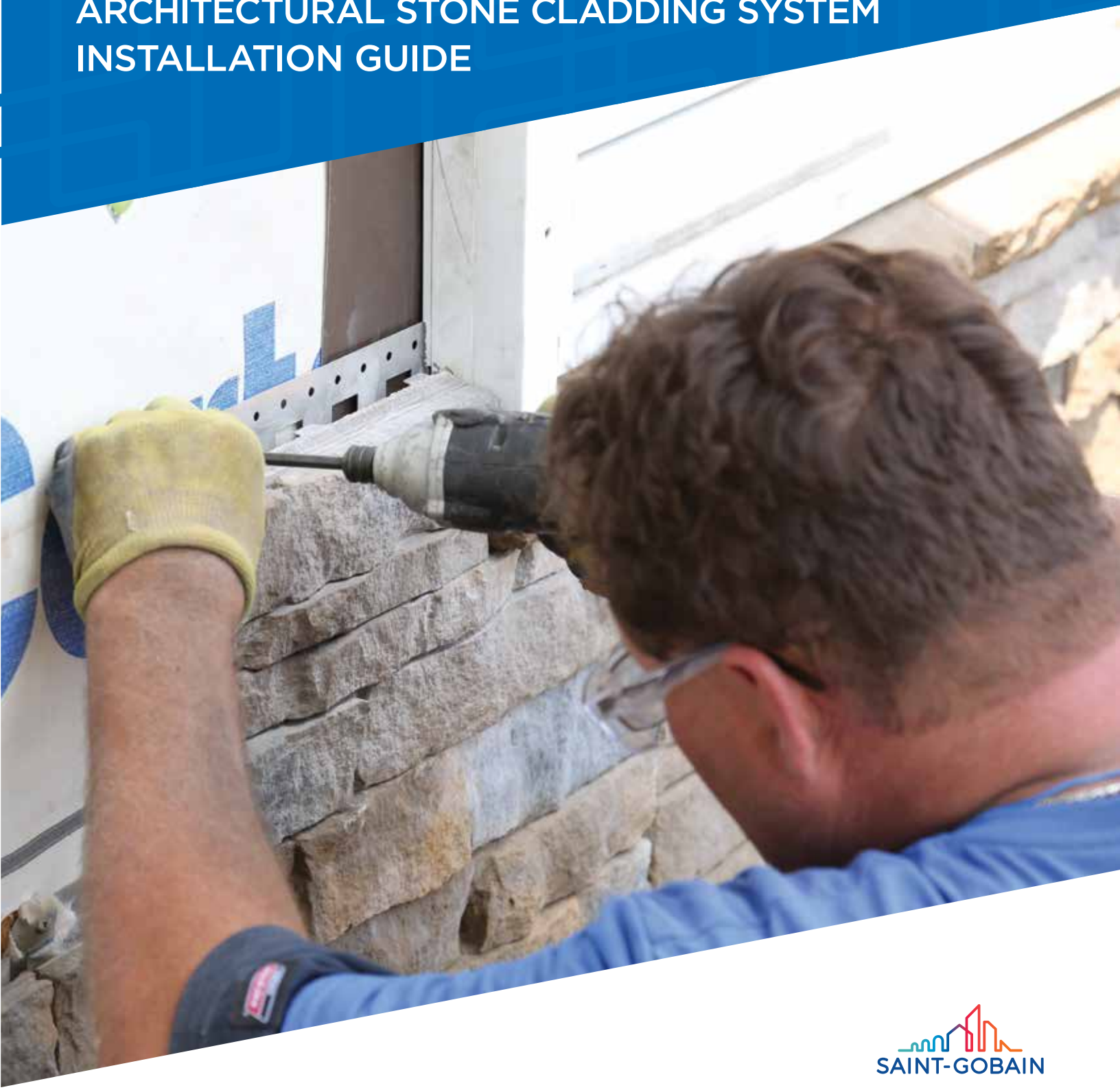
SAINT-GOBAIN

STONEfaçade®

ARCHITECTURAL STONE CLADDING SYSTEM INSTALLATION GUIDE



SAINT-GOBAIN

STONEfaçade®

Architectural Stone Cladding System

NOTE: These instructions describe and illustrate the steps involved in installing CertainTeed STONEfaçade Architectural Stone Cladding System.

The purpose is to provide detailed information and how-to tips that will simplify the installation process.

CertainTeed shall not accept any liability or responsibility under its written warranty for failure caused by application that does not meet our minimum requirements for proper installation.

Building codes and regulations vary throughout the country. Be sure to check with your local code official or governing body for the building requirements in your area.

These requirements are outlined throughout this guide. Any deviations from these requirements should be approved in writing by CertainTeed.

Top Installation Tips

Read the complete installation guidelines before beginning your project.

1. **Caution:** Use gloves when handling stone panels and accessories. Metal inserts are sharp!
2. Use a wet saw (tile saw or brick saw with diamond blade and with a steady circulation of water) for cutting and an electric angle grinder for shaping. **For cutting, drilling or grinding stone, a NIOSH N95 dust mask, hearing and eye protection should be worn at a minimum. This product contains crystalline silica and the use of a NIOSH N95 respirator is strongly recommended however, you should refer to your Federal, State and Local guidelines as well as your Company's Respiratory Protection Program and the Safety Data Sheet for additional information.**
3. A flat, level wall surface with either 7/16″ OSB or 1/2″ plywood sheathing is required for product installation. Use composite shims as needed to compensate for wall imperfections.
4. Install using #8 x 1.5″ exterior rated wood screws (pan or truss head). **DO NOT USE NAILS.**
5. It is very important to keep panels, corners and accessories level at all times.
   a. Place a short level on EVERY panel and accessory during installation. Use a long level to check if entire course is level.
   b. Check level in both directions on each corner piece.
   c. If a panel is not level, try:
      - Using a rubber mallet and a piece of 2x4 to tap panels into place.
      - Using a crow bar to raise panel to level.
      - Substituting another panel to optimize fit and aesthetics.
6. When starting a new course of panels, stagger the vertical joints of the panels at least 3″ to 5″ from the previous course.
7. Vary the use of all three widths of panels within a course and from course-to-course to give a natural appearance and avoid the alignment of vertical seams and same size stones.
8. To face fasten partial panels or panels where the fastening flange has been removed, pre-drill through a seam between stones and use #8 x 2.5″ exterior rated wood screws (pan or truss head).
9. **Do not stack cartons more than six high or double stack pallets.**
10. **Handle the STONEfaçade product cartons with care. Use two people to carry cartons. Do not carry cartons by the strapping — hold the cartons from underneath. Do not drop cartons.**

A Complete System

Flat Panels

2″ average thickness and available in four colors and 3 pre-mixed widths:

- 10″ width x 8″ height
- 14″ width x 8″ height
- 24″ width x 8″ height

Each panel features a continuous fastening flange.

Accessories

Corners

Left corners and right corners.
Long return dimensions = 9″, 10.5″ and 12″ width x 8″ height x 2″ average thickness.
Continuous fastening flange with a beveled perimeter.

Sills

24″ x 3-3/8″ width available in two colors.
Continuous fastening flange; male and female tabs for solid fit; 15° slope for water drainage.

Electrical and light boxes

Available in solid complimentary colors to add the perfect finishing touch.

Fully-Integrated Rainscreen

STONEfaçade is the only manufactured stone cladding product with this important feature. The superior drainage it provides prevents moisture from accumulating in the wall cavity, where it can lead to mold growth and structural damage. The rainscreen is a 3/8″ steel frame that's firmly embedded in the STONEfaçade panel. In addition to channeling moisture away from the wall, it strengthens the panel for added reinforcement and protection against the inevitable bumps and bruises that occur in transit, at the job site and during installation.

Corner

Sill

Electrical Box

Light Box

Easy to install

Panelized

No Mortar

3/8″ Rainscreen

20-Year Ltd Warranty

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Section 1 — Introduction

Plan Your Work, Then Work Your Plan.

That's the key to success with any project, and it's doubly true when it comes to installing our STONEfaçade™ panels and accessories. If you use the right materials and the right tools in the right order, you'll complete installations in less time, with less effort, and with far greater satisfaction.

Since you're using CertainTeed products, you've already taken the first step toward success. STONEfaçade provides premium quality, rugged durability and outstanding appearance. Quite simply, STONEfaçade is made to look great on the day its installed and for years after.

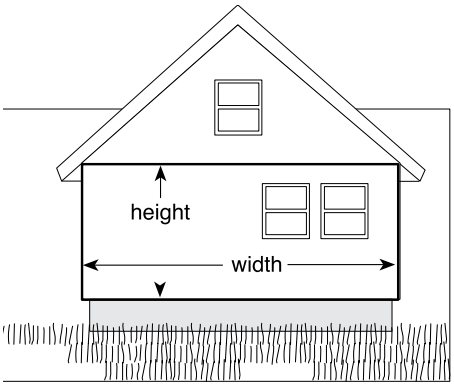
The second key to success — using the proper tools, techniques and procedures — is covered in this booklet. As you'll see by scanning the table of contents, this booklet guides you through every step of the installation process, from estimating materials to finishing a wall. As you're reading — and while you're working — keep in mind the most important rule of thumb for successful stone installation: **Only install STONEfaçade on a flat, even surface, and stay level: each subsequent course depends on the previous course being level.** You'll see this point emphasized again and again throughout this booklet. This is perhaps the most important instruction in the booklet.

NOTE: No instruction booklet can anticipate all the questions that might arise during a stone installation. Recognizing this, we've focused on the tools and techniques used to complete typical installations. Where appropriate, we've also included alternative approaches for specific installation steps.

If you encounter a unique installation problem not covered in this booklet, we suggest you call our Sales Support Group at 1-800-233-8990.

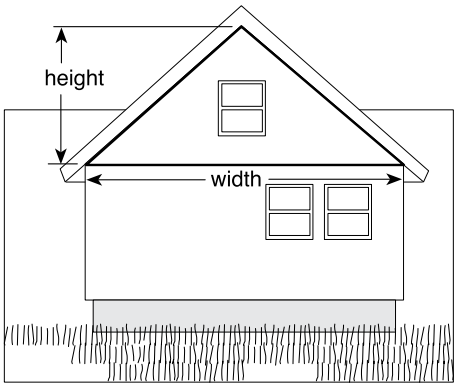
Visit www.certainteed.com/stonefacade for additional product information and installation video.

Section 2 — Estimating Material Needed



Rectangular Wall Surfaces
Measure height (excluding gables)
Measure width (including doors and windows)

_____ X _____ =_____
(height) (width) (surface area)
Repeat for remaining walls.



Triangular Gable and Surfaces
Measure height of center (add 1″ to allow for waste)
Measure width and divide by half

_____ X _____ = _____
(height) (1/2 width) (surface area)
Repeat for remaining walls.

Note: Lower pitch roofs will produce more waste than higher pitch roofs.

Starter Strip

- Measure (in feet) the width of the wall area where the stone is to be installed.
- Divide the total width by 10 and round up to determine the number of pieces of starter strip needed.

Flat Panels

To calculate the number of cartons required:

- Multiply the width x height (in feet) of the area to be covered to get the total wall area.
- Subtract the areas that will NOT be covered, like windows and doors, to get the net wall area.
- Divide net wall area by 8 to get the number of cartons of flat panels required.
- Add a 10% scrap factor to the above calculations. (Allow for a higher scrap rate in gable areas based on roof pitch).

Outside Corners

For corners where stone will be applied to only one wall:

- Measure the height of each corner in feet to get the total linear feet of corners.
- Multiply the total linear feet of corners by 1.5 to get the number of corners required. (only left or right corners are required, **NOT** both).

For corners where the stone will be applied to the adjacent wall surface (**BOTH** left and right corners are required):

- Measure the height of each corner in feet to get the total linear feet of corners.
- Multiply the total linear feet of corners by 1.5 to get the total number of corners required. Order half of this quantity as left corners and half as a right corners.
- Add a 10% scrap factor to the above calculations.

Inside Corners

Inside corners are constructed by mitering or notching flat panels and do not need to be ordered separately. See instructions for creating inside corners on page 12.

Sills

- Measure the width of the window and divide by 2 to get the total number of sills required.
- Add a 10% scrap factor to the above calculations.

Section 2 — Estimating Material Needed (cont'd)

Component	Amount Req'd	Unit of Measure
Starter Strip		Pieces
Panels		Cartons
Corners (right hand)		Pieces
Corners (left hand)		Pieces
Sills		Pieces
Light Boxes		Pieces
Electrical Boxes		Pieces
#8 1-1/2" Exterior Rated Wood Screw (Pan or Truss Head)		Pieces
#8 2-1/2" Exterior Rated Wood Screw (Pan or Truss Head)		Pieces
Color-Matched Exterior Grade Sanded Caulk		Tubes
Composite Shims		Pieces
Flashing		Rolls

Recommended Screws Specifications

Exterior Rated
(CertainTeed Recommends)
- 304 Exterior Rated
- 18-8 Exterior Rated
- 316 Exterior Rated

(Acceptable Alternatives)
- Any 300 Series Exterior Rated
- 410 Exterior Rated

Screw Specs
- Thread Diameter .159" Minimum
- Head Diameter .306" Minimum
- Screw Length 1.50" Minimum

Screws must be fully threaded. Screws must have a truss, pan, washer or similar style head that allows for a flat surface to mate with the STONEfaçade fastening flange.

Electrical and Light Boxes

Electrical boxes and light boxes can be purchased individually.

Screws

NOTE: Screws with a Torx™, square or phillips drive head are recommended to avoid stripping.

For hanging panels and accessories using #8 x 1.5" exterior rated wood screws (pan or truss head):
- Using the flat panel calculations, multiply the net wall area by 3.6 to get the total number of screws required.

For face fastening panels and accessories using #8 x 2.5" exterior rated wood screws (pan or truss head):
- Measure the width of all window in the area to be covered with stone and multiply by 2.
- Measure the width of all doors where stone will be installed above the door.
- Measure the width of all soffit runs where stone will come into contact with soffit.
- Add together all of the above widths and multiply by 3.6 to get the total number of screws required.

Do Not Use Nails. Exterior rated screws provide better holding power, offer better corrosion resistance and can be removed more easily during installation when necessary to optimize fit.

Caulk

Allow for one tube of caulk per 500 square feet of wall surface for use in hiding any holes left when face fastening panels. Use color-matched exterior grade sanded caulk.

Mortar

Mortar is not required when installing STONEfaçade. However, a small amount can be used as a finishing touch for any areas where the stone and the adjacent materials are not completely aligned.

Composite Shims

Composite shims are used to correct any wall surface areas that are not level. Order as needed based on the condition of the wall surface to be covered.

Flashing

Occasionally it may be necessary to use a dark colored flashing to hide the housewrap or underlayment behind the stone. Use a durable, non-corrosive flashing that is non-reactive with concrete or steel products.

Section 3 — Tools and Equipment Required

Always follow manufacturers' power tool safety guidelines and refer to your Federal, State and Local guidelines and wear proper safety equipment.

Safety

- Safety glasses
- Face shield when cutting panels
- Gloves
- Ear plugs/ear muffs
- NIOSH N95 dust mask (minimum) or respirator and follow your Company's Respiratory Protection Program
- Long pants
- Long-sleeved shirt
- Steel-toed boots
- Safety harness (for working at heights)
- Hard hat (as required for your jobsite)

Hand Tools and Miscellaneous

- 6′ length level (for checking full courses)
- 12″-16″ level (for checking panels and accessories)
- Chalk line
- Tape measure
- Small pry bar/crowbar
- Tin snips (for cutting insert)
- Rubber mallet
- Composite shims
- Ladder
- 5-gallon buckets (for water to rinse cut parts if using a recirculating pump on a wet saw)
- Extension Cords

Power Tools

- Wet saw (tile or brick saw is highly recommended to limit dust production)
  - — with sufficient travel to rip a 24″ stone panel
  - — with appropriate continuous rim wet diamond saw blade
  - — Alternately, a dry saw with a continuous rim diamond blade or abrasive masonry blade can be used. **This product contains crystalline silica and the use of a NIOSH N95 respirator is strongly recommended however, you should refer to your Federal, State and Local guidelines as well as your Company's Respiratory Protection Program and the Safety Data Sheet for additional information.**
- Electric hand grinder
  - — with OSHA-approved guard
  - — with a diamond wheel or masonry abrasive wheel for grinding
- Cordless impact screwdriver or hammer drill
  - — 7/32″ x 3″ masonry bit for drilling pilot holes
  - — 3/8″ masonry bit for drilling countersinking holes
  - — 3″ driver bit (minimizes the potential for the drill or the chuck to damage the face of the panel while driving screws straight into the wall)

Section 4 — Preparing for Installation

Storage and Handling

- Wear safety gloves at all times.
- Do not double-stack pallets.
- When storing outdoors or at a jobsite, take the following precautions:
  - — Use a tarp to keep cartons dry for easier handling. Do not use plastic wraps that prevent air circulation. Do not store in unventilated spaces.
  - — Store away from areas where falling objects or other construction activity may cause damage.
  - — Store panels and accessories flat in the original cartons to protect from dust and weather. Do not stack more than six cartons high.
  - — Protect the face of panels from scratches.
- Do not carry cartons by the strapping — hold the cartons from underneath. Do not drop cartons.

Substrate

- Walls must be sheathed with either 7/16″ OSB or 1/2″ plywood that is in good condition and properly fastened.
- Structure must be able to handle stone panel weight of 15 lbs./sq. ft. exclusive of any other external loading; i.e, windload or seismic load.
- Wall must be plumb and flat within 1/4″ over 10′ in any direction.
  - — Using a string along the wall, measure the deflection of the wall (from lower point of the wall to the string).

STONEfaçade cannot be fastened over foam sheathing.

ProTip™: Since panels and accessories may have been manufactured at different times and been subjected to different drying conditions, sometimes color may not match exactly. To get these to match, use a hose or bucket of water to thoroughly wet both parts so the color will match and dry out at the same rate.

Section 4 — Preparing for Installation (cont'd)

- STONEfaçade is designed for outdoor or indoor applications with a maximum height of 30 ft.
- STONEfaçade can be installed in any temperature, even below freezing.
- Expansion joints should be included as specified by a registered design professional.

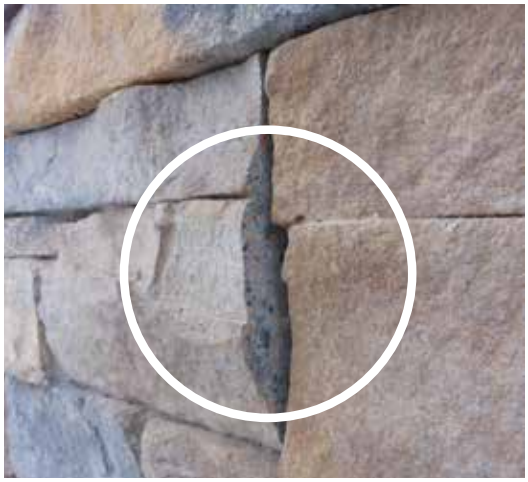
NOTE: If removing siding prior to installing STONEfaçade, remove any old fasteners that may create uneven conditions on the wall.

Housewrap Requirements

For exterior applications, it is required to install STONEfaçade over a housewrap or weather resistant barrier that meets local building code requirements. When selecting a housewrap, we recommend the use of CertainTeed CertaWrap™ housewrap and flashing accessories.

ProTip™: Before you start, remove pictures from inside wall of house to mitigate risk of breakage due to vibration during install.

Section 5 — Cutting and Fastening



Avoid cutting factory edges in high visability areas. Cut from the less visable side.

ProTip™: Attempt to minimize the number of cuts made to stone panels and accessories. When making a cut, position the cut on the panel or accessory so that it faces away from entrances or walkways to make cuts less noticeable

Warning: For cutting, drilling or grinding stone, a NIOSH N95 dust mask, hearing and eye protection should be worn at a minimum. This product contains crystalline silica and the use of a NIOSH N95 respirator is strongly recommended however, you should refer to your Federal, State and Local guidelines as well as your Company's Respiratory Protection Program and the Safety Data Sheet for additional information.

Cutting with a Wet Saw

Warning: Do not cut more than one panel at a time.

- Use a continuous rim diamond saw blade rather than a segmented blade for cutting STONEfaçade. Segmented blades can cause cracking and chipping of panels.
- When cutting a panel, try and avoid cutting through one of the bottom panel locking tabs because these tabs will vibrate during cutting and may crack the panel.
- Mark the stone panel where it will be cut.
- Place panel face up with insert side down on the saw table.
- Use wet saw to cut panel. (Consult the saw manufacturer's owner's manual prior to beginning use for instructions on proper operation, maintenance, and safety.)
- The blade should pass though the panel slowly, to avoid cracking.
- Dust from cutting will leave a chalky appearance if not removed; clean cut edges of panels by dipping or rinsing them in a 5-gallon bucket of clean water after cutting.
- Frequently changing the recirculating water in the wet saw also helps keep the panels clean.

ProTip™: Try and position panel so when cutting that the blade's final path is through stone rather than the steel insert. Having the last path through stone rather than steel helps sharpen the blade.

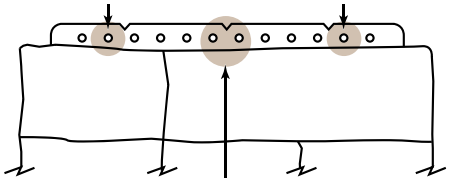
Cutting with an Electric Hand Grinder

Trimming and staggered cuts are best made with a hand grinder with OSHA approved guard and a diamond wheel or masonry abrasive wheel for grinding. Use a face shield when cutting or grinding. (Consult the hand grinder manufacturer's owner's manual prior to beginning use for instructions on proper operation, maintenance, and safety.)

Section 5 — Cutting and Fastening (cont'd)

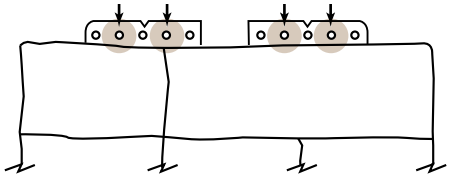
Fastening Schedule for Panels

For CONTINUOUS Fastening Hem
Panels 14″ or greater in total length
must have a minimum of three (3) fasteners.
Fastener placement shall be as follows:
Two (2) of the fasteners are to be placed within three inches (3″) of either end of the panel (one on each end).



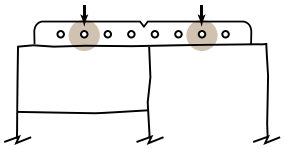
The third fastener shall be fastened within three inches (3″) of the center point between the other two fasteners. Additional fasteners can be placed wherever is needed to properly secure the panel to the wall.

For SPLIT Fastening Hem
Panels 14″ or greater in total length
must have a minimum of four (4) fasteners.
Fastener placement shall be as follows:
Two (2) of the fasteners are to be placed within three inches (3″) of either end of the panel (one on each end).



The third and fourth fastener shall be fastened within three inches (3″) of the center point from the other two fasteners. Additional fasteners can be placed wherever is needed to properly secure the panel to the wall.

For CONTINUOUS and SPLIT Fastening Hem
Panels under 14″ in total length
must have a minimum of two (2) fasteners.
Fastener placement shall be as follows:
Two (2) of the fasteners are to be placed within three inches (3″) of either end of the panel (one on each end).



Additional fasteners can be placed wherever is needed to properly secure the panel to the wall.

If a panel has less than 2 holes in the fastening flange arrangements with mating panels must be made to accommodate a longer panel length such that no individual panel on the wall has less than 2 holes in the fastening flange.

Notes: All fasteners are to be place in the holes in the fastening flange. The length of the panel is considered the horizontal dimension when installed.

Cutting with a Miter or Chop Saw

While not recommended, a saw with dry diamond blade or abrasive masonry blade can be used to cut STONEfaçade panels and accessories. (Consult the saw manufacturer's owner's manual prior to beginning use for instructions on proper operation, maintenance, and safety.) **Caution: When dry cutting, dust will become airborne. Cut outdoors only in a well-ventilated place. This product contains crystalline silica and the use of a NIOSH N95 respirator is strongly recommended however, you should refer to your Federal, State and Local guidelines as well as your Company's Respiratory Protection Program and the Safety Data Sheet for additional information.**

Cutting Holes

Holes can be made with drill using a masonry bit or masonry hole saw, or a grinder with a masonry blade.

Cutting the Metal Insert

Use tin snips or a grinder to cut the metal insert.

Fastening

Use a cordless impact screwdriver or cordless drill. Using an impact driver is recommended as it makes driving screws easier and lessens chance of stripping screw heads. When installing unmodified STONEfaçade panels and accessories, use the following fastening schedule:

Continuous Fastening System

Panel/Accessory	# of Screws
Panels measuring 14″ or wider	3
Panels less than 14″ wide	2
Corners	2
Light Boxes	4
Electrical Boxes	4

Split Fastening System

Panel/Accessory	# of Screws
Panels measuring 14″ or wider	4
Panels less than 14″ wide	2
Corners	2
Light Boxes	4
Electrical Boxes	4

When STONEfaçade panels and/or accessories are cut or modified, they must be face-fastened. Pre-drill holes for the face-fasteners as follows:

- Place the panel or accessory on its side and select a place to face fasten through the stone so that the screw will not hit the steel insert that runs through the product (masonry bit will not drill though steel). Drill a pilot hole using a 7/32″ masonry bit.
- Drill a countersinking hole in the same location using a 3/8″ masonry bit, making sure to leave a minimum of 1/2″ of stone behind the head of the screw. If the screw has minimal or no engagement into the substrate, remove the screw and re-drill the countersinking hole deeper.
- Drive screw into panel. Do not over-drive the screw as you will crack the panel.
- Use color-matched exterior grade sanded caulk to cover the screw head.

Section 6 — Installing Starter Strip

Warning: Cut edges of starter strip are sharp. Wear gloves when handling.

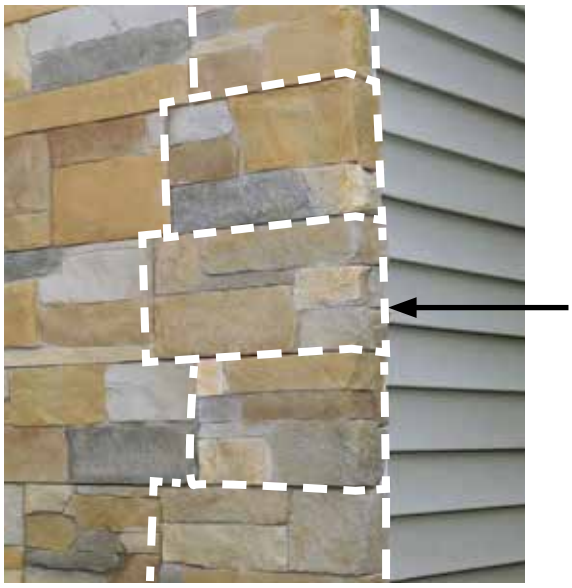
- Snap a chalk line a minimum of 4″ above finished grade or 2″ above a paved surface. Check local building codes to verify proper clearances for your area. We recommend using a dark color trim coil to fill the space.
- Position bottom of starter strip on the chalk line.
- Fasten the STONEfaçade™ starter strip every 8″ to 10″ using #8 1-1/2″ exterior rated wood screws (pan or truss head). Screw fasteners tight to wall.
- Leave a 1/2″ gap between starter strips.
- For outside corners, where two starter strips meet, hold starter strips back 1/2″ from the corner on each side to allow for appropriate alignment of the corner pieces.

Section 7 — Installing Corners

Starting at the bottom of the wall, install corners and any other accessories (electrical box, etc.) on the course you are working on before installing panels. Do not assume the wall corners are square. Use composite shims, if needed, to compensate for uneven walls.

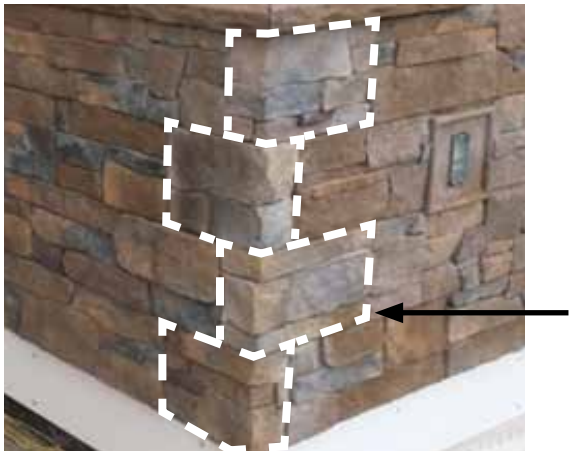
Outside Corners (stone applied to only one wall)

- Stone applied to only one wall surfaces utilizes only **one** type of corner (left or right), never both.
- Start by cutting off the rainscreen tabs along the bottom of the back side of each corner that will be mating with the starter strip.
- Select a corner and position it on the wall. In single-wall applications the long return will always be applied to the surface where the stone is to be applied.
- Lock the first corner into the starter strip and then check to be sure the corner is level in both directions. If it is not possible to level in both directions, always make sure that the long return is level.
- Once level, fasten with two screws on the long return of the corner.
- Alternate the corner widths, weaving them up the wall to avoid the alignment of vertical seams.



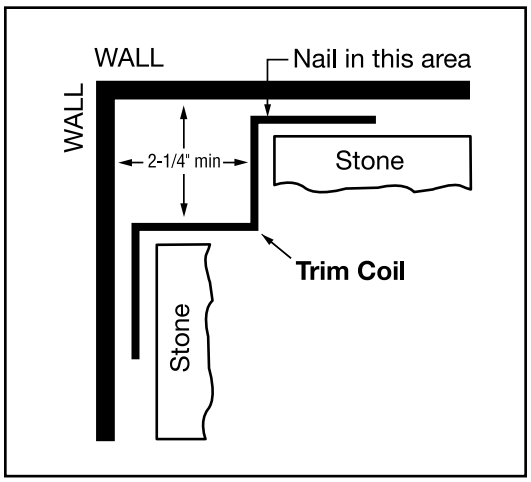
Outside Corners (stone applied to adjacent wall surfaces)

- Stone applied to adjacent wall surfaces utilize **BOTH** left and right corners
- Start by cutting off the rainscreen tabs along the bottom of the back side of each corner that will be mating with the starter strip.
- Select a corner and position it on the wall. In adjacent wall applications, alternate the wall that the long return is applied to using both left and right hand corners as you work up the wall.
- Lock the first corner into the starter strip and then check to be sure the corner is level in both directions. If it is not possible to level in both directions, always make sure that the long return is level.
- Once level, fasten with two screws on the long return of the corner. Alternate both the corner widths and the walls that the long return is applied to, weaving them up the wall to avoid the alignment of vertical seams.



Section 7 — Installing Corners (cont'd)

Method 1



Method 2

Method 5

Inside Corners

ProTip™: When creating an inside corner, use a durable, non-corrosive color matched flashing that is non-reactive with concrete or steel products to hide the housewrap or underlayment behind stone.

Inside corners are created using regular panels. There is more than one method for finishing an inside corner.

- Method 1: Create a federal corner by butting stone panel to stone panel of adjacent wall (first flash behind) to avoid the chance of having any housewrap showing through. An attractive alternative is to weave the federal corner by alternating the butting panels from side-to-side as you move up the wall.
- Method 2: Fashion an inside corner with a minimum 2-1/4″ return using color-matching trim coil and a brake (shown at left).
- Method 3: Use a cellular PVC trim board in the corner and have stone panels to butt within 1/8″ of trim board.
- Method 4: Miter each mating panel.
- Method 5: Notch out alternating panels to create a staggered appearance (shown at left).

When Mating Stone Wall with an Adjacent Vinyl Siding

When one corner is vinyl siding leave 1/8″ gap between stone and vinyl to allow for expansion.

Transitioning Vertically to Alternate Cladding Materials

If installing corners that will have a vertical transition with another type of cladding, you will use all of the same type of corner (left hand or right hand) but use different widths to stagger the offset as you move up the wall.

ProTip™: Install STONEfaçade prior to installing alternate cladding materials or trim as it is easier to modify the trim and/or other cladding to fit around STONEfaçade.

Section 8 — Installing Columns

10″ x 10″ or 12″ x 12″
(STONEfaçade corner pieces only;
no STONEfaçade panels required)

Substrate

STONEfaçade is approved for use in vertical column applications. The following conditions must be met regardless of column size:

- Columns must be sheathed with either 7/16″ OSB or 1/2″ plywood that is in good condition and properly fastened.
- Structure must be able to handle stone panel weight of 15 lbs./sq. ft. exclusive of any other external loading; i.e, windload or seismic load.
- Column surface must be plumb and flat within 1/4″ over 10′ in any direction.
- Using a string along the surface of the column, measure the deflection of the surface (from lower point of the wall to the string).
- STONEfaçade cannot be fastened over foam sheathing.
- Column structure must be weatherproofed in accordance with local code.
- Recommended clearance of 4” above grade or 2” above a paved surface must be maintained.

When installing STONEfaçade in a column application, the recommended pattern of panels and corners changes as the size of the column increases. Examples of column sizes and recommended application methods follow:

10″ x 10″ or 12″ x 12″

This application uses only corner panels.

- The 10″ x 10″ can be done using a variety of corner sizes.
- The 12″ x 12″ can only be achieved using corners with long return legs.
- Apply starter strip to all sides of the corner (refer to STONEfaçade installation instructions for details)
- Align first corner on column and use a screw to hold it in place temporarily. Using the short return leg of the next corner, measure to determine where the first corner will need to be cut to fit.
- Cut corner and apply to column. Continue around the column, applying corners around all four sides in the same direction.
- For the second row, reverse the direction of the long return legs so as to avoid creating a pattern.
- Alternate the direction of the return legs on each row as you move up the column.

Section 8 — Installing Columns (cont'd)

16″ x 16″
(STONEfaçade panels
and corner pieces required)

16″ x 16″

This application uses both panels and corner pieces.

- Apply starter strip to all sides of the corner (refer to STONEfaçade installation instructions for details)
- Apply first side of the column with long return legs of corners facing each other. Trim corner pieces as needed to fit.
- Move to the opposite side of the column. Apply corners to the column with long return legs of corners facing each other. Trim corner pieces as needed to fit.
- Measure the remaining space between the short return legs of the corners. Cut panels to fill the gaps and apply. You may have to chisel material away to make cut edges fit. Check cut panel edge height from wall versus corner projection from wall to avoid significant areas of exposed aggregate.
- Alternate return legs as you work up each course (long/short/long/short) so as to avoid creating a pattern.

Section 8 — Installing Columns (cont'd)

24″ x 24″
(STONEfaçade panels
and corner pieces required)

24″ x 24″

This application uses both panels and corner pieces.

- Apply starter strip to all sides of the corner (refer to STONEfaçade installation instructions for details)
- Apply first row of corners to all sides of column. Use corners that are the same direction (e.g. all RIGHT corners or all LEFT corners)
- Measure the remaining space between the short return legs of the corners. Cut panels to fill the gaps and apply. You may have to chisel material away to make cut edges fit. Check cut panel edge height from wall versus corner projection from wall to avoid significant areas of exposed aggregate.
- Alternate return leg direction as you work up each course (LEFT/RIGHT/LEFT/RIGHT) so as to avoid creating a pattern.

STONEfaçade sill piece or Restoration Millwork trim pieces to cover the top of STONEfaçade panels.

Transitioning to alternate materials

STONEfaçade can be capped for transition to alternate materials by mitering the STONEfaçade sill piece or Restoration Millwork trim pieces that are wide enough to cover the top of the STONEfaçade panels. (NOTE: Local code may require flashing be installed over the transition material prior to installation of alternate materials) Once transition is completed, alternate materials such as pre-formed columns, column wraps, or field-built columns can be applied to complete the installation.

Section 9 — Installing Sills, Light Boxes and Electrical Boxes

Three sills required on this window. Center and cut middle sill to avoid cut ends on end (most visible) sills.

Sills

Try to minimize field cuts in high traffic areas to provide good aesthetics. Use the side tab screw flanges whenever possible to eliminate sill rocking.

- For shorter windows, only two sills may be required. Center field cut under the window.
- Longer windows may require three or more sill pieces. Make all field cuts where sill pieces join together so that cut ends are not visible. Do not make cuts at the exposed end of a sill.
- Use color-matched sanded caulk to finish the joints where sills butt together.
- When sills will mate at corners, miter sills making sure that sill is lying flat on the saw table before cutting.

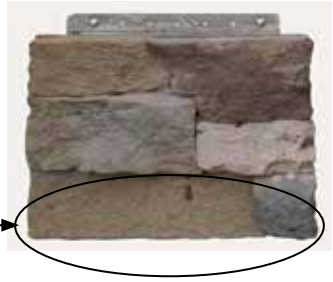
Light Boxes and Electrical Boxes

Warning: Verify that power has been disconnected. Have a qualified electrician install a properly flashed exterior electrical box that is waterproof. Light boxes and electrical boxes will fit over standard light and electrical boxes as an ornamental covering.

Single Course Design

The single course can be added before or during panel installation. Surrounding panels will need to be notched around the box. Use two #8 1-1/2″ exterior rated wood screws (pan or truss head) on each end of box.

When installing the next course of stone over a light or electrical box it is necessary to either remove the bevel from the area on the next course panel where it will mate with the top of the mounting box or grind away the top of the mounting box to allow the next course to mate properly.



ProTip™: Color matched sanded caulk can be used if desired to hide screw heads or small gaps like an 1/8″ gap between stone and PVC trim around windows or doors.

Section 10 — Installing STONEfaçade over Wood Substrate

Installing the First Course

- Start by cutting off the rainscreen tabs along the bottom of the back side of each panel that will be mating with the starter strip using snips or a hand grinder. Make sure you actually cut off the tabs rather than trying to bend them out of the way, which could damage the panel.
- Position first panel without tabs into the starter strip and butt against the corner or trim.
- Using a short level, check to ensure that the panel is level and aligned with the corner or trim. Use a level on EVERY panel or accessory to ensure that the panels stay level from panel to panel and course-to-course.
- Fasten the panel to the wall using #8 x 1.5″ exterior rated wood screws (pan or truss head). Position screws evenly across the fastening flange of the panel. Consult the fastening schedule on page 9 for required number of fasteners per panel.

Poor choice of mating panels.
Panel stone sizes are too similar
from panel-to-panel.

Good choice of mating panels.
Creates a random, natural appearance.

ProTip™: When installing panels, it is sometimes necessary to test-fit multiple panels to ensure optimal mating. Install panels of varying widths to avoid alignment of vertical seams (which makes the individual panels more visible and less natural looking).

- Select a second panel (remember to alternate panel widths randomly), position it into the starter strip and slide to mate into the first panel.
- Tap panel into place with the rubber mallet. Panels should fit snugly together without leaving an unsightly gap.
- Using a level, check to ensure that the panel is level and aligned with the previous panel.
- Fasten the panel to the wall using the instructions above.
- Use a long level to verify that the entire course is level.
- Continue installing panels using the instructions above for guidance. Step back from the wall frequently and check the look of your installation. Avoid repeating pattern (same staggering and/or same panel width).

Section 10 — Installing over Wood Substrate (cont'd)

ProTip™: Confirm panels and accessories are level before proceeding, since each subsequent course will only be as level as the previous courses. Unleveled panels can lead to unsightly horizontal gaps between courses.

Installing Subsequent Courses

- Stagger the second and subsequent courses so there is at least 3"-5" offset of the vertical panel joints of the previous course by randomly alternating panel widths.
- Starting from a corner, place the second course panel onto the mating groove on the top of the first course panel and slide into position. Use a rubber mallet to tap into place. The mating panel groove must be free of any debris or the panel will not fit down properly.
- Using a short level, check to ensure the panel is level before proceeding with the next panel.
- Fasten panel to the wall using the correct number of #8 x 1.5" exterior rated wood screws for the panel width as specified in these instructions on pg. 9.
- Continue installing panels across the course. End the course by cutting the panel to size (if needed) with the cut end of the panel away facing away from high traffic areas. Make sure to leave a 1/8" clearance between stone and PVC millwork to allow for expansion.
- The use of the multicourse electrical box or the multicourse light box must be done when the measurement from the top of the course of siding is less than 12" vertically from the center of the fixture on the wall. Details on the use of these boxes are included on pg.17.
- Use a level to check to ensure the course is level. Small adjustments to get level can be made by raising the panel with a crow bar or substituting another panel to optimize mating.
- Step back from the wall frequently and check the look of your installation. Correct any issues before proceeding with subsequent courses.
- Make sure to follow "Finishing the Wall" instructions on pg.21.

Installing Around Openings

Trim installed around openings should project out from the wall a minimum of 2". Trim out window and door sections using two layers of 5/4 nominal thickness Restoration Millwork® PVC trim. Under windows use stone sills or PVC trim. Leave a 1/8" gap between stone and millwork to allow for expansion. Use a wet saw to notch panel around a window or door.

Installing Partial Panels

- Use a wet saw to cut panel to desired width.
- Position the cut panel into the starter strip or the panel beneath and slide to mate into the previous panel on the course.
- Tap panel into place with the rubber mallet. Panels should fit snugly together without leaving an unsightly gap.
- Using a level, check to ensure that the panel is level and aligned with the previous panel.
- Fasten the panel to the wall using the fastening flange. If the fastening flange at the top or the rainscreen tabs at the bottom have been removed, install face fasteners as follows:
  - Drill a pilot hole through the stone panel using a 7/32″ masonry bit. If the masonry drill bit runs into the steel insert (which is integrated throughout the panel), you may not be able to drill through this seam of the panel. Patch the hole using color-matched exterior grade sanded caulk, and then try another location on the panel for drilling your hole.
  - Drill a countersinking hole in the same location using a 3/8″ masonry bit, making sure to leave a minimum of 1/2″ of stone behind the head of the screw. If the screw has minimal or no engagement into the substrate, remove the screw and re-drill the countersinking hole deeper.
  - Drive screw into panel. Do not over-drive the screw as you will crack the panel.
  - Use color-matched exterior grade sanded caulk to cover the screw head.

ProTip™: A piece of starter strip can be used to lock in the bottom of the panel when going over windows and doors. Remember to cut off the bottom rainscreen tabs prior to placing panels on the starter strip

Installing Around Penetrations

- Create a template by tracing the shape of the penetration to be cut around onto a piece of cardboard or scrap wood (shown at left).
- Using the template, transfer the shape to be cut out onto the stone panel.
- Use an angle grinder with a diamond or masonry wheel to cut out the shape.
- Test the panel for fit and modify as required.

- Install panel using the instructions in this section of the manual for guidance.

Finishing the Wall

For new two-story home construction it is recommended to leave a 3/8" gap between the top of the stone course and soffit during installation to allow room for the house to settle (band board shrinkage) and to keep the top course of the stone panels from crushing the soffit.

There are several ways to finish the top course:

- If the fastening flange has not been removed, a PVC trimboard can be used to hide the fastening flange of the top course.
- If fastening flange of top course has been removed, install panels using the "Installing Partial Panels" instructions section of this manual for guidance.

Transitioning from STONEfaçade to Another Cladding

Vertical transitions

PVC trim or vinyl accessories such as butted j-channels can be used to transition between claddings.

J-Channel shown at left used for vertical transition with vinyl.

Horizontal Transitions

When transitioning from stone to other cladding materials, make sure to properly flash the joint according to applicable building codes in your area. Use the guiding principle of diverting the water down, out and away from the structure.

- Use stone sill.
- Flash above sill to divert water over the sill.
- Install cladding above STONEfaçade as per the manufacturer's installation instructions.

Installing Finishing Touches

Shutters, mailboxes and other finishing touches can be attached to stone panels provided that the proper hardware for mounting into masonry is used. Use a masonry bit to drill holes and avoid drilling in between seams in the stones when possible. Follow the manufacturer's instructions for mounting to stone or masonry products.

ProTip™: Consider adding a gutter extension to avoid splashing water on STONEfaçade panels.

Section 11 — Installing over Poured Concrete and Concrete Masonry Units

Tools Required

- Drill
- 17/64″ (.265″) diameter high speed steel drill bit
- Hammer drill (a SDS or SDS Plus type is recommended)
- 3/16″ masonry bit
- Optional - if face fastening panels (fastening hem has been removed) a 1/4″ masonry bit and a 1/2″ masonry bit
- Impact screw driver with magnetic hex bit
- Rubber mallet or dead blow hammer
- Hammer and punch
- Level
- Wet saw with continuous rim diamond blade

Fasteners

- Must be exterior rated and at least 1″ long.
- Fasteners must not have conical head and must fit flush in fastening hem.

Examples of Acceptable Fasteners Include:

- Simpson Strong Tie TITEN 1/2″ x 1-3/4″ 410 Fastener (TTN25134HSS) (used for testing)
- Simpson Strong Tie TITEN 1/4″ x 1-1/4″ 410 Fastener (TTN25114HSS)
- Tapcon 410 1/4″ x 1.25″ Hex Head fastener (SHW4-114)

Section 11 — Installing over Poured Concrete and Concrete Masonry Units (cont'd)

Note: Fastening to cement masonry units will require larger screws like those listed on page 18. These screws are too large in diameter to pass through the holes in the fastening flange, so the holes will need to be enlarged to accommodate the larger screws.

Installation Steps

1. Install starter strip.

    a) Drill 17/64″ holes in starter strip every 8-10″.

    b) Locate and level starter strip on wall at least 4″ above grade or 2" above a hard surface. Refer to local building codes.

    c) Transfer hole centers to concrete wall with pencil.

    d) Drill holes with hammer drill.

    e) Install starter strip by using exterior rated masonry fasteners like those **listed on page 22** and screw to the wall using the impact screw driver.

Section 11 — Installing over Poured Concrete and Concrete Masonry Units (cont'd)

Install Panels

Note: Cut off the rainscreen tabs along the bottom of the back side of each panel that will be mating directly with the starter strip using snips or a hand grinder. See pg. 14 for more details.

a) Drill out the holes in the fastening flange on the panels to 17/64″ diameter to accept the 1/4″ screw.
For continuous fastening hem: 2 screws required for panels under 14″ width or 3 screws for panels over 14″ width.
For split fastening hem: 2 screws required for panels under 14″ width and 4 screws for panels over 14″ width.

b) Locate and level panel on wall.

c) Transfer hole centers to concrete wall with punch.

d) Remove panel from wall (to avoid damage to the panel while drilling).

e) Drill holes with hammer drill.

f) Fasten using exterior rated masonry screws and an impact screw driver.

Face Fastening to Poured Concrete and Concrete Masonry Units

Note: When fastening hem has to be removed due to tight installation areas, face fasten the panels using 2 1/2″ long screws which must penetrate the wall a minimum of 1″. Follow these instructions.

When STONEfaçade panels and/or accessories are cut or modified, they must be face-fastened. Pre-drill holes for the face-fasteners as follows:

- Drill a pilot hole through the stone panel using a 1/4″ masonry bit. If the masonry drill bit runs into the steel insert (which is integrated throughout the panel), you may not be able to drill through this seam of the panel. Patch the hole using color-matched exterior grade sanded caulk, and then try another location on the panel for drilling your hole.
- Drill a countersinking hole in the same location using a 1/2″ masonry bit, making sure to leave a minimum of 1/2″ of stone behind the head of the screw. If the screw has minimal or no engagement into the substrate, remove the screw and re-drill the countersinking hole deeper.
- Drive screw into panel. Do not over-drive the screw as you will crack the panel.
- Use color-matched exterior grade sanded caulk to cover the screw head.

Section 12 — Installing over Foam Sheathing

STONEfaçade was designed to be screwed into a structural sheathing like 7/16″ OSB or 1/2″ plywood. CertainTeed does NOT recommend installing over any foam product. If you have foam sheathing you must:

- Securely install 7/16″ OSB or 1/2″ plywood sheathing over the foam using the appropriate length fasteners to securely fasten to studs in accordance with local code. Note that this substrate must be capable of supporting an additional 15 lbs./square foot of load and required windload regulations for your area.

  or

- Remove foam sheathing and if necessary install 7/16″ OSB or 1/2″ plywood to install STONEfaçade panels to.

Section 13 — Replacing Damaged Panels

1. Using a full face shield and gloves, carefully chip away with a hammer at the damaged panel area to expose the metal rainscreen.

2. Using tin snips, snip away the rainscreen. Repeat chipping the stone and snipping the rainscreen until you have completely removed the damaged panel. (The fastening flange does not need to be removed as it is holding the panels above in place.)

    a. **Important:** Make sure you repair any damage to the housewrap before installing the replacement panel.

3. Flatten out any remaining parts of the existing insert left on the wall using a hammer. Clean-up debris.

4. Remove the fastening flange of replacement panel.

5. Test fit the panel in the opening.

    a. **Note:** You may have to use an angle grinder to remove the bevels on the side of the replacement panel to get a good fit.

6. Drill a pilot hole through the stone panel using a 7/32″ masonry bit. If the masonry drill bit runs into the steel insert (which is integrated throughout the panel), you may not be able to drill through this seam of the panel. Patch the hole using color-matched exterior grade sanded caulk, and then try another location on the panel for drilling your hole.

7. Drill a countersinking hole in the same location using a 3/8″ masonry bit, making sure to leave a minimum of 1/2″ of stone behind the head of the screw. If the screw has minimal or no engagement into the substrate, remove the screw and re-drill the countersinking hole deeper.

8. Drive screw into panel. Do not over-drive the screw as you will crack the panel.

9. Use color-matched exterior grade sanded caulk to cover the screw head.

Section 14 — Care and Maintenance

Regular Cleaning

- Use soap and water with a nylon bristle brush to remove dirt.
- DO NOT POWERWASH STONEFAÇADE — Powerwashing can remove the coloring from the stone.
- DO NOT CLEAN WITH HARSH CHEMICALS OR ACID PRODUCTS.

Efflorescence

Efflorescence is a white powdery deposit that can occur on the stone surface. Avoid regularly wetting the stone panels with lawn sprinklers since water in many locales contains rust or minerals that may discolor the stone surface.

Avoid Salt and De-Icing Chemicals

Do not use salt or de-icing chemicals on the STONEfaçade product or in adjacent areas where these substances may splash onto the product since all concrete and masonry materials are susceptible to damage from these chemicals.

See Printed Warranty for more Details

Caution: Contains Crystalline Silica. Dust from cutting or sawing may create possible cancer hazard. Dust of this product may cause irritation of the nose, throat and respiratory tract. Avoid prolonged or repeated inhalation of dust from this product.

A properly fitted NIOSH approved N95 series disposable particulate filtering face piece respirator (formerly referred to as “dust masks”) should be used when mechanically altering this product (e.g., sawing, cutting, drilling or similar dust generating processes). Wear long-sleeved shirt, long pants, gloves and safety glasses with side shields when handling and installing material. Wash hands and face with soap and warm water immediately after handling this product.

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