ACHILLES STONE COATED SPANISH INSTALLATION INSTRUCTIONS

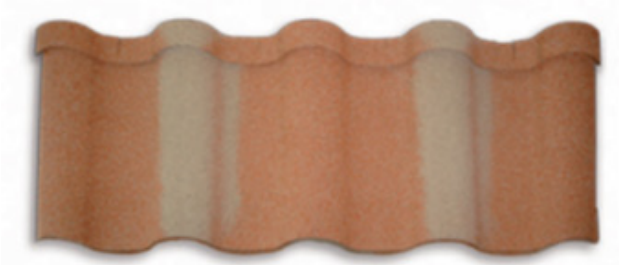
Stone Coated Spanish Panel

Coverage length = 39.8 in (1,010 mm) Actual length = 44.5 in (1130 mm)

Coverage width = 15.75 in (400 mm)

Actual width = 17.75 in (450 mm)

23 Panels per Square



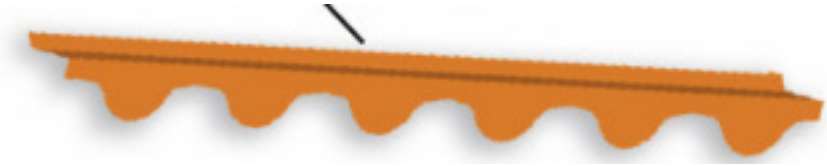
Stone Coated Spanish Hip/Ridge Cap

Coverage length = 15.8 in (403 mm)

Stone Coated Spanish end cap

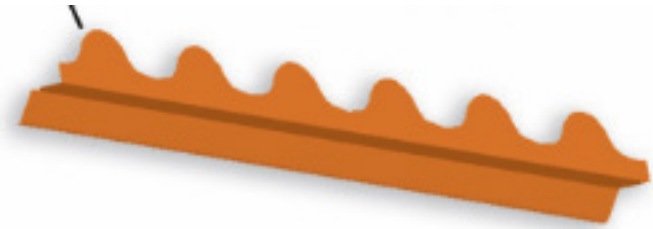
Stone Coated Spanish Birdstop Ridge

Coverage Length =48 in



Stone Coated Spanish Birdstop Eave

Coverage Length = 48 in



Channel

Length = 8’

Stone Coated Spanish Valley

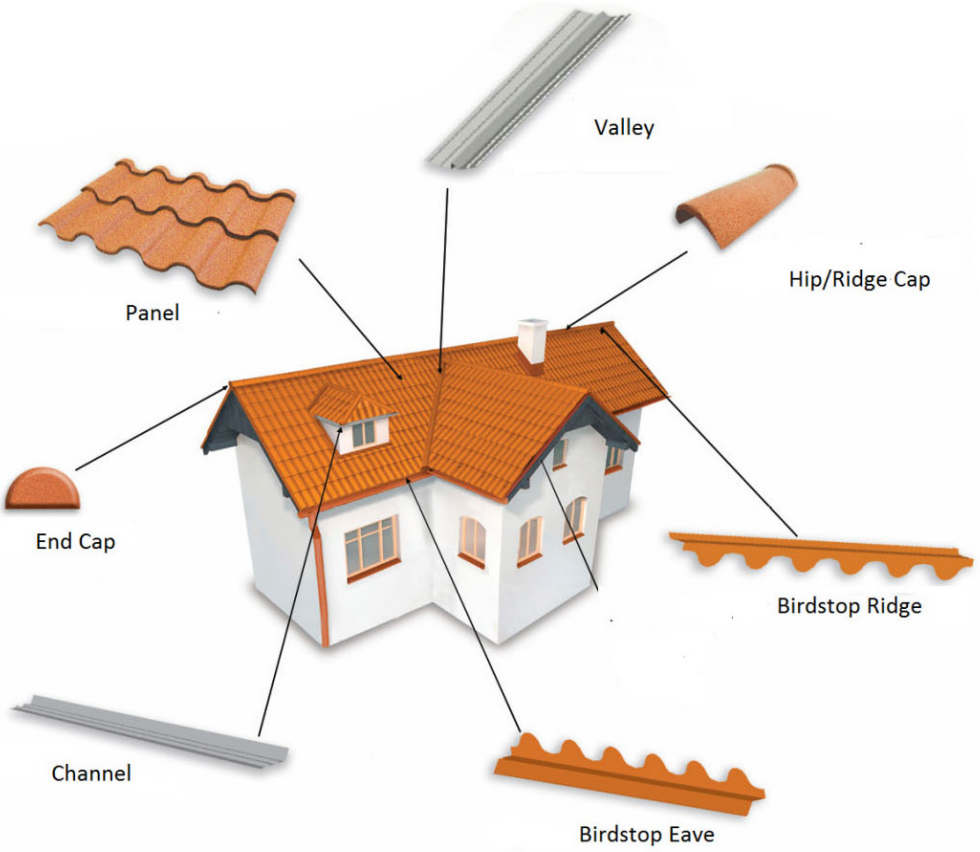
Length = 8’

BuildDirect™

For more information on this product or to order samples call 1-877-631-2845 or visit our website at builddirect.com

ACHILLES

INSTALLATION



Premium® Comparative Benefits

Protection and Benefits	Premium®	Clay Tile	Fiber Cement	Shingle
Weight	Light 1.11 Lbs. / pie2	5.99-15 Lbs. / foot2	5.99 Lbs. / foot2	2.5-3.99 Lbs. / foot2
Fire	Class A Material	Class A Material	Class A Material	Class A Material
Wind Resistance	Up to 195 Km./h	not cover wind damage	Up to 120 Km./h	Up to 177 Km./h
Earthquake	Added shear strength	Prome to collapse	No added shear strength	No added shear strength
Environmentally	Recyclable	Limited Recycling	Limited Recycling	Limited Recycling
Impac Resistance UL 2218	Class 4 - you can walk on it, qualifies for discount on insurance	High maintenance	Class 3	Class 3
Maintenance/ Life cycle cost	Low, retains its appearance without damage	High maintenance	High maintenance	High maintenance
Base structure options	Wood, steel and concrete solid surface or support	Wood, steel and concrete solid surface or support	Wood, steel and concrete solid surface or support	Wood, steel and concrete solid surface
Options for re-roofing	Excellent, you may keep existing roof	TEAR OFF required for re-roofing	TEAR OFF required for re-roofing	TEAR OFF required for re-roofing

Care and Recommendations

Installation Recommendations:

Products shall be installed in accordance with these guidelines as established by Achilles:

- Do not use accessories that contain copper or lead, with the steel roof system, as they are incompatible metals.
- 3/12 Slope minimum (14 degree minimum pitch) requires additional underlayment
- Recommended Slope 4/12 or greater When handling the product, be careful not to deform panels.
- Always wear gloves to avoid cuts
- When installing ACHILLES care should be taken to avoid friction between panels, which could damage the coating affecting the durability and appearance.
- Immediately after and/or during installation, you should remove any steel particles that may remain on ACHILLES due to drilling fasteners and cutting. The remaining particles on the panels will damage them in appearance and durability.

It is recommended that those working on the roof use rubber soled shoes to avoid damaging the product.

Maintenance:

- ACHILLES is designed to withstand a most environment, but life can be extended with proper maintenance.
- Upon completion of the installation, check that the roof surface is clean and free of objects that could damage the coating (metal burrs, screws, wire, sheet metal clippings, etc.)
- Avoid foot traffic on the roof panels.
- It is recommended to clean the roof surface every six months (using water, detergent and a soft brush, or have a professional clean) when you are in a highly corrosive area.
- Carry out any work on the roof deck using all safety measures and wooden planks for weight distribution and protect the roof.

Tips to Users It is important to carefully read each of the recommendations in this installation manual, prior to installation of Achilles roofing.

Achilles® is not responsible for improper installation or misinterpretation of this manual. For the most current and up-to-date installation instructions go to www.builddirect.com

General recommendations for transportation, handling, and storage:

Storage Recommendations: Indoors

- In dry and ventilated areas
- Never on the floor. If stored outside: locate close to installation, on a firm surface and protect from damage.
- Allow for water to drain off of the material and protect from being blown by wind
- Packages can be stored on each other, to a height of one meter, or on metal racks designed for this purpose, making sure to leave space for air circulation.
- Use tarpaulins but never in direct contact with the material
- Leave space at the ends of the canvas tarps to allow for air circulation.
- Do not use polyethylene or plastic to cover the packages
- Do not store detergents, solvents, liquids, acidic materials, or alkali such as concrete or plaster with ACHILLES products.
- It is recommended to store products near where they will be installed to avoid damage from handling and checking them regularly to ensure they are not damaged.
- Handling material by hand requires special care to avoid damaging the ACHILLES and/or injury.

General recommendations for installation:

Structure: The roof structure should be inspected and any structural problems found should be corrected prior to the installation of the roofing panels.

Decking: Min. 15/32" in. thick, grade B-C APA rate plywood or equal.

Battens: Wood Battens are to be 2" x 2" or 1"x4", standard grade Douglas fir or better, nominal thickness 1.5" x 1.5" and .75" x 3.5"

Underlayment: A minimum underlayment of #30 felt or synthetic underlayment is required on all Achilles installations. Achilles roofing panels are considered to be non-combustible steel panels, but in certain conditions, special underlayments are required. Check with local Building Departments prior to installation.

Roof Saddles: Roof saddles are required behind any roof protrusion 48" in width and above. Panel diverters are easy to make and are a good way of diverting water from the back of the protrusion and should be used where necessary.

Sealants: A one-part polyurethane type sealant is recommended.

Cutting Panels: Measurements are made on the roof, however, the panels are normally marked and cut on the ground. Panels may be cut with a table saw or circular saw with concrete or metal cutting blade or tin snips. If the panels are cut on the roof, all residue and shavings must be completely removed.

Preparation for Panel Installation:

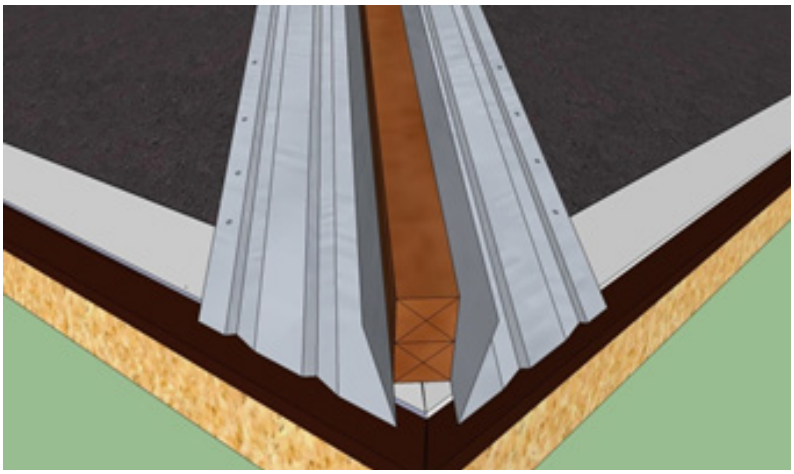
REROOFING PREPARATION

Begin by removing all the old hip and ridge. Cut any overhang flush with the existing fascia. If necessary, at the eave, build up the fascia using 1" x 4"s and 2" x 2"s until the fascia is flush with the top of the old roofing.

2 x 2s at Gables, Hips and Ridges

Over a prepared deck, position two stacked 2 x 2s flush along the rake/ gables, up the center of the hips and along the ridges. Additional lumber (1 x 2 or 2 x 2) may be needed on top of the two 2 x 2s at the hips and the ridges to allow for proper attachment of the Stone Coated Spanish Hip/Ridge Piece, determined by roof pitch.

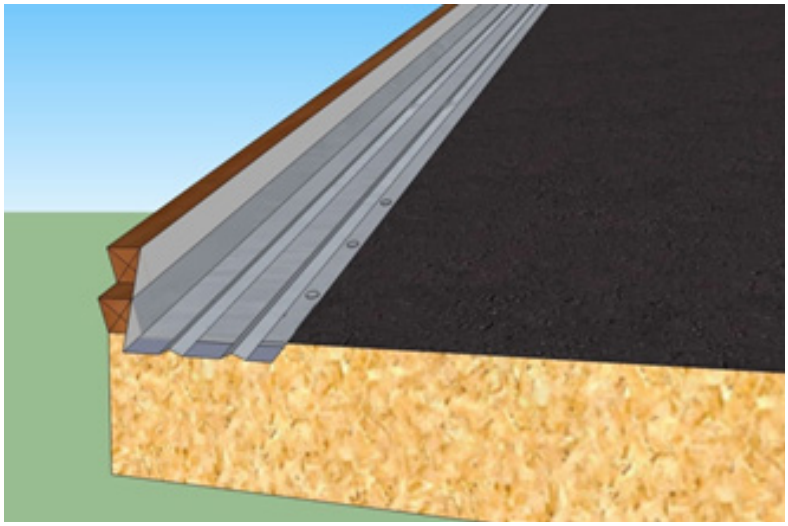
Hip Detail



Channel

Install Channel at rake/gable, roof-to-wall and along both sides of the two 2 x 2s at the hip. Overlap channel pieces 6”. Fasten to deck by positioning fasteners outside the last rib. Channel is broken at 90 degrees to fit at the rake/gable and roof-to-wall; hand bending will be required to fit tight along the 2 x 2s at the hips. Make sure the Channel extends 1” beyond the fascia or onto a lower roof. Paint visible areas of Channel prior to installing panels.

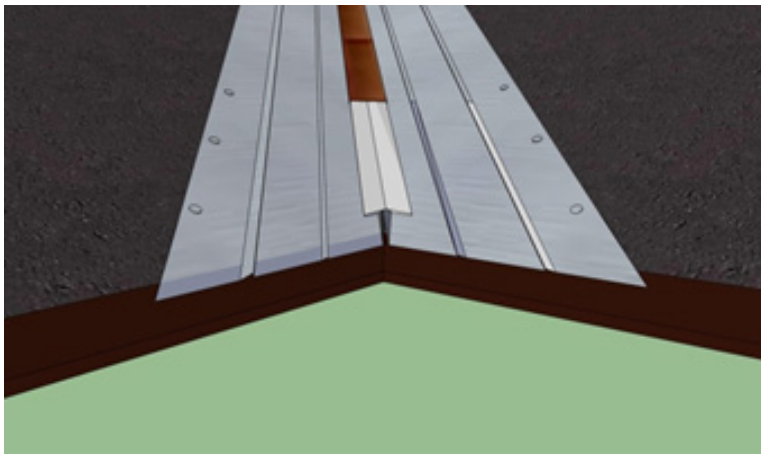
Rake/Gable Detail



Stone Coated Spanish Valley

Install the Stone Coated Spanish Valley along all valleys. In new construction, the metal valley flashing must have one layer of Type 30 felt underlayment (min. 36” wide) or ice & water shield underneath as required by local building code. Install the valley metal overlapping the valley pieces a minimum of 6”. Secure the valley metal to the deck. Fasteners should be positioned outside of the last rib on either side of the Stone Coated Spanish Valley Make sure the end of the Stone Coated Spanish Valley extends beyond the fascia or onto a lower roof. Paint visible areas of Stone Coated Spanish Valley prior to installing panels. After installation of panels install Stone Coated Spanish Valley Cap over center and secure with sheet metal screws to valley.

Valley Flashing

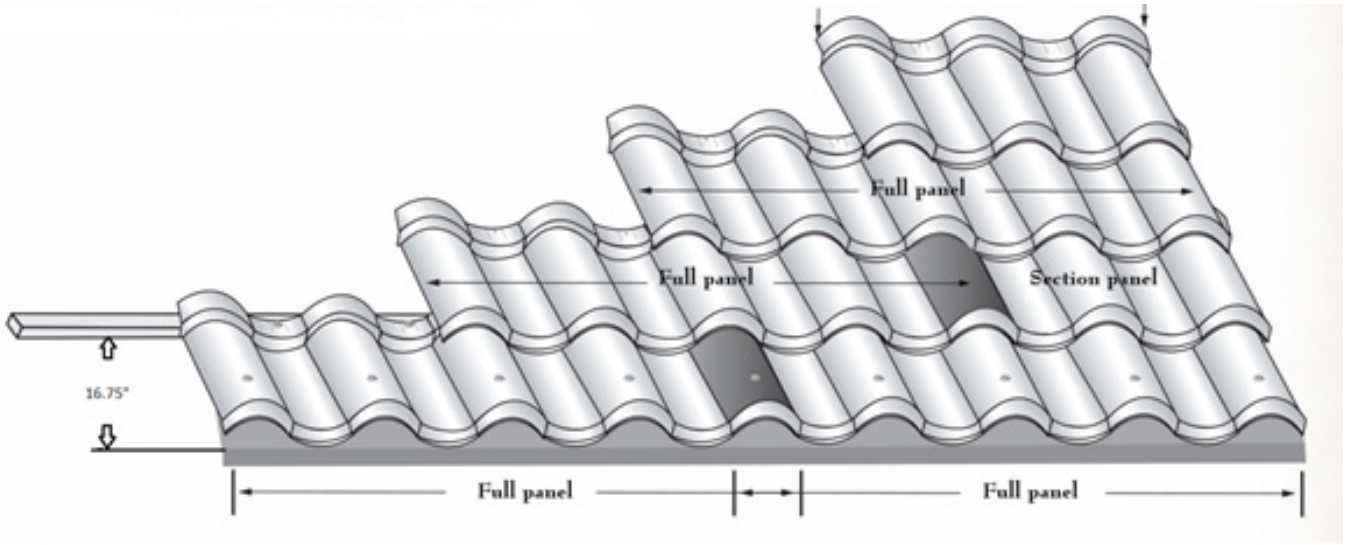


Note: Paint visible portions of Chanel and Valley prior to installing panels or Birdstop eave.

Panel installation Direct to Deck

For easier panel installation and alignment, install a 1 x 4 behind the first course of panels. The front edge of the 1 x 4 should be 16.75" back from the edge of the fascia. Fasten the 1 x 4 to securely to deck with appropriate fasteners that will be flush with top. Fasten the first course of panels through the pre-punched fastening tabs to the 1 x 4s using minimum #9 - ¼" Hex head x 1-1/2" long screws that will fit flush to panel and are long enough to penetrate the deck securely.

Drive the screws straight down through the panel perpendicular to the deck or 1 x 4. Attach the second and subsequent courses of panels by locking the front of each panel into the back of the panel below. Fasten each panel to the deck with minimum #9 - ¼" Hex head x 1-1/2" long corrosion resistant screws through the pre-punched fastening tabs along the back of the panels. This will ensure a tight finish and straight alignment as you work up the roof. Stone Coated Spanish panels maybe installed right to left or left to right. Start with a full panel and continue along the first course. Start second course with a cut panel, measuring 24.5". Measure panels and make cuts accordingly so the cut edge starts (or terminates) in the Channel or Stone Coated Spanish Valley. Panels can be cut from either side. Save cut-off pieces for use on opposite side terminating into Stone Coated Spanish Valley or Channel. Continue installing the panels course by course, up to the 2 x 2s at the ridge. Only fasten the back of the first course of panels. The nose of the first course will be fastened later, once Birdstop Eave is in place.

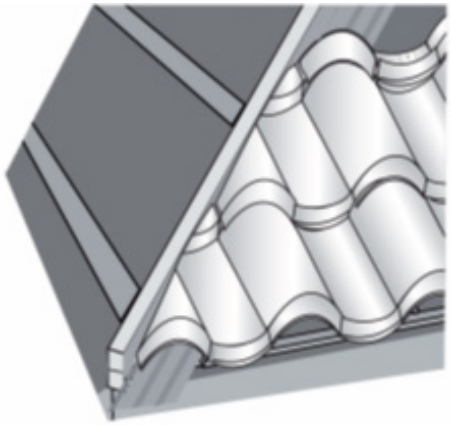


Panel Installation on Battens

Install 2x2 batten at eave of roof, then continue installing 2x2 battens up the roof spaced at 15.75". Secure battens to roof deck with appropriate fasteners. Fasten first course of panels through the pre-punched fastening tabs with #9 - ¼" Hex head x 1-1/2" long screws to the 2x2 batten. Attach the second and subsequent courses of panels by locking the front of each panel into the back of the panel below. Fasten each panel to the deck with minimum #9 - ¼" Hex head x 1-1/2" long corrosion resistant screws through the pre-punched fastening tabs along the back of the panels.. Stone Coated Spanish panels maybe installed right to left or left to right. Start with a full panel and continue along the first course. Start second course with a cut panel, measuring 24.5". Measure panels and make cuts accordingly so the cut edge starts (or terminates) in the Channel or Stone Coated Spanish Valley. Panels can be cut from either side. Save cut-off pieces for use on opposite side terminating into Stone Coated Spanish Valley or Channel. Continue installing the panels course by course, up to the 2 x 2s at the ridge. Only fasten the back of the first course of panels. The nose of the first course will be fastened later, once Birdstop Eave is in place.

Panel Installation – Hip

Along both sides of the hips, cut Stone Coated Spanish panels to fit into the Channel. Paint channel prior to installing panels.
Fit the panel into place and screw down. See Channel section (above) for installation of Channel and preparation prior to installing panels.



Panel Installation - Rake/Gable and Side wall

When installing Stone Coated Spanish panels along the rakes/gables, the panels will terminate into the Channel. See Channel section (above) for installation of Channel and preparation prior to installing panels. Paint visible edge of Channel before installing panels.

Panel Installation – Valley

When installing Stone Coated Spanish panels along the valleys, the panels will terminate into the Stone Coated Spanish Valley. See Stone Coated Spanish Valley Section (above) for installation of Stone Coated Spanish Valley and preparation prior to installing panels. Measurements for valley cuts are made much like the hip cuts. Measure and cut the panels carefully so they fit tight against the Stone Coated Spanish Valley. If a cut-out panel at the valley is too small, lap over two pans to allow proper fastening.

Panel Installation – Ridge

Install the panels course by course up to the 2 x 2s at the ridge. Cut the back of last (top) course so it fits tight against the two stacked 2 x 2s at the ridge. Use a hand bender to turn up the pan portion of the Stone Coated Spanish panel where it meets the two 2 x 2s.

Short Course

In some instances a short course will be necessary. A short course is needed when a section of the fascia steps out and is not an even panel width difference from the main fascia.
A short course is inserted by cutting off the back shelf of the lower panel and running the full panel above over the top. The full panel is fastened through the nose into the high point of the panel below.

Roof to Head Wall w/ Stone Coated Spanish Birdstop Ridge

Install the panels course by course up to the wall cutting the back of last (top) course so it fits tight against wall. Use a hand bender to turn up the pan portion of the Stone Coated Spanish Panel where it meets the wall. Fasten through Stone Coated Spanish Birdstop Ridge and into the high point of the barrel on the panel. Apply sealant between wall and bend up of Birdstop ridge. If existing flashing is sufficient then tuck Birdstop ridge behind flashing or siding otherwise install Achilles Z-bar.

Roof Penetrations – Pipes & Vents

Roof penetrations should be flashed by installing standard roof jacks over the Stone Coated Spanish panel. Cut the Stone Coated Spanish panel to fit tightly around the plumbing stack. The panel must fit tight over the lower field panel when positioned around the pipe. Once panel is correctly fitted install as described above.
Cut and form the pipe-flashing apron so it fits onto the Stone Coated Spanish panel. Apply roofing grade sealant/adhesive on top and both sides and secure to panel with flat head sheet metal screws. Finish with a piece of Stone Coated Spanish panel cut big enough to cover the pipe-flashing and cut to fit tight around pipe flashing. Cut hole in panel according to flashing profile. Align cover piece with panel and fasten in place. Seal around base flashing and cover panel using a roofing grade sealant/adhesive and finish with Touch-Up Kit. Do not use lead or copper flashings as they are not compatible with the panels. (Optional: Paint pipe prior to installation of panels).

Chimneys, Skylights & Dormers

The following steps detail the procedure for installation around a chimney, skylight or dormer. Run full panels up to the penetration as noted in the Chimney Illustration below. All the open areas will be filled in with cut panels.

Start by measuring from the full panel below the chimney up to the base of the chimney. Cut panel(s) to fit this area. Using a hand bender bend each pan up and fasten the panel(s). See Panel Installation - Ridge Section

Install Stone Coated Spanish Birdstop Ridge at the back of the cut panel(s) below the chimney.

Use the Channel along the left and right of the chimney and counter flash with Side Flashing. Extend the Channel 4-6” out over the top of the first panel below the chimney. See Roof to Side Wall.

Panels to fit the left and right sides of the chimney will be measured, cut and fit into the Channel, similar to Roof-to-Wall detail.

The area directly above the chimney must be flashed and counter flashed. Measure the width of the chimney. Use a chimney saddle (Do not use lead or copper) or a piece of flat metal can be cut and bent to fit around the chimney. Cut, conform and install the chimney saddle to fit above the chimney.

In the case of a cricket above the chimney, finish like valley.

For brick and stucco, counter flash over the top of the chimney saddle with Z-bar. For siding, tuck the chimney saddle up under the siding. Use closure foam to fill gaps as needed.

Stone Coated Spanish Birdstop Eave

After installing a minimum of two courses above the eaves, install the Stone Coated Spanish Bird Stop Eave. Stone coated Stone Coated Spanish Birdstop Eave is required along the fascia. Paint exposed areas on the Channel and Stone Coated Spanish Valley prior to installing the Stone Coated Spanish Birdstop Eave.

The Stone Coated Spanish Birdstop Eave must be notched where it terminates into the Channel. The right and left edges of the Villa Birdstop Eave are not symmetrical but they are still notched in the same manner.

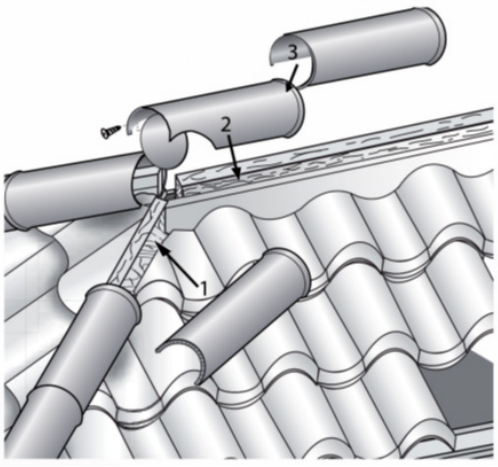
Install the notched Stone Coated Spanish Birdstop Eave using minimum #9 Hex (1/4” diameter) x 1-1/2” long corrosion resistant screws, color coordinated. The fasteners will go through the nose of the panel and Birdstop Eave and into the deck. Continue to install Stone Coated Spanish Birdstop Eave along all eaves overlapping and fastening every 10”. Notch Birdstop Eave to accommodate Channel and Stone Coated Spanish Valley as described above.

Stone Coated Spanish Birdstop Ridge

Install the Stone Coated Spanish Birdstop Ridge by lining it up with the cut panel and attaching it to two stacked 2 x 2s and overlapping the last course. If a full panel was used at the ridge, install a 1 x 2 along both sides of the 2 x 2s at the ridge resting the 1 x 2 on top of the back of the panel. The 1 x 2 will be installed and fastened into the stacked 2 x 2s so the long side is against the 2 x 2s and the short side rests on the panel. Next, install the Stone Coated Spanish Birdstop Ridge by fastening it into the top of the 1 x 2.

Stone Coated Spanish Hip/Ridge Cap

Install Stone Coated Spanish Hip/Ridge Cap pieces along the rake/gables, hips and ridges. Overlap the Hip/Ridge Cap pieces and fasten through the top down into the two stacked 2 x 2s using minimum #9 Hex (1/4” diameter) x 1-1/2” long corrosion resistant screws, color coordinated. At fascia/Stone Coated Spanish Birdstop Eave, cover open end of Stone Coated Spanish Hip/Ridge Cap with a Stone Coated Spanish End Cap. If a full panel was installed along the ridge, the Stone Coated Spanish Hip/Ridge Cap pieces will rest on top on the Stone Coated Spanish Birdstop Ridge, rather than completely covering the top edge. Use a roofing grade sealant/adhesive and a Touch-Up Kit to finish at transition between hips and ridge.



Ridge Venting

If a vented ridge is desired, stack 2 x 2 battens and install along the length of the ridge, the number of stacked 2 x 2s will be determined by the roof pitch. Use mesh type ridge vent material and fasten to both sides of the battens along the length of the ridge. Install Stone Coated Spanish Birdstop Ridge along the ridge and attach to 2 x 2s fastening through the ridge vent material. Attach ridge vent material along the top of the Stone Coated Spanish Birdstop Ridge. Cover the ridge with Stone Coated Spanish Hip/Ridge and secure the Hip/Ridge trim through back edge into the 2 x 2.

High Wind

In areas prone to hurricanes and high winds, installation must meet local standards and codes.

Freeze / Thaw

Ice and water shield is recommended in all areas susceptible to freeze/thaw conditions.

Foot Traffic

Avoid walking on side laps. Foot traffic on Villa Tile Panels should be kept to the tile pans or low points, not on the high points.