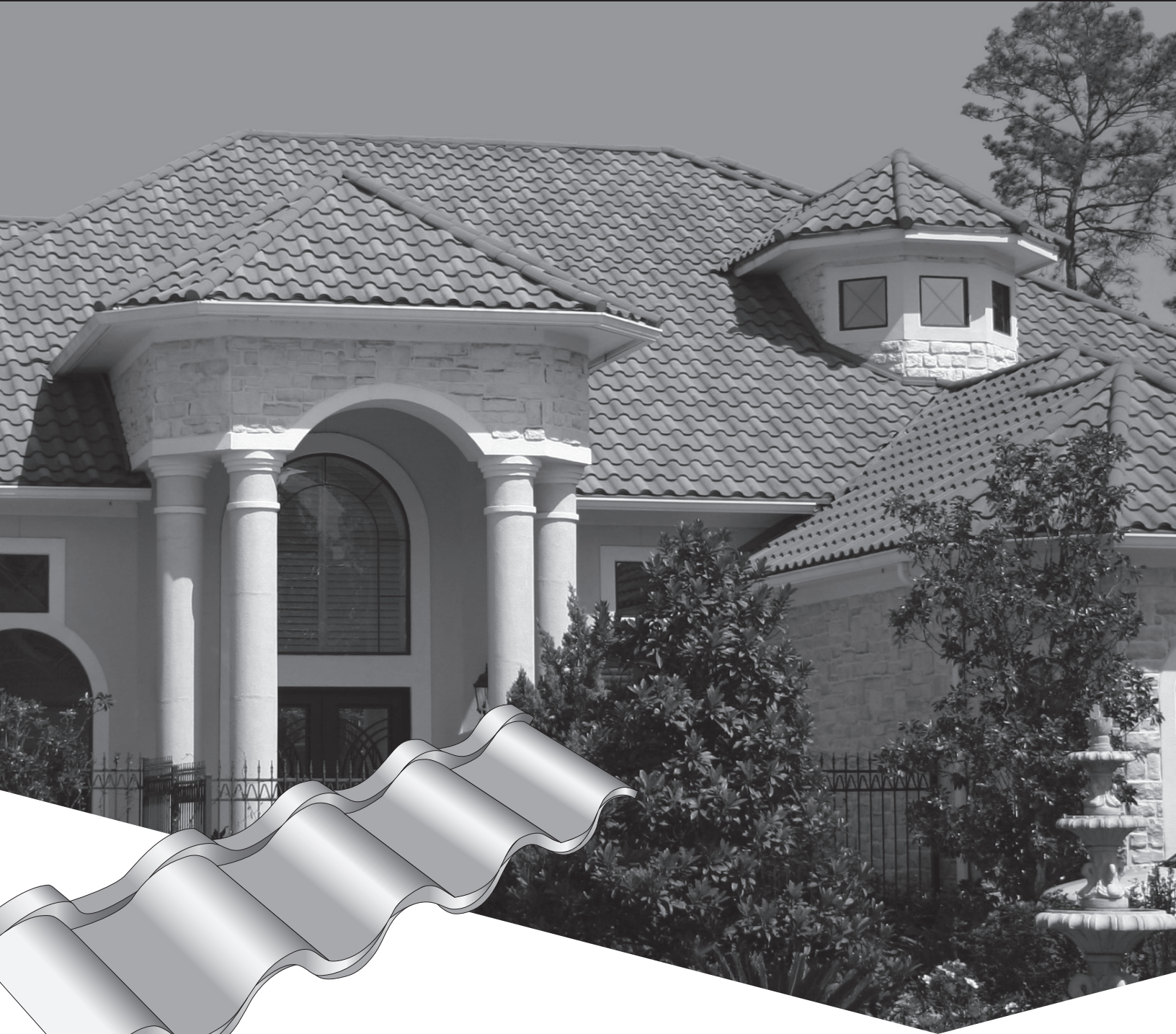


DECRA® Villa Tile INSTALLATION GUIDE



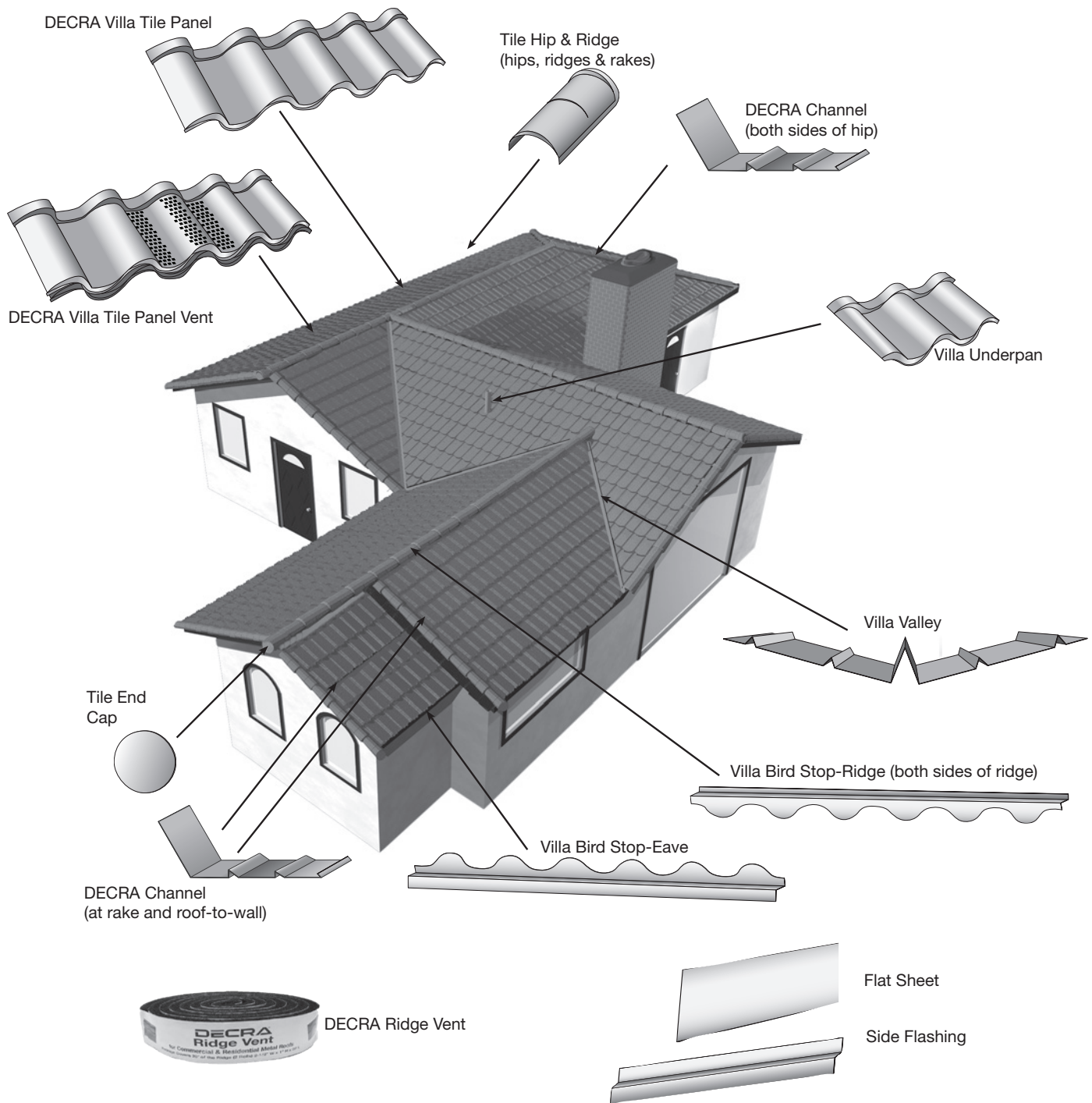
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METAL ROOFING

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DECRA Villa Tile Direct to Deck



***Stacked 2 x 2s used at Hip, Ridge and Rake/Gable to attach accessories.
Additional build up may be required depending on roof slope.***

DECRA panel vents should be installed on the last full course below the ridge, and no more than 4 feet down from the peak of the roof facet. Panel vents should NOT be used for air intake.

Introduction

The instructions and drawings included here are intended only as a guide for the installation of DECRA Roofing Systems' Villa Tile profile. The materials and methods specified help maintain the overall integrity of the roofing system. These instructions are not intended to address all aspects of roofing installation; a quality installation is ultimately dependent upon the workmanship of the roofing contractor. Information regarding alternative situations not covered in these instructions can be obtained by contacting DECRA Roofing Systems.

Safety

Adhere to recommended safe roofing practices. Wear appropriate clothing and use safety equipment, such as protective eyewear. Light, soft-soled shoes are recommended. Use proper tools and keep the roof clear of debris as you work.

Tools

DECRA panels and components are best cut with tin/aviation snips, a steel roof panel cutter shear, or a power saw with 'cool cut' metal-cutting blade.

In all cases, wear eye protection!

Estimating Sheet

The DECRA Villa Tile Estimating Sheet is available at DECRA.com.

Codes & Requirements

Refer to local codes and/or ICC Reports. A link to DECRA ICC reports is available at DECRA.com.

Roof Slope

Install of roof slopes of at least 3:12. Roof slopes less than 3:12 are considered decorative and panels must be applied over a roof system complying with local codes.

Underlayment

One Layer of Underlayment is required before installing ALL DECRA products in both New Construction and Reroofing applications.

Underlayment shall comply with ASTM D 226, Type I or Type II, ASTM D 4869, Type I or Type II or ASTM D 1970. Check local code requirements as ice and water shield and additional requirements may apply.

Deck Preparation

The deck must be level and square for proper installation. If it is not, shim to make any adjustments. It is required that a layer of underlayment be used before applying the DECRA Villa Tile panels.

New Construction: Prepare roof deck to meet local building codes.

Re-Roof Tear-off (Skip/Spaced Sheathing) or Over Asphalt Shingle: If tearing off old roof, clean and prepare deck to meet local building codes.

Panels may be installed over existing asphalt shingles or applied over existing spaced sheathing provided the space between the boards is filled as necessary to provide a base for fastening.

If installed over existing asphalt shingles, cut shingles back from the eaves and rake/gable edges approximately 8". Remove existing hip and ridge material. In situations where code allows reroofing over 2 layers of asphalt shingles, follow the local code.

Fasteners

Screws: Use a minimum of at least 4 corrosion resistant screws minimum #9 Hex (1/4" hex head) x 1-1/2" long. Use fasteners of sufficient length to penetrate through the sheathing (deck) by at least 1/2". Recommended length is 1-1/2" long. For High Wind details, see website.

Venting Preparation

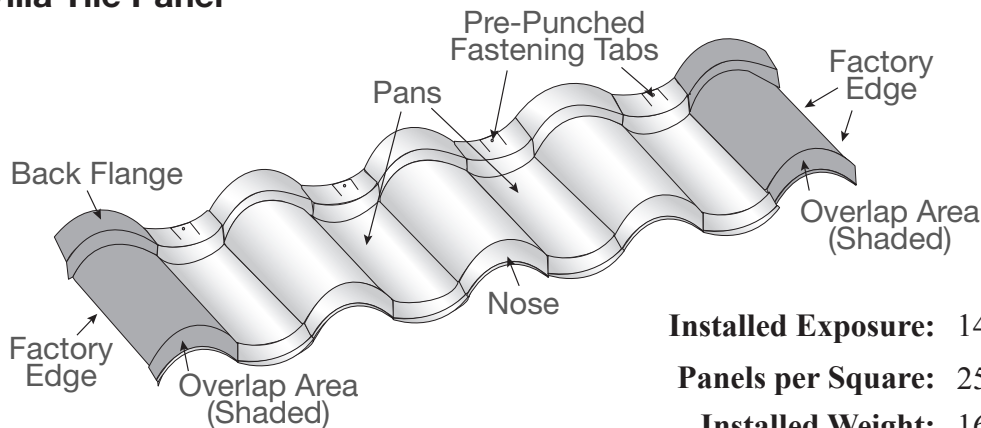
If using DECRA Ridge Vent material, prepare the deck for ridge venting (without center beam) by cutting both sides of the plywood 3/4" from the center of the ridge to expose attic space, or as required by local codes. Refer to Venting section or DECRA Ridge Venting wrapper for additional installation details. If DECRA Villa Tile panel vents will be used, *See Panel Installation - Installing Panel Vents and Venting.*

Measuring and Cutting Panels

Measuring: 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 a 'cool cut' metal-cutting blade or tin snips. *Cut roof panels and accessories must have residue and all metal shavings completely removed, especially metal shavings on the roof.*

Panels: The DECRA panels are formed from corrosion resistant aluminum-zinc alloy coated steel with a protective coating of ceramic coated stone granules that provide an attractive appearance. The Tile Hip & Ridge, End Cap, both Bird Stops and Flat Sheet are produced in a similar manner. The Villa Underpan, DECRA Channel, and Villa Valley are also produced in the same manner, but are not stone coated.

DECRA Villa Tile Panel



Installed Exposure: 14-1/2" x 39-1/2"

Panels per Square: 25.2

Installed Weight: 160 lbs./square

Villa panels are not designed to be installed over irregular surfaces.

Do not rack panels.
Avoid creating a pattern with the light or dark color patches unless it is aesthetically pleasing.
Do not create a pattern.

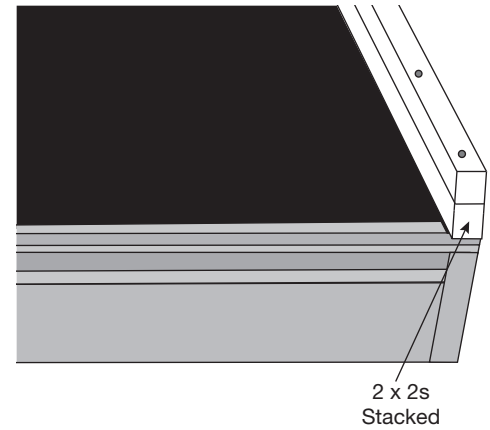
Do not use LEAD or COPPER with this steel roofing system because they are dissimilar metals and are not compatible.

Preparation for Panel Installation

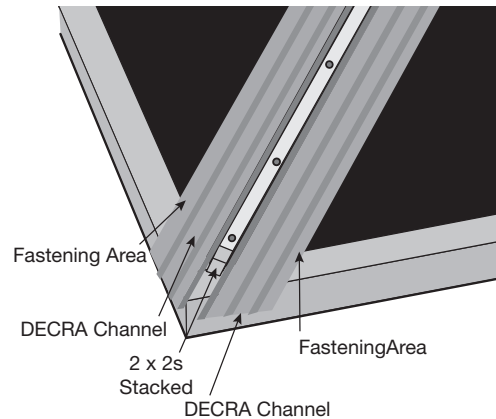
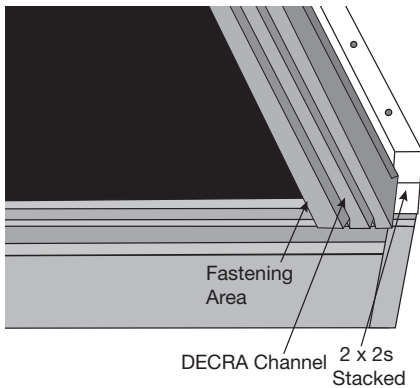
2 x 2s at Gables, Hips and Ridges: Over a prepared deck, position two stacked 2 x 2s flush along the rake/gables, up the center of the hips and along the ridges.

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 Tile Hip & Ridge Piece, determined by roof pitch.

Pre-paint vertical/exposed portion of DECRA Channel as needed prior to installing panels.



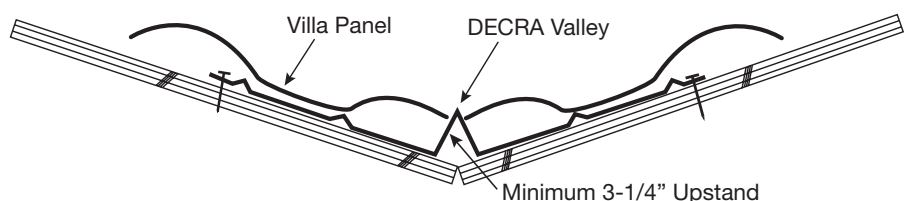
DECRA Channel: Install DECRA Channel at rake/gable (*see diagram left*), roof-to-wall and along both sides of the two 2 x 2s at the hip (*see diagram right*). Overlap channel pieces 6". Fasten to deck by positioning fasteners just inside the last rib. Apply roof sealant to the fasteners. DECRA Channel is broken under 90 degrees to fit at the hip; hand bending will be required to fit tight along the 2 x 2s or at the gable. Make sure the DECRA Channel extends beyond the fascia at least 1" or onto a lower roof area. DECRA Channel extension over fascia may be bent at a downward angle. Paint visible areas of DECRA Channel prior to installing panels.



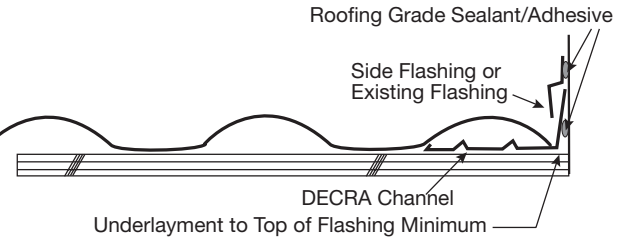
DECRA Valley: Install DECRA Valley or standard concrete valley metal (with same specifications as DECRA Valley) along all valleys. All valley metal should be minimum 26 gauge pre-finished aluminum-zinc alloy coated steel. Valley metal should be a minimum 16" wide, with a minimum center upstand of 3-1/4". In new construction, the metal valley flashing must have one layer of Type 30 felt underlayment, 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 DECRA Valley (*see diagram below*). Make sure the end of the Villa Valley extends beyond the fascia at least 1" or onto a lower roof area.

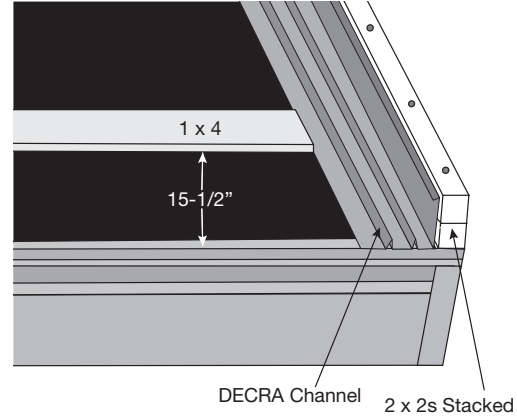
DECRA Valley extension over fascia may be bent at a downward angle. Paint visible areas of DECRA Valley prior to installing panels.



Roof to Side Wall w/ Side Flashing: If normal wall flashing is present, tuck DECRA Channel behind existing flashing. If no existing flashing is present, counter flash with Side Flashing. Seal DECRA Channel to the wall with a roofing grade sealant/adhesive. Apply sealant to the Side Flashing before attaching to the wall.



1 x 4 at First Course: 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 15-1/2" back from the edge of the fascia. Fasten the 1 x 4 to the deck using a screw that will fit flush to the 1 x 4 and is long enough to penetrate the deck securely (see diagram right).



Paint visible areas of Villa Valley & DECRA Channel prior to installing Bird Stop - Eave or Villa Panels

Panels - First Course: Fasten the first course of panels through the pre-punched fastening tabs to the 1 x 4s using minimum #9 Hex (1/4" hex head) x 1-1/2" long screws that will fit flush to panel and are long enough to penetrate the deck securely.

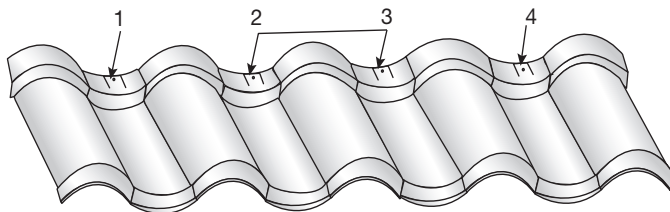
Drive the screws straight down through the panel perpendicular to the deck into the 1 x 4. This will ensure a tight finish and straight alignment as you work up the roof (see diagram below).

Only fasten the back of the first course of panels. The nose of the first course will be fastened after installing a minimum of two courses and the Villa Bird Stop - Eave is in place. See Villa Bird Stop-Eave Section (page 10).

Fastening sequence when installing LEFT to RIGHT, position panel screws in the 1, 3, 2 positions. Finish with screw in position 4 AFTER next panel is installed and 1, 3, 2 positions. Continue using same sequence. Reverse order when installing RIGHT to LEFT. (see fastening order diagram below)

Drive screws straight down perpendicular into the deck. Do NOT angle.

Fasten through pre-punched fastening tabs
 Fastening Order (installing left to right): 1, 3 then 2 and 4*
 Fastening Order (installing right to left): 4, 2 then 3 and 1*
 *Install after next panel



FASTENERS:
 First Course - Back of Panel
 Minimum #9 Hex (1/4" hex head) x 1-1/2" Long (flush to panel)
 First Course - Front of Panel
 Minimum #9 Hex (1/4" hex head) x 1-1/2" Long Corrosion Resistant Screws (color coordinated)

Roof Penetrations – Pipes & Vents

Roof penetrations should be flashed by installing standard roof jacks over a corrosion resistant Underpan which drains over the panel immediately below or as required by code.

Use the Villa Underpan to properly flash pipe penetrations. Cut the Underpan to fit tightly around the plumbing stack. The Villa Underpan must fit tight over the lower field panel when positioned around the pipe.

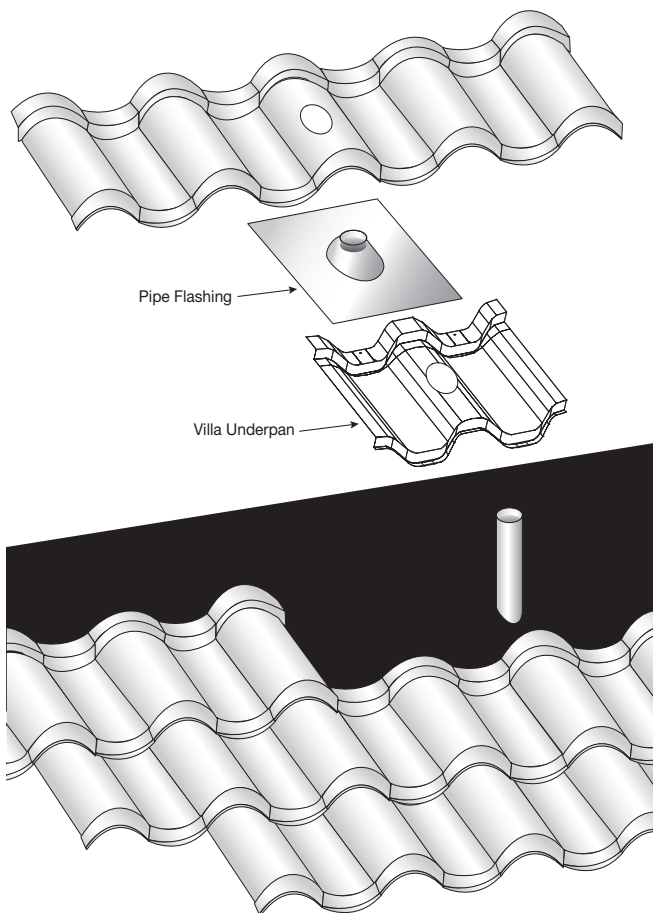
Cut the pipe-flashing apron so it fits onto the Underpan. Apply a roofing grade sealant/adhesive on top and both sides. Finish with field panel by measuring and cutting panel to fit tight around pipe flashing.

Cut hole in panel according to flashing profile. Align roofing panel and seal around base using a roofing grade sealant/adhesive and finish with Touch-Up Kit.

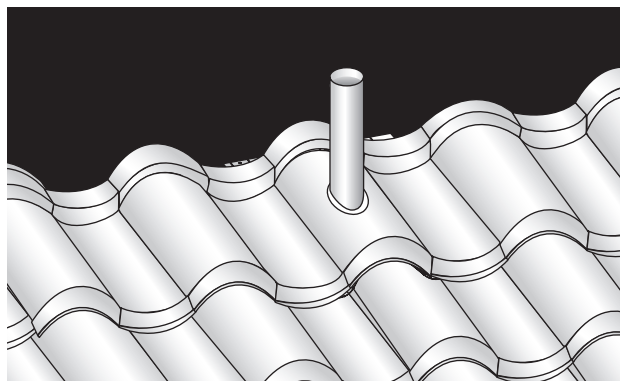
Care should be taken to adequately weatherproof the flashings and to support them with additional blocking or roof framing as necessary.

Paint pipes and flashings prior to installing panels.

For larger flashings, more than one Villa Underpan may be required.



A roofing grade sealant/adhesive should be used
Silicone caulking is not recommended for use in direct sunlight.



Do not use LEAD or COPPER with this steel roofing system .

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.

1 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 Villa Bird Stop - Ridge at the back of the cut panel(s) below the chimney.

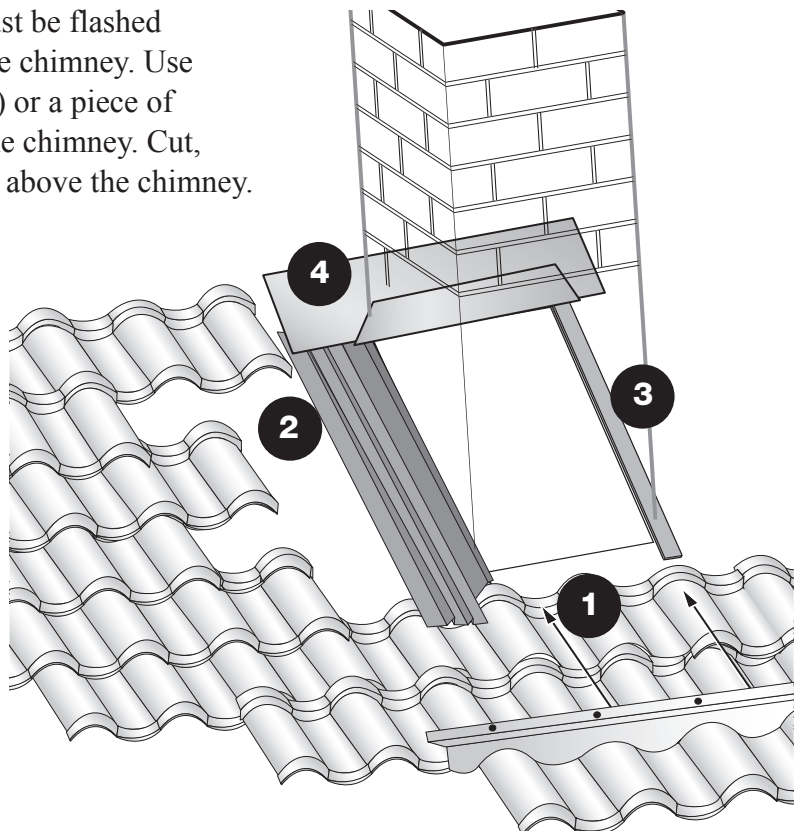
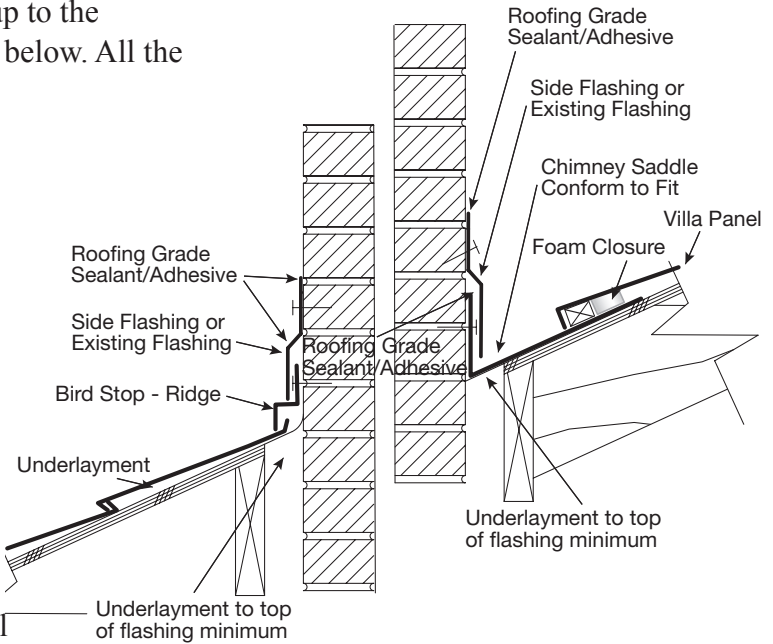
2 **3** Use the DECRA Channel along the left and right of the chimney and counter flash with Side Flashing. Extend the DECRA Channel 4-6" out over the top of the first panel below the chimney. See Roof to Side Wall.

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

4 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. See Villa Valley.

For brick and stucco, counter flash over the top of the chimney saddle. For siding, tuck the chimney saddle up under the siding. Use closure foam to fill gaps as needed (see diagram above).



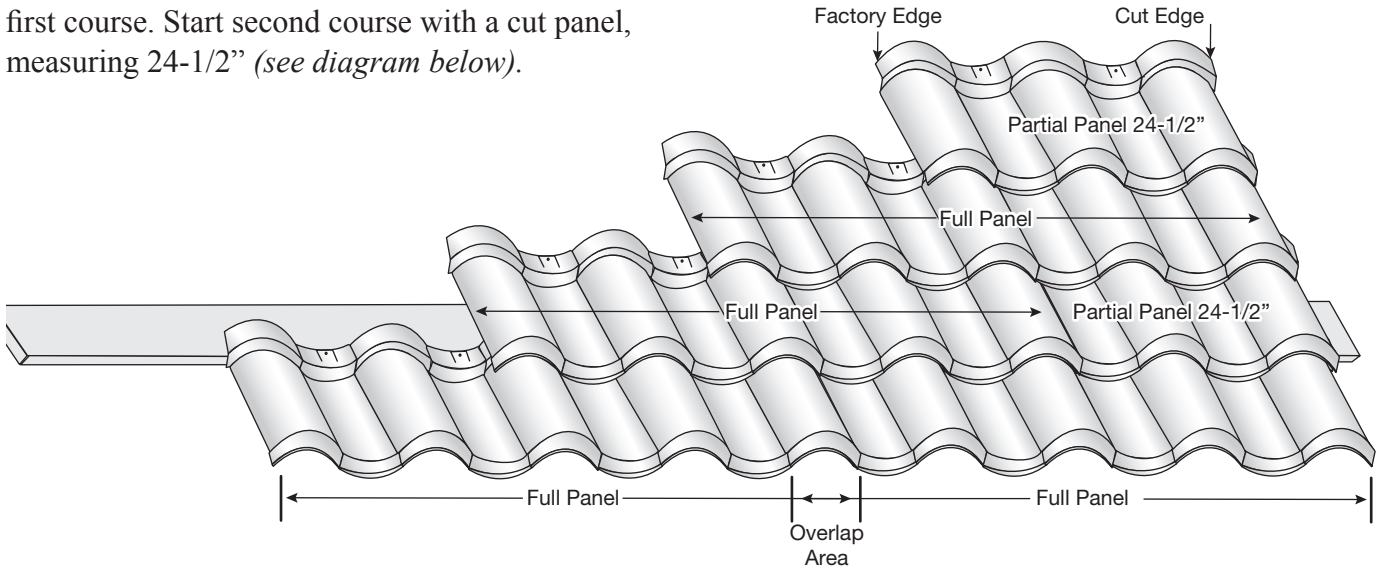
For additional details visit DECRA.com

Panel Layout & Fastening

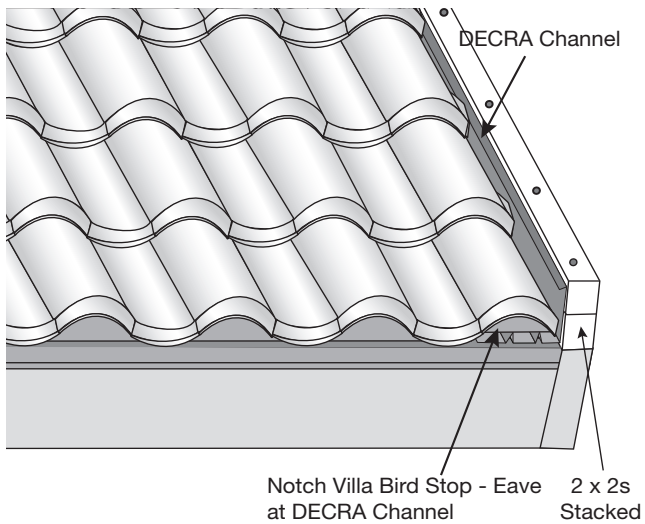
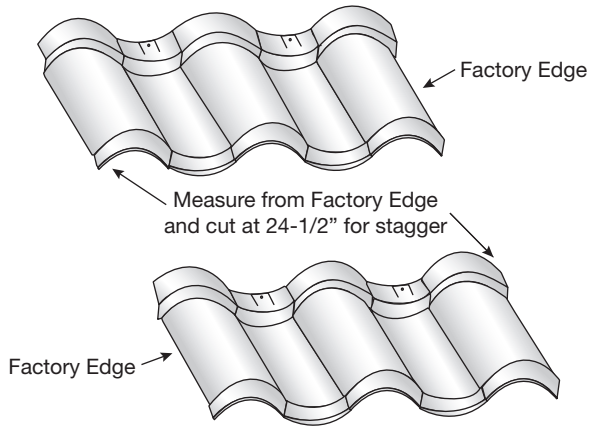
Panel Layout - Field: Panels will be laid out and fastened as you go along starting at the fascia and working up to the ridge. Fasten only the back of the first course of panels at the eave. The nose of the first course will be fastened after the Villa Bird Stop - Eave is in place.

Start with a full panel and continue along the first course. Start second course with a cut panel, measuring 24-1/2" (see diagram below).

DO NOT rack panels
(DO NOT line them vertically up the roof)

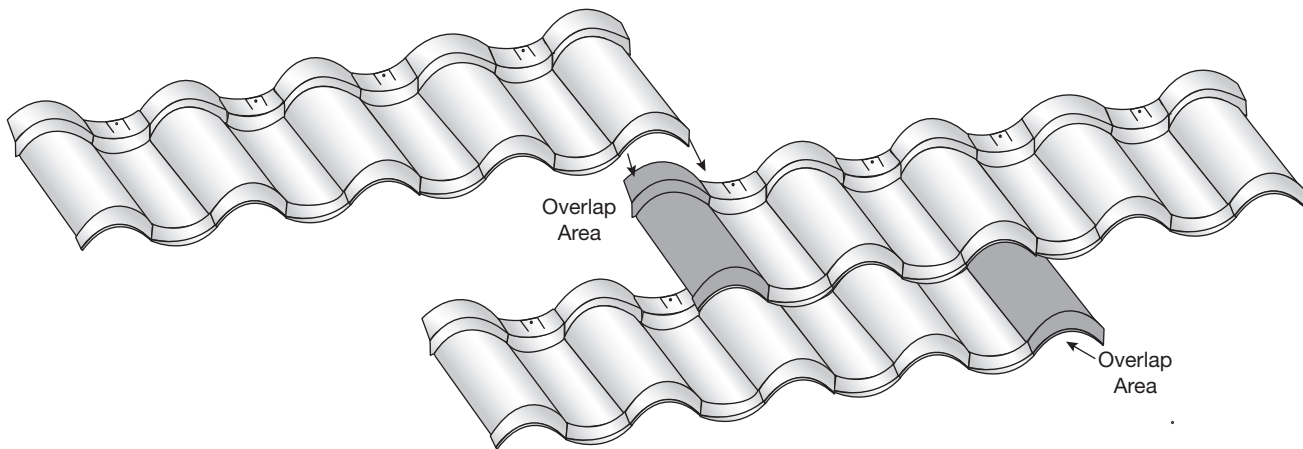


Measure panels and make cuts accordingly so the cut edge starts (or terminates) in the DECRA Channel or Villa Valley (see diagram below). Panels can be cut from either side (see diagram right). Save cut-off pieces for use on opposite side terminating into Villa Valley or DECRA Channel.



Use suggested panel offset.
Avoid creating a pattern with the light or dark color patches unless it is aesthetically pleasing.

Panel Layout - Direction: The Villa Panels can be laid right to left or left to right. The overlapping panel must cover the overlap area (see diagram below).



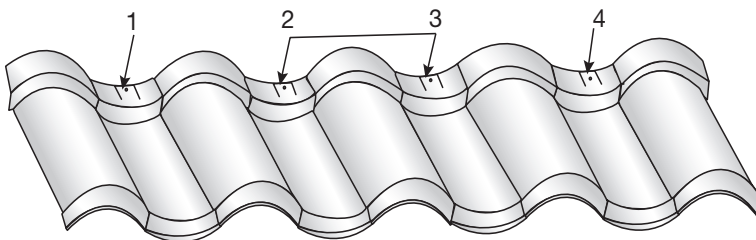
Fastening Panels - Field: Attach the second and subsequent courses of panels by locking the front of each panel into the back of the panel below. Fasten each panel to the deck with minimum #9 Hex (1/4" hex head) x 1-1/2" long corrosion resistant screws through the pre-punched fastening tabs along the back of the panels (see diagram below).

Drive the screws straight down into the deck when fastening the panels.

Fasten through pre-punched fastening tabs

Fastening Order (installing left to right): 1, 3 then 2 and 4*
 Fastening Order (installing right to left): 4, 2 then 3 and 1*

*Install after next panel



Make sure nose of panel is pulled flush and tight with panel below.

Keeping Courses Straight:

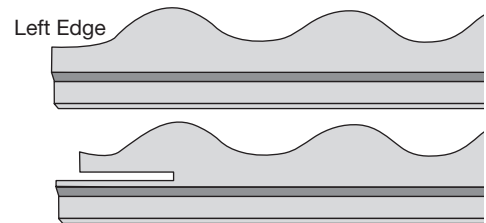
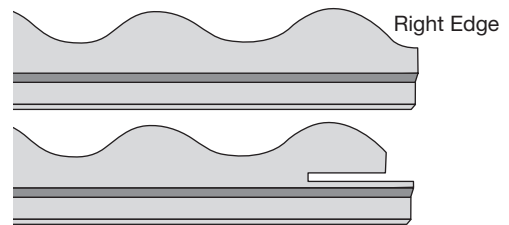
- Attach Villa Bird Stop-Eave after installing a minimum of 2 courses; fastener placement at downturn of nose
- Periodically check alignment using chalk lines at 14-1/2" intervals
- Fasten panel screws in the 1, 3, 2 positions when installing LEFT to RIGHT. Finish with screw in position 4, only AFTER next panel is installed and 1, 3, 2 positions. See diagram
- Slide panels into place, do not distort
- Reverse direction each course
- Work into valleys and hips where possible

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

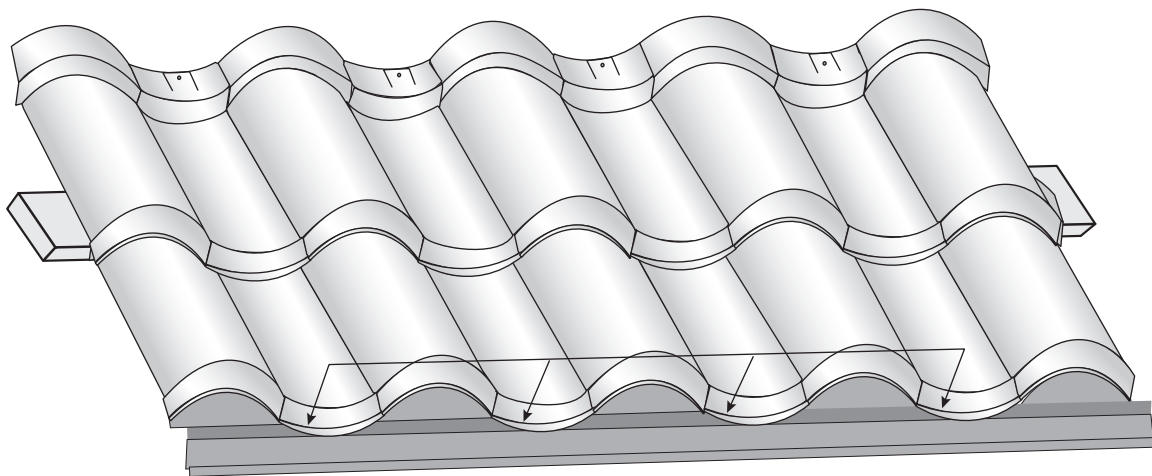
The Villa Bird Stop - Eave must be notched where it terminates into the DECRA Channel. The right and left edges of the Villa Bird Stop - Eave are not symmetrical but they are still notched in the same manner (*see diagrams right*).

Install the notched Villa Bird Stop - Eave using minimum #9 Hex (1/4" hex head) x 1-1/2" long corrosion resistant screws, color coordinated. The fasteners will go through the nose of the panel and Bird Stop - Eave and into the deck (*see diagram below*).

Continue to install Villa Bird Stop - Eave along all eaves overlapping and fastening every 10". Notch to accommodate DECRA Channel and Villa Valley as described above.



FASTENERS: (Villa Bird Stop - Eave)
 Minimum No. #9 Hex (1/4" hex head)
 x 1-1/2" Long Corrosion Resistant
 Screws (Color Coordinated)



Install Villa Bird Stop - Eave and fasten through the front edge of the panel, off to one side of the low point

Make sure Villa Bird Stop - Eave fits tight to the first course of panels without any gaps.

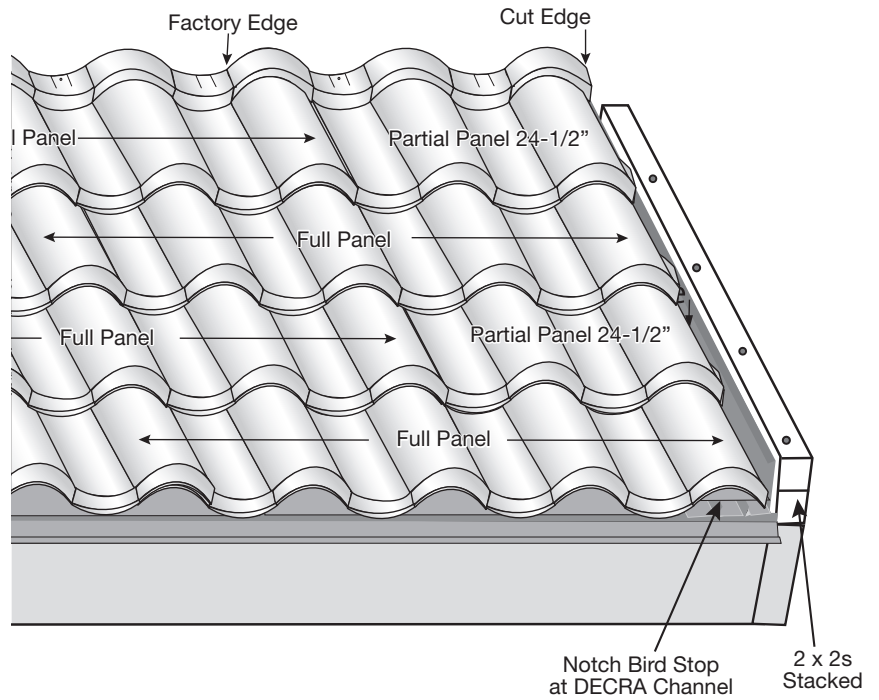
Panel Installation

Panel Installation - Rake/Gable:

When installing Villa Panels along the rakes/gables, the panels will terminate into the DECRA Channel. See DECRA Channel section (*page 6*) for installation of DECRA Channel and preparation prior to installing panels. Paint visible edge of DECRA Channel before installing panels.

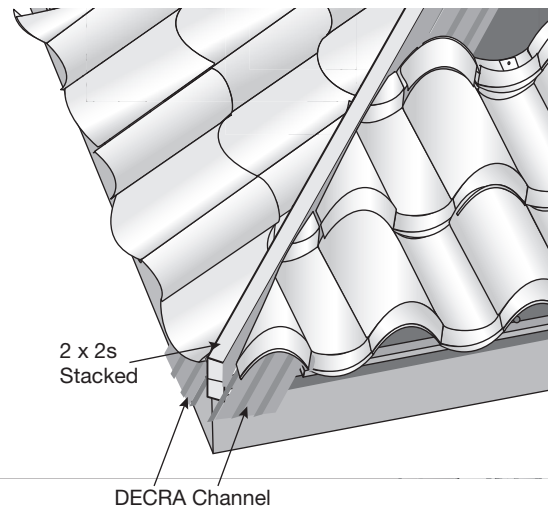
Continue installing the panels course by course, up to the 2 x 2s at the ridge.

Panel Installation – Hip: Along both sides of the hips, cut Villa Panels to fit into the DECRA Channel. Paint channel prior to installing panels. Fit the panel into place and screw down. See DECRA Channel section (*page 6*) for installation of DECRA Channel and preparation prior to installing panels.

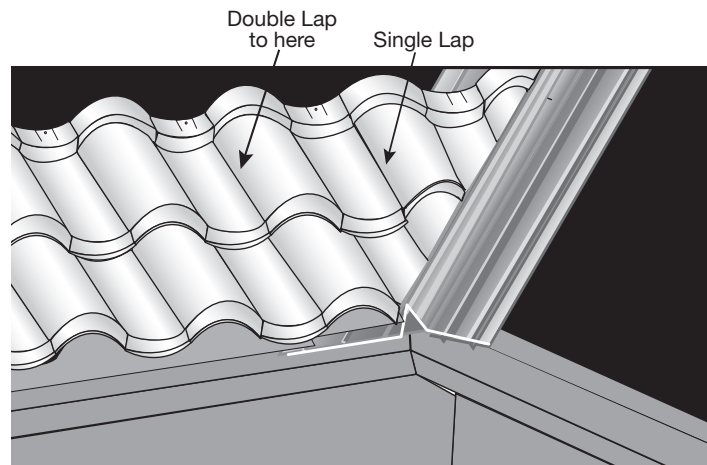


Pre-paint vertical/exposed portion of DECRA Channel & Valley prior to installing panels.

In situations where a panel is not fully engaged, use a colored screw through the nose to make the appropriate adjustment.



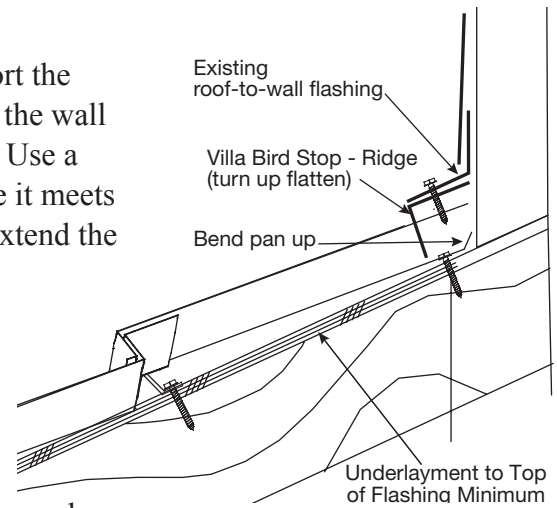
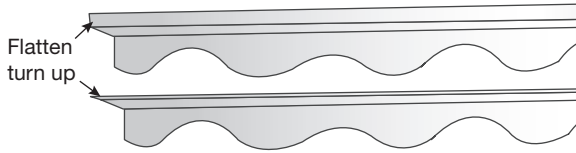
Panel Installation - Valley: When installing Villa Panels along the valleys, the panels will terminate into the Villa Valley. See Villa Valley Section (*page 6*) for installation of Villa Valley and preparation prior to installing panels. Measurements for valley cuts are made much like the hip cuts. Measure and cut the panels carefully so they fit tight against the Villa Valley. If a cut-out panel at the valley is too small, lap over two pans to allow proper fastening.



Ridge

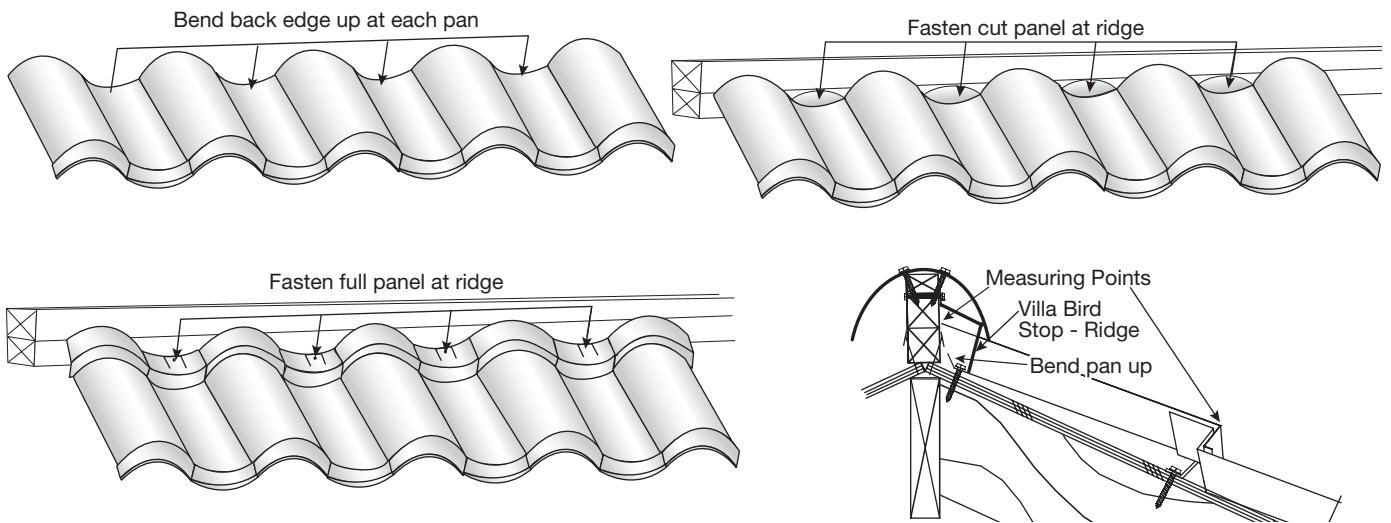
Roof to Head Wall w/ Villa Bird Stop - Ridge:

Attach a 1 x 4 batten directly in front of the head wall to support the last course of panels. 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 Villa Panel where it meets the wall. Flatten the turn up on the Villa Bird Stop - Ridge to extend the shelf (see diagram below).

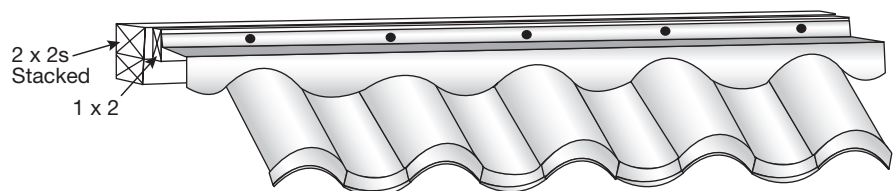


Fasten through the roof-to-wall flashing, Villa Bird Stop - Ridge and into the high point of the barrel on the panel (see diagram above right).

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 Villa Panel where it meets the two 2 x 2s (see diagrams below).

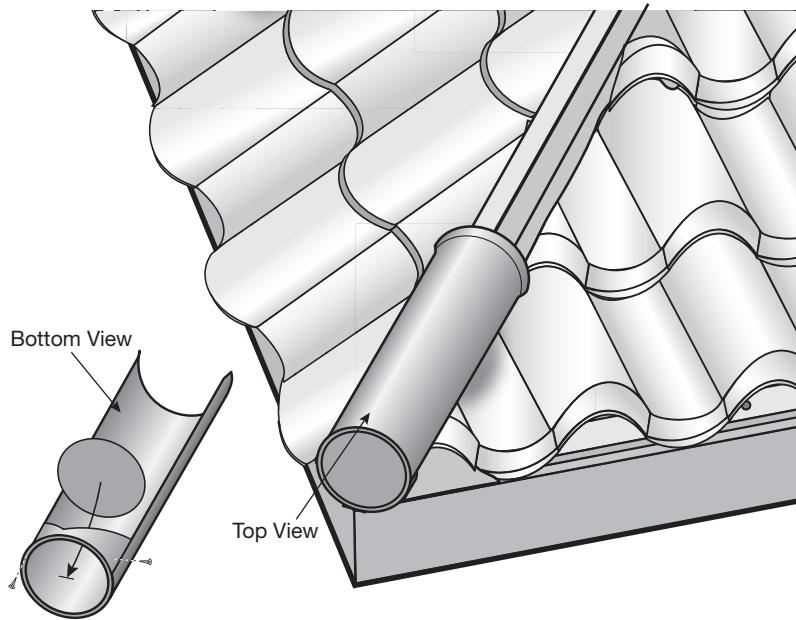
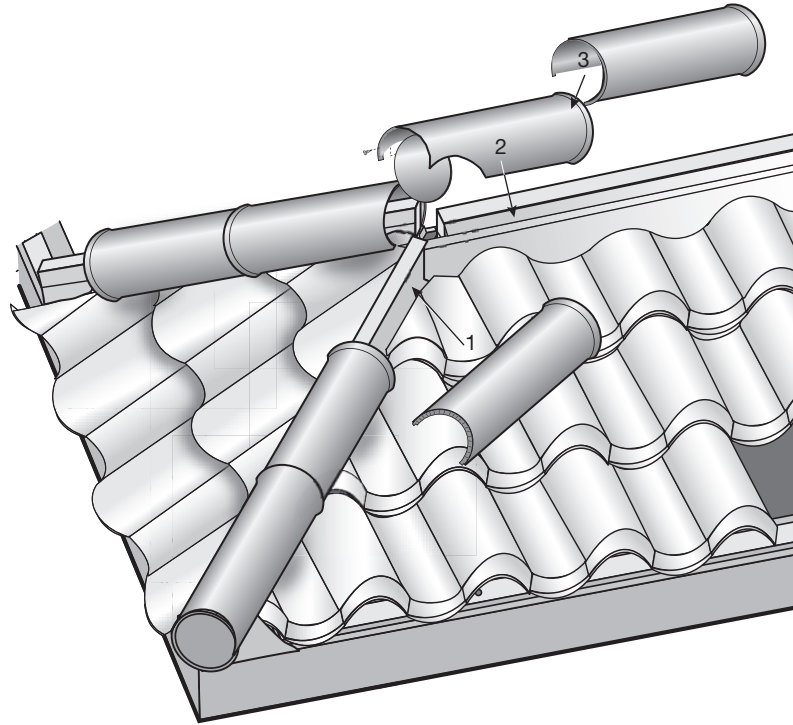


Villa Bird Stop - Ridge: Install the Villa Bird Stop - Ridge by lining it up with the back of the cut panel and attaching it to two stacked 2 x 2s and overlapping the last course (See diagram right). If a full panel was used at the ridge, install a 1 x 2 along both sides of the 2 x 2s at the ridge resting 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 Villa Bird Stop - Ridge by fastening it into the top of the 1 x 2 (see diagram below).



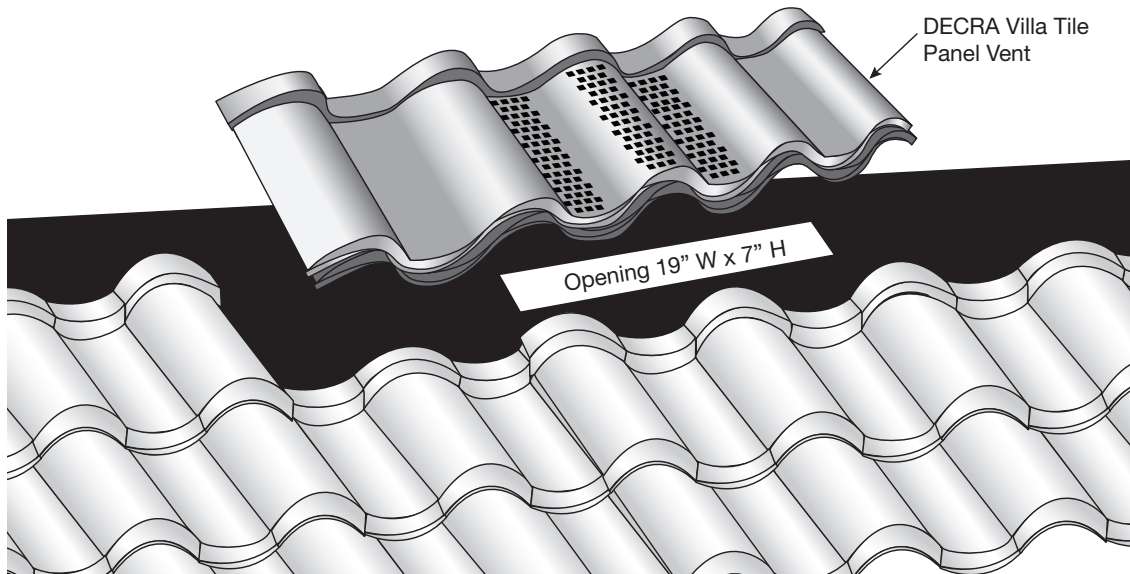
Hip & Ridge

Install Tile Hip & Ridge pieces along the rake/gables, hips and ridges. Overlap the Hip & Ridge pieces and fasten through the top down into the two stacked 2 x 2s using minimum #9 Hex (1/4" hex head) x 1-1/2" long corrosion resistant screws, color coordinated (*see diagram left*). At fascia/Villa Bird Stop - Eave, cover open end of Tile Hip & Ridge with a Tile End Cap (*see diagram right*). If a full panel was installed along the ridge, the Tile Hip & Ridge pieces will rest on top on the Villa Bird Stop - 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.



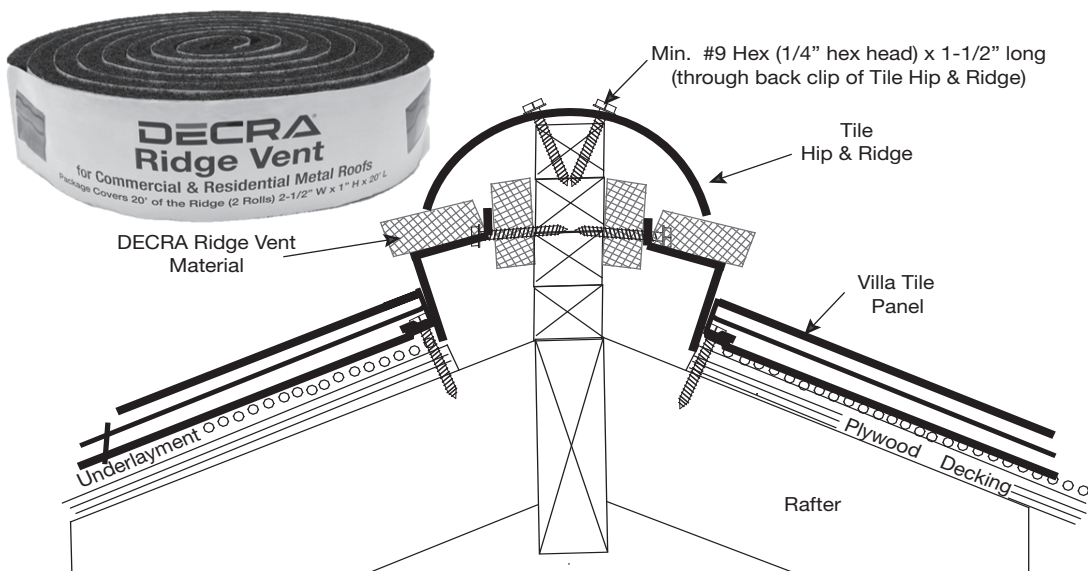
Venting

DECRA Villa Tile Panel Vent: If DECRA Panel Vents will be used, calculate the number of panel vents and estimate the approximate location. Install the Villa panels up to the approximate panel vent location. Install Villa Tile panel vent per DECRA Roof Panel Vent Installation Guide found inside the panel vent carton, or available at DECRA.com.



DECRA panel vents should be installed on the last full course below the ridge, and no more than 4 feet down from the peak of the roof facet. Panel vents should NOT be used for air intake.

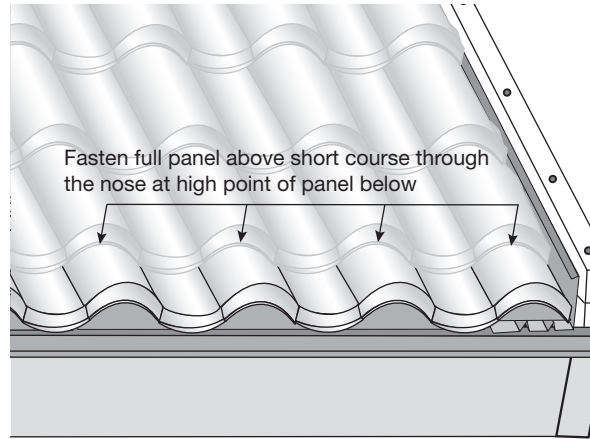
Ridge Venting: If a vented ridge is desired, stack 2 x 2 battens and install along the length of the ridge, the number of stacked 2 x 2s will be determined by the roof pitch. Use DECRA Ridge Vent material and fasten to both sides of the battens along the length of the ridge. Install DECRA Villa Bird Stop - Ridge along the ridge and attach to 2 x 2s fastening through the DECRA Ridge Vent material. Attach DECRA Ridge Vent material along the top of the DECRA Villa Bird Stop - Ridge. Cover the ridge with DECRA Tile Hip & Ridge and secure the Hip & Ridge trim through back edge into the 2 x 2. CAD drawings and Installation Presentation available at DECRA.com.



Short Course

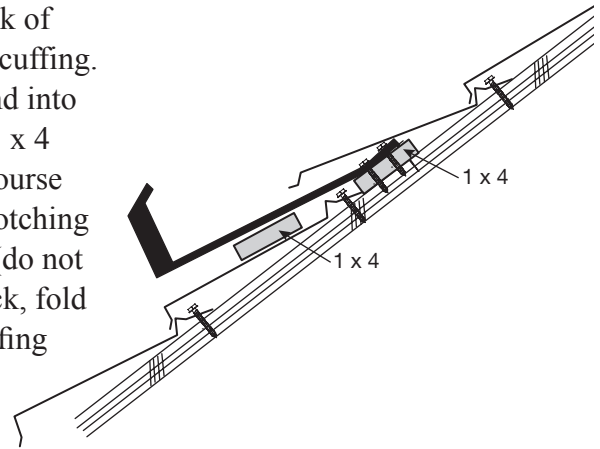
In some instances a short course will be necessary. A short course is needed when a section of the fascia steps out and is not an even panel width difference from the main fascia.

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 Jacks/Steep Pitch Roof

To use roof jacks, install two 4" to 6" 1 x 4s to support back of roof jack. Place padding between jack and panel to avoid scuffing. One 1 x 4 will be attached under the top of the roof jack and into the roof deck above the last course of panels. The second 1 x 4 will be placed in the pan of the panel of the last installed course to support roof jack. Install the next course of panels by notching the nose of the panel at the jack location and folding it up (do not completely remove the piece). When removing the roof jack, fold the nose of the panel back into place and finish using a roofing grade sealant/adhesive and a Touch-Up Kit.



High Wind

In areas prone to high winds, installation must meet local codes. Reference International Code Council (ICC) **ESR-1754** for DECRA direct to roof deck roof system installations, section 4.4 Wind Resistance and Table 1 detail on wind uplift pressures and panel fastening procedures. **ESR-1754** code compliance document is available on **DECRA.com**.

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. See walking instructions at **DECRA.com**.

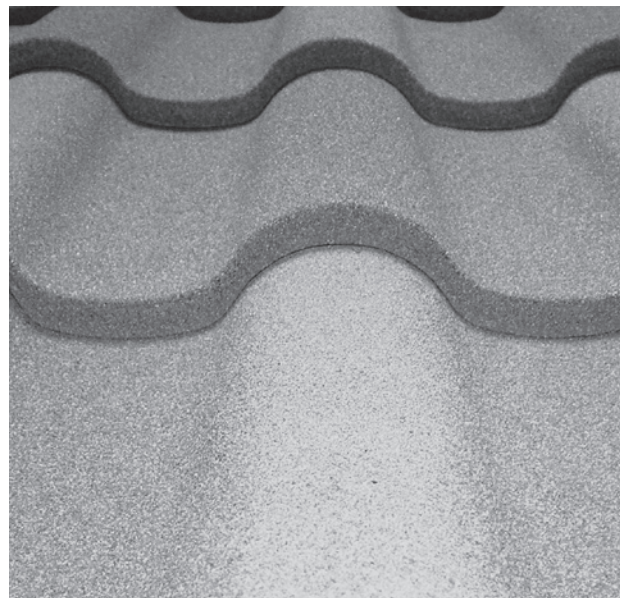
Sealants

A roofing grade sealant/adhesive should be used with this roofing system. Where possible, the sealant should be covered by the roofing system or with matching stone granules. Sealant should not be used to refinish damaged panel surfaces. Touch-Up Kits are available in colors matching the various stone coated panel finishes.

Cleaning & Repairs

After installation is complete, be sure to clean all debris off of the roof, especially any metal shavings.

In cases where it is necessary to touch up or repair a panel, DECRA Touch-Up Kits are available in all of the colors matching the stone coated panel finishes. For answers to questions, or more details not covered in this guide, call **(877) 463-3272** or visit **DECRA.com**. Architectural Details, Product Specs and Estimating Sheets are available at **DECRA.com**.



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