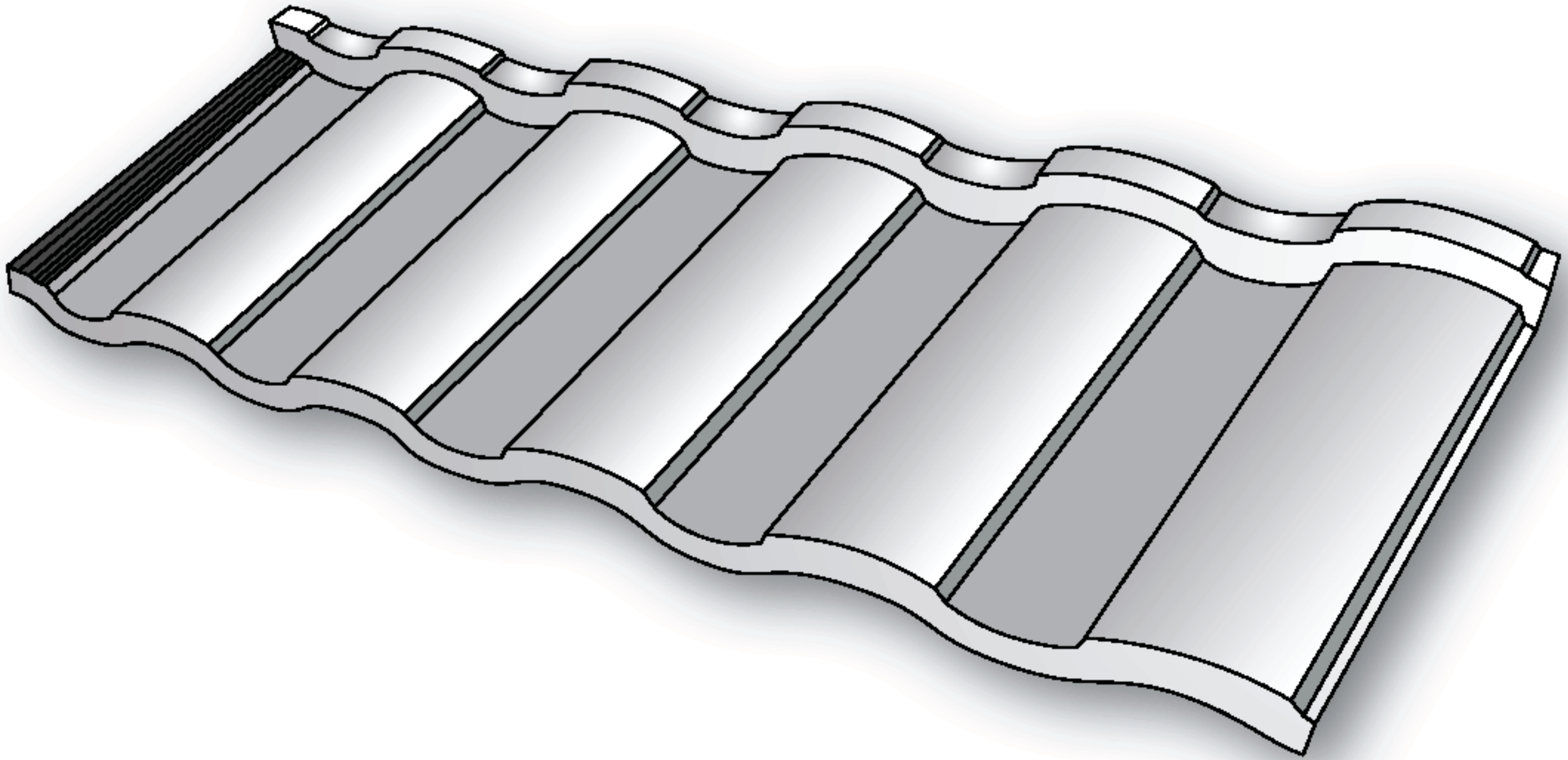




# MetroROMAN-TILE™

## Batten-less Installation Details



Issued December 29, 2005

Revised February 22nd 2009

### **INSTALLATION WARNING!**

*These installation details are provided to demonstrate a recommended installation method for Metro roof panels and accessories. The details and information in this document reflect current roofing practices used in the United States. Installers of Metro roof panels & accessories should, have knowledge of roof structures, an understanding of how to work with stone-coated steel panels and accessories and be experienced at working on sloped roof environments.*

*Metro recommends installers of its products use a Metro Installation Kit (1-Cutter, 1-Foot Bender & 1-Foot Bender Attachment) and to have completed a 'SMART-Start On-Site Installer Training Orientation Program' (<http://metroroofs.com/SmartStartTraining.cfm>) for each profile they attempt to install. Metro does not consider its products to be a 'Do-It-Yourself' (D.I.Y) product, mainly due to the need for specialized cutting & bending tools used during installation.*



# MetroROMAN-TILE™

## Batten-less Installation Details

### INTRODUCTION

#### Installation Tools:

- Metro Installation Kit
  - 1-Cutter, 1-Foot Bender
  - 1-Full Panel Bender attachment
  - 2-Batten Spacers
- Metro SMART-Hand Tool Kit
  - 12-V Impact Driver
  - Red & Green Snips
  - 3" Hand Seamers
  - Safety Gloves & Safety Glasses

#### Other Tools:

- Nail Gun
- Hammer
- Tape Measure
- Caulking Gun
- Sting-Line

#### General:

These installation details are designed to be used in conjunction with Metro's SMART-Start On-Site Installer Training Program. A certificate of completion is awarded to those installers who are considered to have satisfactorily completed the Metro SMART-Start On-Site Training Program for each Metro profile.

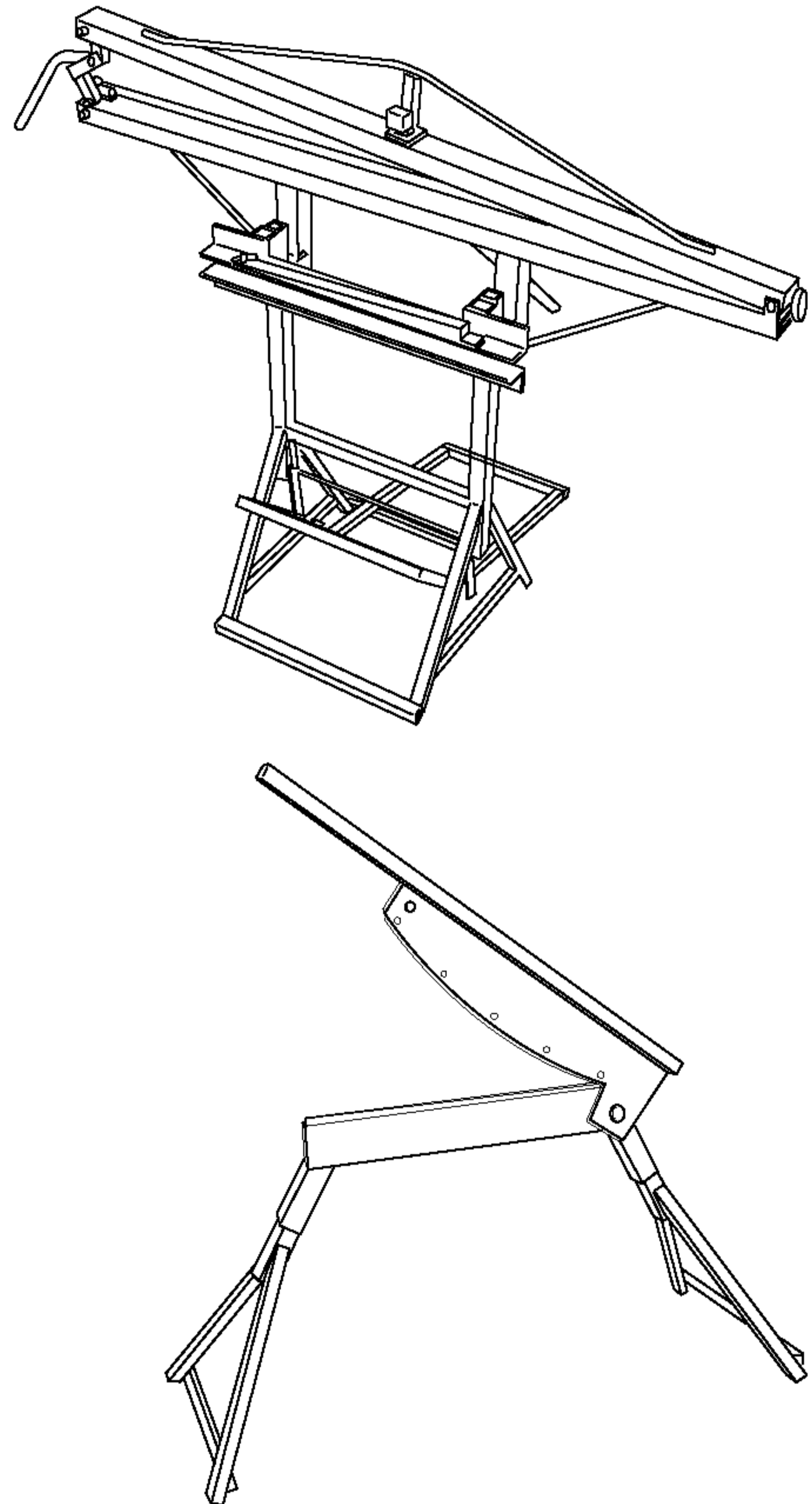
Metro Batten-Less install methods ensure the simplest application. Starting with perimeter metal flashings & valleys, then followed by field panels installed from the Fascia to the Ridge. The next step is to measure, cut & bend panels to fit the areas around the perimeter of the field panels at Rakes, Ridges, Hips & Valleys. The final step is to install the Trim Caps and a final quality control check of the job.



*In cold climate zones with Cathedral Ceilings a Counter-Batten and Batten grid system is suggested to help prevent Ice-Damming.*

#### SMART-Steps to a perfect install:

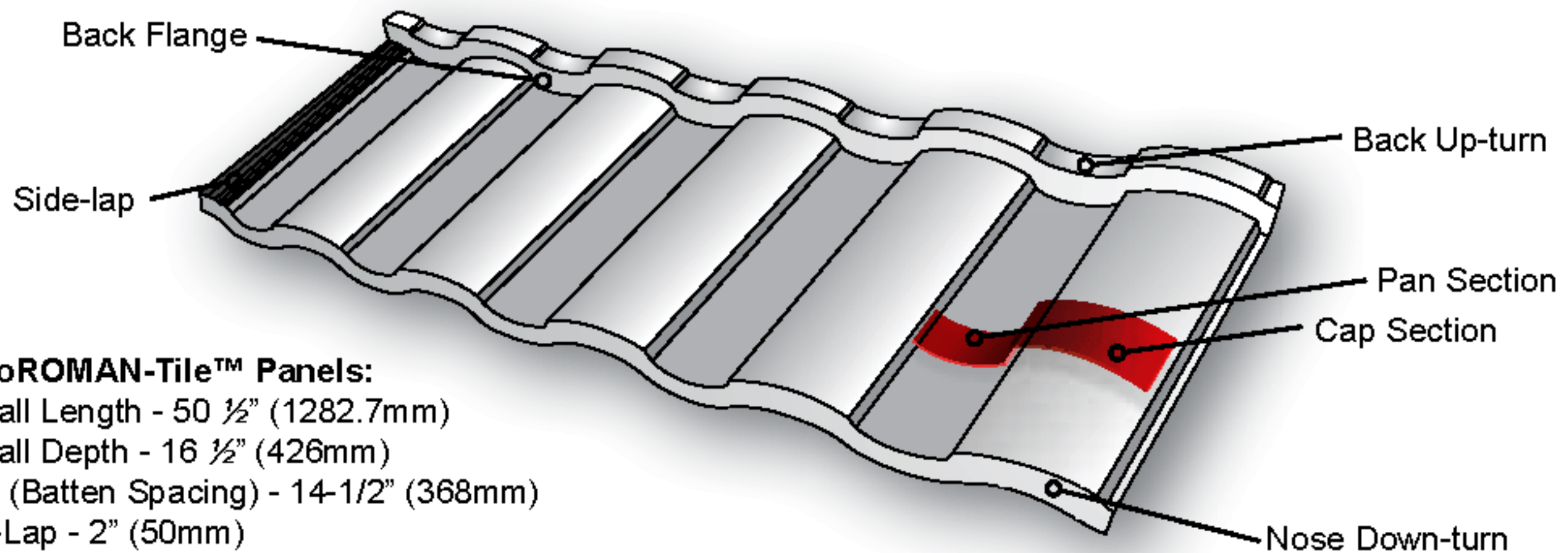
1. Perimeter Flashing & Valley Metal
2. Full-Field Panels
3. Rake cut sections
4. Hip & Valley cut & sections
5. Ridge cut & bent sections
6. Pipe, Chimney / Skylight flashing
7. Trim Caps
8. Overall quality control job check





# MetroROMAN-TILE™

## Batten-less Installation Details



### MetroROMAN-Tile™ Panels:

Overall Length - 50 ½" (1282.7mm)  
Overall Depth - 16 ½" (426mm)  
Pitch (Batten Spacing) - 14-1/2" (368mm)  
Side-Lap - 2" (50mm)  
Back Flange - 1" (25mm)  
Back Up-Turn - 1" (25mm)  
Panel Cover - 49-1/2" (1258mm)  
Panels Per Pallet - 400-pcs  
Panels Per Square (100 Sq Ft) - 21-pcs  
(0.465 panels per Sq. M)

### Materials:

Metro panels are produced from Aluminum-zinc alloy coated steel complying with ASTM A792.

### Warranty:

Metro panels carry a limited warranty for fifty years. This limited warranty is transferable and does not cover damage due to improper handling or installation.

### Packing and Storage:

A pallet of Metro panels contains approximately 20 squares. Care should be taken to store panels under a weather-proof cover or inside in an area free from moisture.

### Sealant/Caulking

Only exterior grade urethane or (non-acidic) silicone caulking should be used for sealant.

### Fasteners:

All fasteners (Nails or Screws) used on a Metro roof shall meet or exceed the corrosion resistant standard as defined in ASTM B-117, (1,000-hr minimum Salt Spray Corrosion Resistance). Panel, Trim & Accessory fasteners shall be as follows:

NAILS - .131" dia X 2-3/8" long Ring Shank & coated Black.

For HVHZ (High Velocity Hurricane Zone) areas refer to local code requirements and/or Metro website ([www.metroroofs.com](http://www.metroroofs.com)) for details.

### Testing:

Metro panels have been tested in accordance with local, national & international building codes. Testing has been conducted to evaluate fire, wind, penetration, water infiltration, and durability resistance. Information regarding specific tests and approvals can be obtained from Metro Roof Products.

### Ventilation:

Ensure proper attic ventilation as prescribed per local codes. Either Smart Vents or Ridge venting can be installed to achieve adequate ventilation.



### Dissimilar Metals:

To avoid adverse corrosion effects caused by dissimilar metals, COPPER and LEAD flashings should not be used with Metro roof products and accessories. (refer to Metro SMARTbrief #02004)

### Finish coating

Minor scuffing of Metro panels can be repaired with a Touch-Up kit from Metro Roof Products. Use the Touch-Up kit Metro basecoat (*not caulking*). Unfinished flashing materials can be painted with durable acrylic aerosol paints. Colored aerosol paints should never be sprayed on panels or accessories made by Metro Roof Products.

### Roofing felt

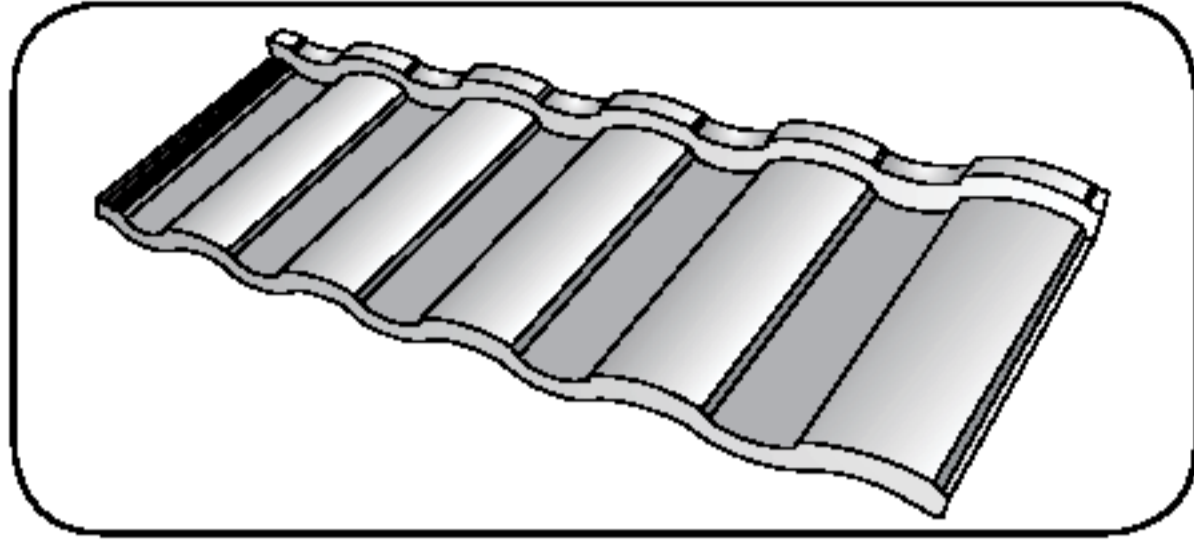
Unless local conditions require otherwise, either one layer of type 30, or two layers of Type 15 lb. roofing felt or equal should be used with Metro panels.



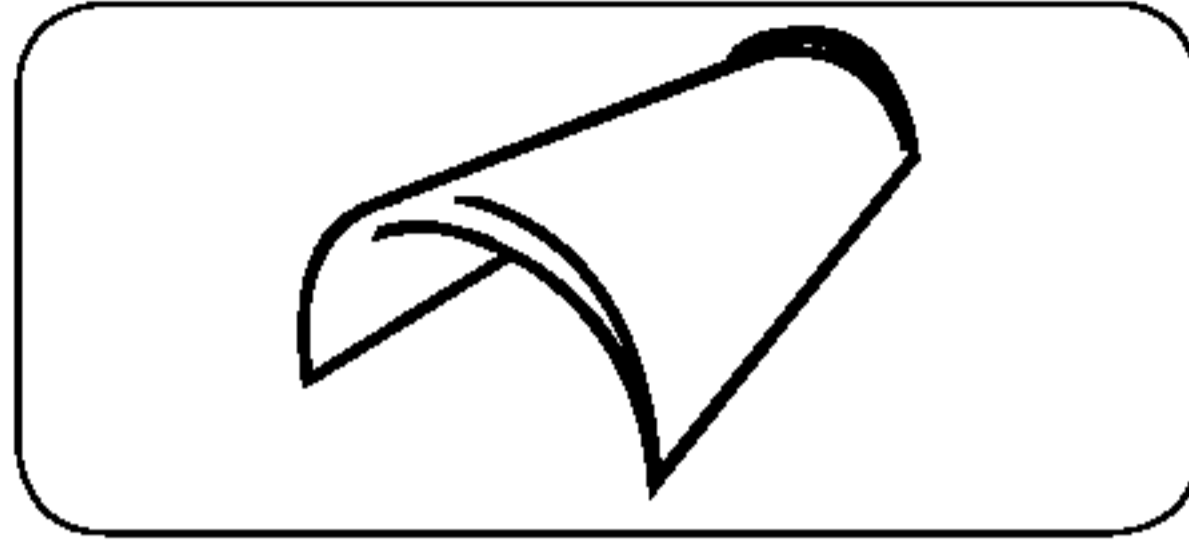
Colored aerosol paints should never be used on stone-coated panels & accessories.



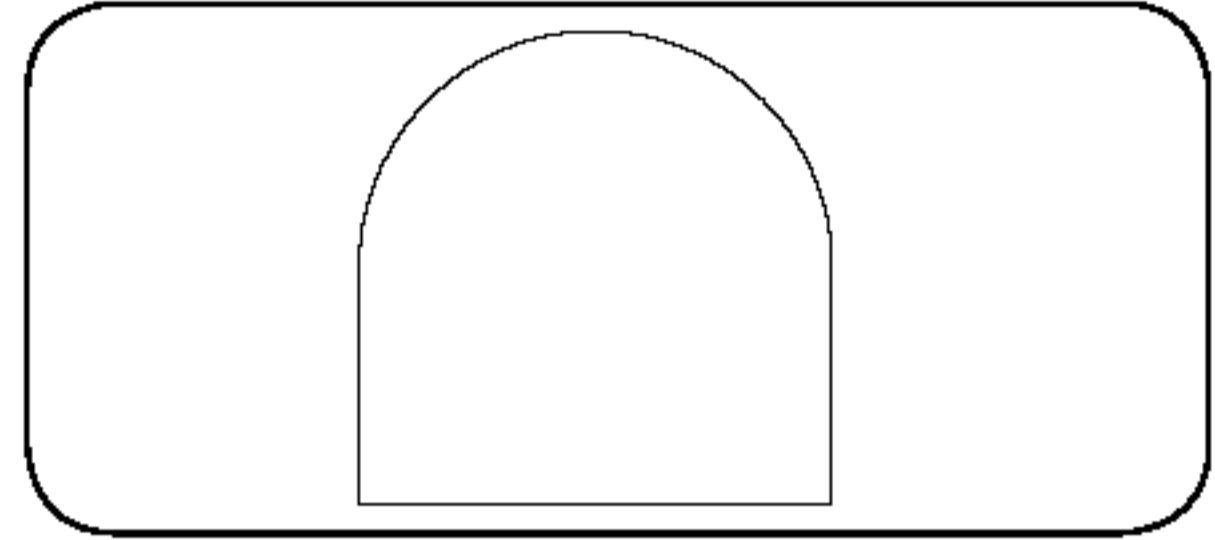
### STONE-COATED ACCESSORIES



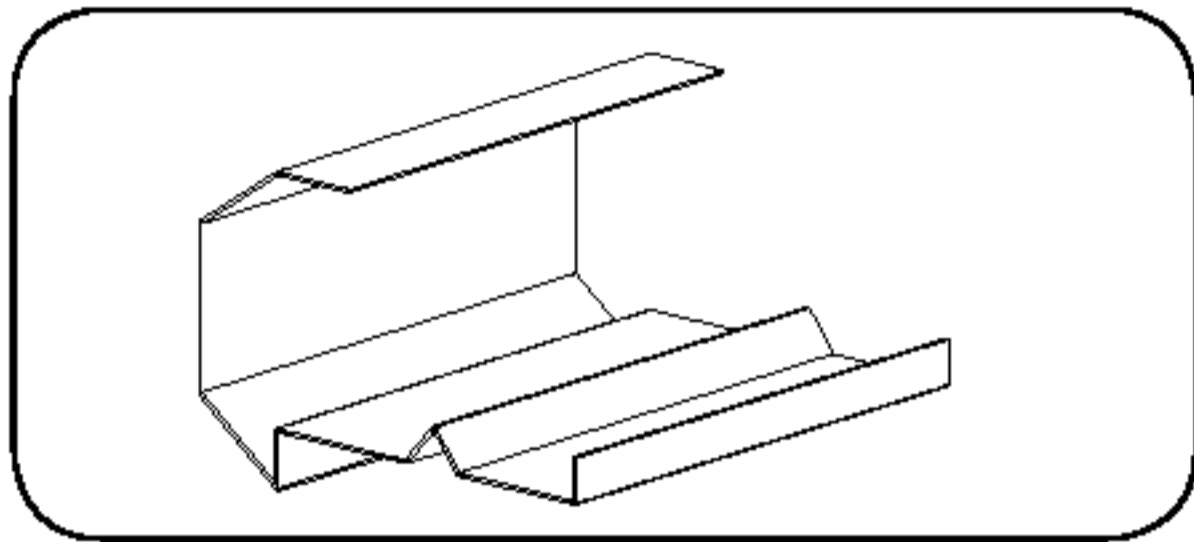
**Metro Roman**  
50" x 16.5" - 5.5 lbs.



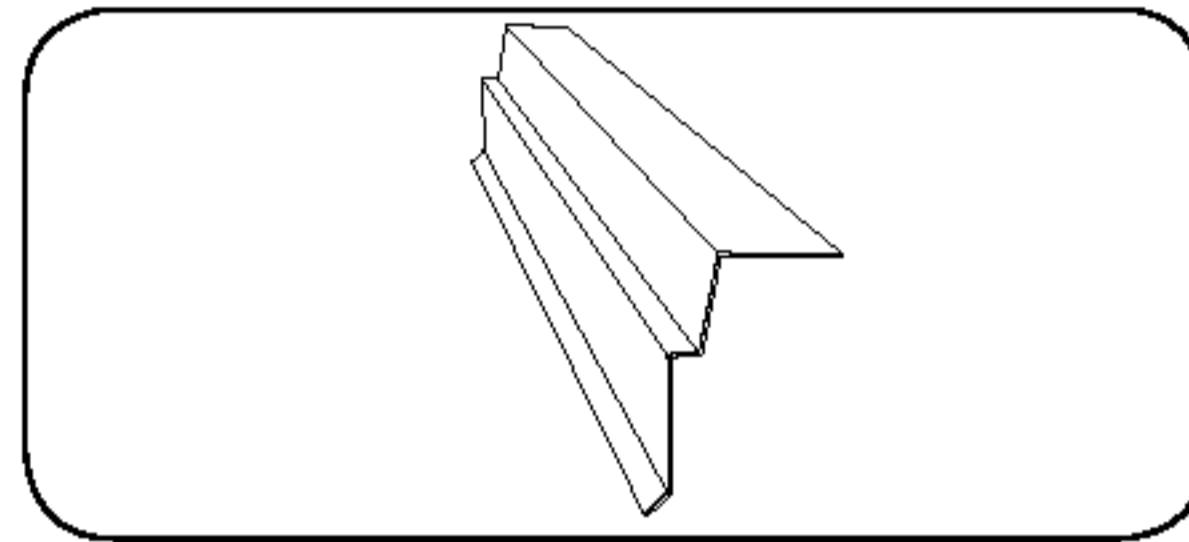
**Barrel Trim**  
14.5" x 6" - 1 lbs.



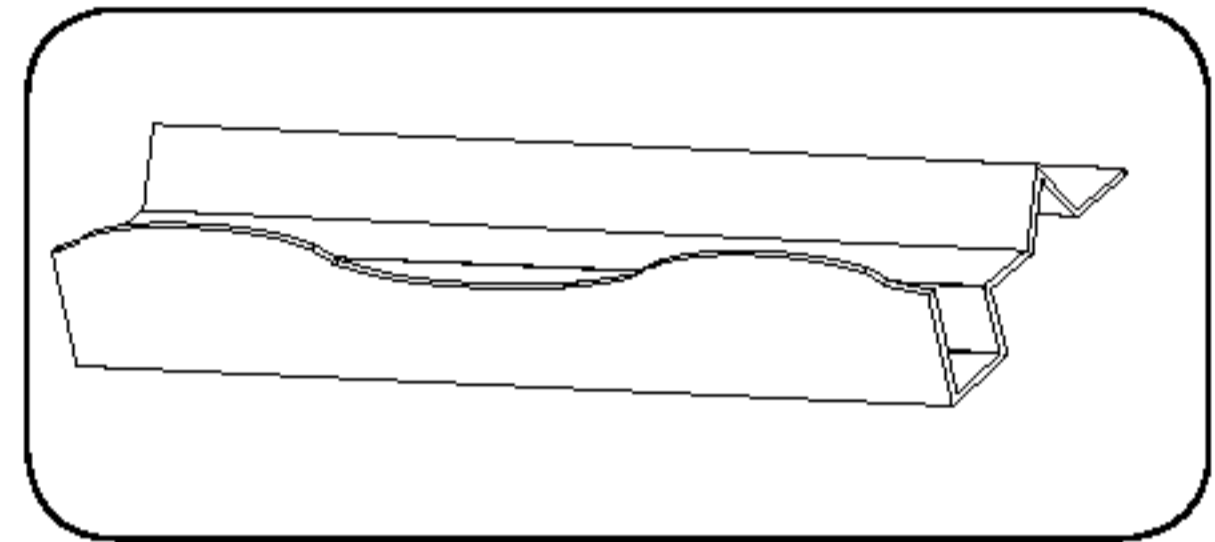
**Trim End Disc**  
6" x 4" - .15 lbs.



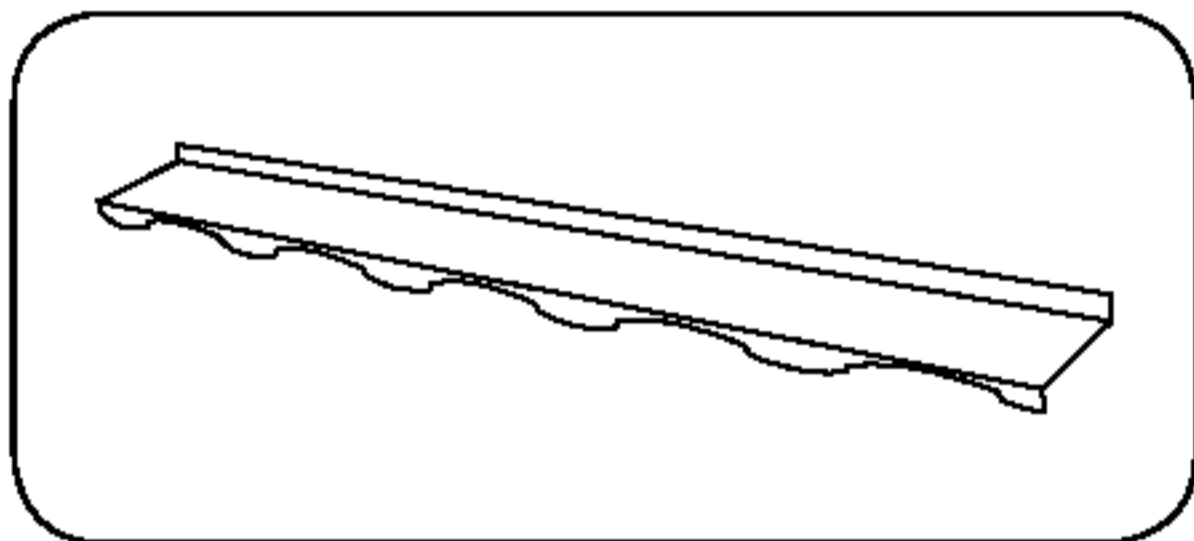
**Rake Channel Shake-I**  
79" X 2" X 1-1/2" - 3.0lbs.



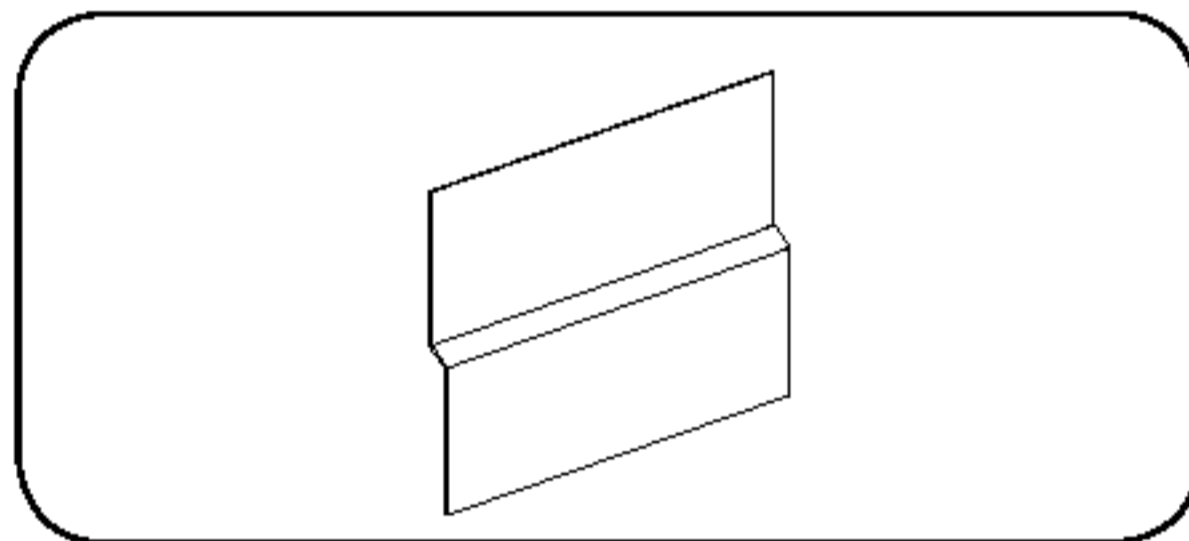
**Tile Rake Metal**  
79" X 2" X 2" X 1-3/4" - 3.5lbs.



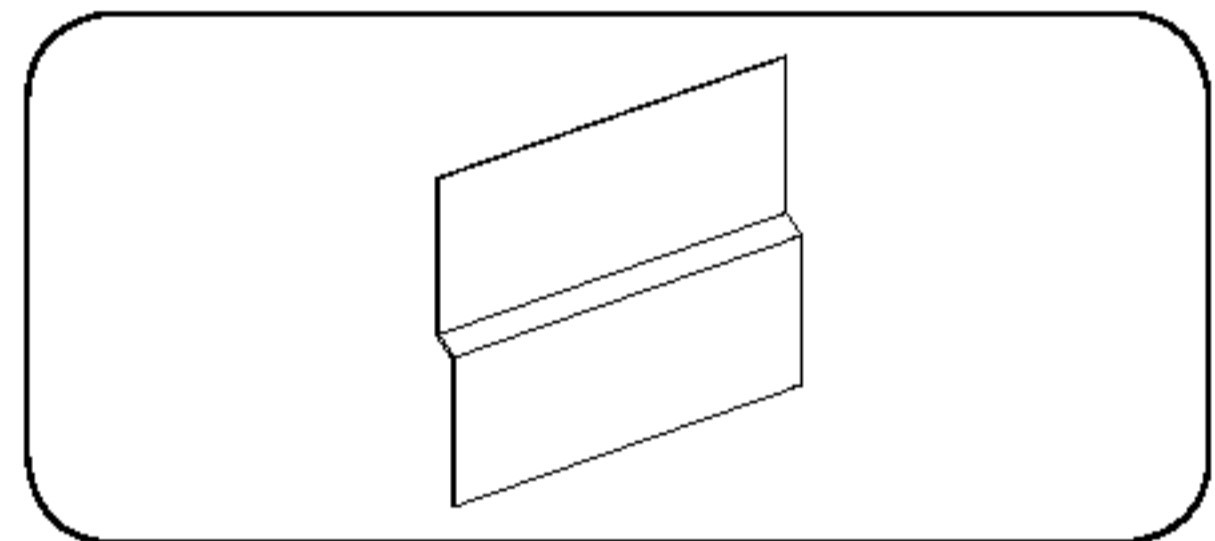
**Bird-Stop V-Bat Riser Metal**  
79" X 2-3/4" - 3.75 lbs.



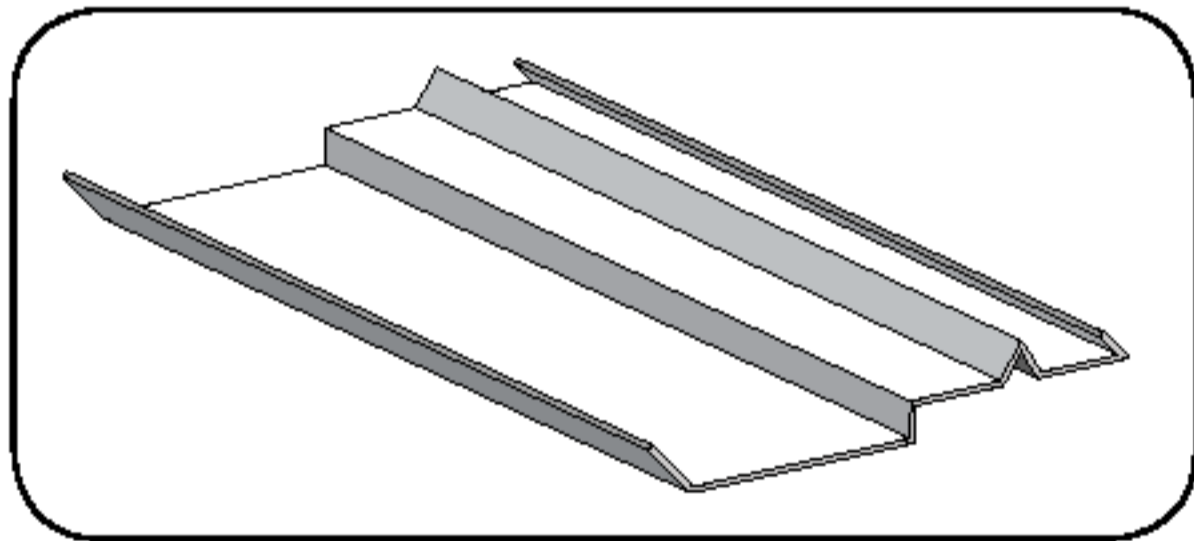
**4-1/2" Roman Top-Course**  
79" X 4-12" - 3.5lbs.



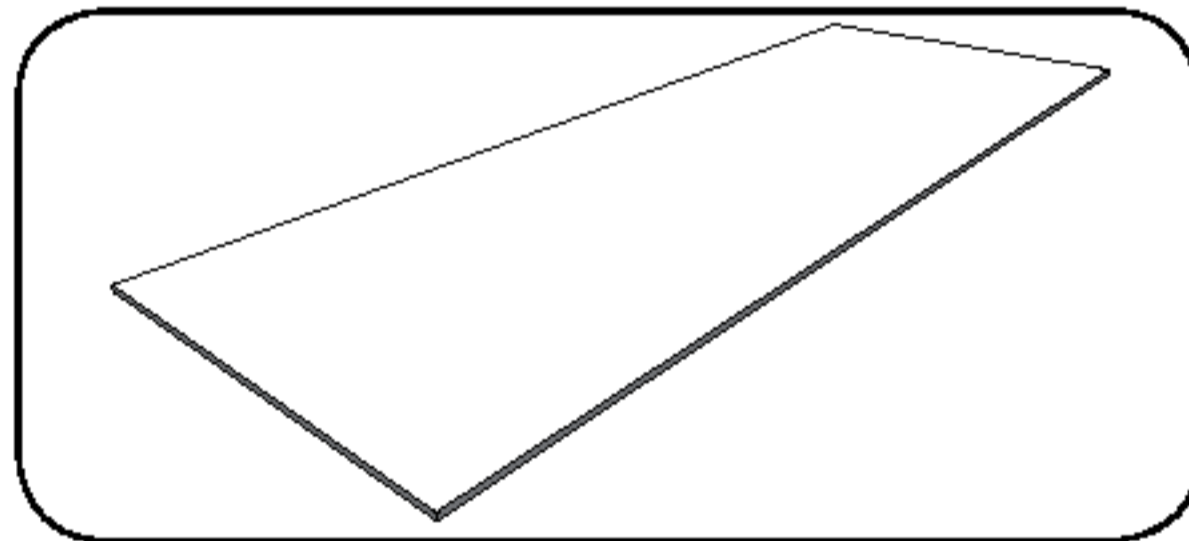
**1-3/8" Small Z-Bar**  
79" X 2" X 3-1/4" - 3.3lbs.



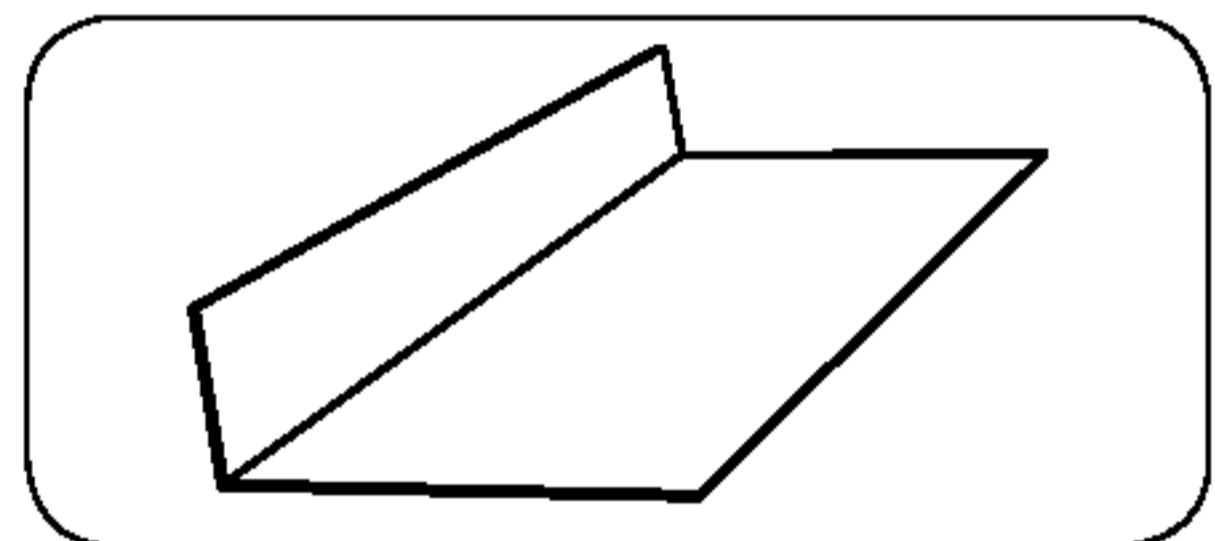
**2.5" Z-Bar**  
79" X 2-1/2" - 3.5lbs.



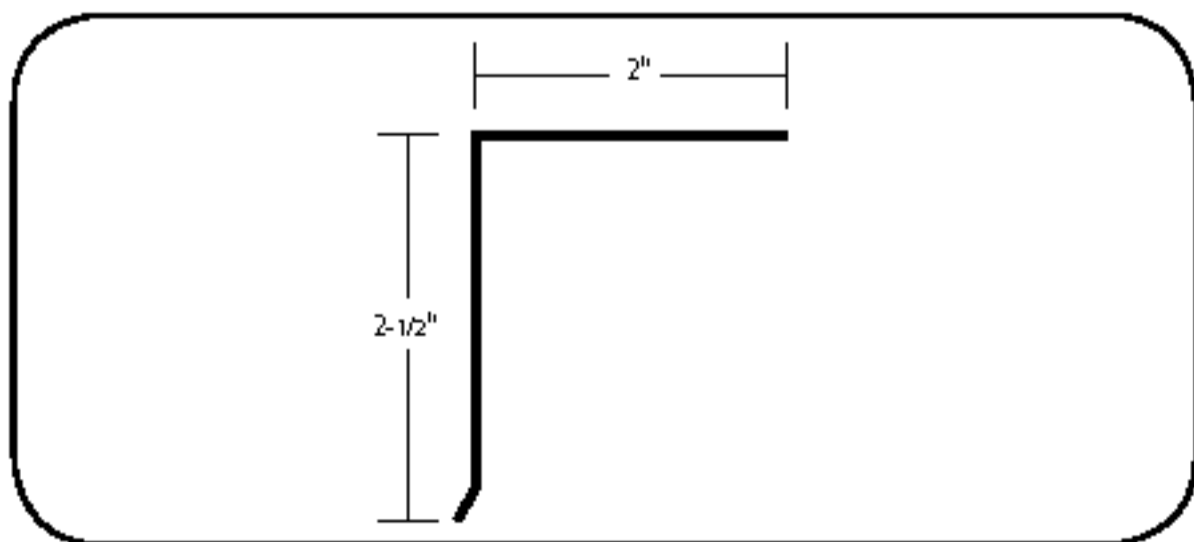
**Tie-In Metal**  
79" X 4" - 4.0lbs.



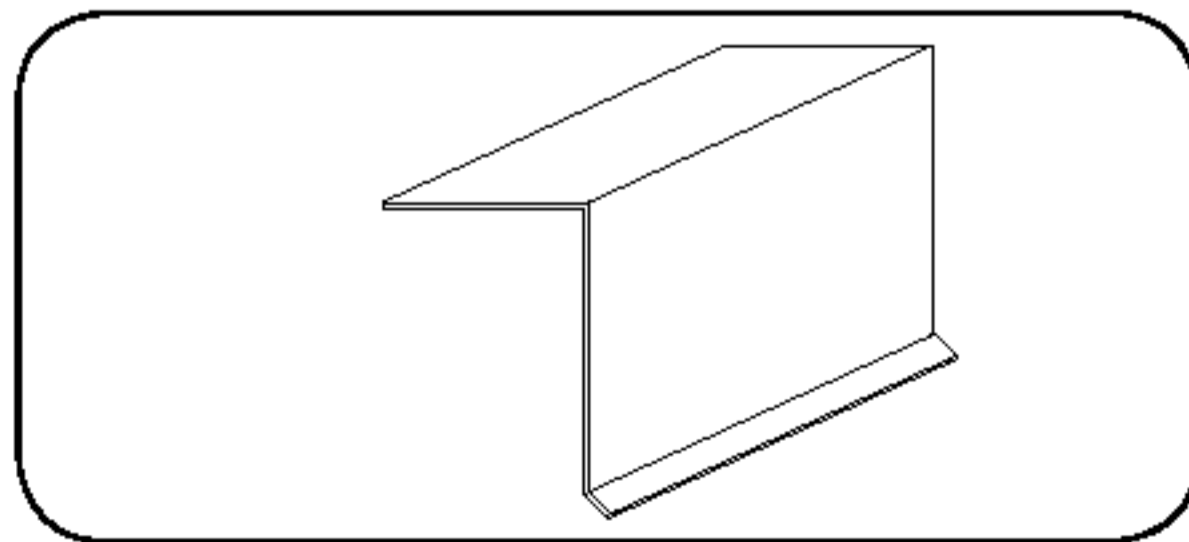
**Flat-Stock**  
52" x 18" - 5.5 lbs.



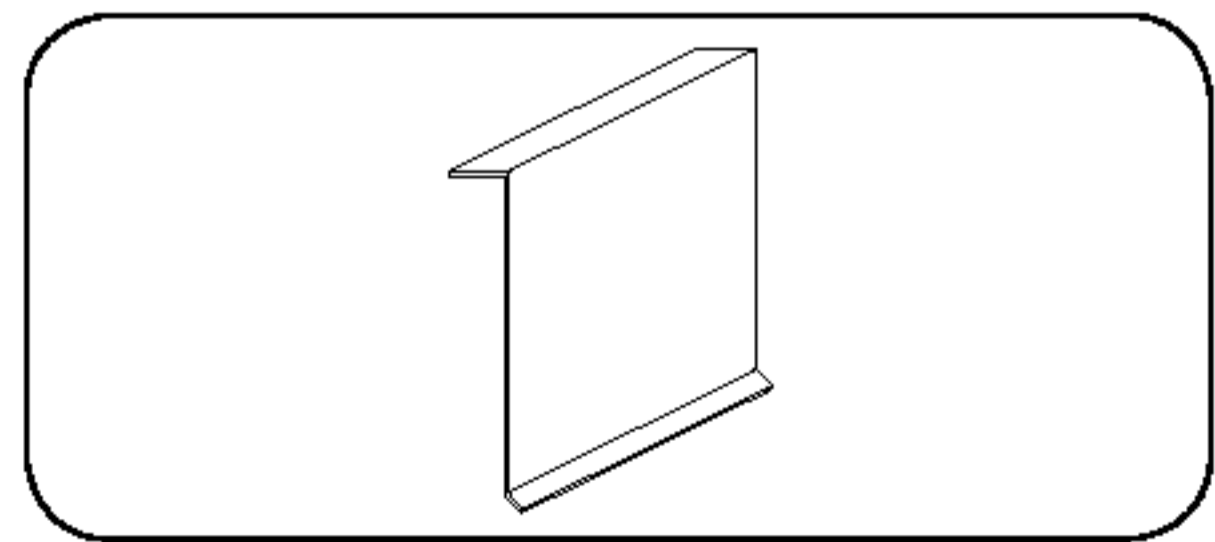
**Chimney Saddle**  
60" x 16" - 6.75 lbs.



**FL Drip Edge**  
79" X 2" X 3-1/4" 3.3lbs.



**3.5" Fascia Metal**  
79" X 2" X 3-1/2" 3.3lbs.



**5" Fascia Metal**  
79" X 3/4" X 5" 5lbs.

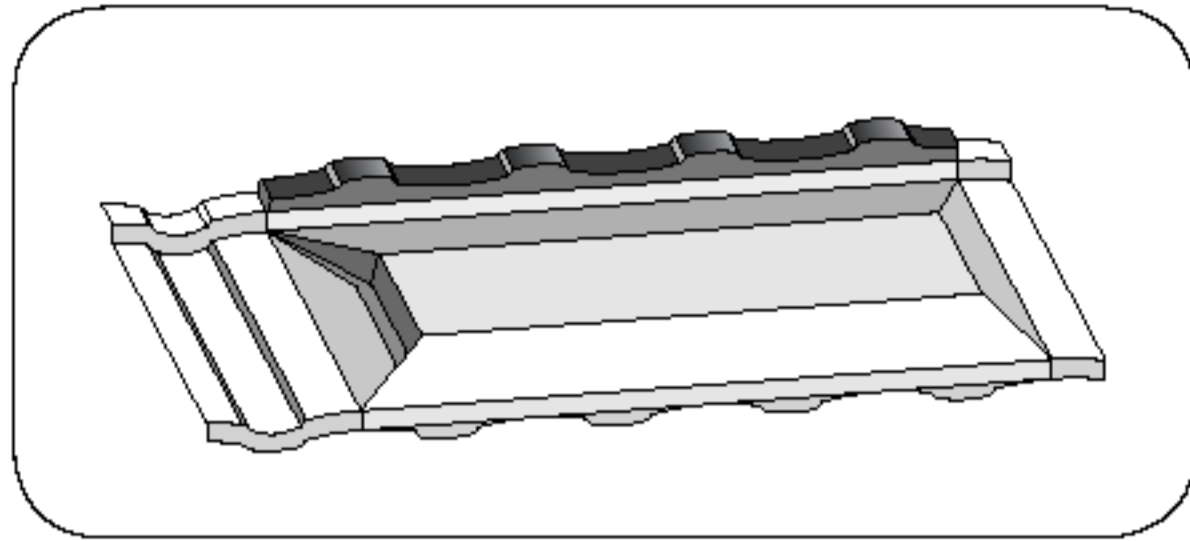




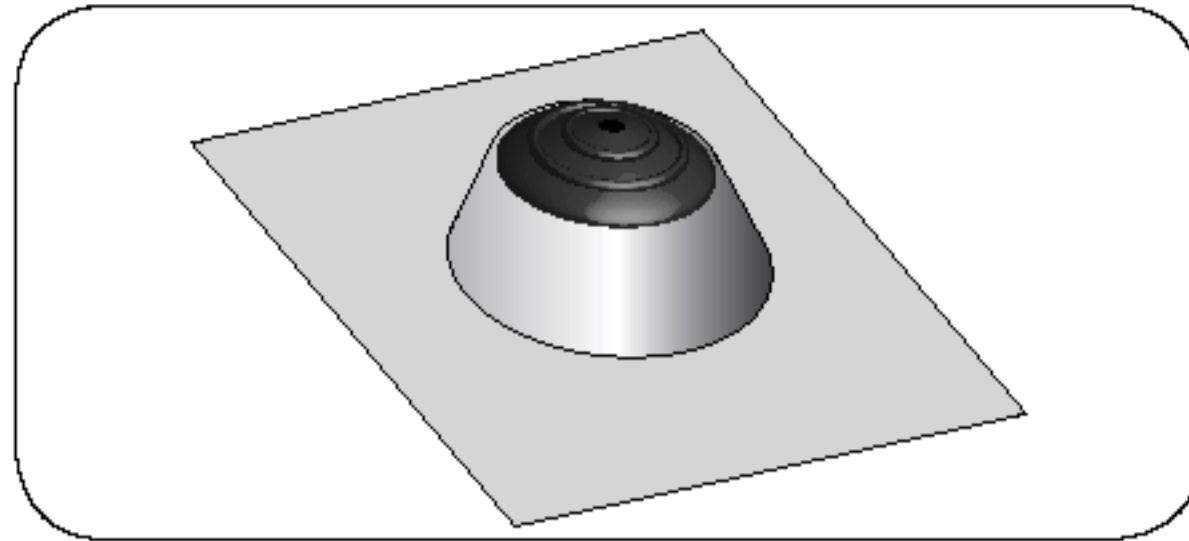
# MetroROMAN-TILE™

## Batten-less Installation Details

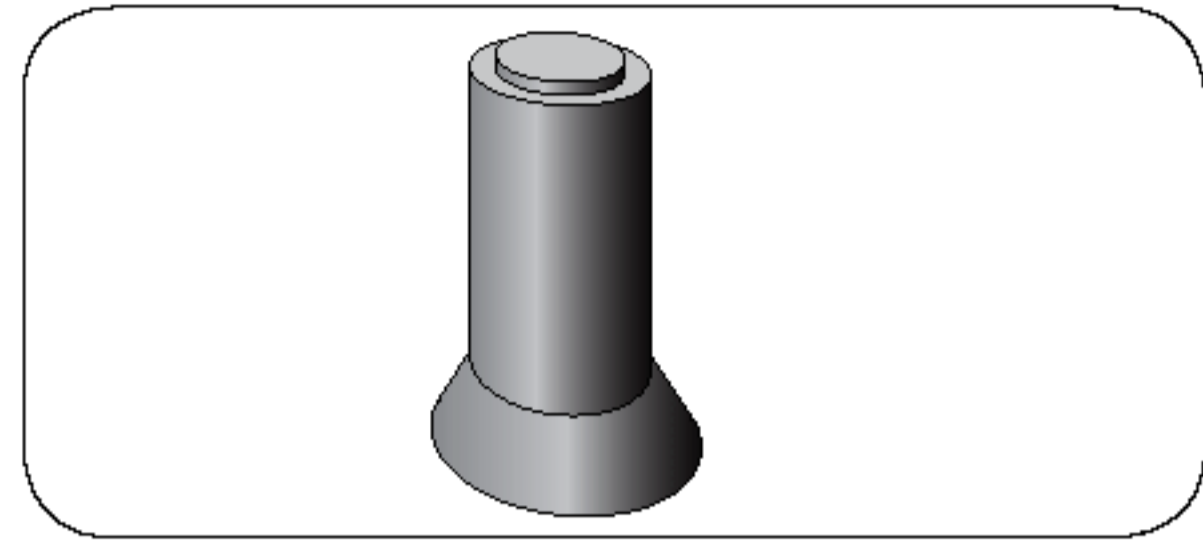
### METRO SMART ACCESSORIES - STONE COATED



**MetroRoman SMARTvent**  
52" x 14.5" x 3.5" - 10.5 lbs.  
Net Free Vent Area 82.5"

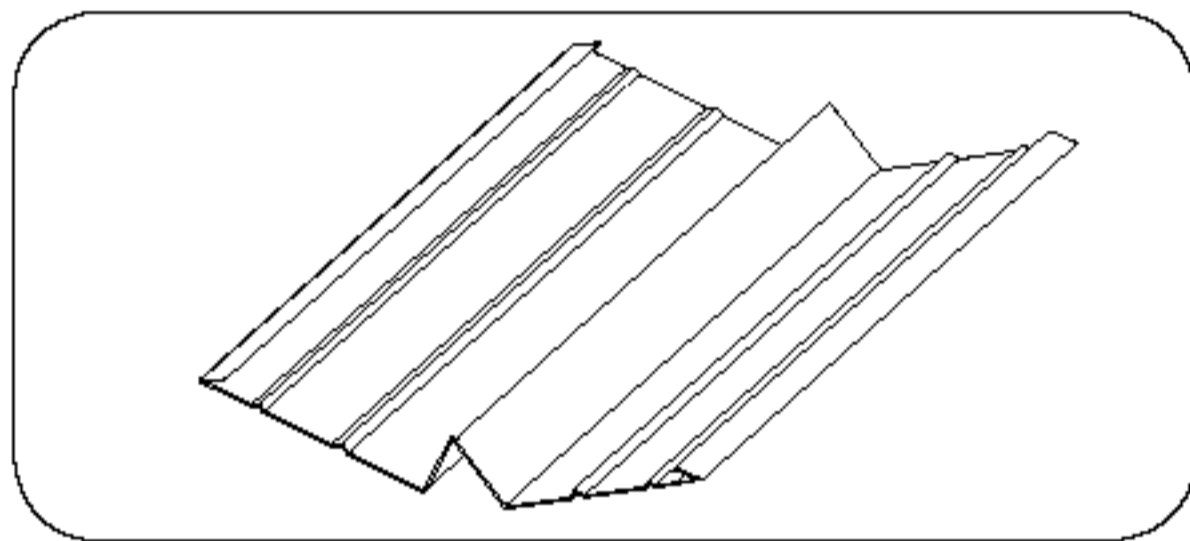


**SMART-jack**  
18" x 18" x 4.5" - 1lbs.  
Fits 1" - 3" Dia., Pipes

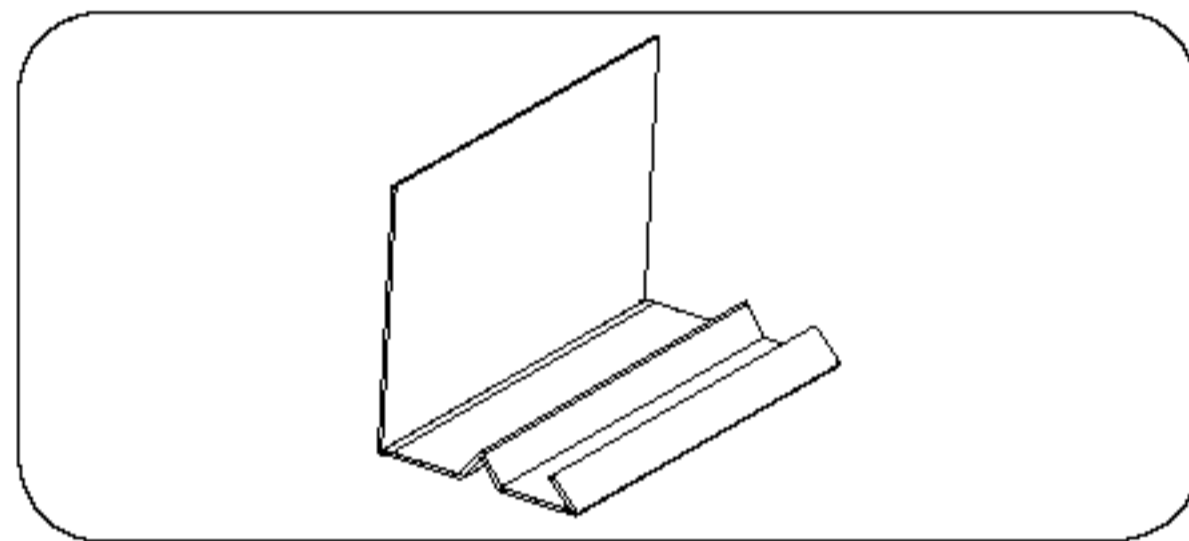


**SMART-Sleeve  
Universal Pipe Cover**  
Fits pipes 3/4" to 4" in Dia. Avail-  
able as single unit or in 6-Pack  
boxes.

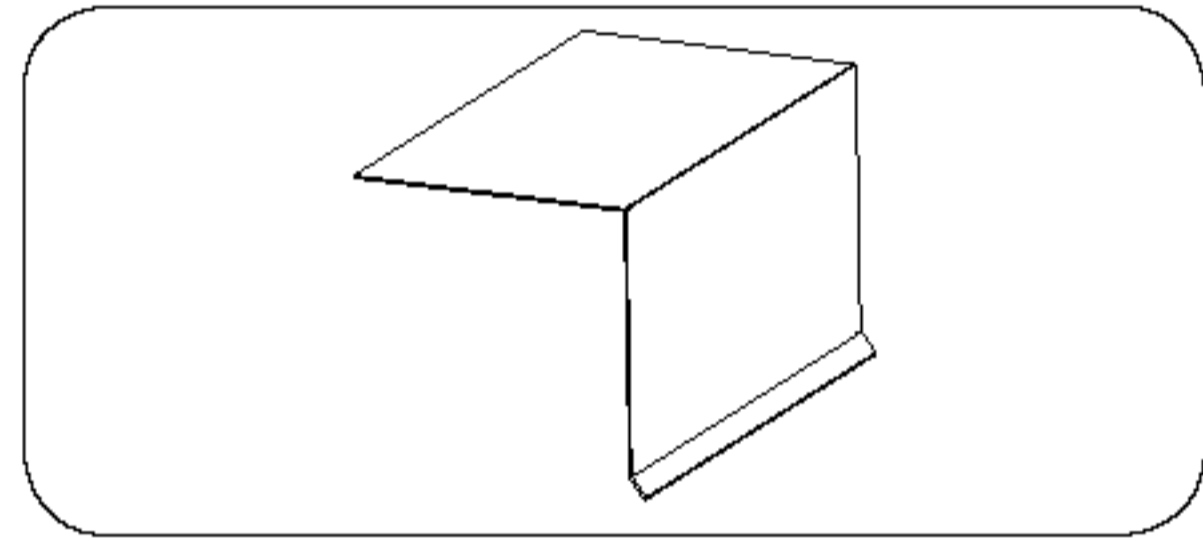
### PAINTED ACCESSORIES



**20" Double 'V' Valley Metal**  
120" x 20" x 2"  
12.5 lbs.



**Side-Wall Under-pan metal**  
120" x 4"  
5 lbs.



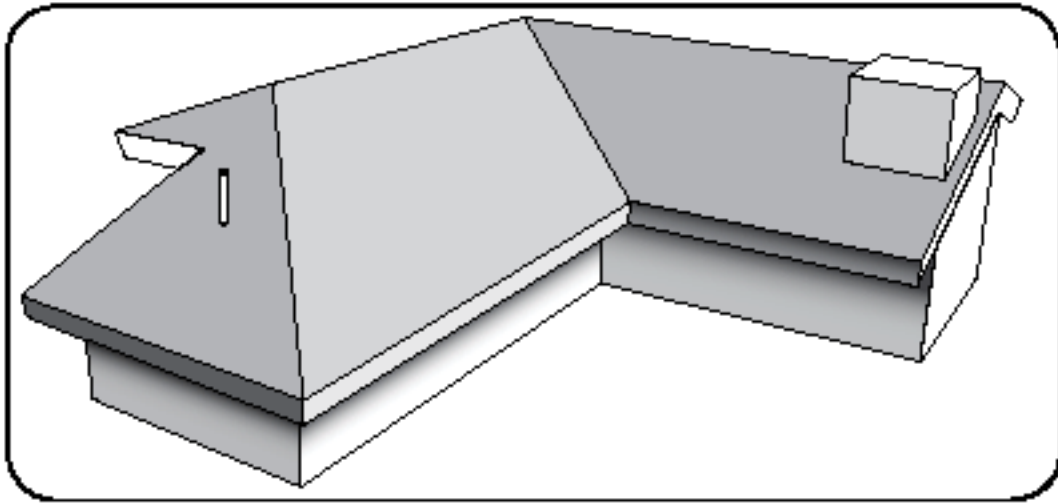
**Drip Edge**  
120" X 2" X 1-1/2" - 1.0lbs.





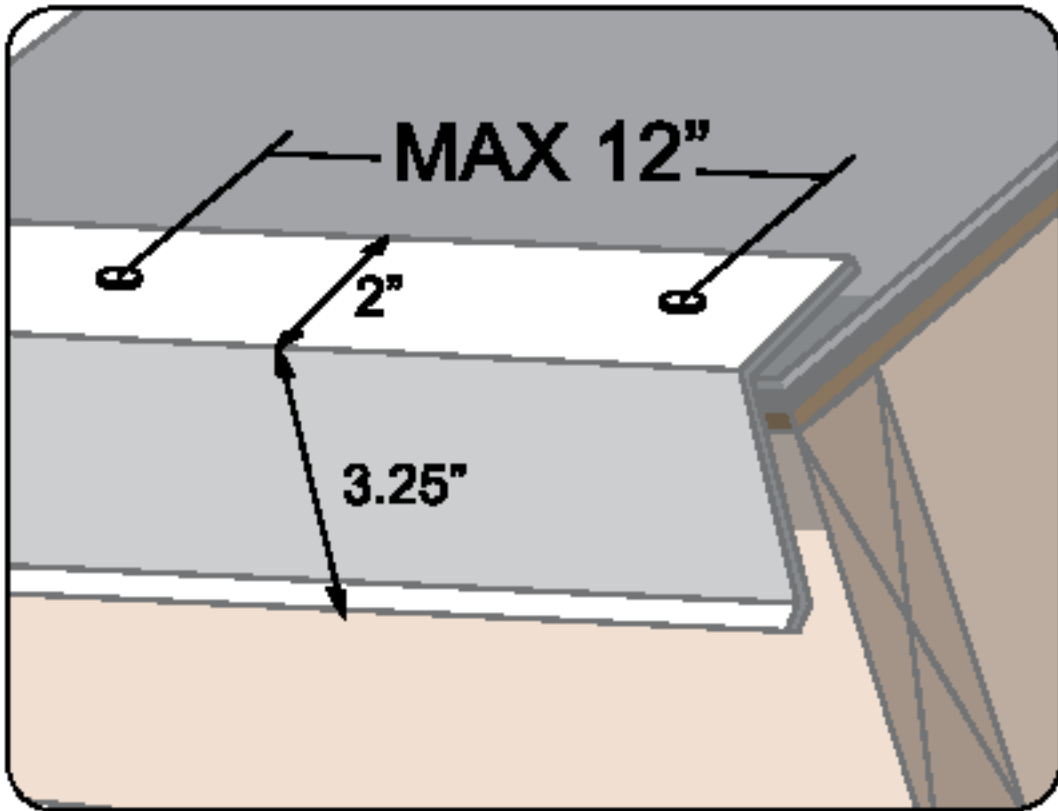
# MetroROMAN-TILE™ Batten-less Installation Details

## GENERAL

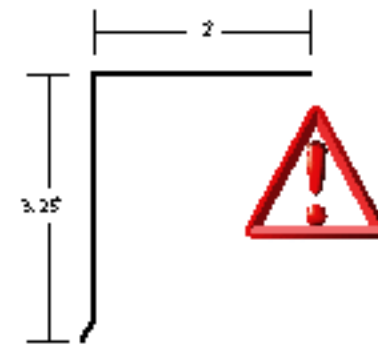


Metro Batten-less Roman panels are Installed on new or existing roofs pitched a minimum of 2-½:12 (12 degrees). An underlayment is to be installed as per local code and manufacturers instructions.

## DRIP EDGE



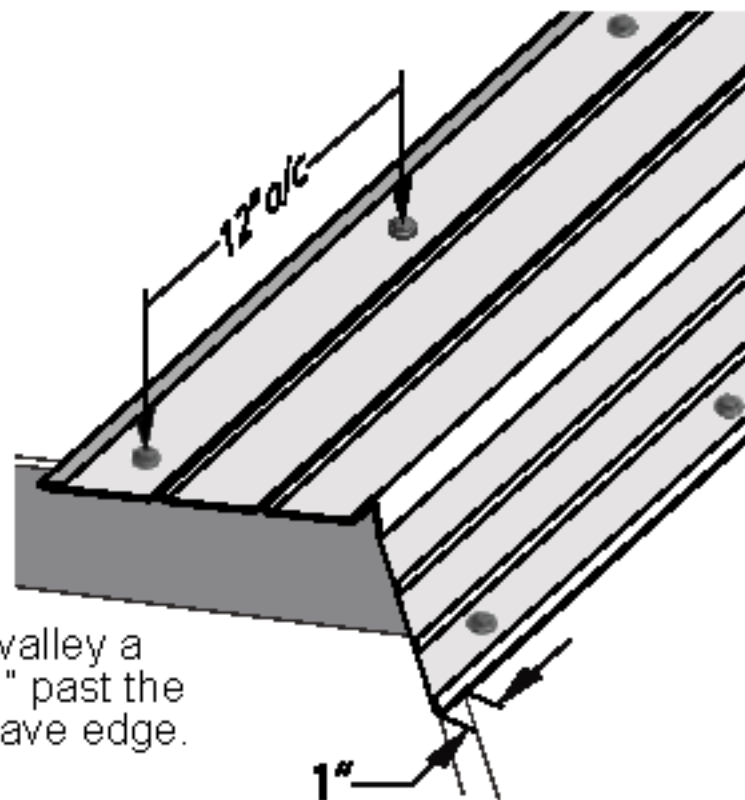
Install Drip Edge Metal across fascia.




*Florida and other high wind areas use the Metro FL-FASCIA Stone-Coated metal.*

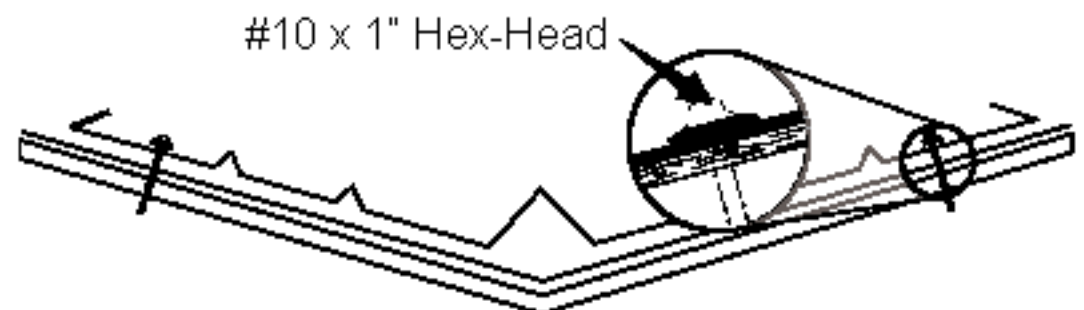
For HVHZ (High Velocity Hurricane Zone) areas, perimeter flashings are fastened per local code

## 20" DOUBLE 'V' VALLEY

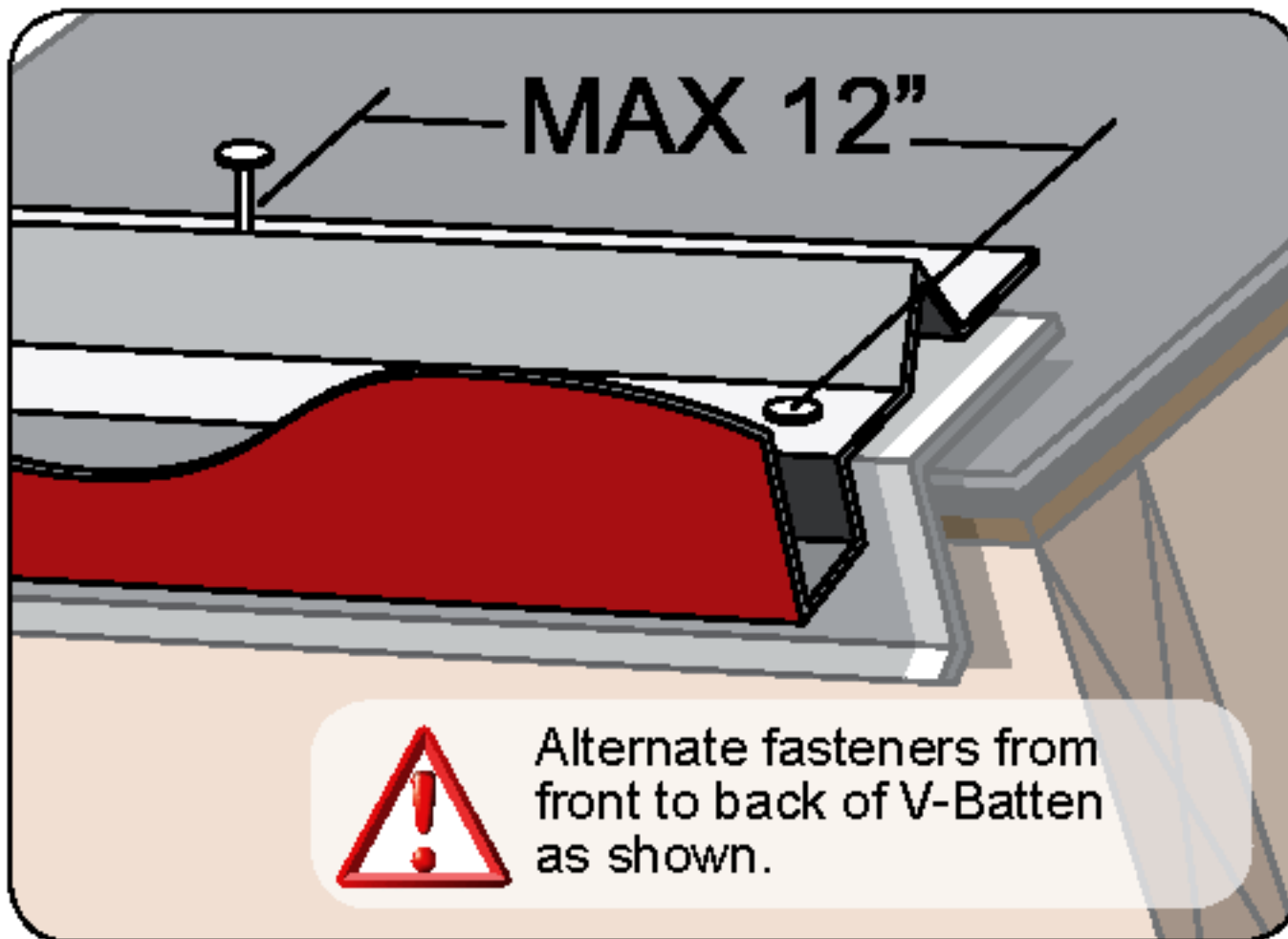


 Extend valley a min of 1" past the fascia/eave edge.

Install 20" (508mm) Double 'V' Valley metal overlapping a min. of 4" (100mm). Valleys are attached with site fabricated clips as shown. Washer and Rubber Grommet screws are acceptable at the outside locations, as shown.

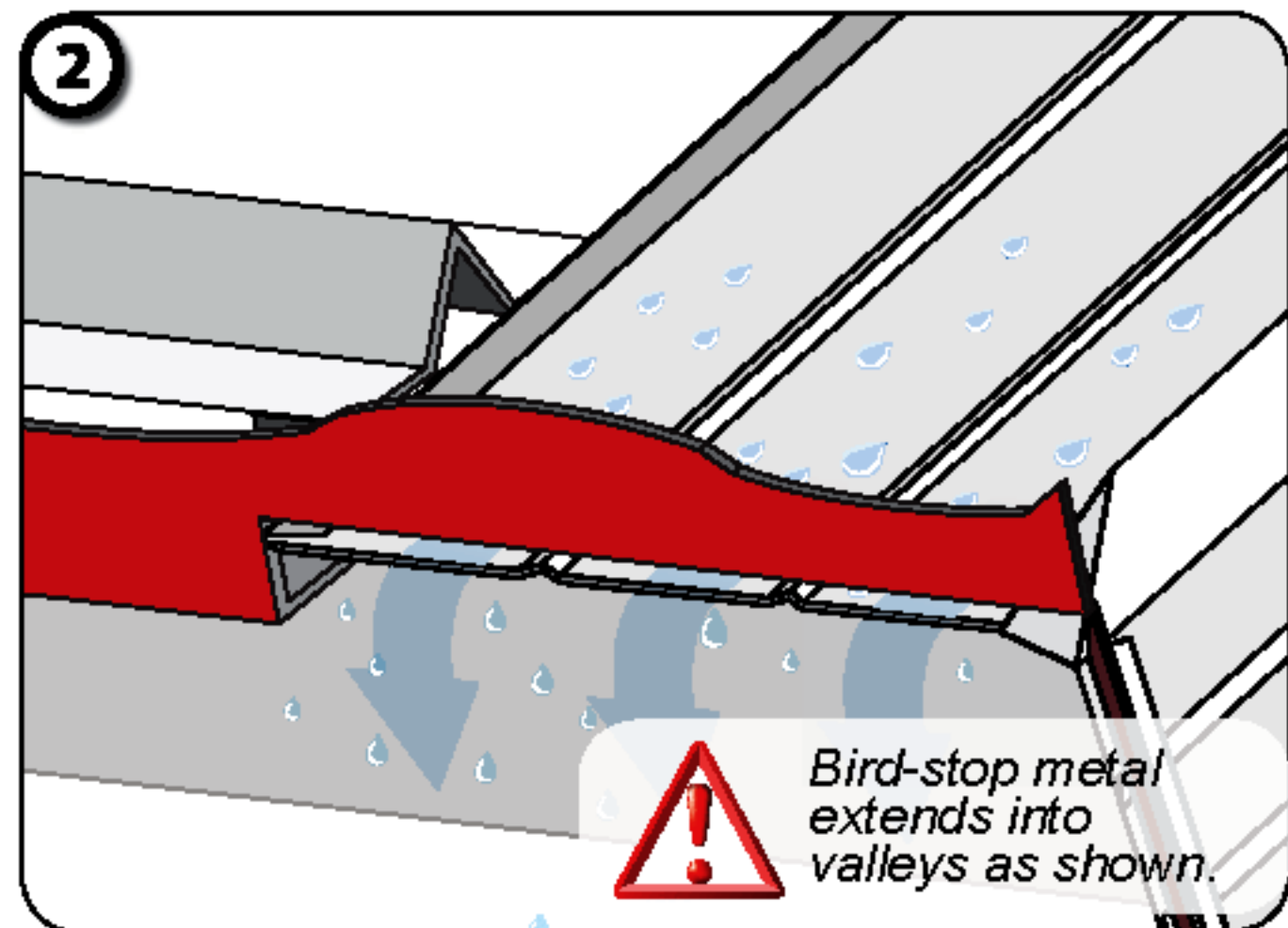
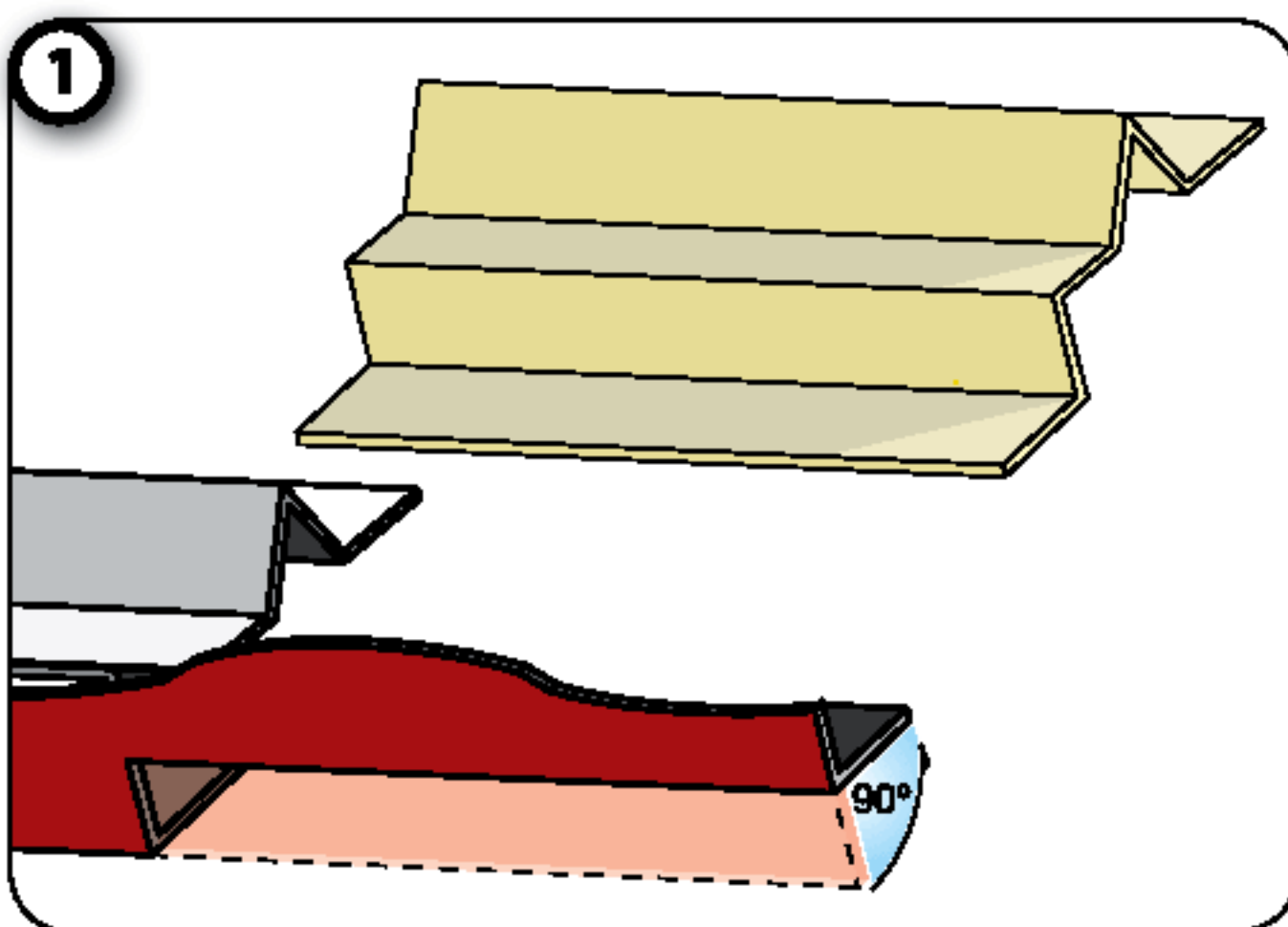


### BIRD-STOP METAL

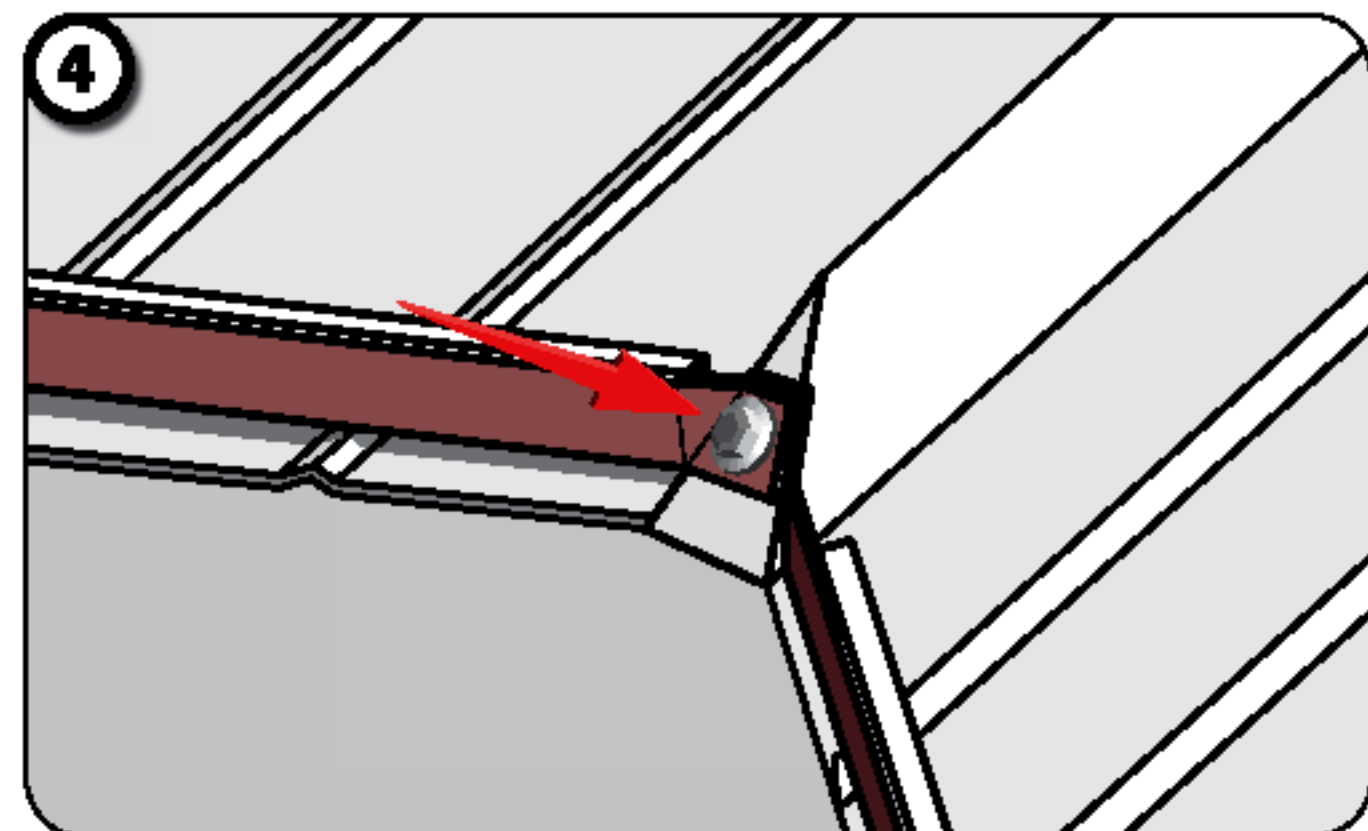
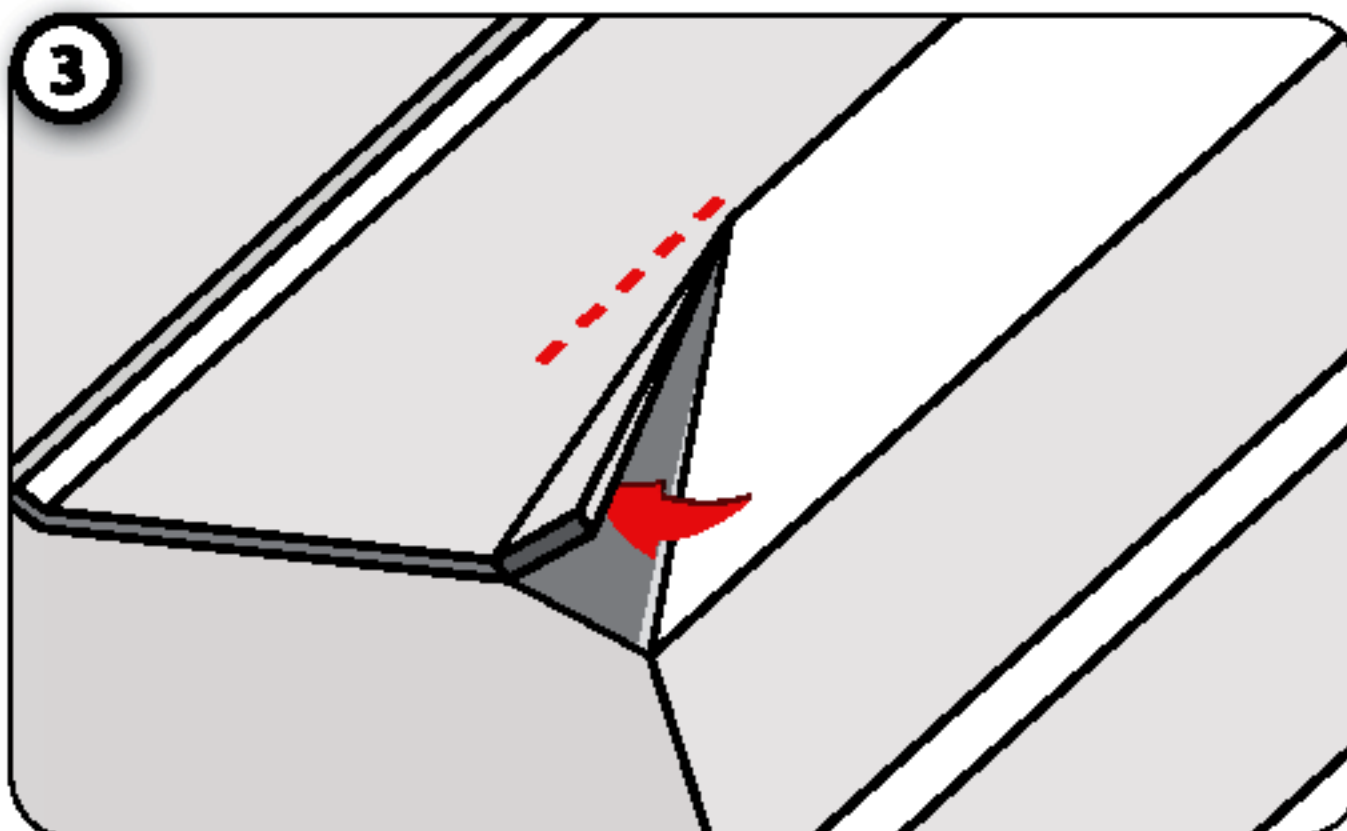


Roman panels use the "V-batten Bird-stop" which incorporates an integral 'V' batten to provide panel support at the fascia. The 'Bird-Stop' riser metal creates a 3/4" off-set from the fascia. The use of this 'Bird-stop' requires standard Drip-Edge, or Metro FL-FASCIA metal to be installed onto the roof deck first.

### BIRD-STOP METAL - VALLEY METAL INTERSECTION

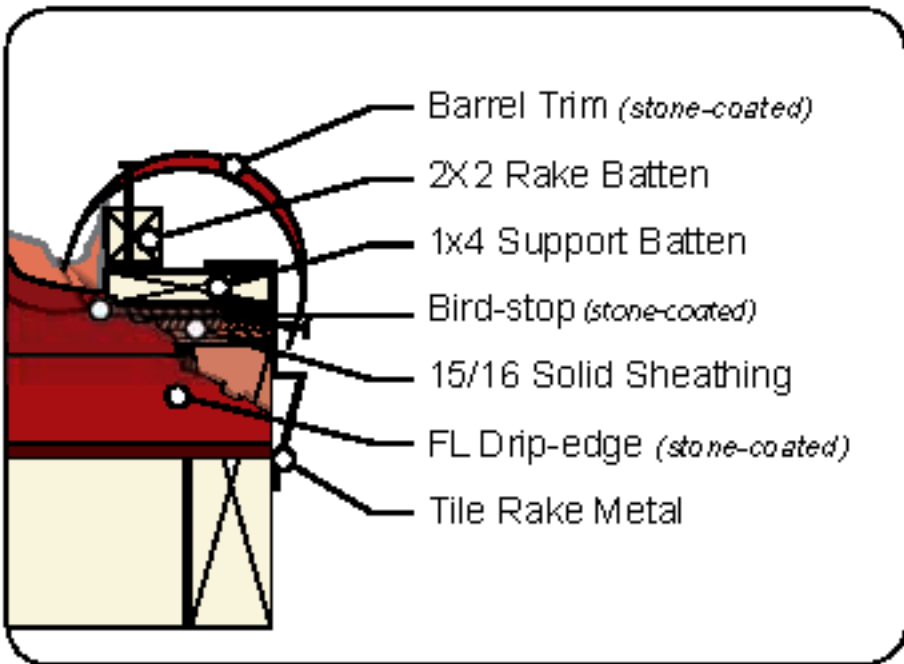


### INTERNAL VALLEY CORNER NOTCHING DETAIL

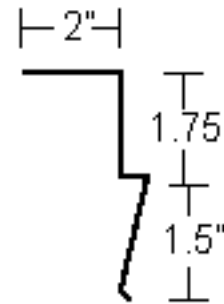


Stitch screw Bird-Stop to Valley center flap as shown.

### RAKE METAL

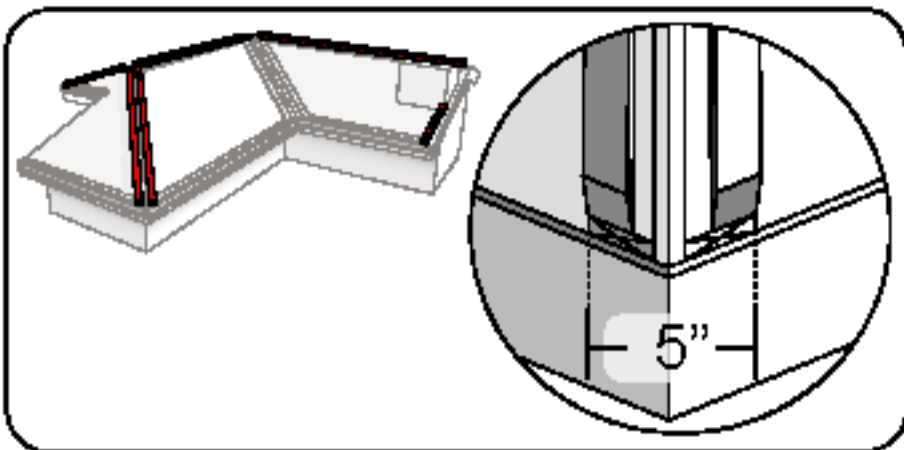


MetroTile Rake metal is installed along the rake edges as shown. This metal edging aids in positioning Metro Trim caps. Tile Rake metal is placed on the wood build-up. The Metro trim Caps cover battens and folded up Metro panel, as shown.



*2" X 1-3/4" X 1-1/2"*  
 Metro Tile Rake Metal is now available in stone-coat finish.

### RIDGE/HIP BATTENS

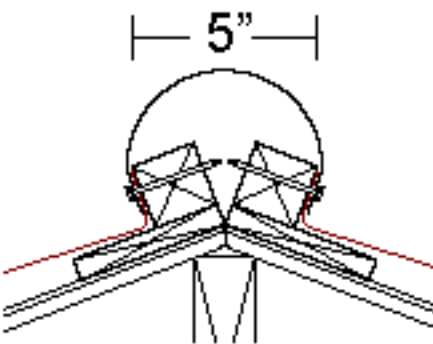


2X2 ridge battens are used to provide approximately 2" of build-up height for hip and ridge pcs. Hip battens are installed directly on top of a 1x2" spacer batten to allow cut and bent panels to be nested against the battens.



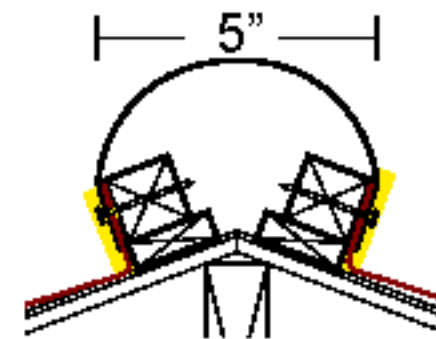
*Space Ridge Battens 5" apart.*

#### RIDGE



2-Trim cap fasteners in each side of cap as shown, spaced 14 1/2" or on every trim cap.

#### HIP



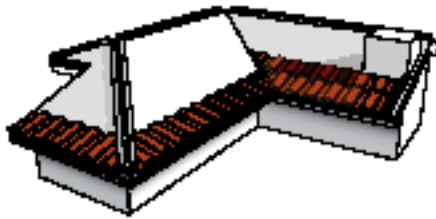
Two (2) Trim cap fasteners in each side of cap as shown, spaced 14 1/2" or every trim cap. Align 2X2 battens flush with 1X2 ripped spacer battens. Support battens must be flush as shown and ripped to fit the 5" width of hip build-up.



*Support battens for HIP must be flush with 2X2 battens.*



### PANEL LAYOUT

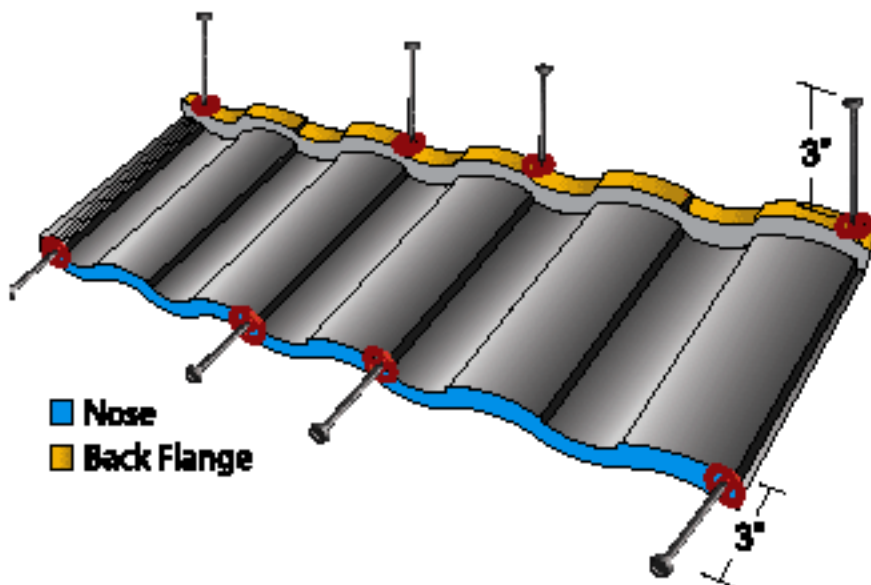


Full panels are laid from the bottom (1st full course from the fascia) up to the ridge. Batten-less Roman panels are laid from RIGHT to LEFT.

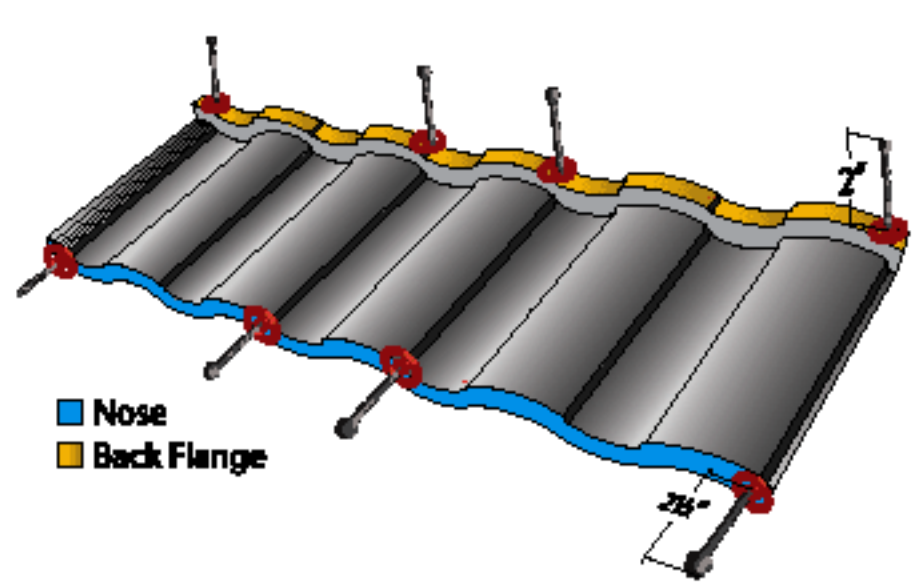
Each Batten-Less Roman panel is fastened with a minimum of four (4) .131" dia. X 3" long corrosion resistant ring shank nails, or #10 X 2-1/2" Hex headed screws through the nose and four (4) nails or #10 X 2" Hex headed screws through the back-flange.

Always stagger Batten-less Roman panels 1-2 "pan' modules to eliminate negative visual effects of continuous side-laps.

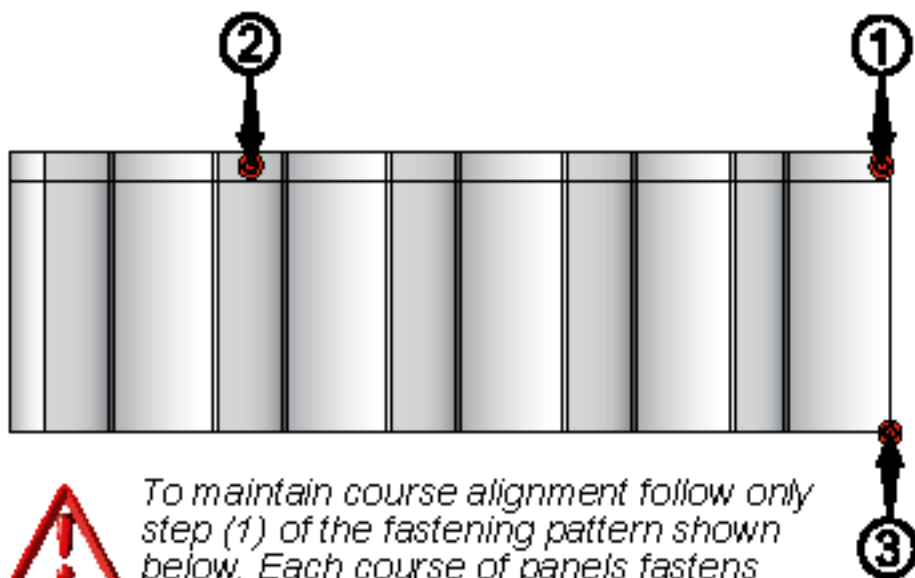
#### NAILS



#### SCREWS



### FASTENING SEQUENCE



It's critical to the overall panel layout and fastening to follow the sequence shown in steps 1-3 below. Failure to do so may result in panels not being aligned or side-laps and courses not fitting correctly.

For a standard installation, four (4) fasteners (.131" x 3" ring shank nails or #10 x 2-1/2" HH screws) in the 'Back Flange and four (4) fasteners in the 'Front Nose Downtum' of each panel is required.

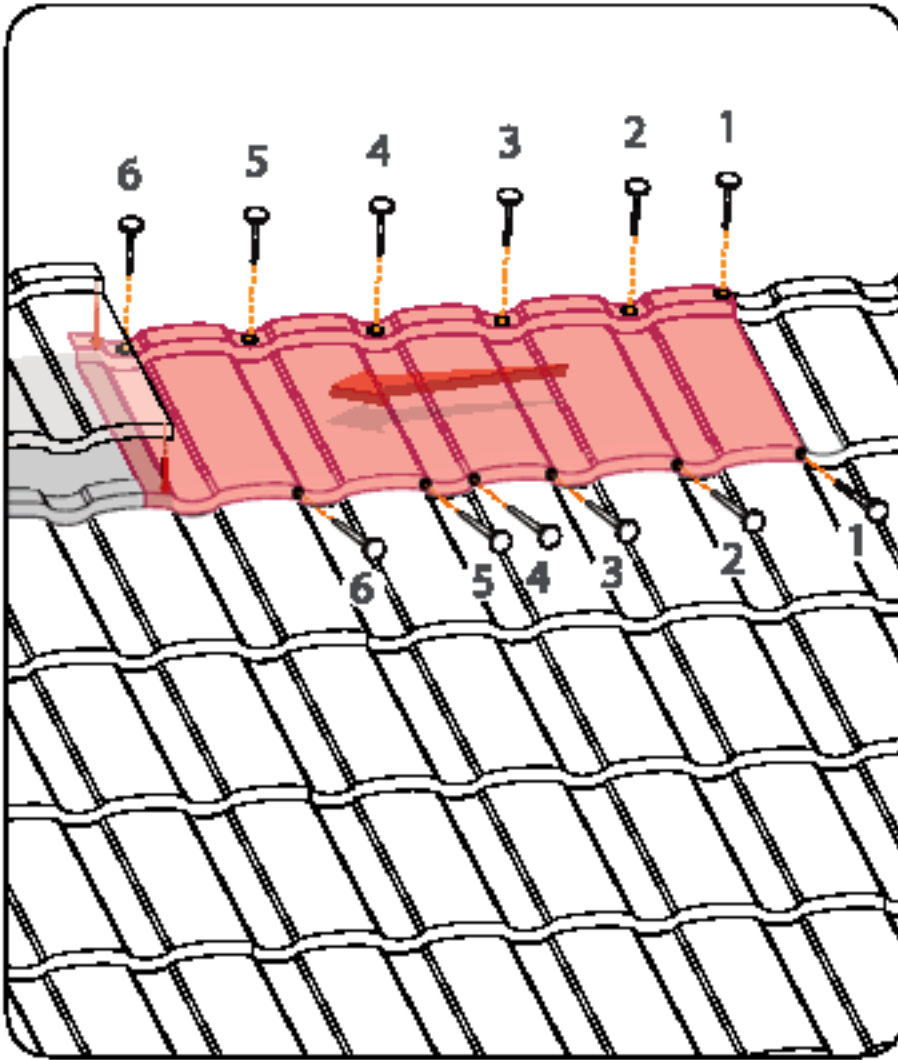
To maintain course alignment follow only step (1) of the fastening pattern shown below. Each course of panels fastens together across the roof then install the balance of fasteners as shown in steps (3) & (4) for the rest of the roof field.





# MetroROMAN-TILE™ Batten-less Installation Details

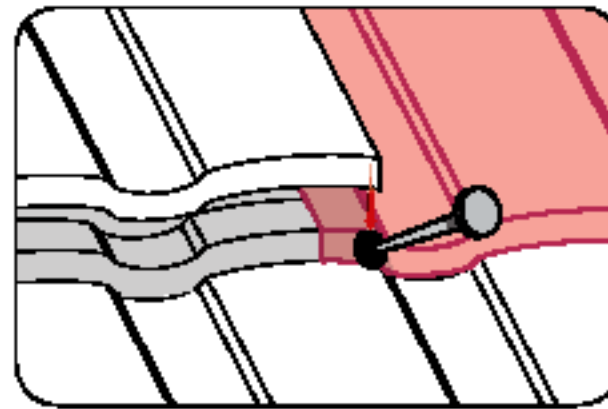
## HVHZ FASTENING LOCATIONS



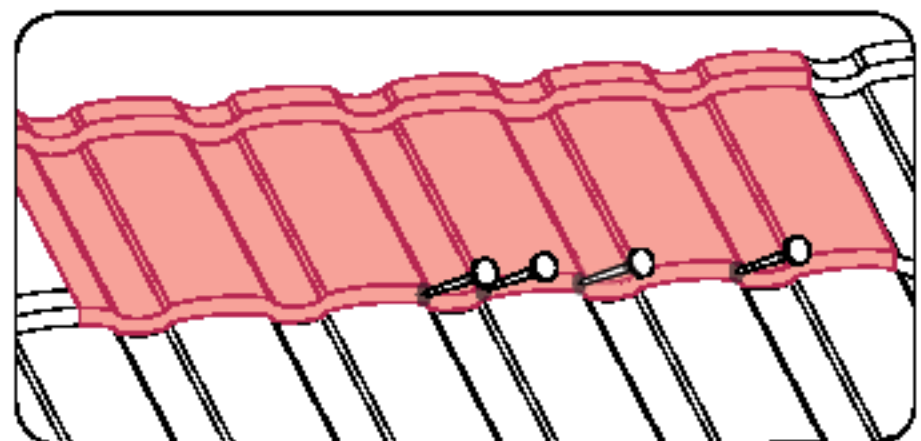
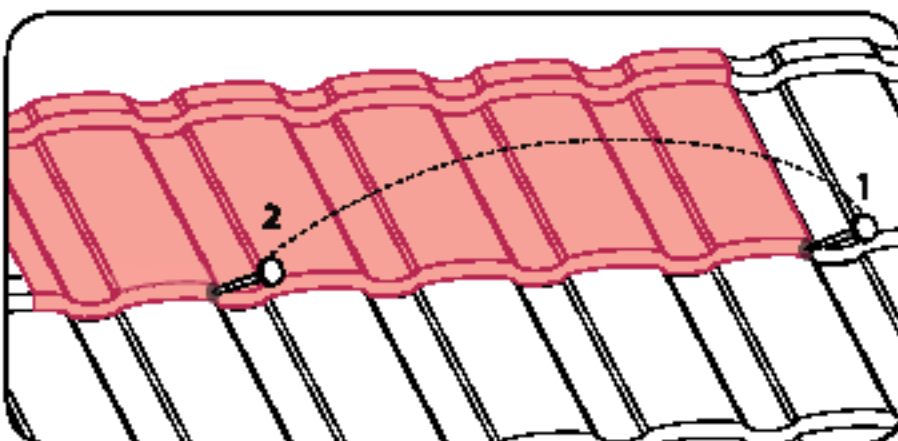
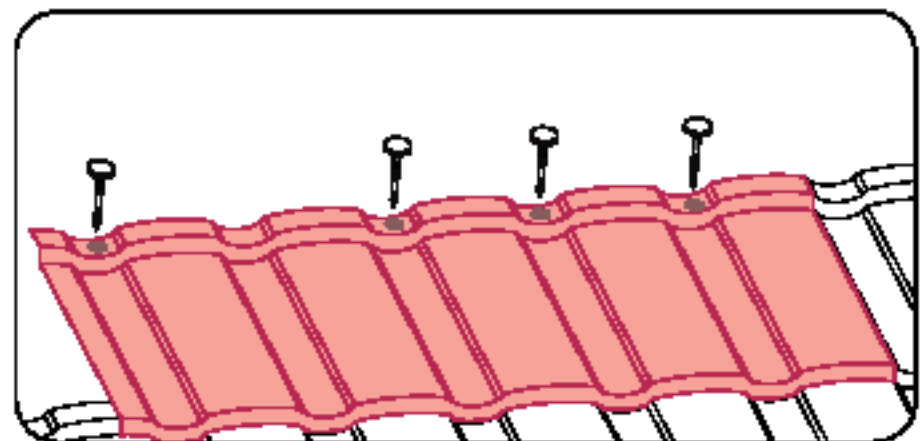
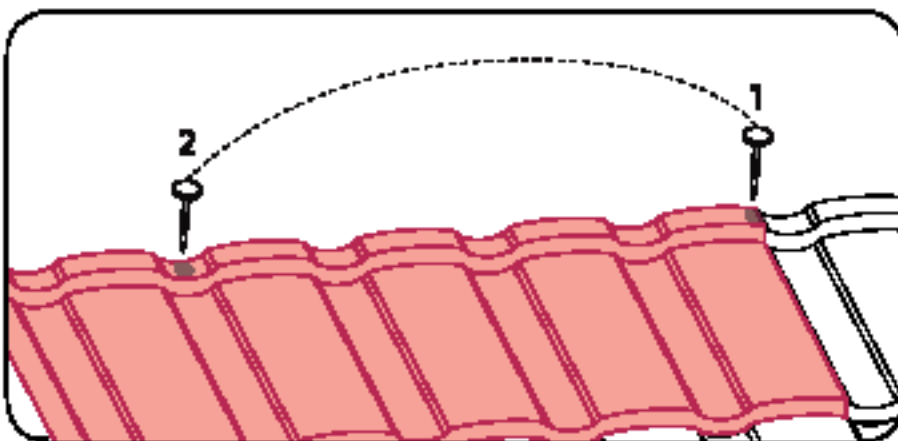
HIGH VELOCITY HURRICANE ZONE areas Field, perimeter and Corners install = Six (6) #10 x 2" HH Screws in the 'Back Flange' and Six (6) #10 X 2-1/2" HH Screws in the 'Front Nose Downturn' of each panel.

**NOTE:**

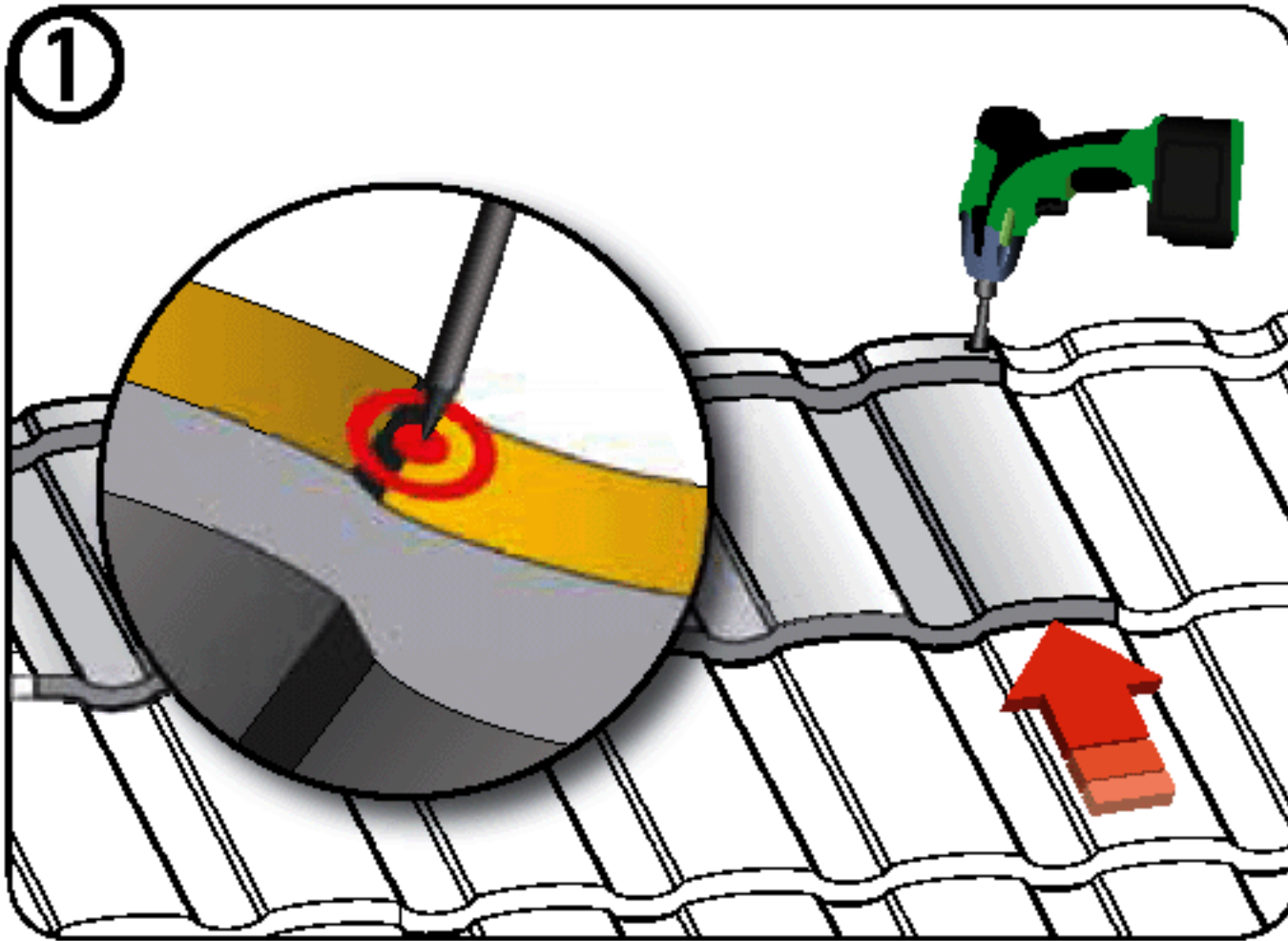
- A) When installing panels on BATTENS, only the nose fasteners are used in each panel.
- B) Fastener location is approximate and should be located out of main water channels.
- C) Roman panels can only be laid from Right to Left.



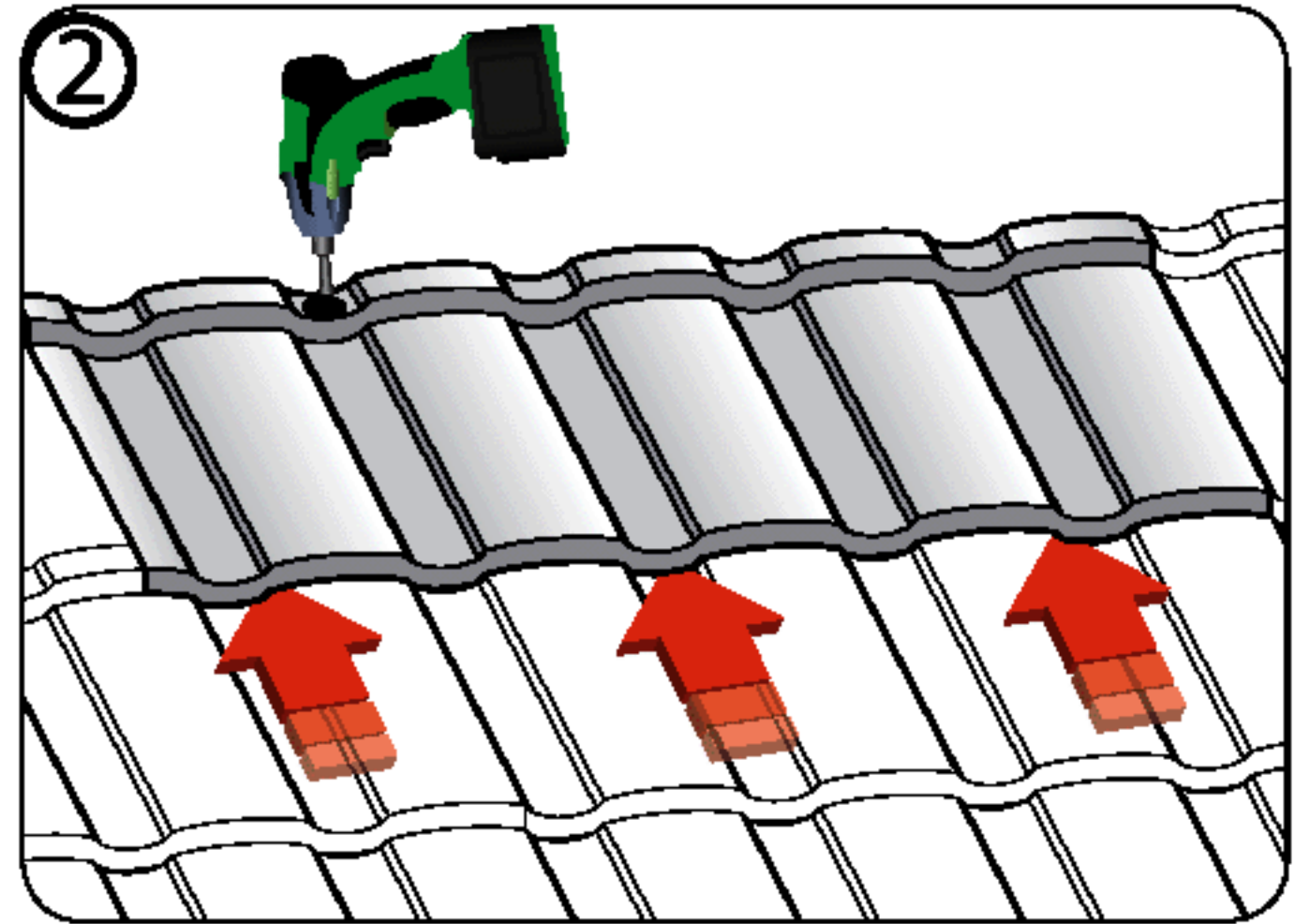
## HVHZ FASTENING LOCATIONS



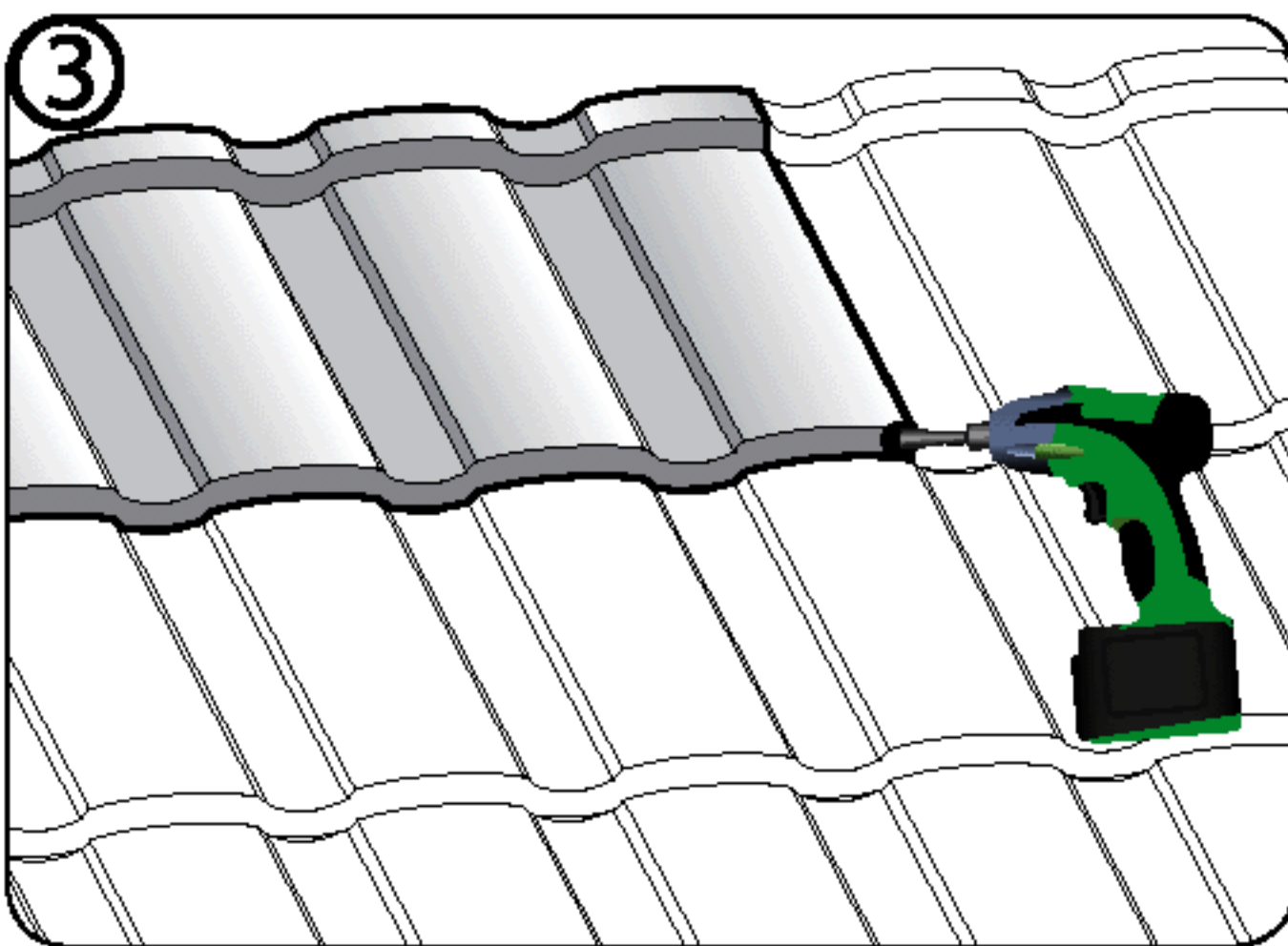
### PANEL COURSE ALIGNMENT



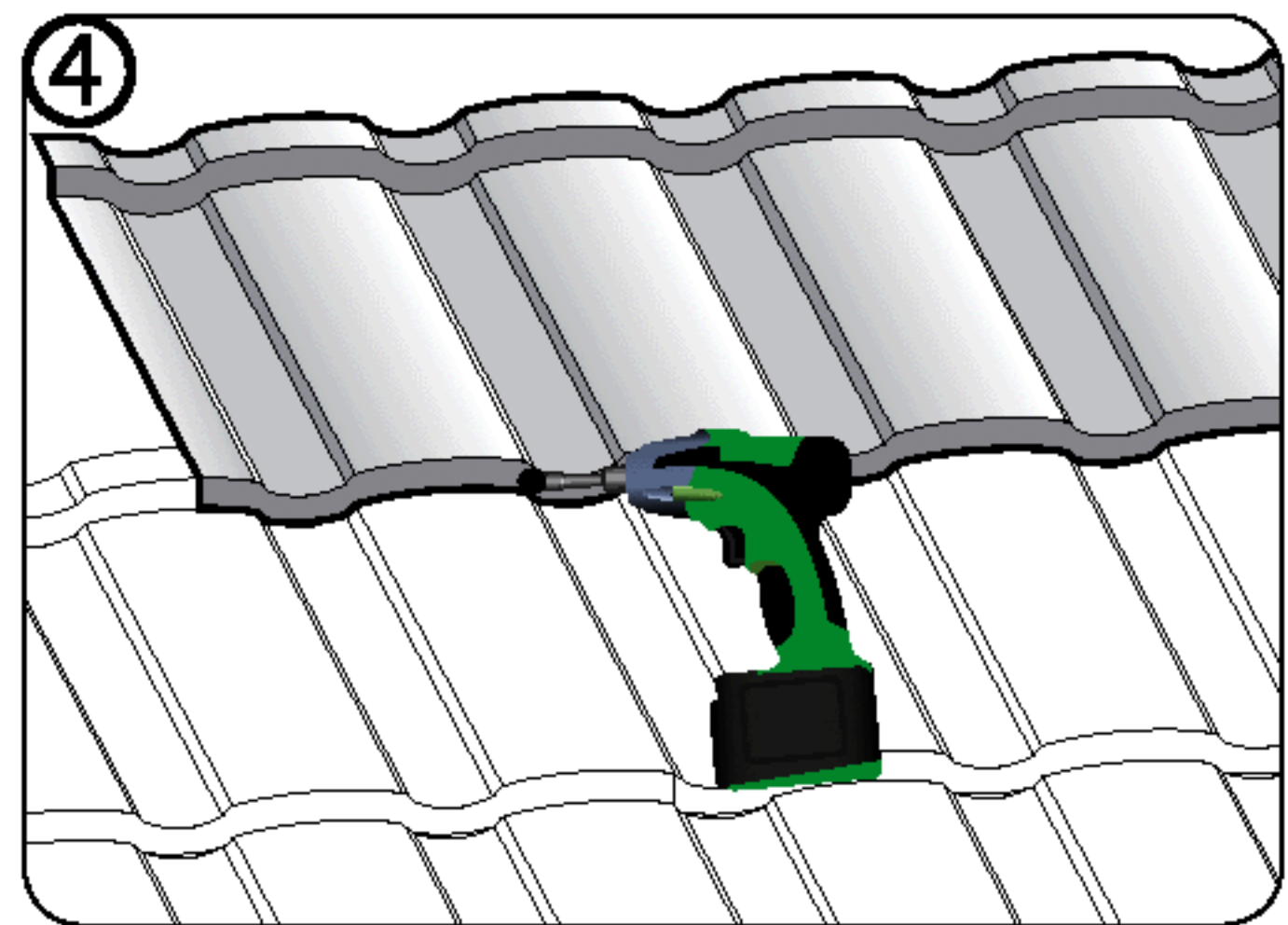
1 The 1st panel fastener is placed in the 'Back Flange' in the top right-hand side as shown.



2 Place the 2nd panel fastener through the 'Back Flange' at the 2nd 'Under-pan' module as shown.



3 Align the overall panel and apply force as necessary to ensure the side-lap interlocks correctly, and then fasten through the 'Front Nose Downturn' on the far right-hand side of the panel as shown.



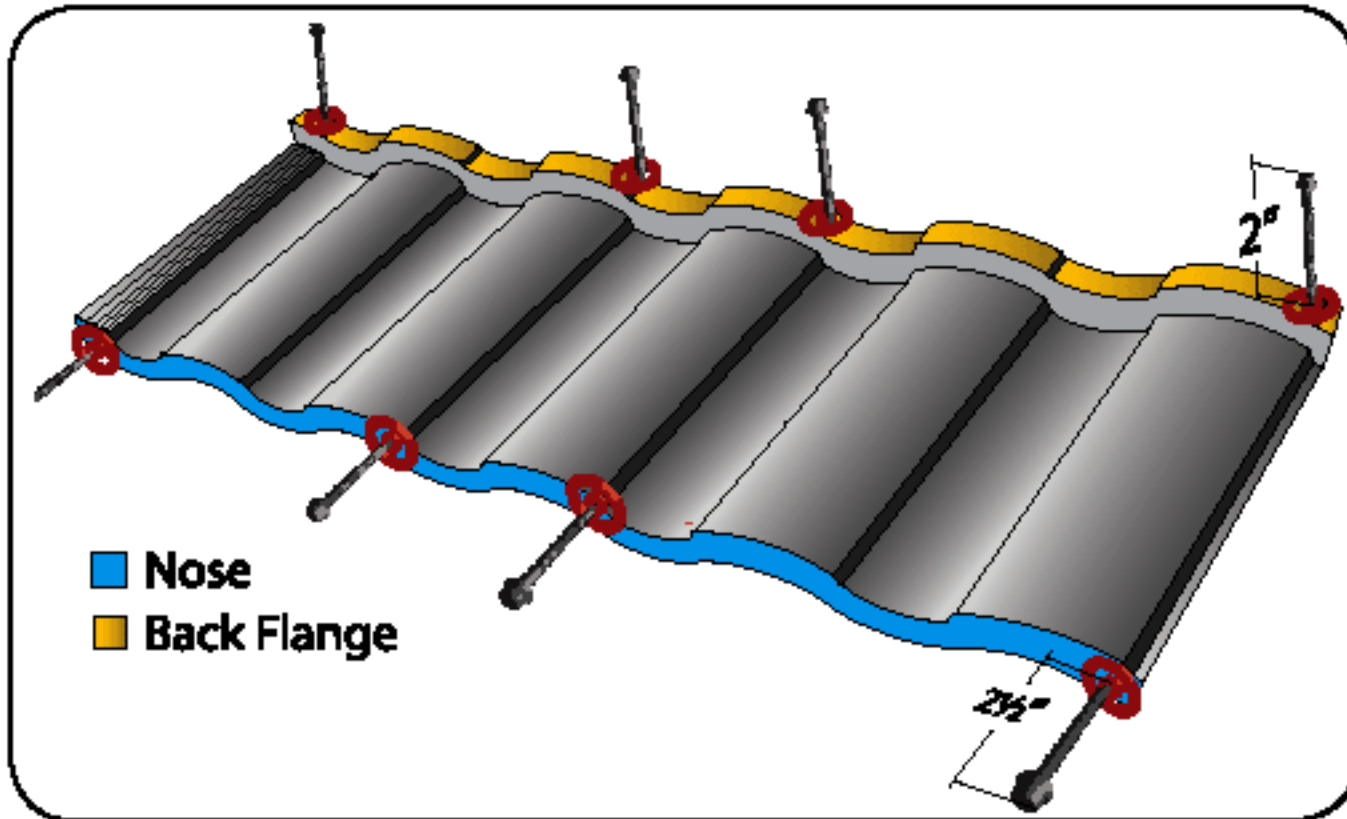
4 Install the balance of the fasteners as required.






# MetroROMAN-TILE™ Batten-less Installation Details

## FASTENING LOCATIONS - SCREWS

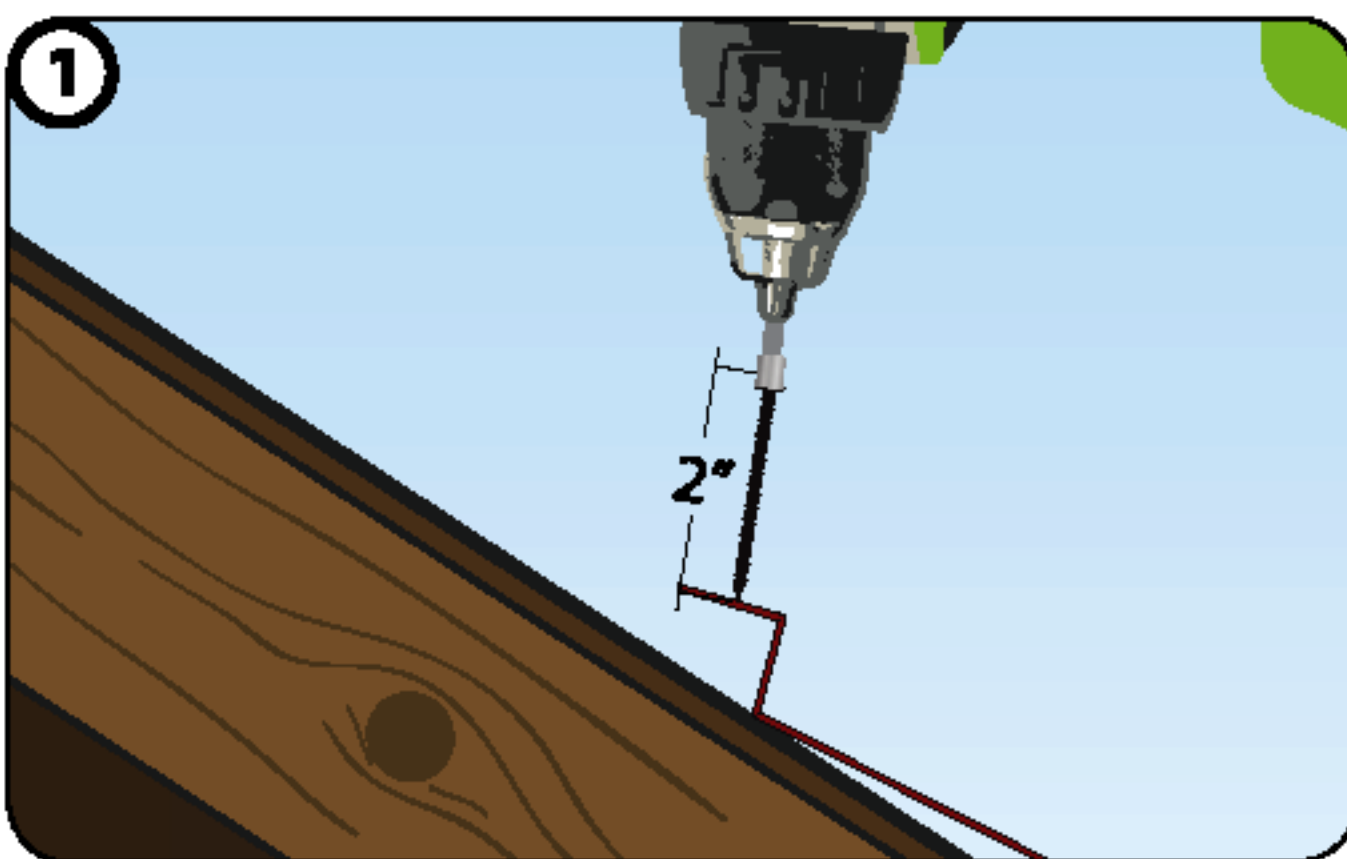


Standard fastening pattern for Metro Roman Batten-Less uses four (4) fasteners across the back flange and four (4) across the front down turned nose of each panel. For 'Standard' installations using screws, Metro recommends a #10 X 2" inch 1/4"-Hex Head screw in the Back Flange and a #10 X 2-1/2" inch 1/4"-Hex Head screw in the Nose).

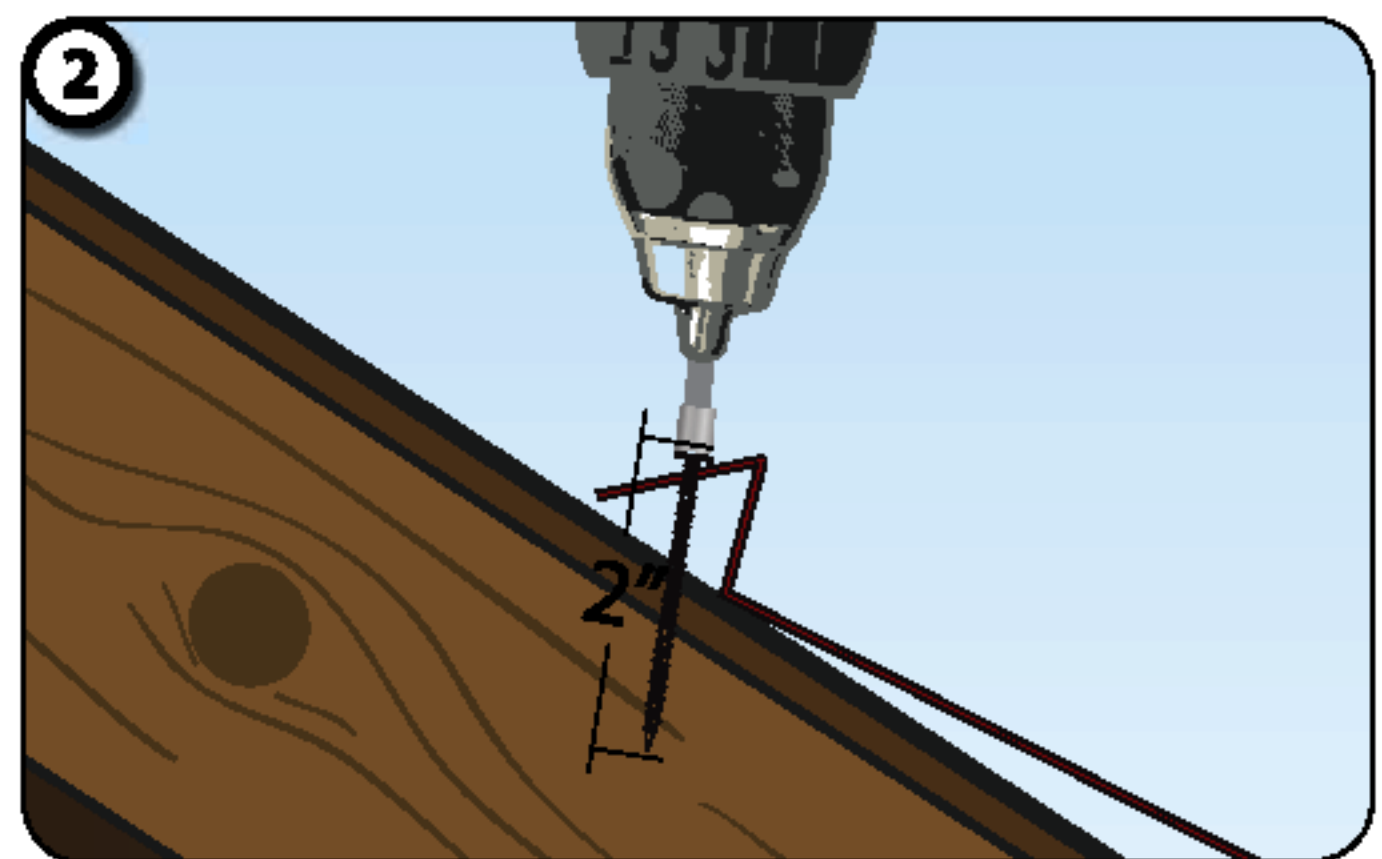
This sheet shows 'Standard' fastening pattern using screws. Refer to Metro's High Velocity Hurricane Zone (HVHZ) fastening details found in Metro's Florida Building Code HVHZ Approval FL-6710 for details.

 Metro Roman Batten-less panels installed direct-to-deck require front nose fasteners to be #10 x 2 1/2" long Hex Head Screws.

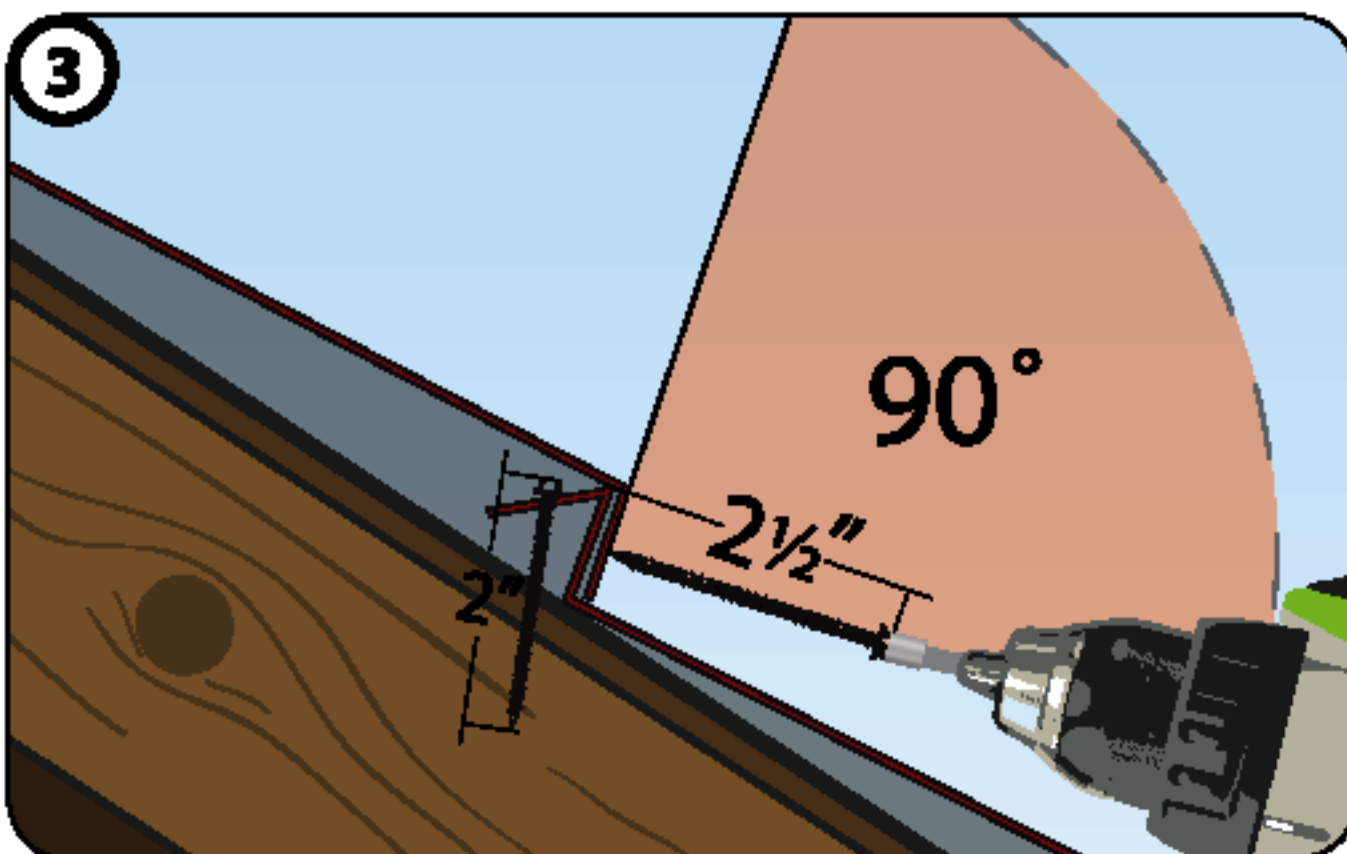
## FASTENING BATTEN-LESS ROMAN PANELS - SCREWS



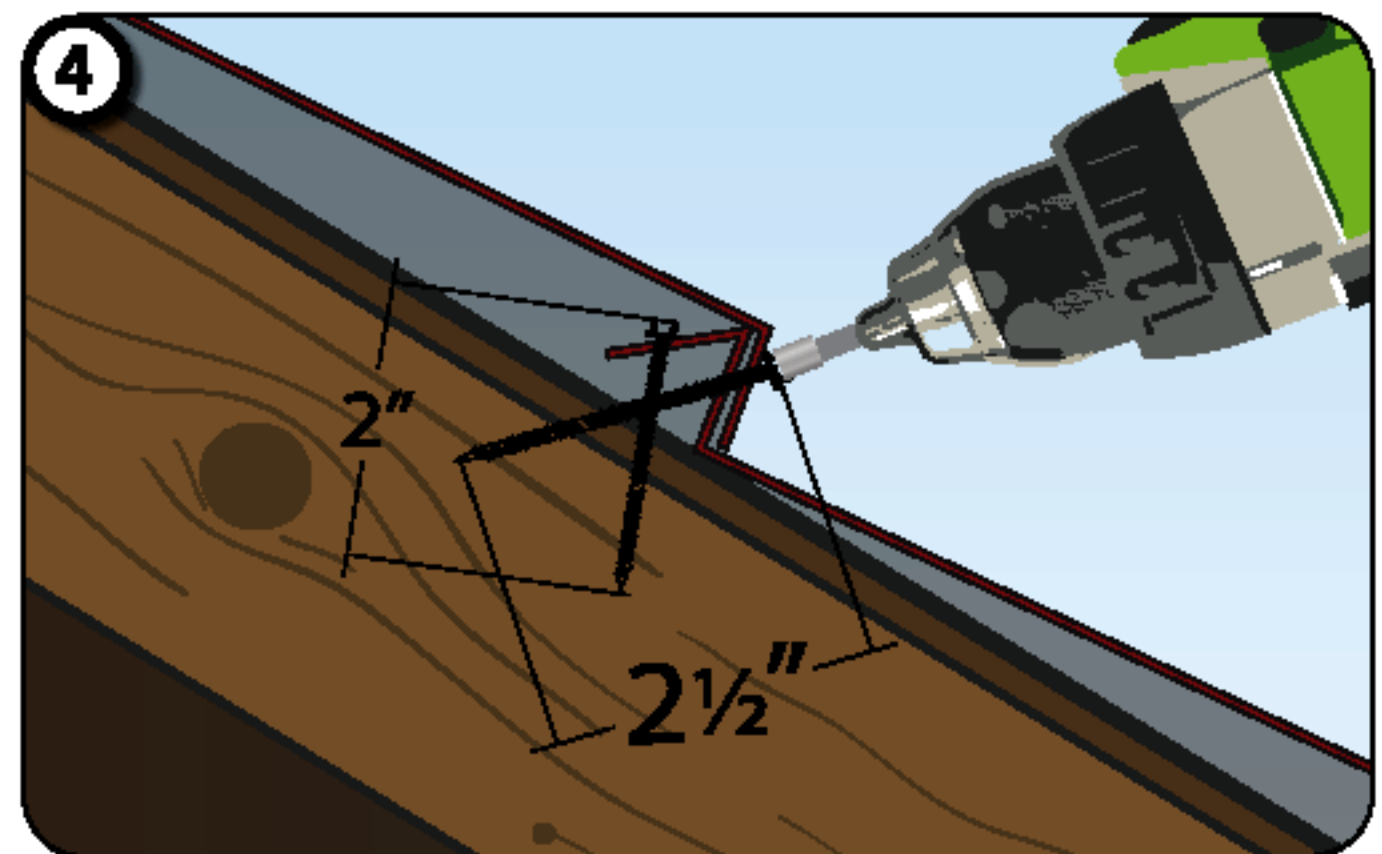
1 Panel back flange is fastened vertically into roof deck as shown.



2 Panel back flange is 'seated' down onto roof deck.



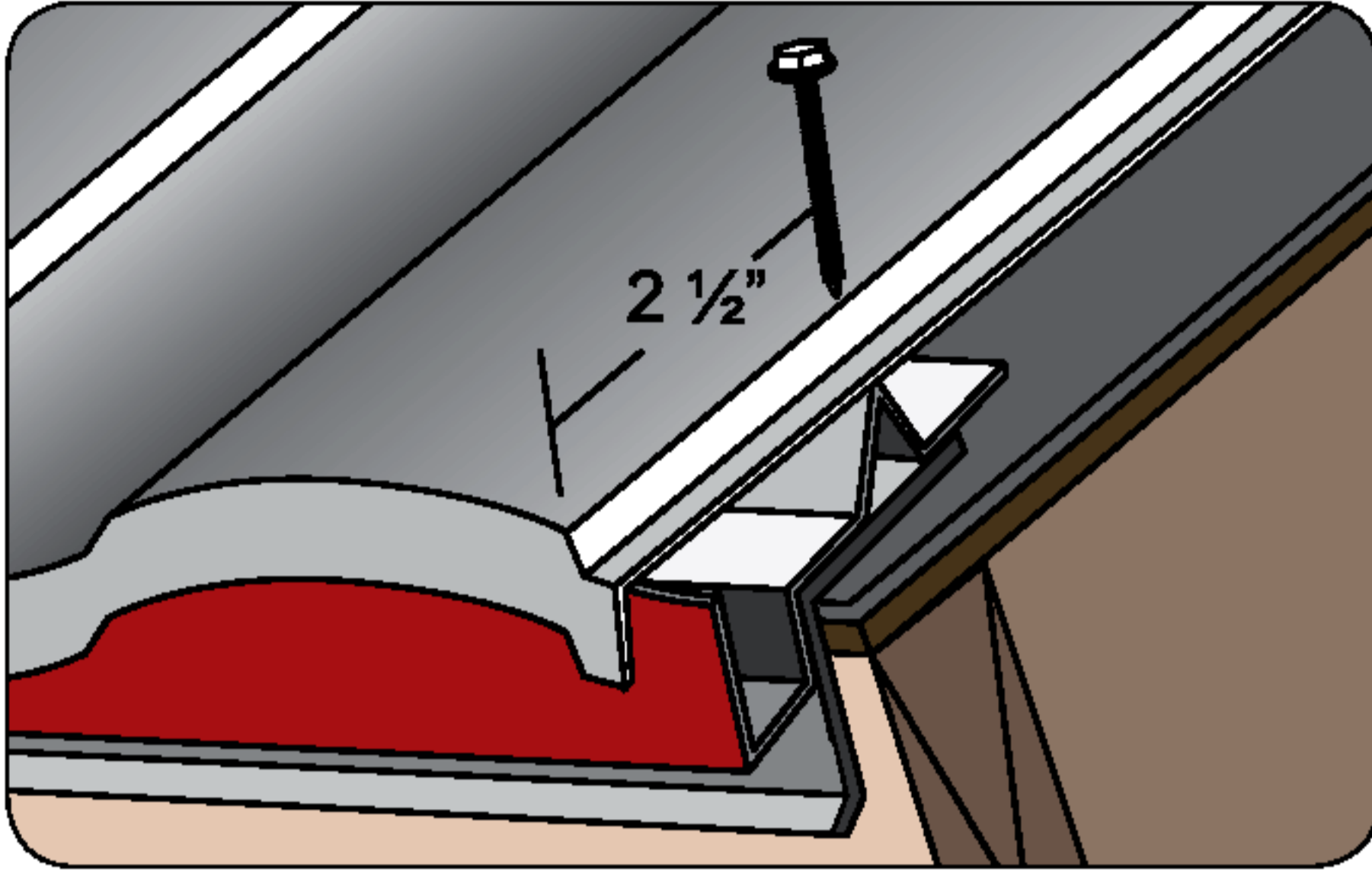
3 Start fastener at a 90° angle to the panel as shown.



4 Once fastener has penetrated the nose, angle the screw to penetrate the back up-stand of the panel beneath and into the decking as shown.



### 1ST ROW FASTENING - NAILS OR SCREWS



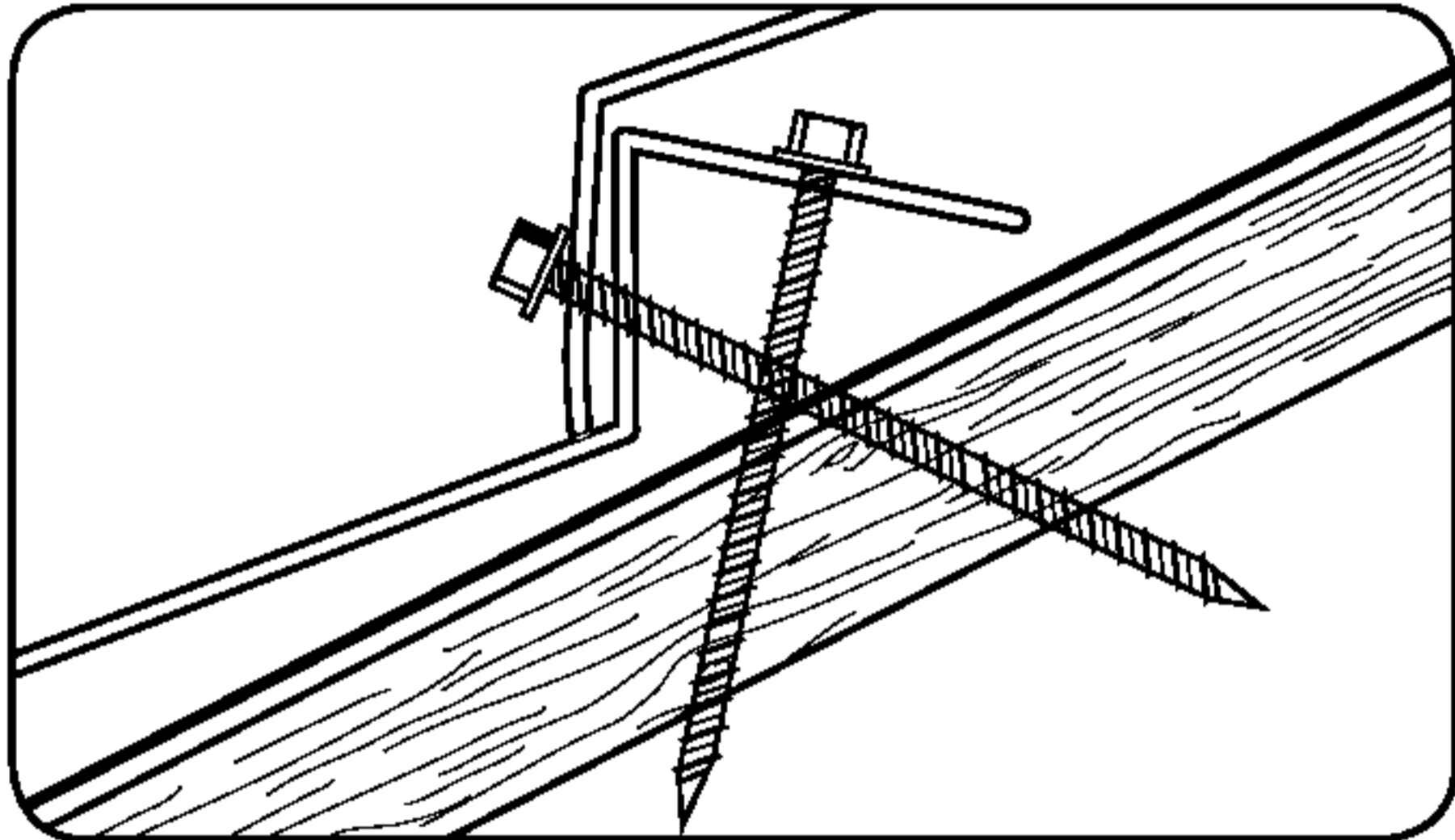
Fasten the First course (2-1/2") up from the fascia through the top of the panel as shown. Top panel fastening is also acceptable behind Metro SMART-Vents, Chimneys and Skylights as necessary. Use fasteners with self-sealing rubber washers covered by a dome cap or seal fasteners then cover with Metro touch-up kit.



Use the Metro "Touch-up" kit to cover each top nose fastener at the fascia.

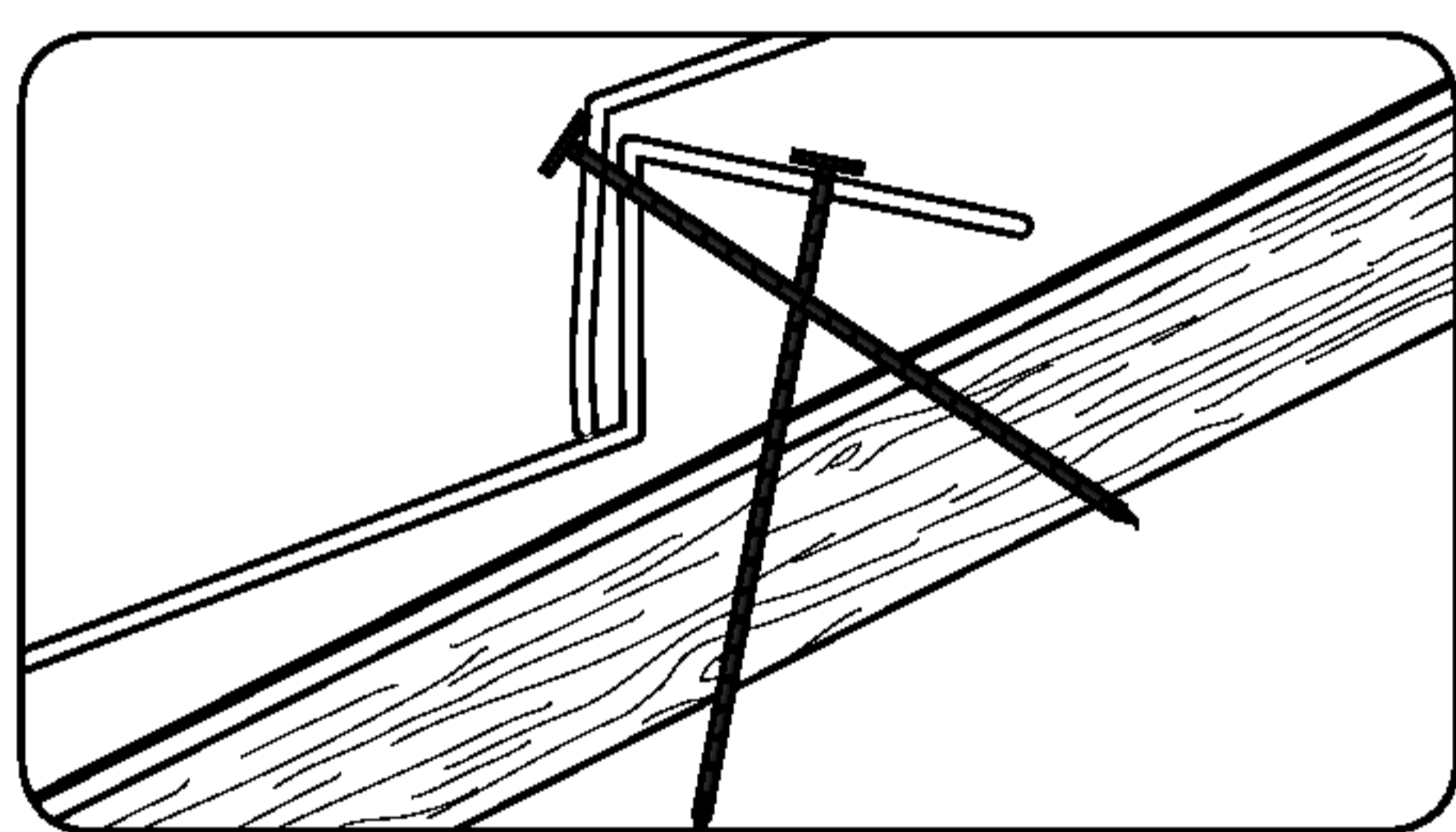
### THE 'X' PATTERN

#### SCREWS



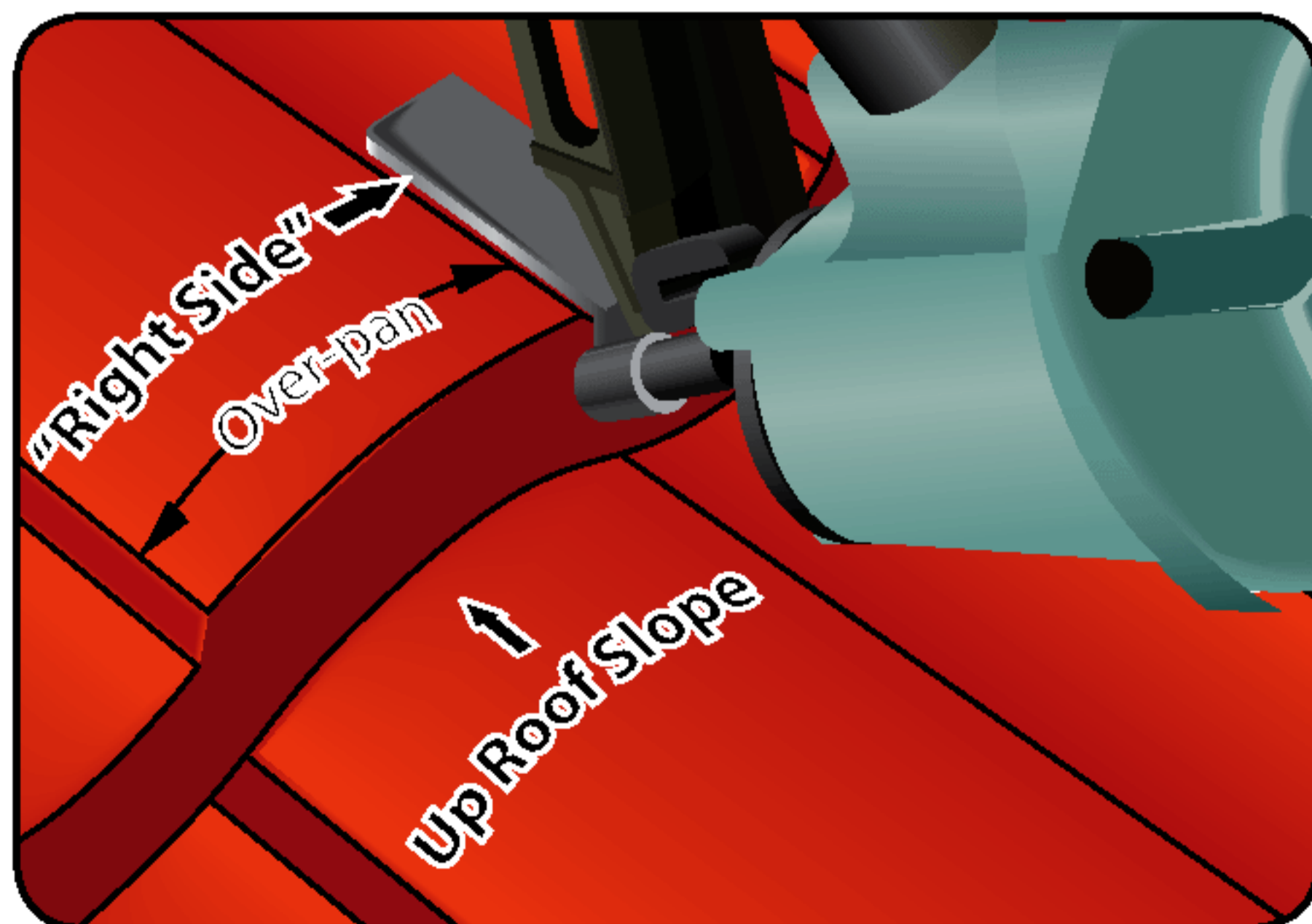
Due to the back flange and nose fastener angles, the "X" pattern provides exceptional uplift resistance.

#### NAILS



Due to the back flange and nose fastener angles, the "X" pattern provides exceptional uplift resistance.

### "ROMAN" NAIL-GUN ATTACHMENT - PLACEMENT



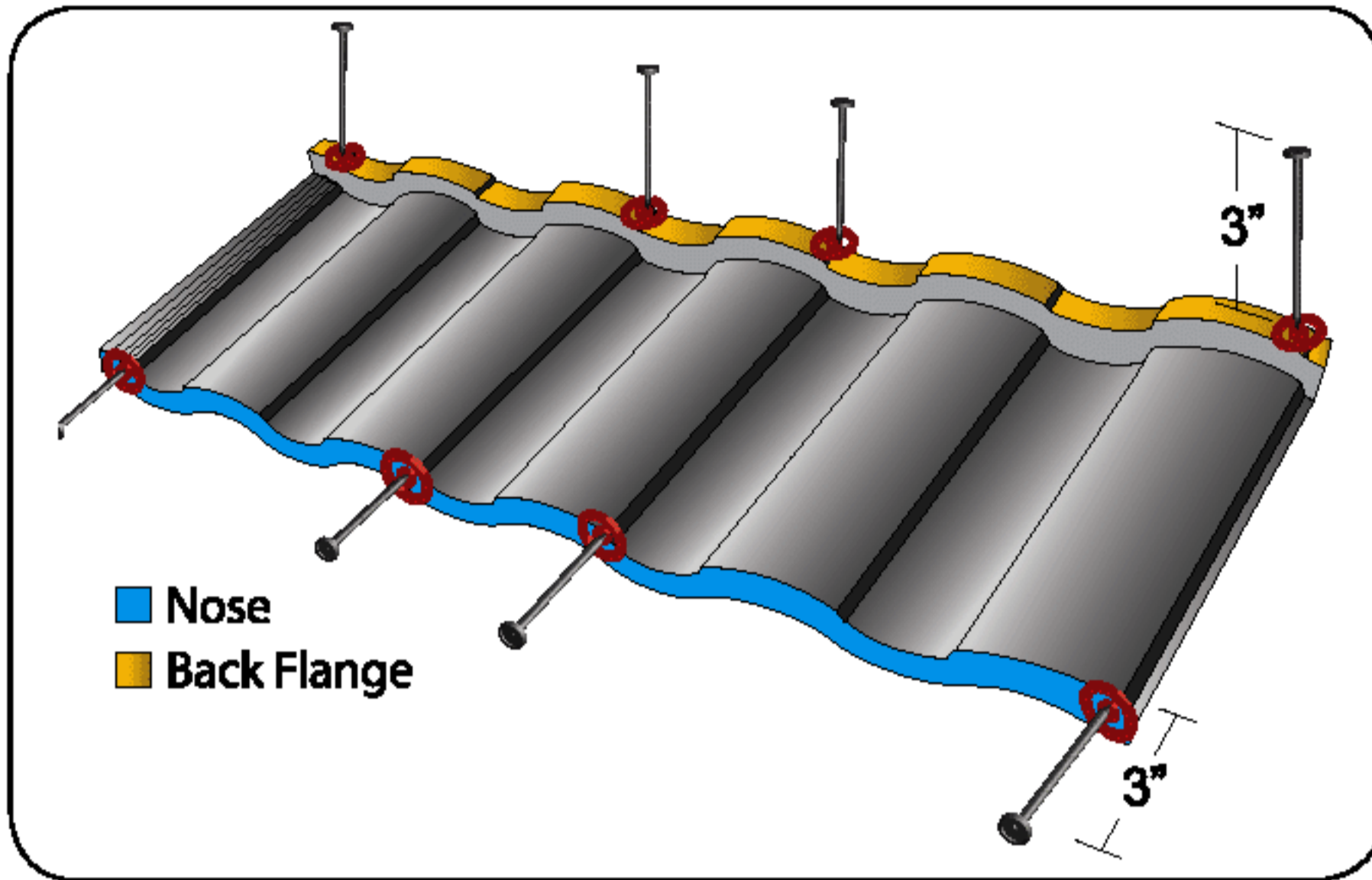
Metro's "Roman" nail-gun attachment is positioned to the right side of the Roman 'over-pan' as shown.





# MetroROMAN-TILE™ Batten-less Installation Details

## FASTENING LOCATIONS - NAILS




Refer to Metro's High Velocity Hurricane Zone (HVHZ) fastening details found in Metro's Florida Building Code HVHZ Approval FL-6710 for details.

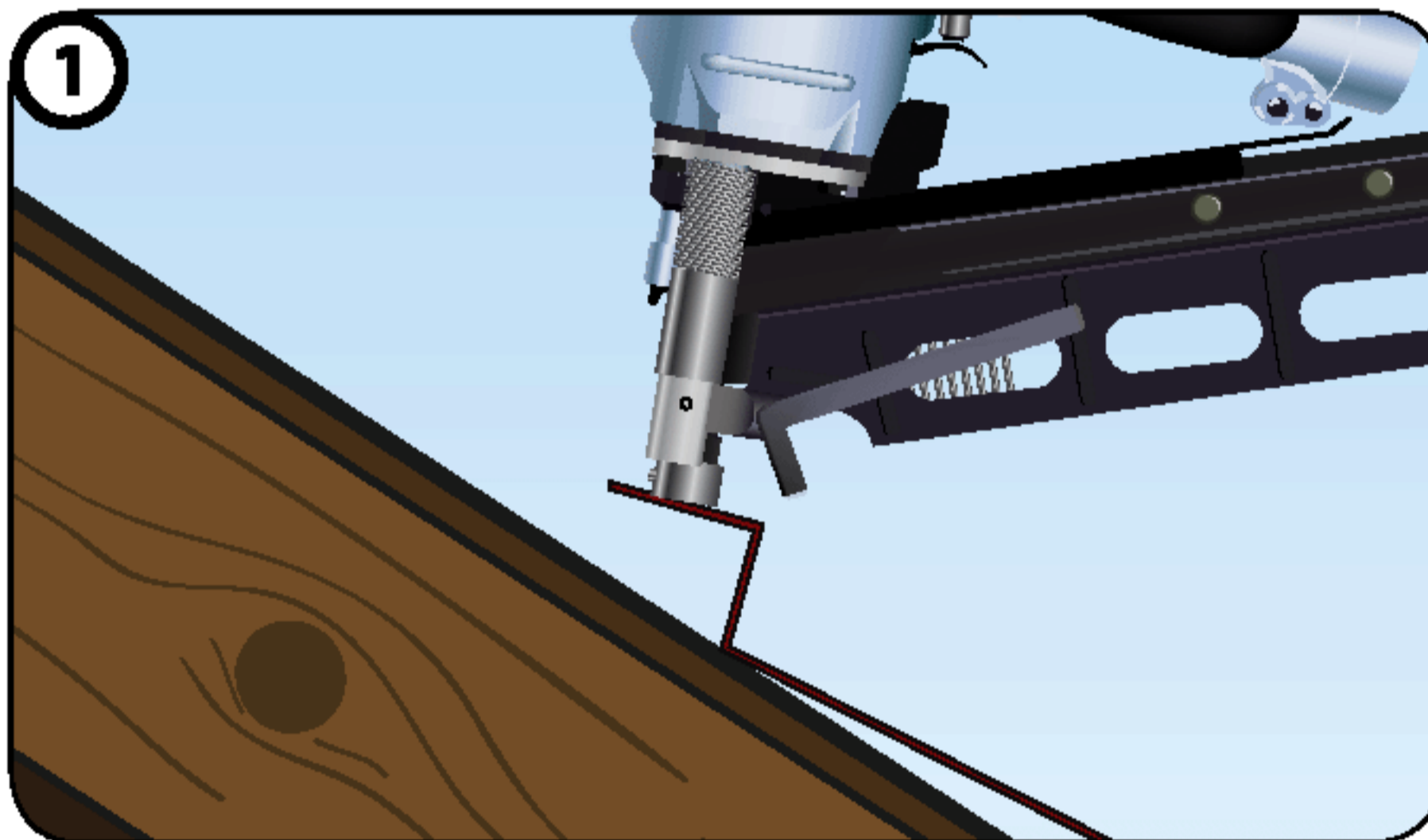
The "Standard" fastening pattern for Metro Batten-Less panels uses four (4) fasteners across the back flange and four (4) across the front nose down-turn.

All fasteners used on a Metro roof shall meet or exceed the corrosion resistant standard as defined in ASTM B-117, (1,000hr minimum Salt Spray Corrosion Resistance).

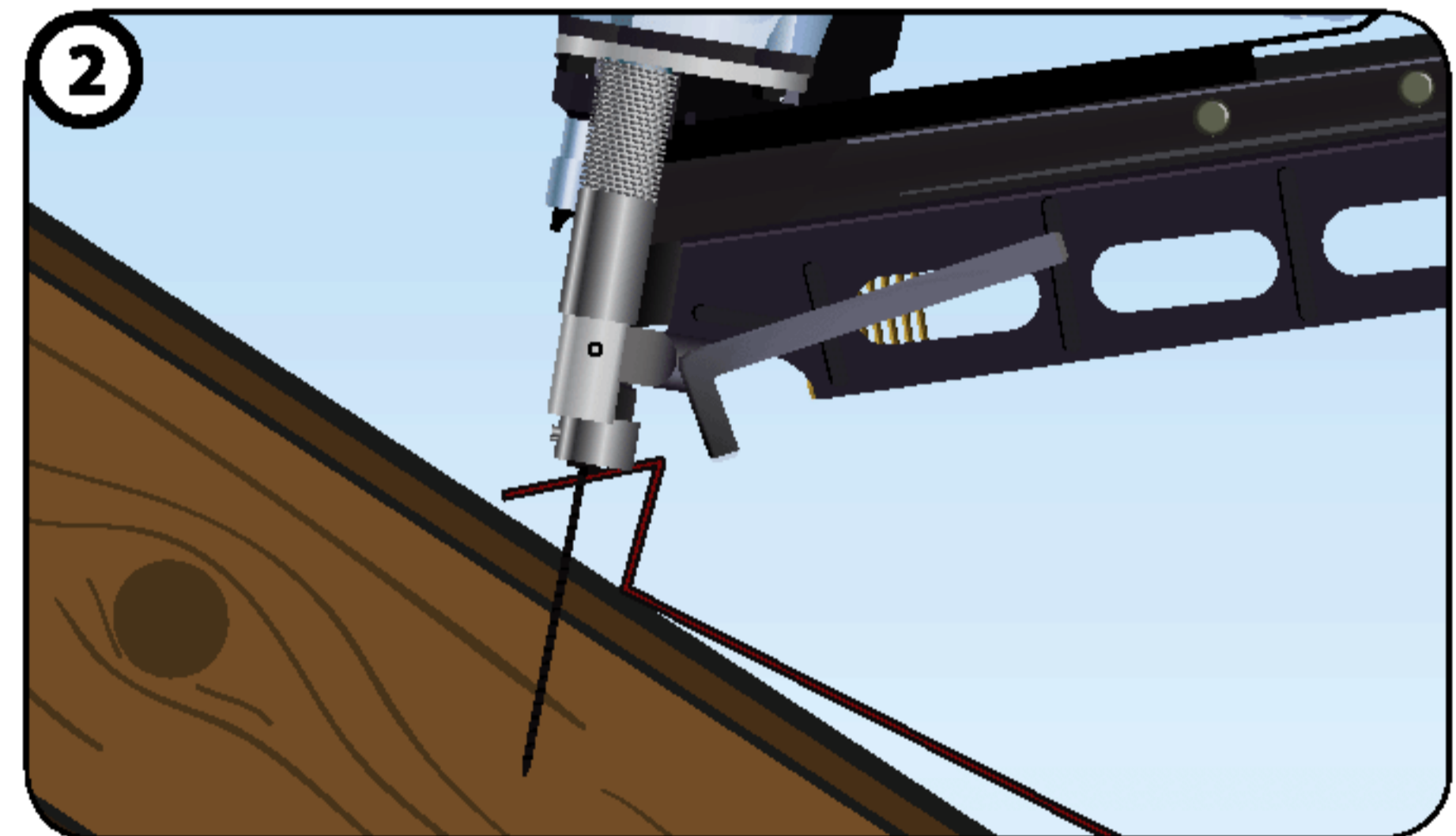
Panel, Trim & Accessory fasteners shall be as follows:  
Back-flange .131" X 3" long Ring-Shank nail.  
Nose Down-turn .131" X 3" or 3-1/4" long Ring-Shank coated black nail.

 Details shown below utilize a stick nail-gun with a special 'Nose Fastener-Angle' device attached. Contact Metro for information regarding this item.

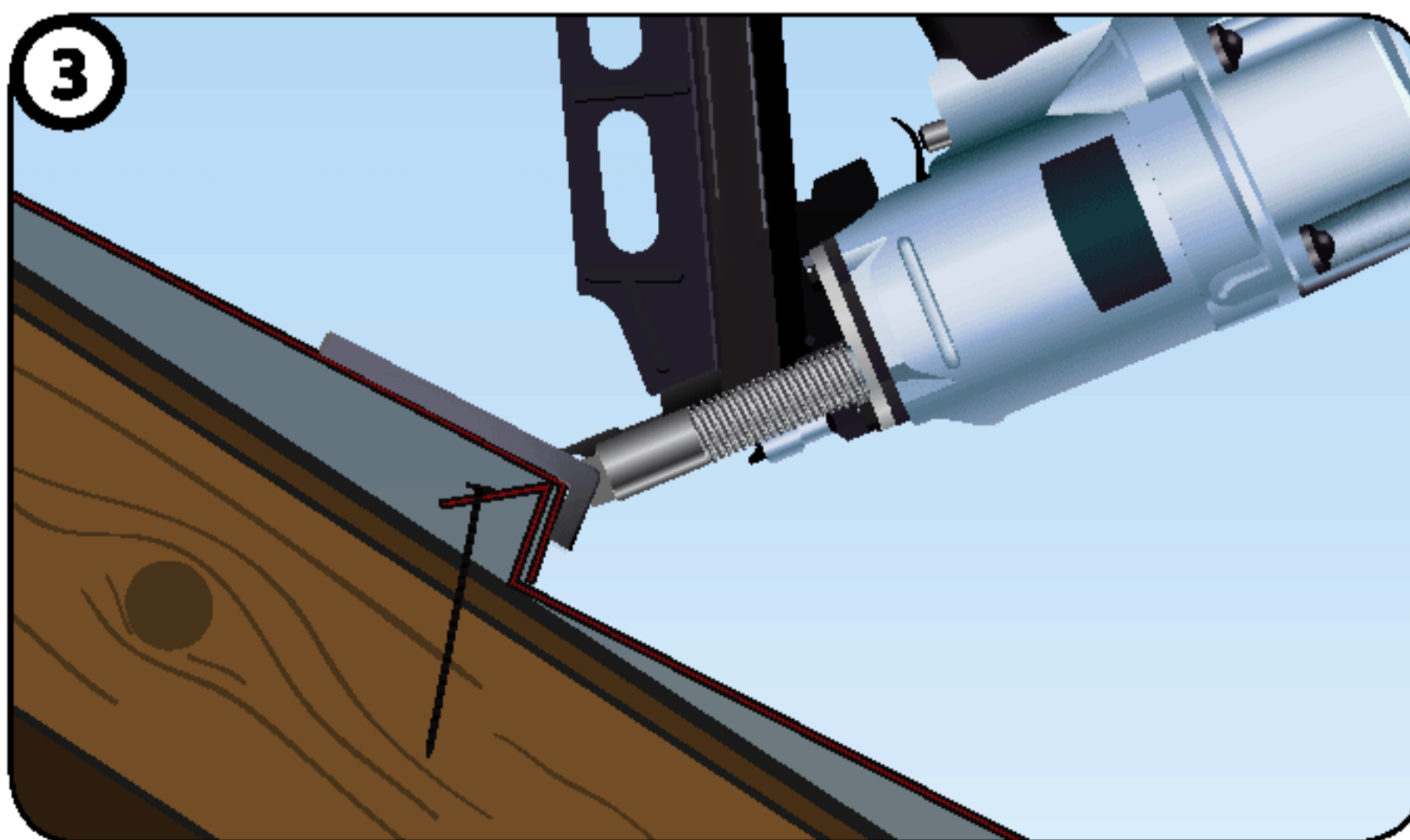
## FASTENING BATTEN-LESS ROMAN PANELS - NAILS



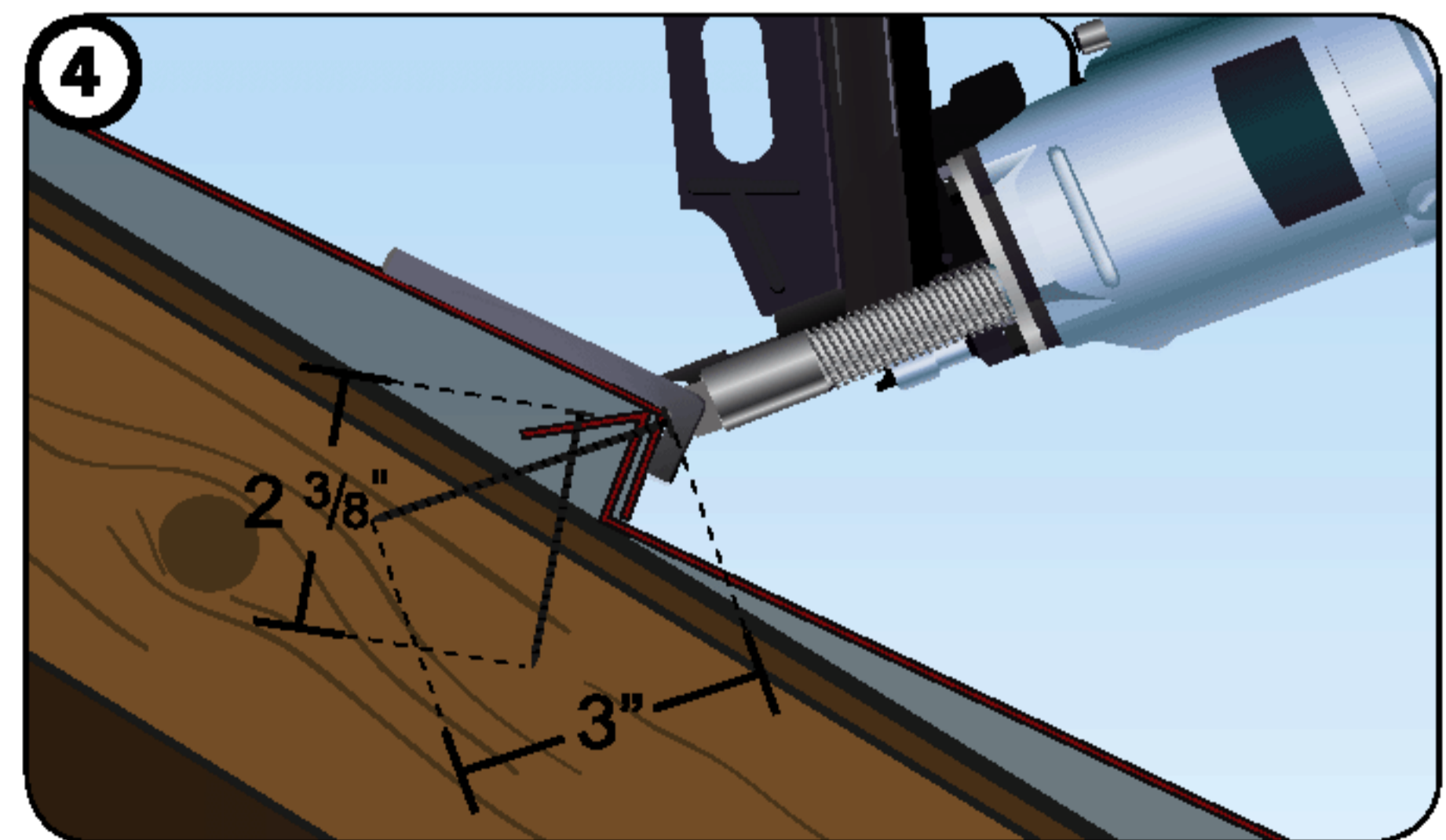
Panel back flange is fastened vertically into roof deck as shown.



Back Flange is seated down onto roof deck.



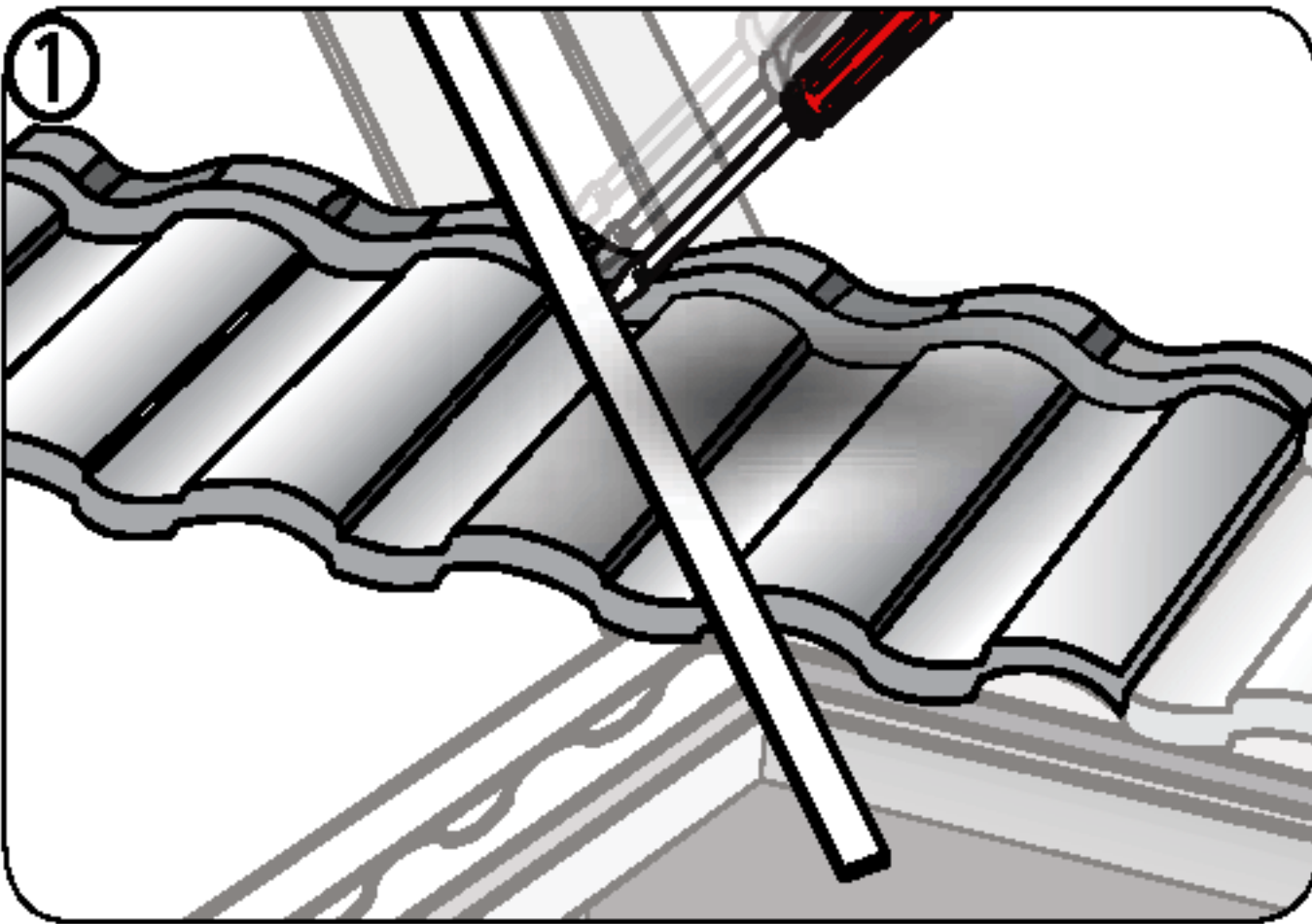
Install fasteners to the right side of 'cap-section' using "Roman" nail-gun attachment.



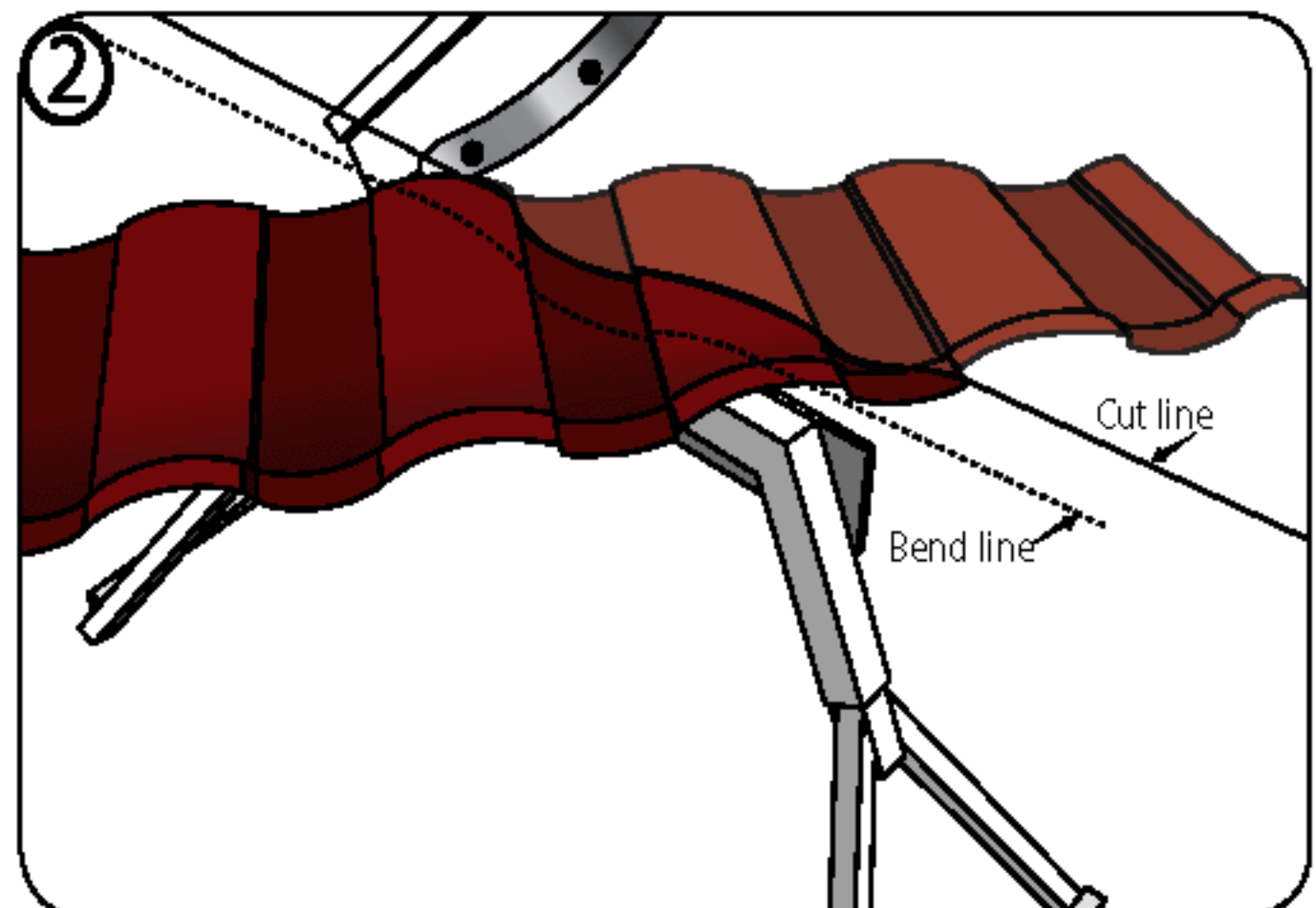
Use of the "Roman" nail-gun attachment ensures correct nose-nail fasteners angle.



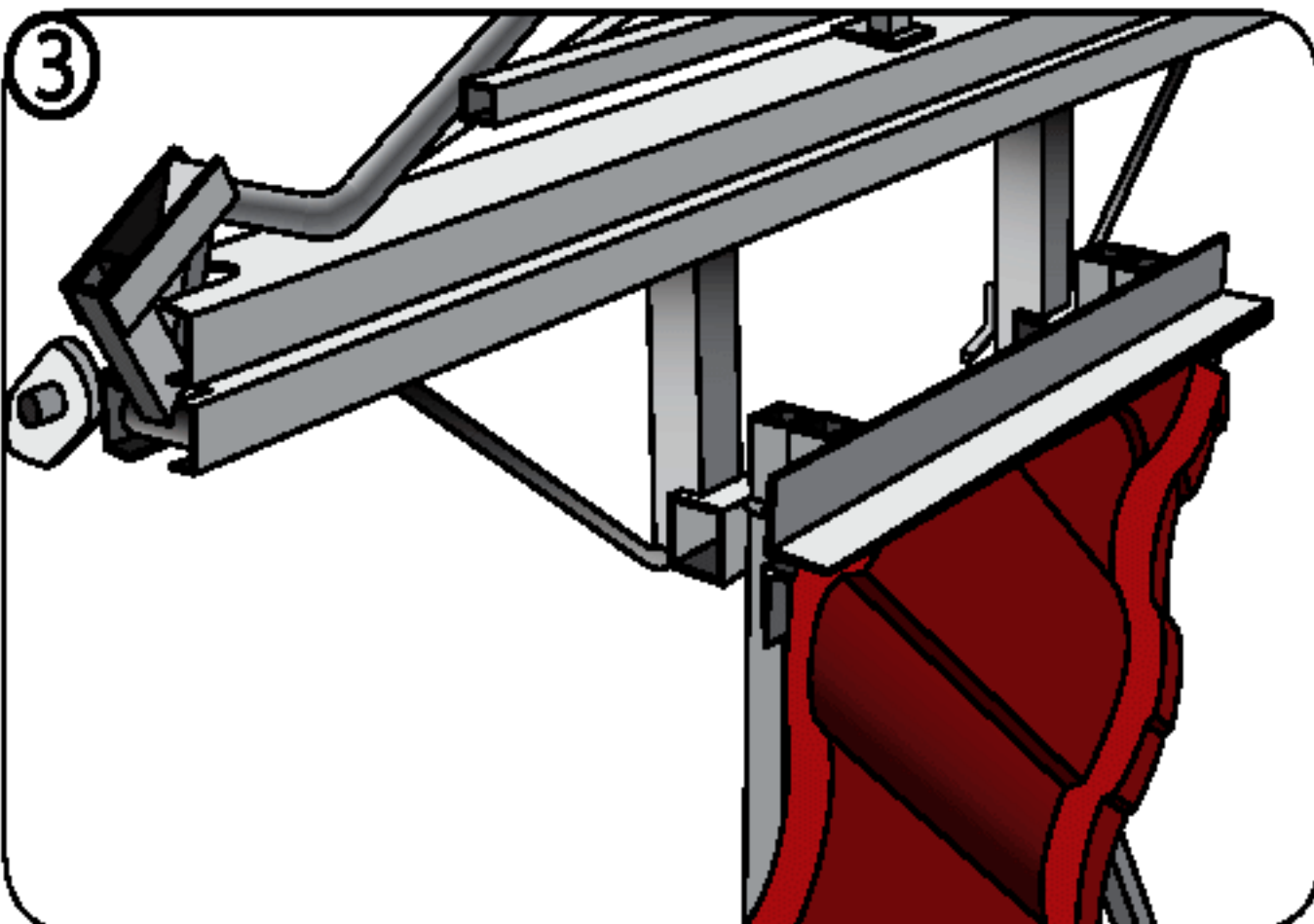
### VALLEY PANELS



1 Measure, mark and cut panels to fit tightly against valley center (reverse 'V'). Fasten valley section panels to roof decking similar to the other panels without penetrating valley flashing.

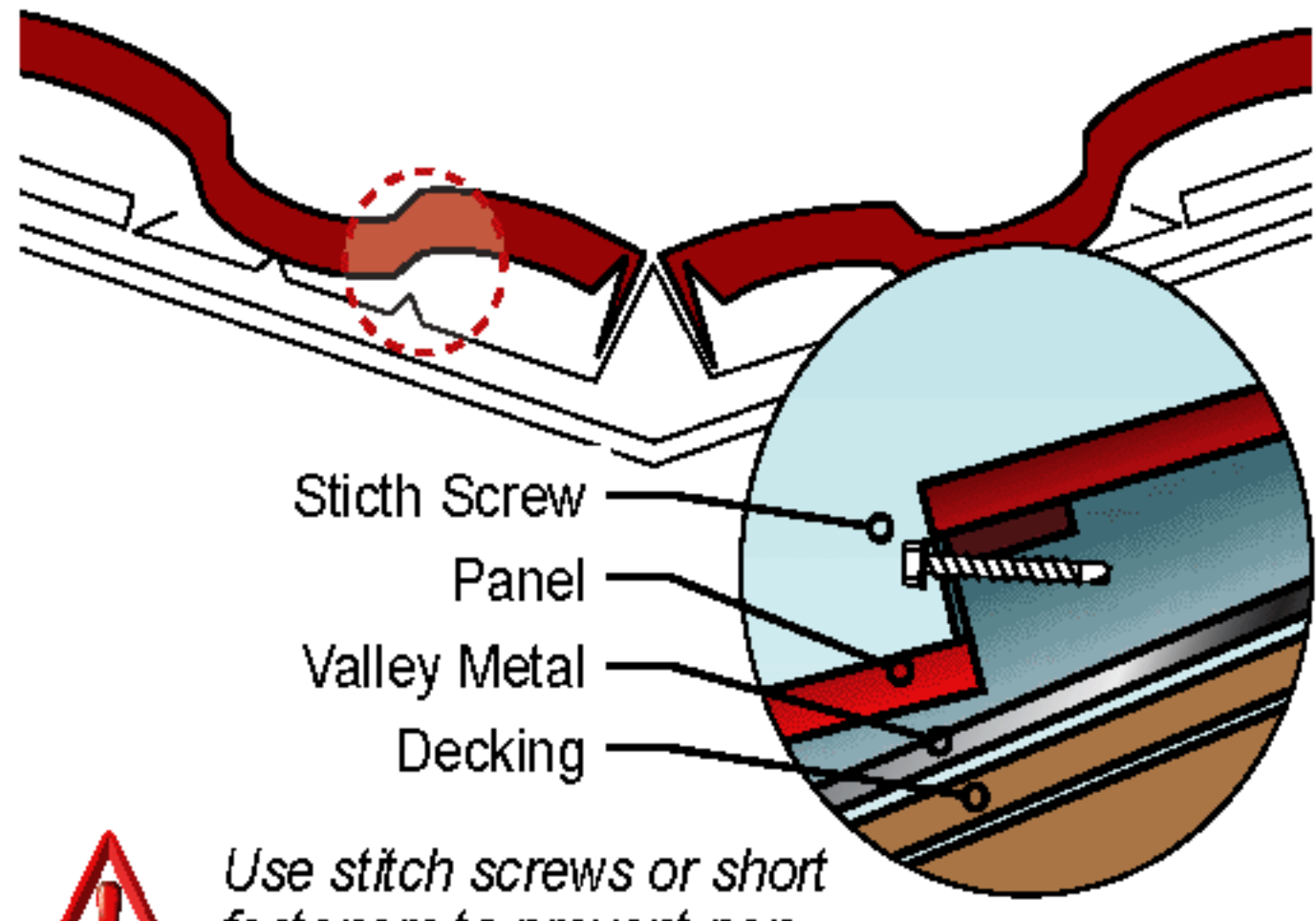


2 Mark the bend line 1½ in from the cut line.



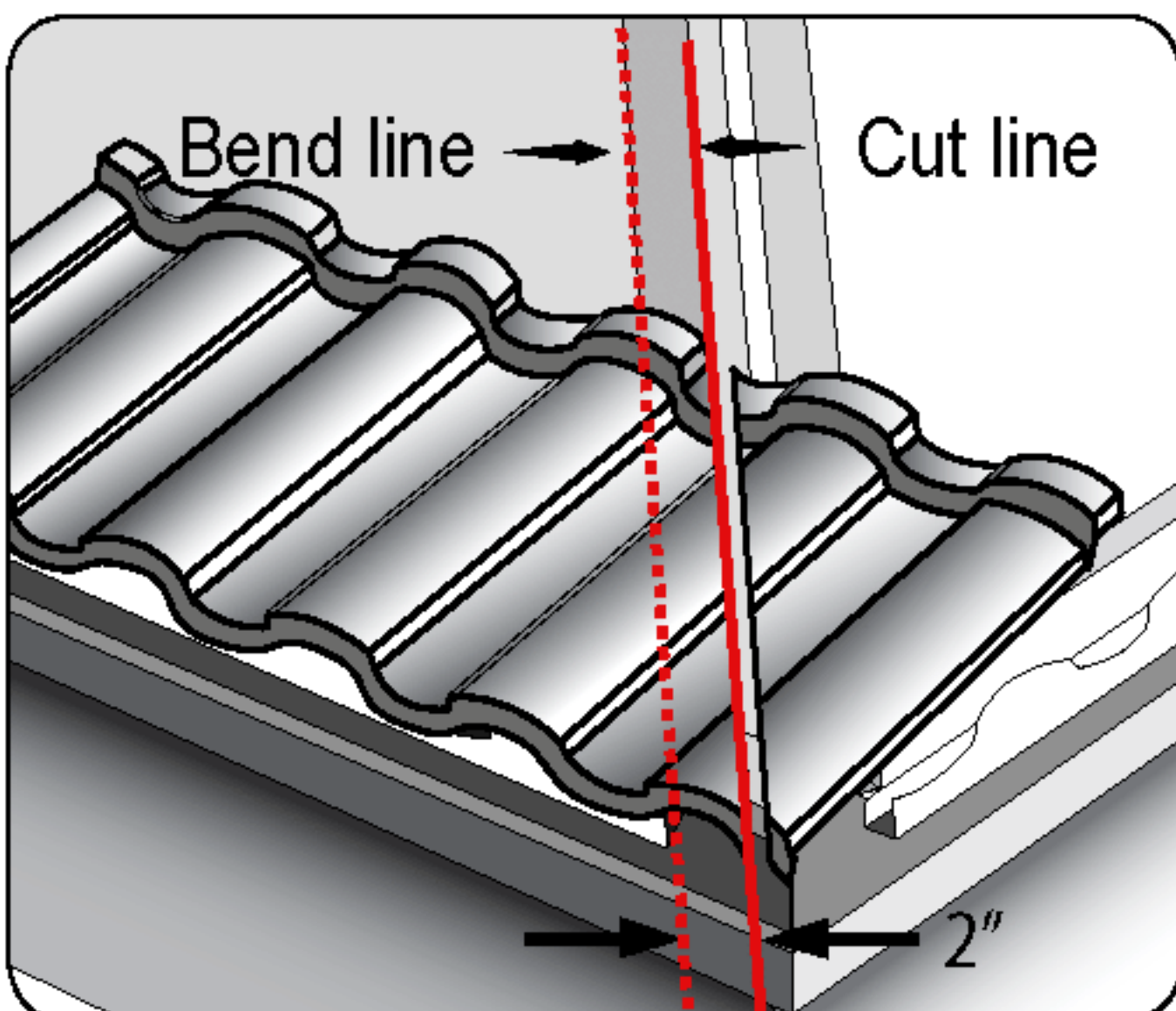
3 Bend panel down to fit into valley metal

### CLOSED VALLEY

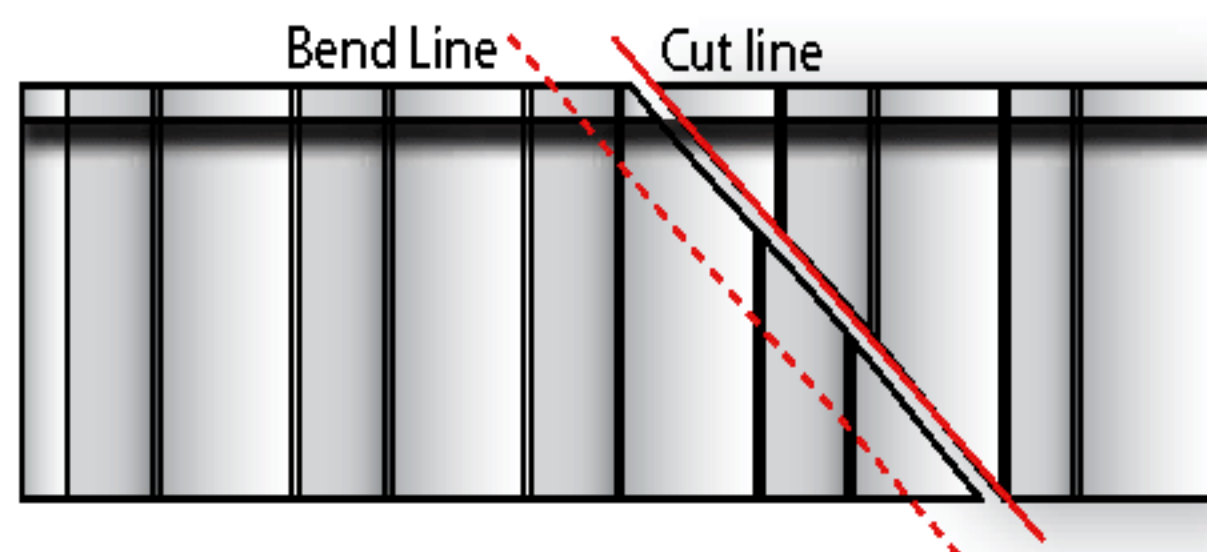


Use stitch screws or short fasteners to prevent penetration of the valley pan.

### HIP PANELS



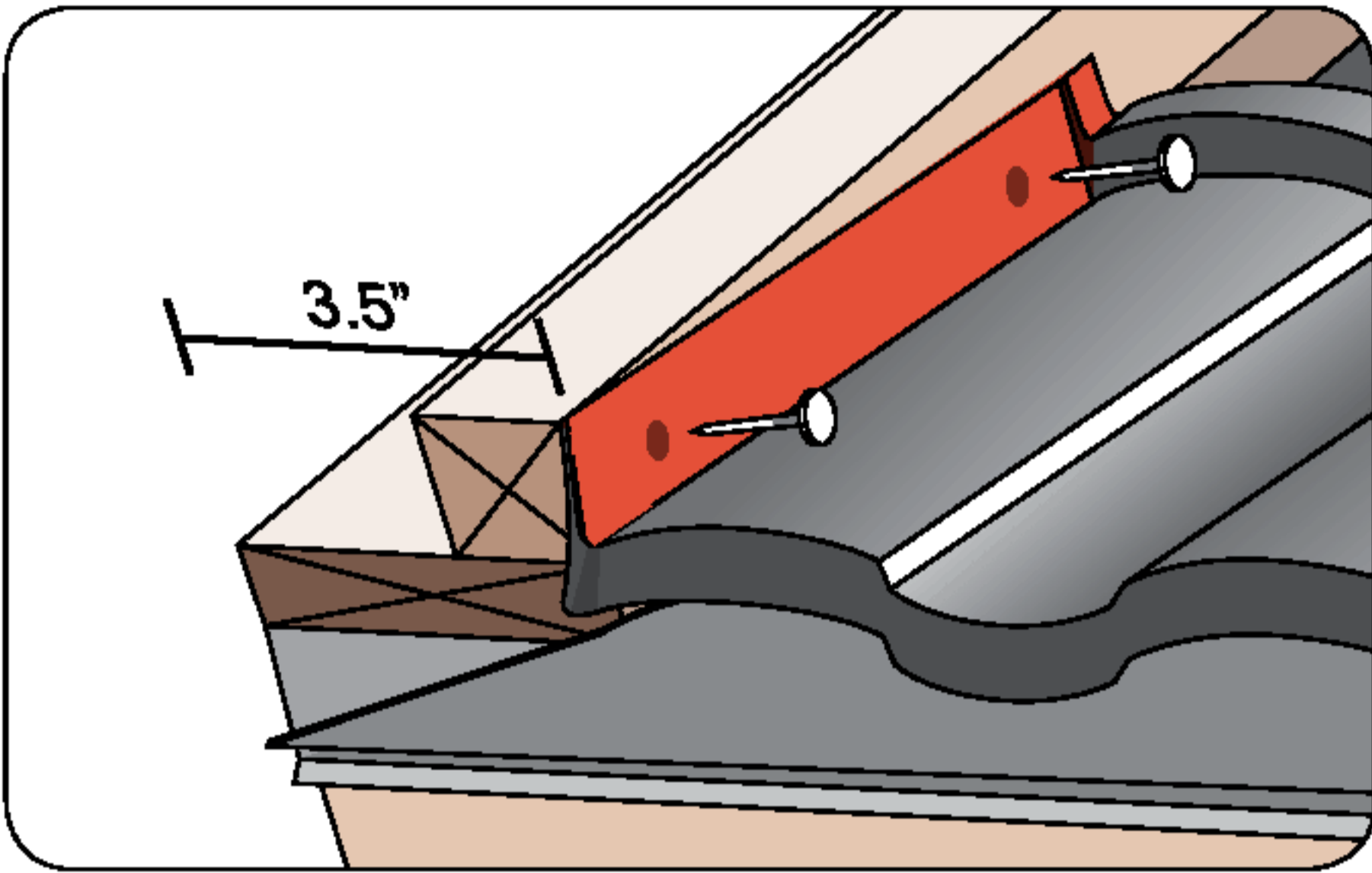
Hip cuts are measured, cut and bent in similarly to valleys. Each hip panel is bent up a min of 1½" and fastened against the hip board.



¼" is deducted from actual measurement when making hip cuts.

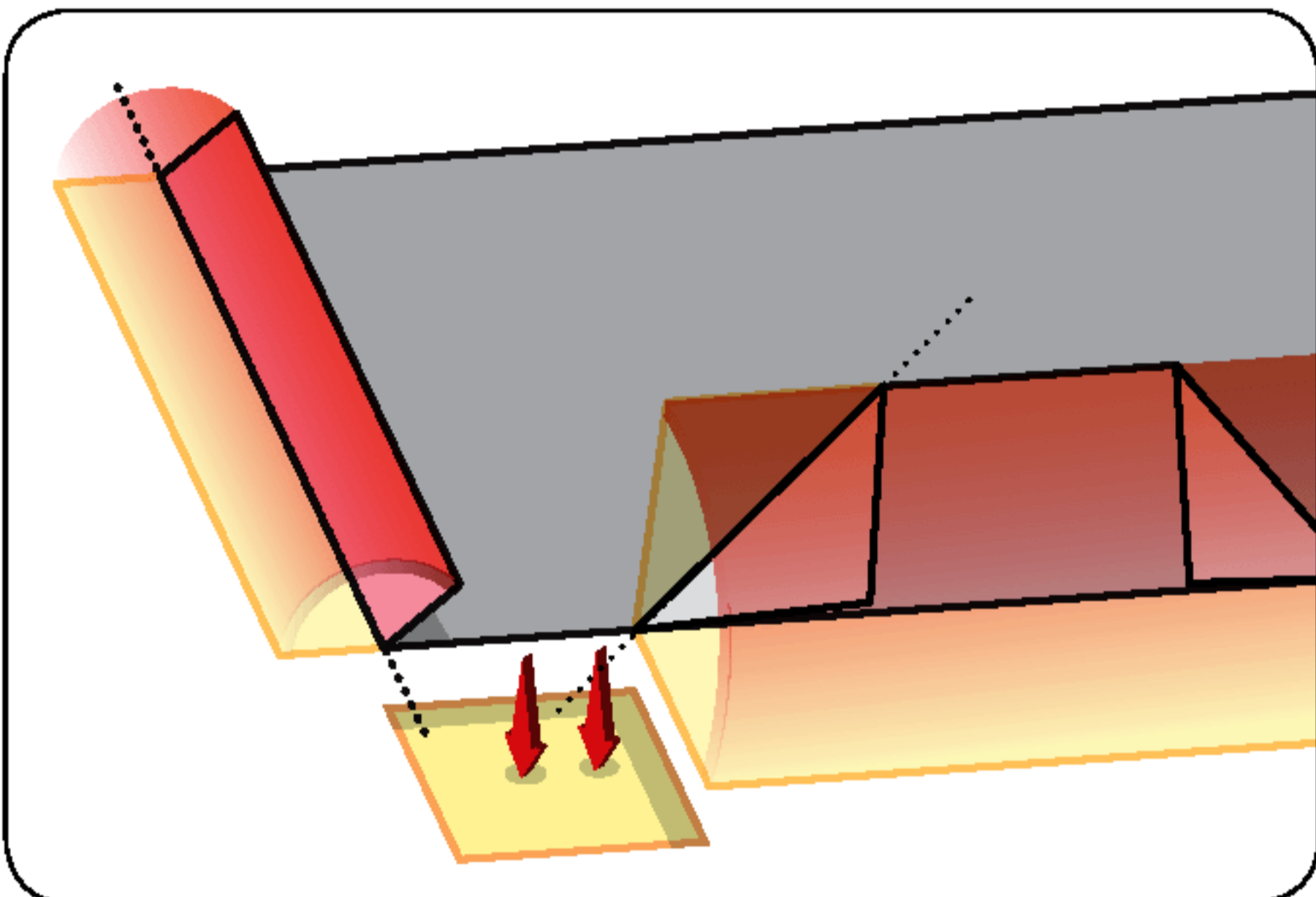


### RAKE PANELS



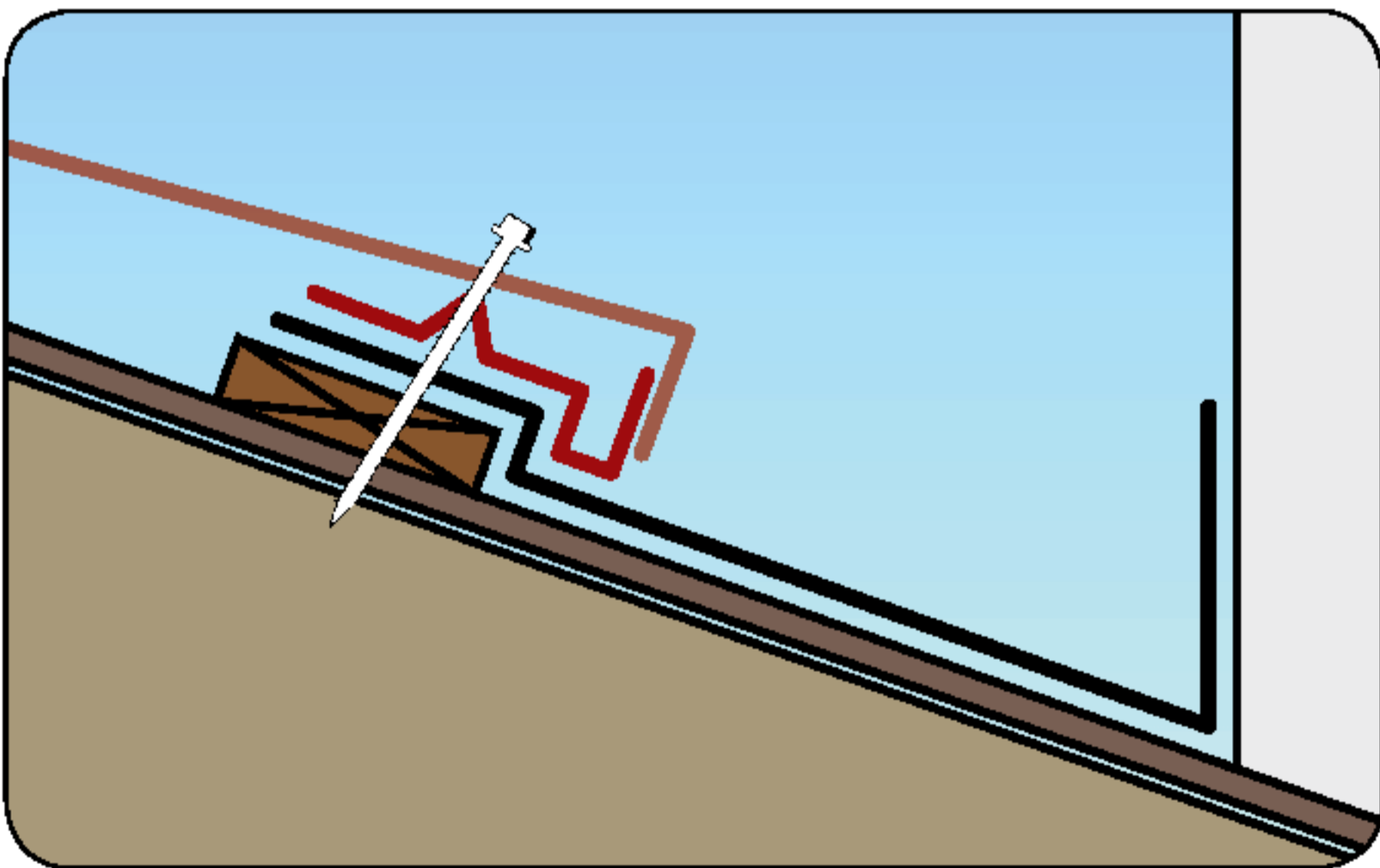
Measure, Cut & Bend-Up all rake panels against the rake build-up.

### CHIMNEY SADDLE PREPARATION



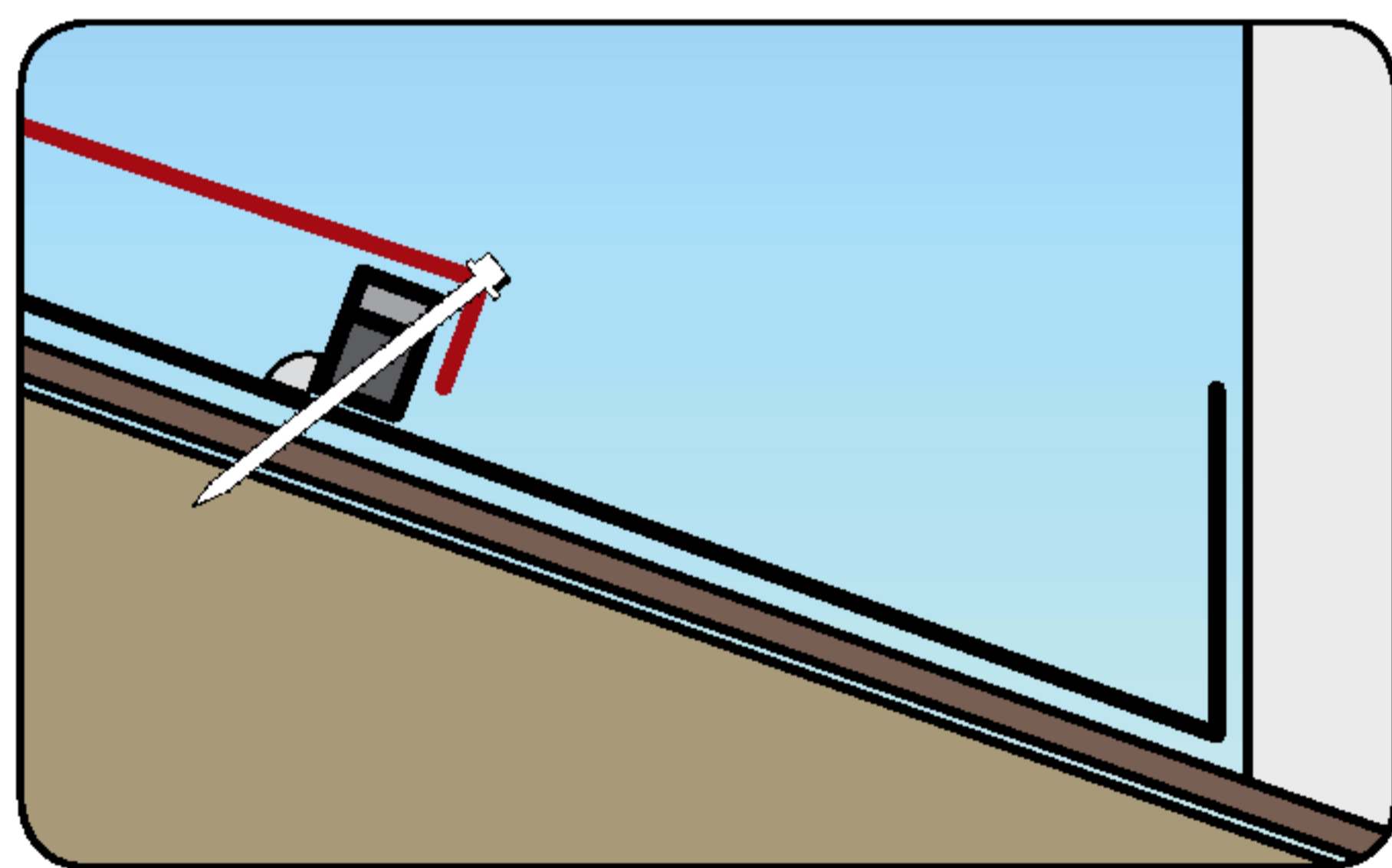
On the sides of the Chimney Saddle create side-hems to deflect water down the sides of the chimney.

### CHIMNEY FLAT-STOCK PREPARATION



Use a V-Bat Riser Metal piece as shown to elevate the panel to the correct roof plane height. Fasten as shown with the panel nose being fastened into the V-Bat Riser.

### CHIMNEY FLAT-STOCK W/ FOAM CLOSURE

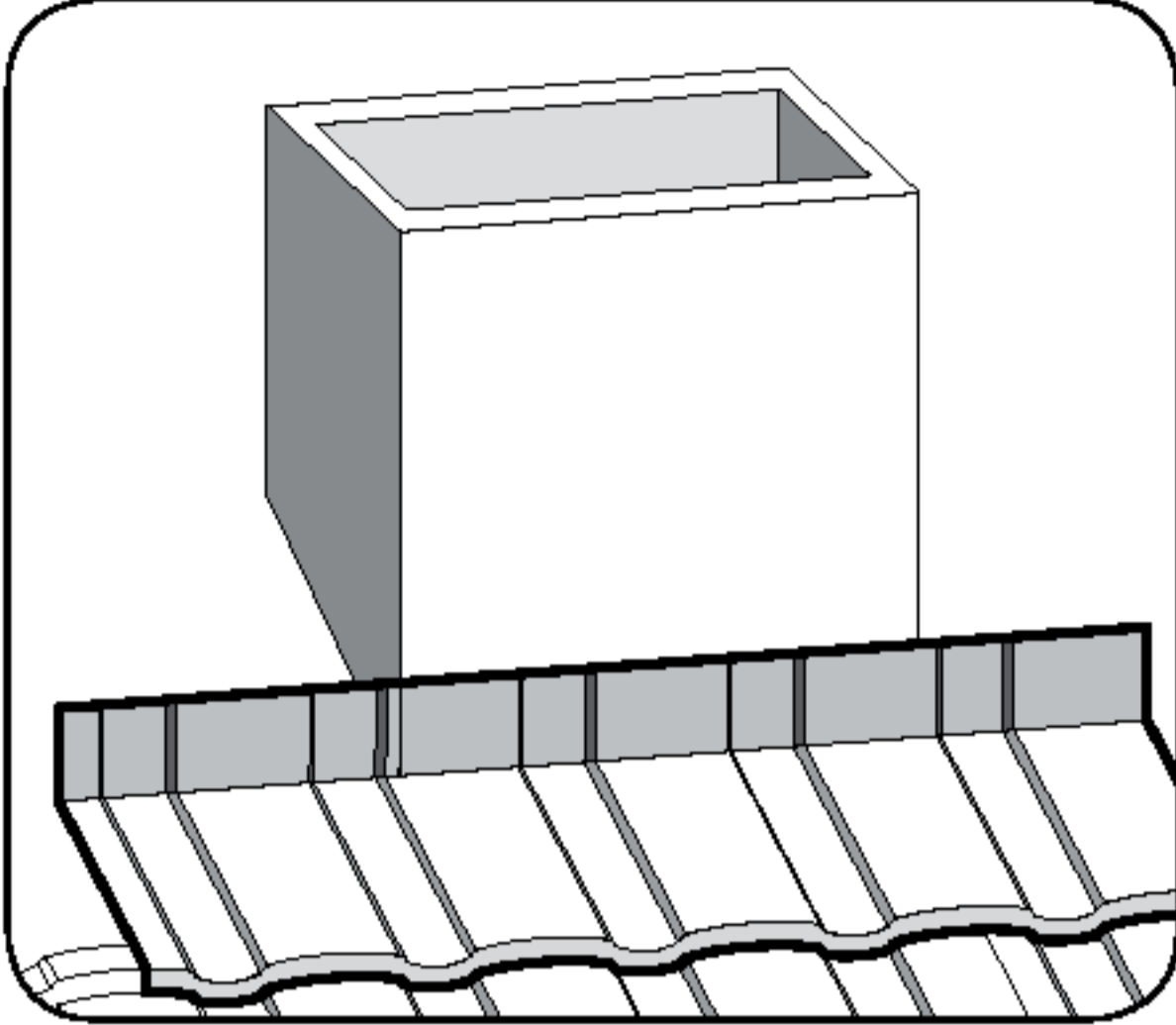


Position the Foam strip in a bead of sealant and fasten as shown. Use Metro Touch-up kit to seal top fasteners.

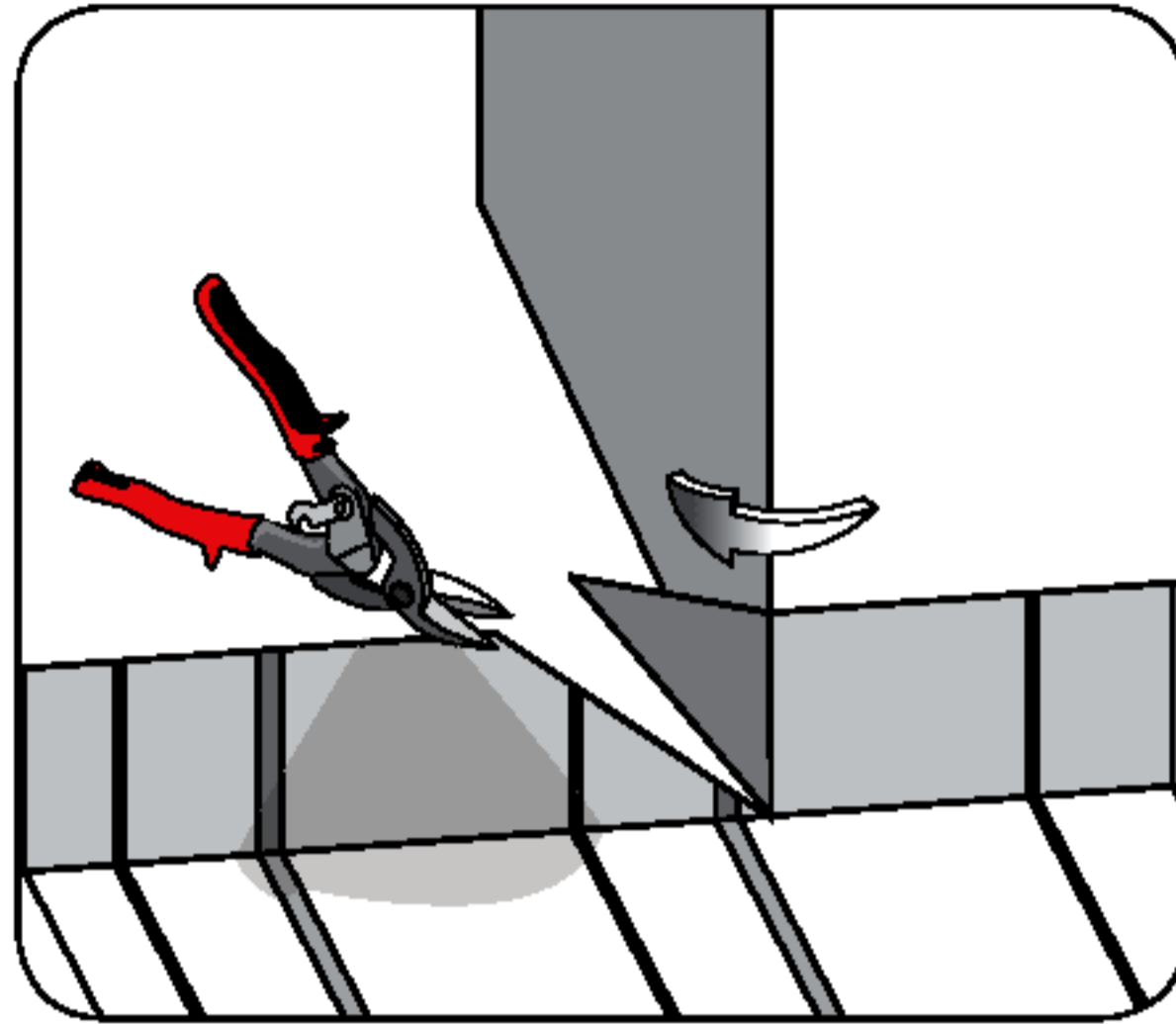


### SIDE-HEAD WALL/CHIMNEY/SKYLIGHT

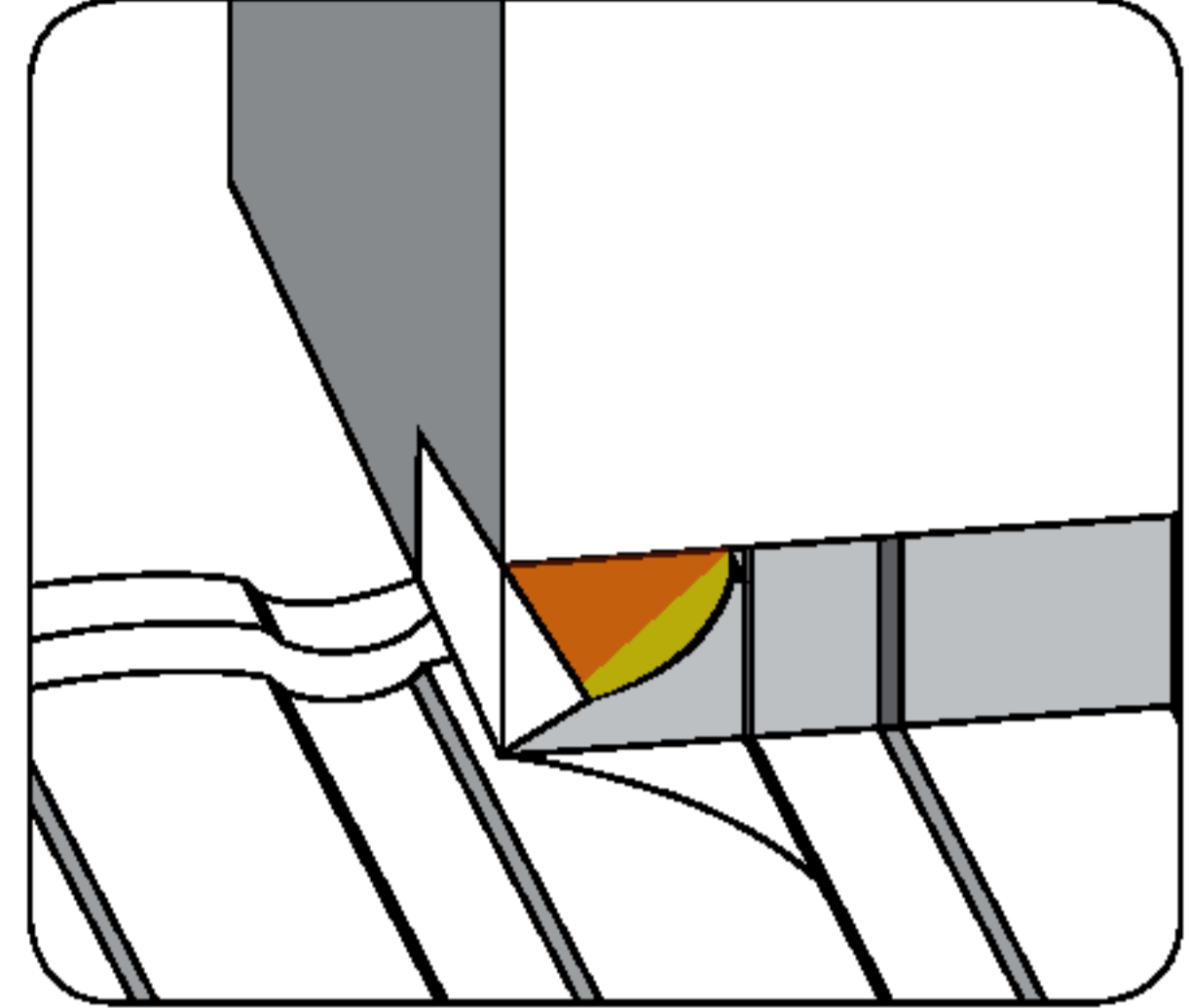
The following details apply to any square cornered protrusion through roof.



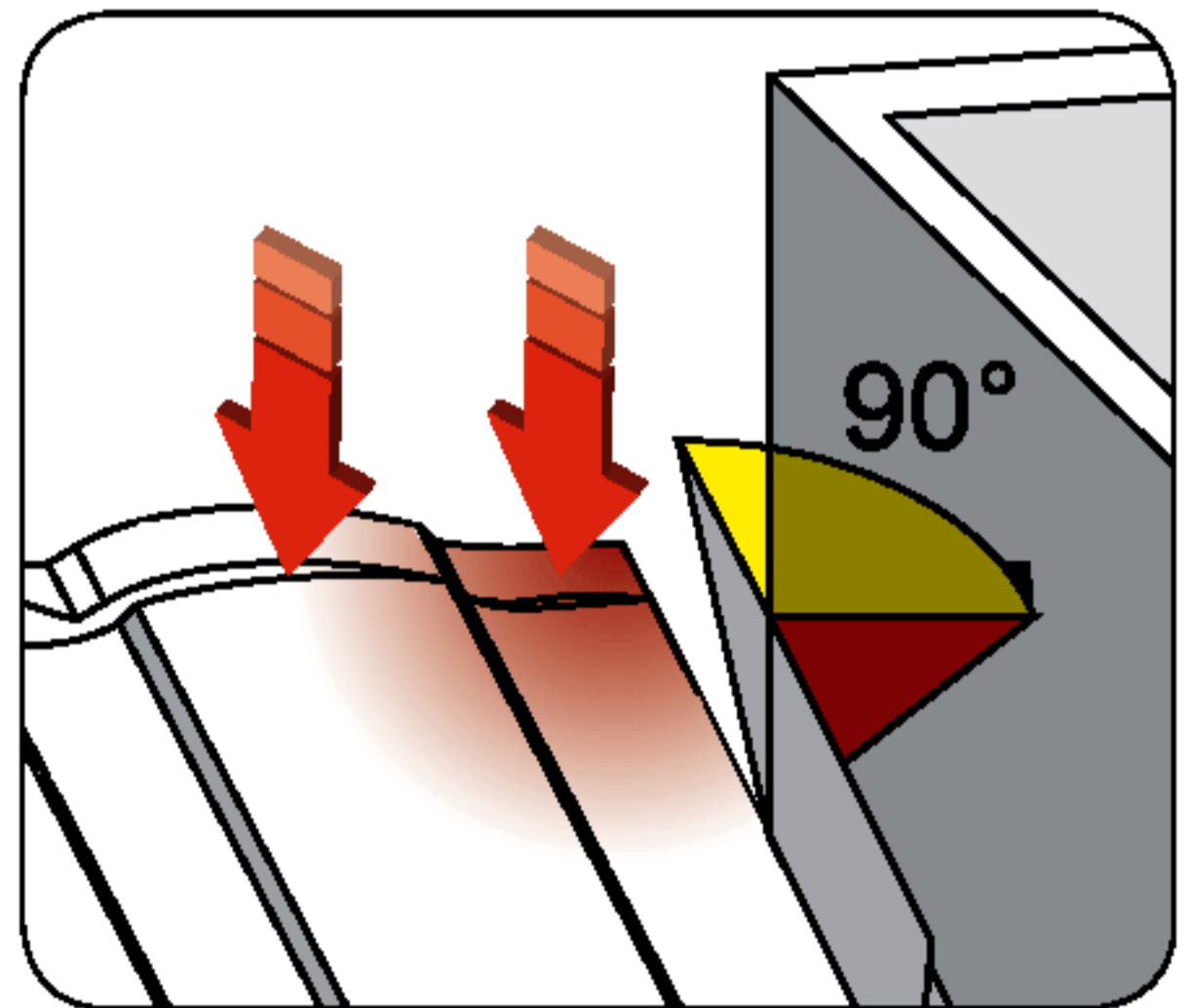
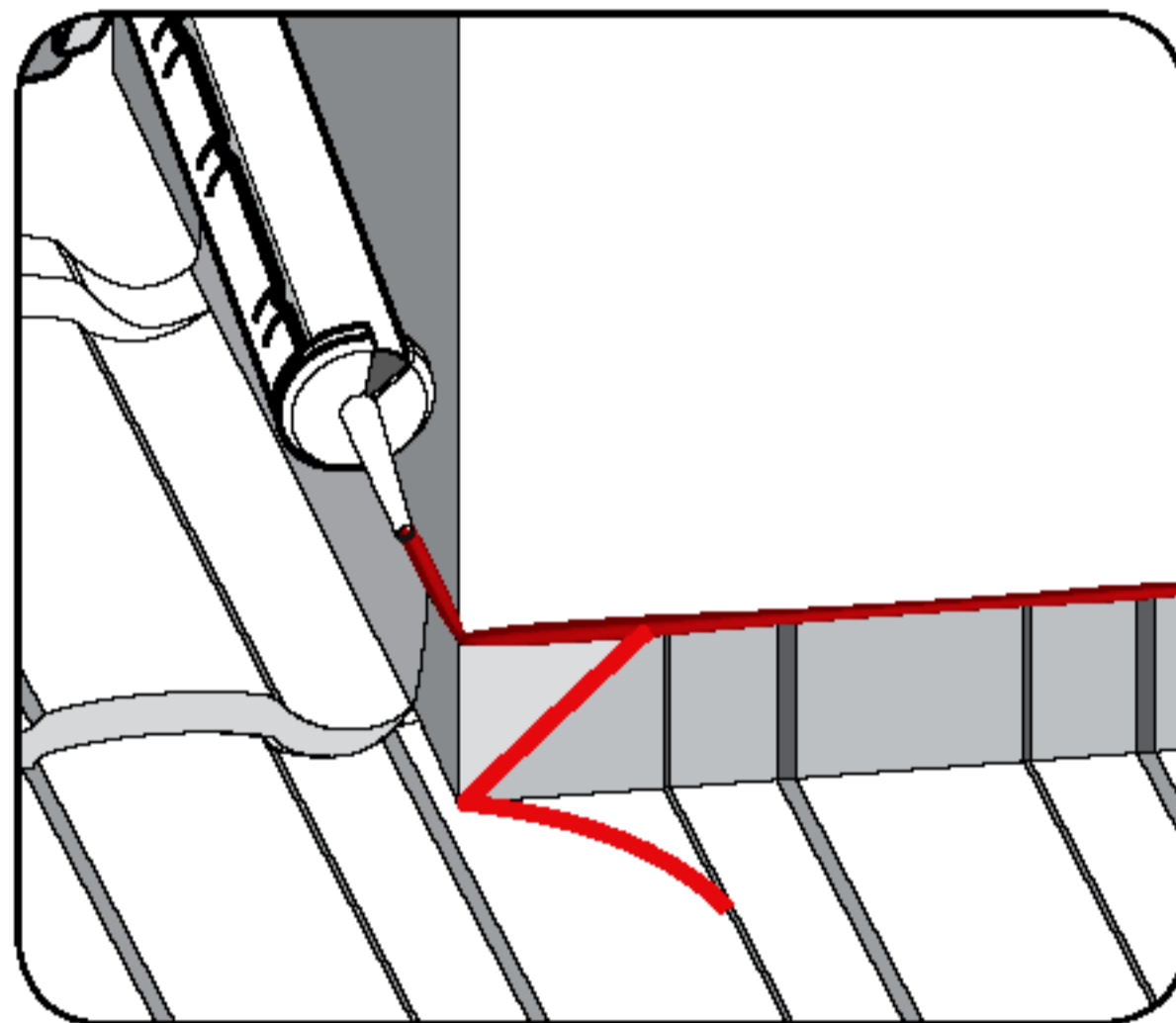
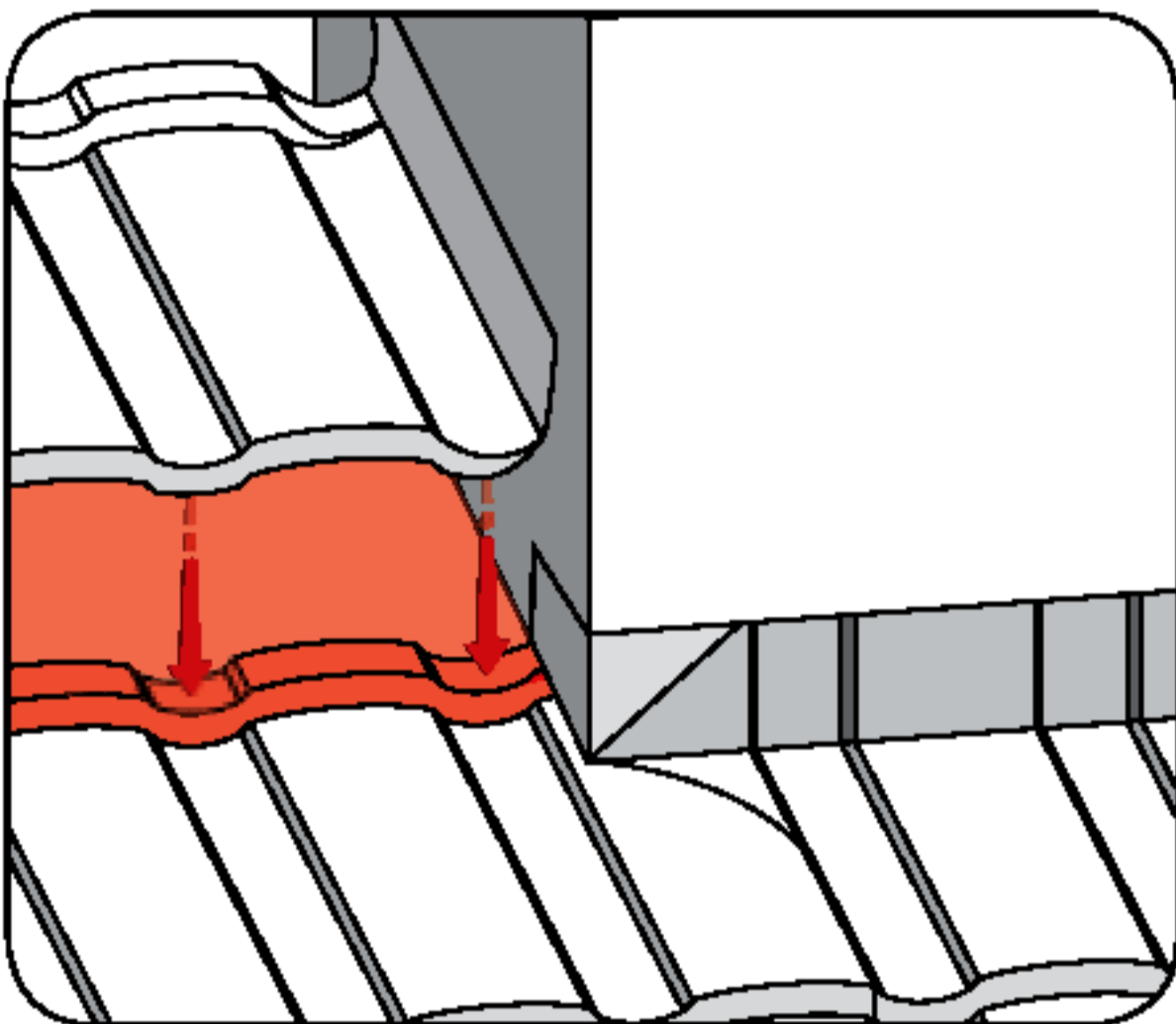
Measure, cut, and fold up panel 2" from the back of the panel to the front of protrusion.



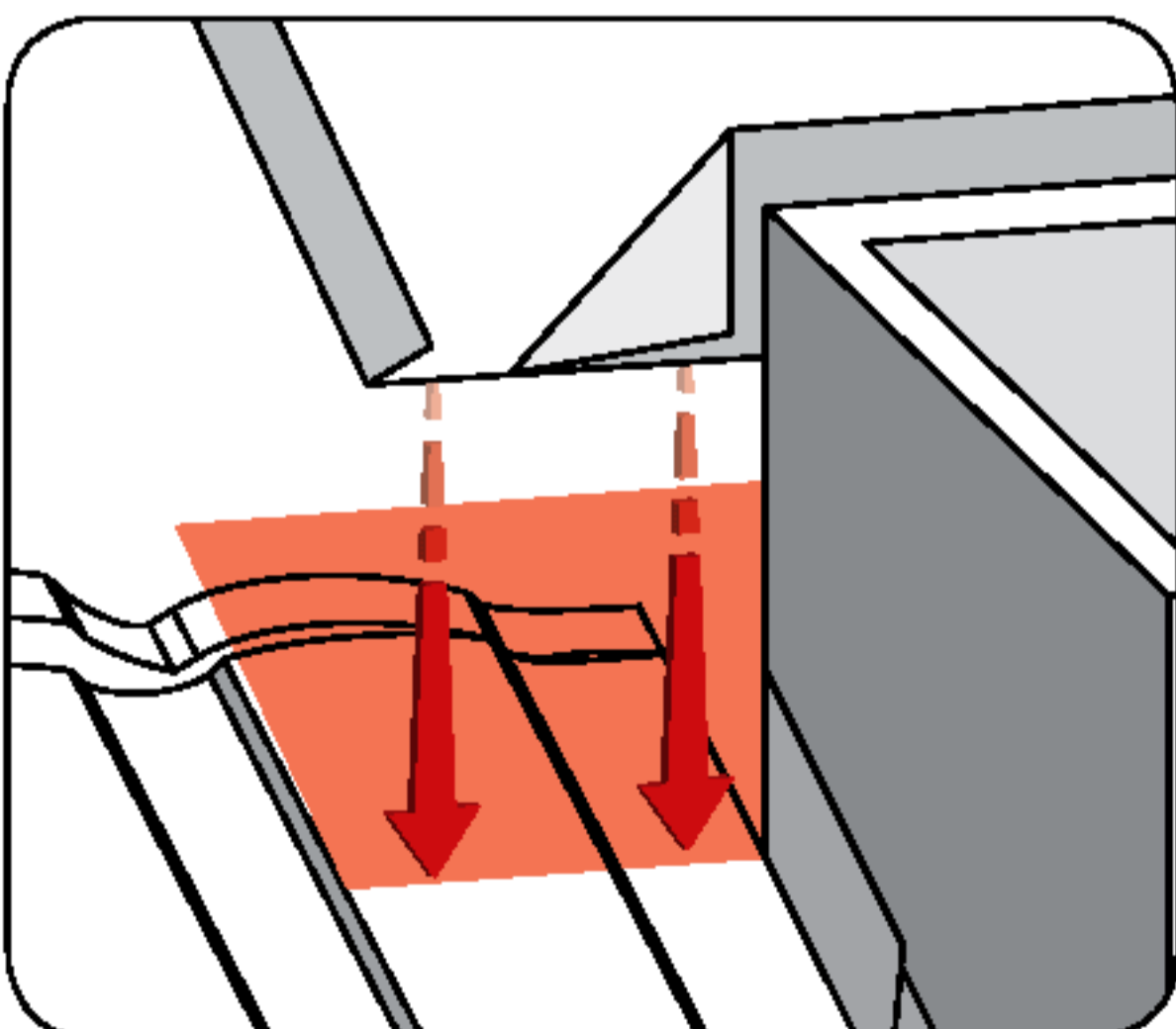
Cut a 45 degree angle as shown and fold tabs around protrusion.



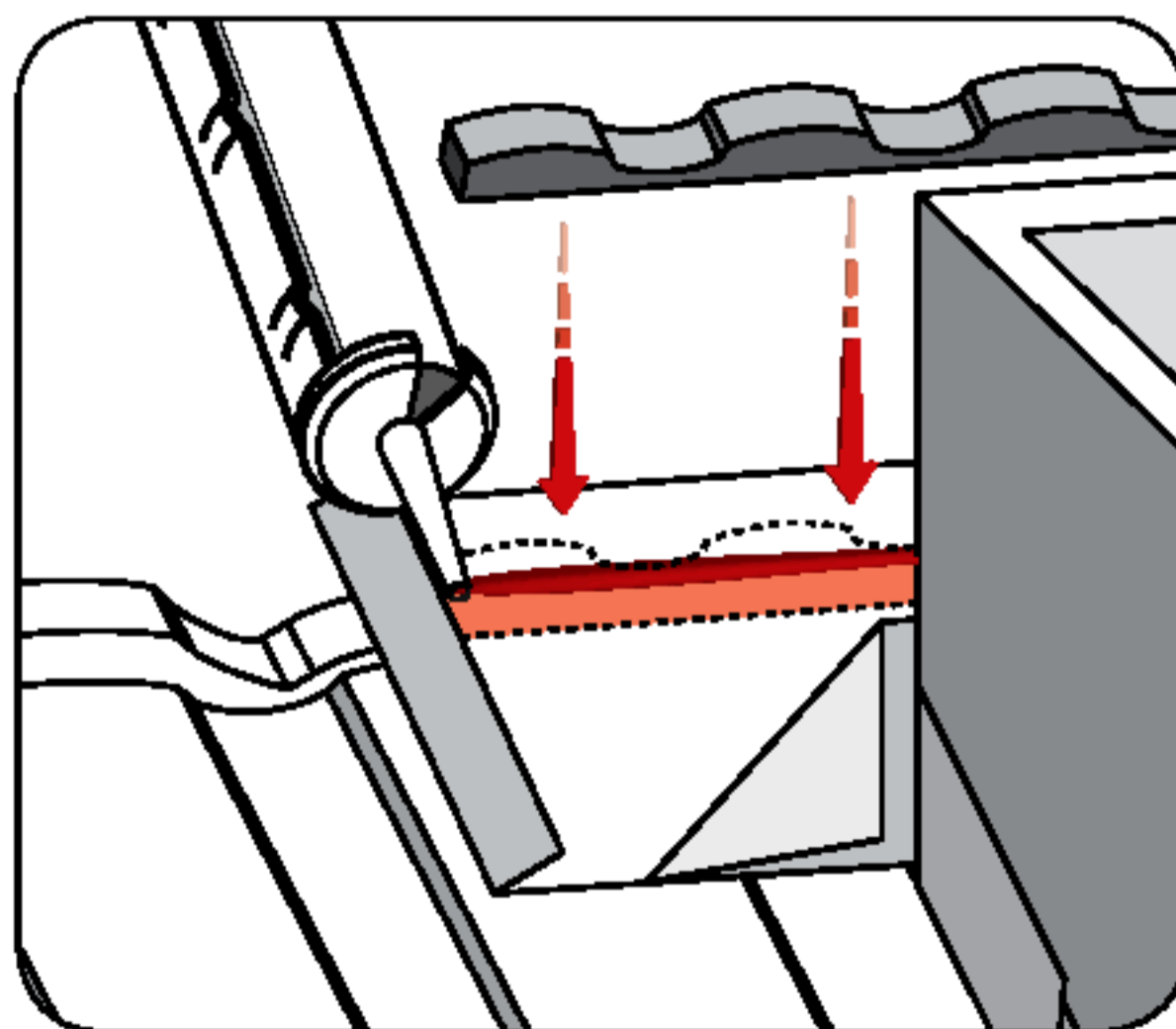
Cut and fold up panels 2" at sides of protrusion as shown.



Flatten the back flange of the panel intersecting the top of the protrusion.



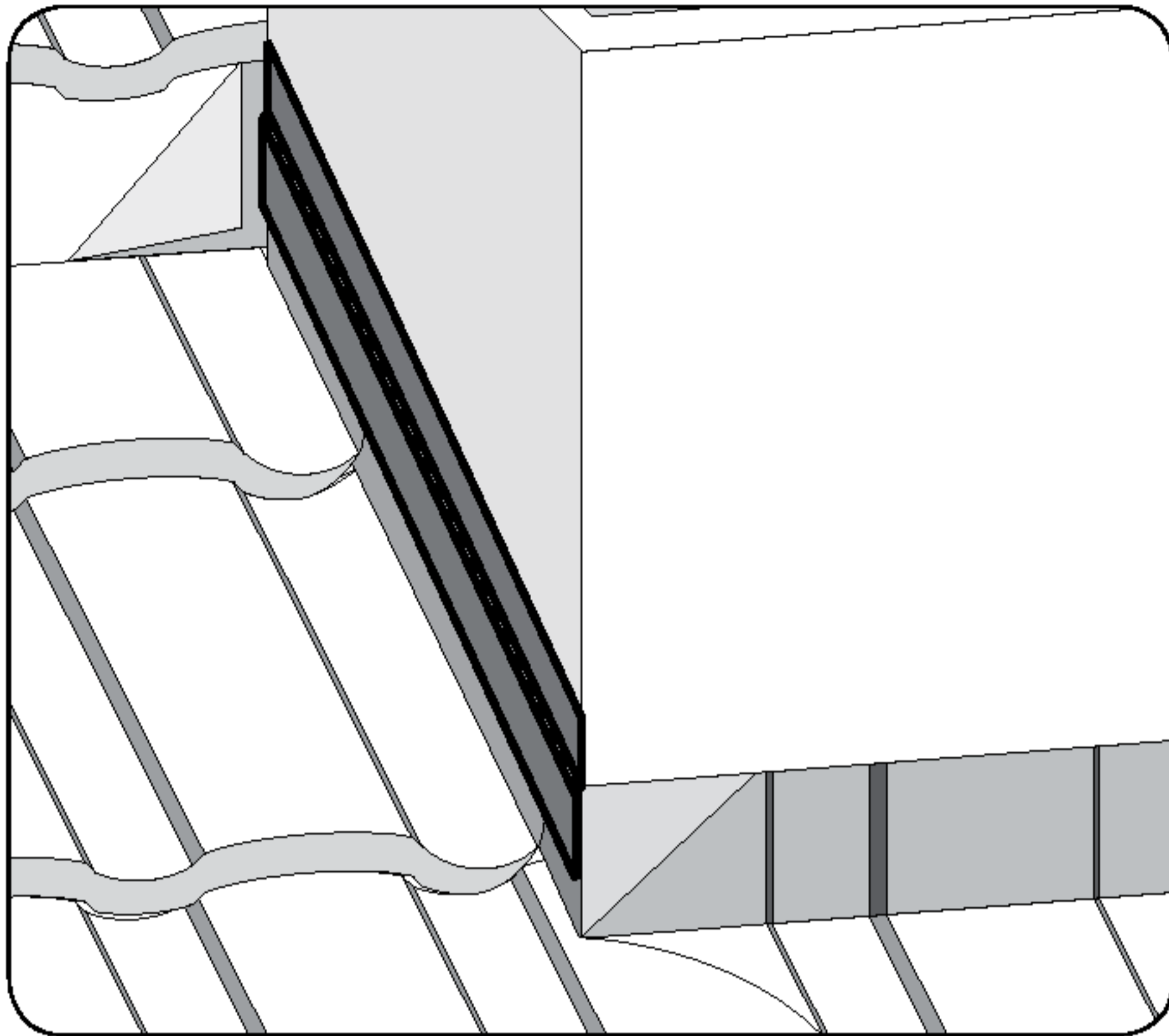
Install chimney saddle metal at back of chimney as shown. Extend Saddle metal a minimum of 4" past each side of protrusion.



For added protection install a foam weather block as shown to seat the panel onto.

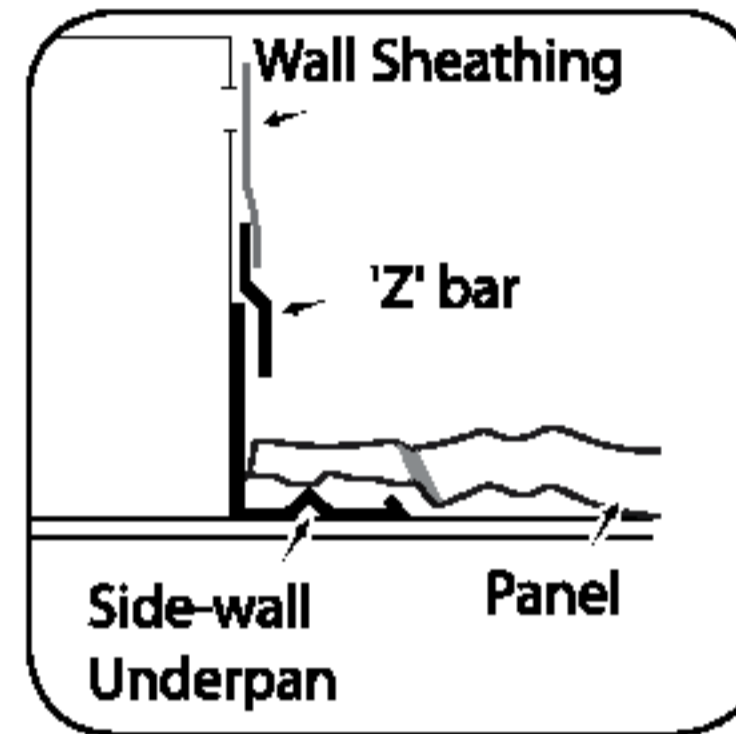


### 'Z'-BAR FLASHING DETAIL



Side-wall Under-pan metal is covered with counter flashing or standard Z-bar.

Panel front down-turn is 'Flared' out to allow Under-pan to exit onto panel below.



*Fold up nose of panel where under-pan metal exits on top of panels below.*



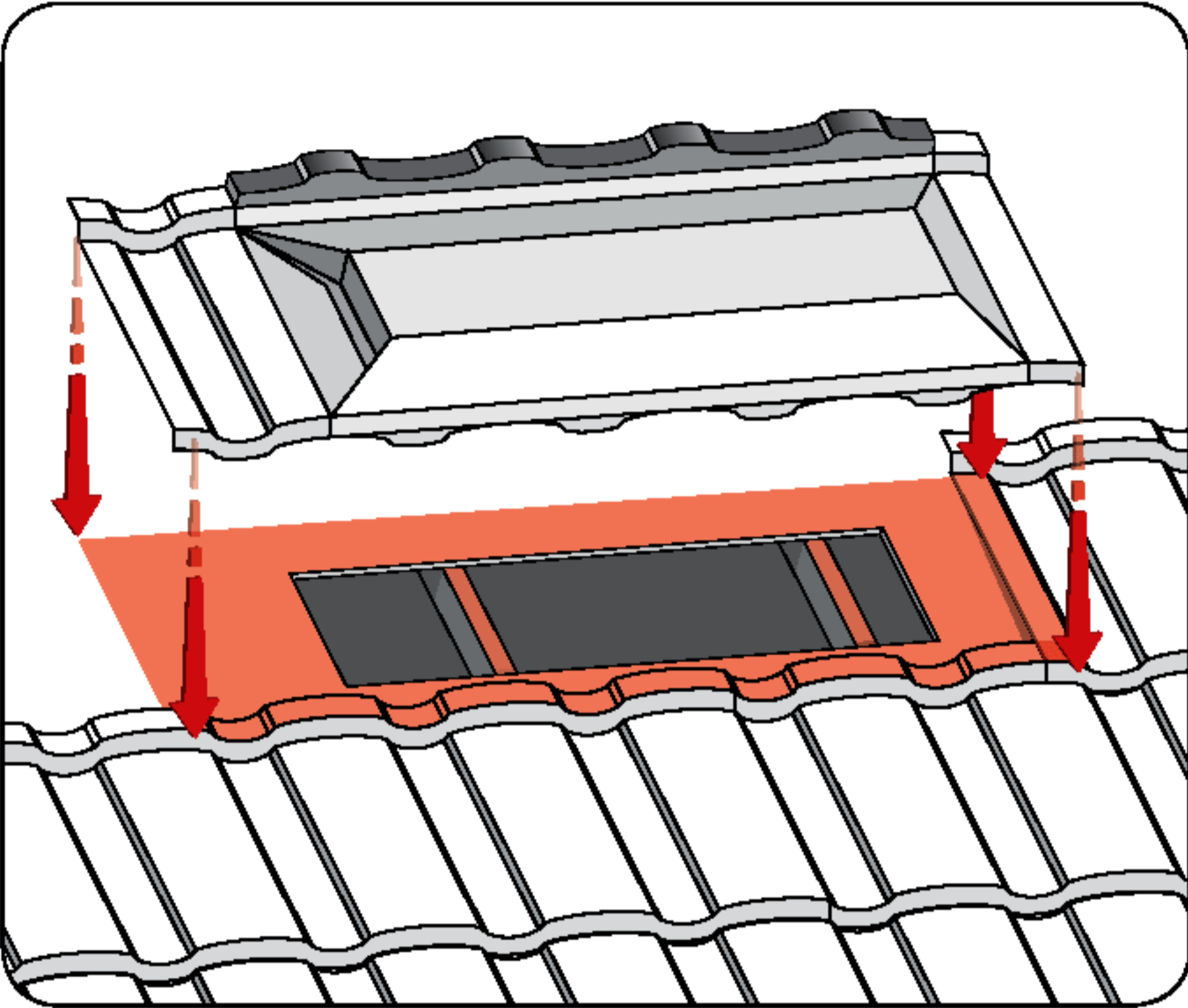
*Always start from the bottom of the item being flashed to ensure correct weather protection.*

*Counter Flashing metal or Z-bar covers bent up edges of panels.*

When Small or Flush-Mounted Z-Bar is used. Seal the top edge of bend-up's where they meet the wall before installing the Z-Bar. Use the 'Reglet' top-angle to run a final bead of sealant around the item being flashed.



### SMART-VENT - BATTEN-LESS ROMAN-TILE



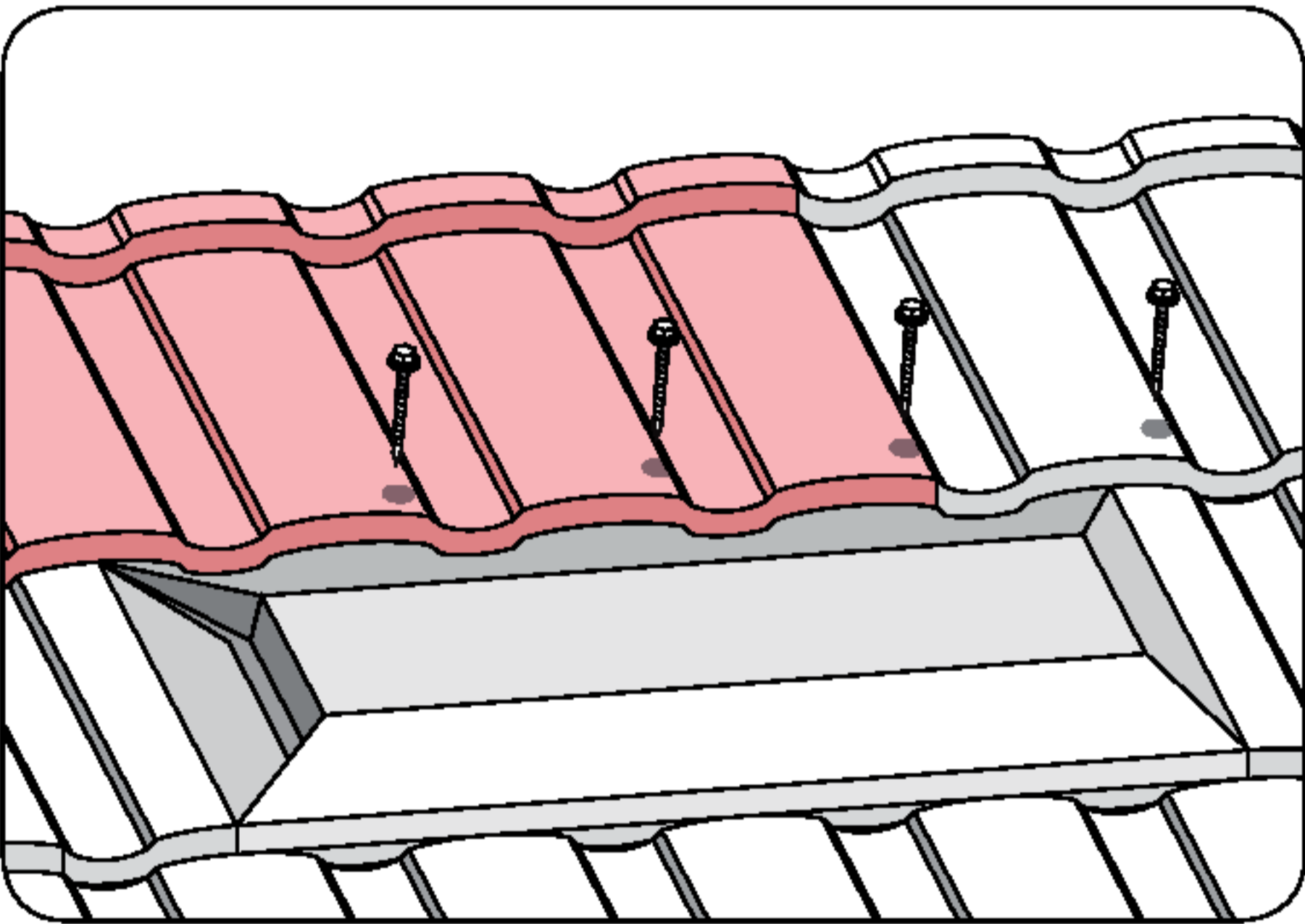
MetroROMAN-Tile™ SMART-vents are used in place of regular panels where ventilation is required. The vents are installed similar to panels after cutting ventilation hole in decking (approximately 8" x 30"). A MetroROMAN-Tile™ SMART-vent provides approximately 82sq inches of Net Free Vent Area (NFVA). Care should be taken to adequately ventilate the building. Building codes require a minimum NFVA of 1/300 the area of the space to be ventilated (attic).



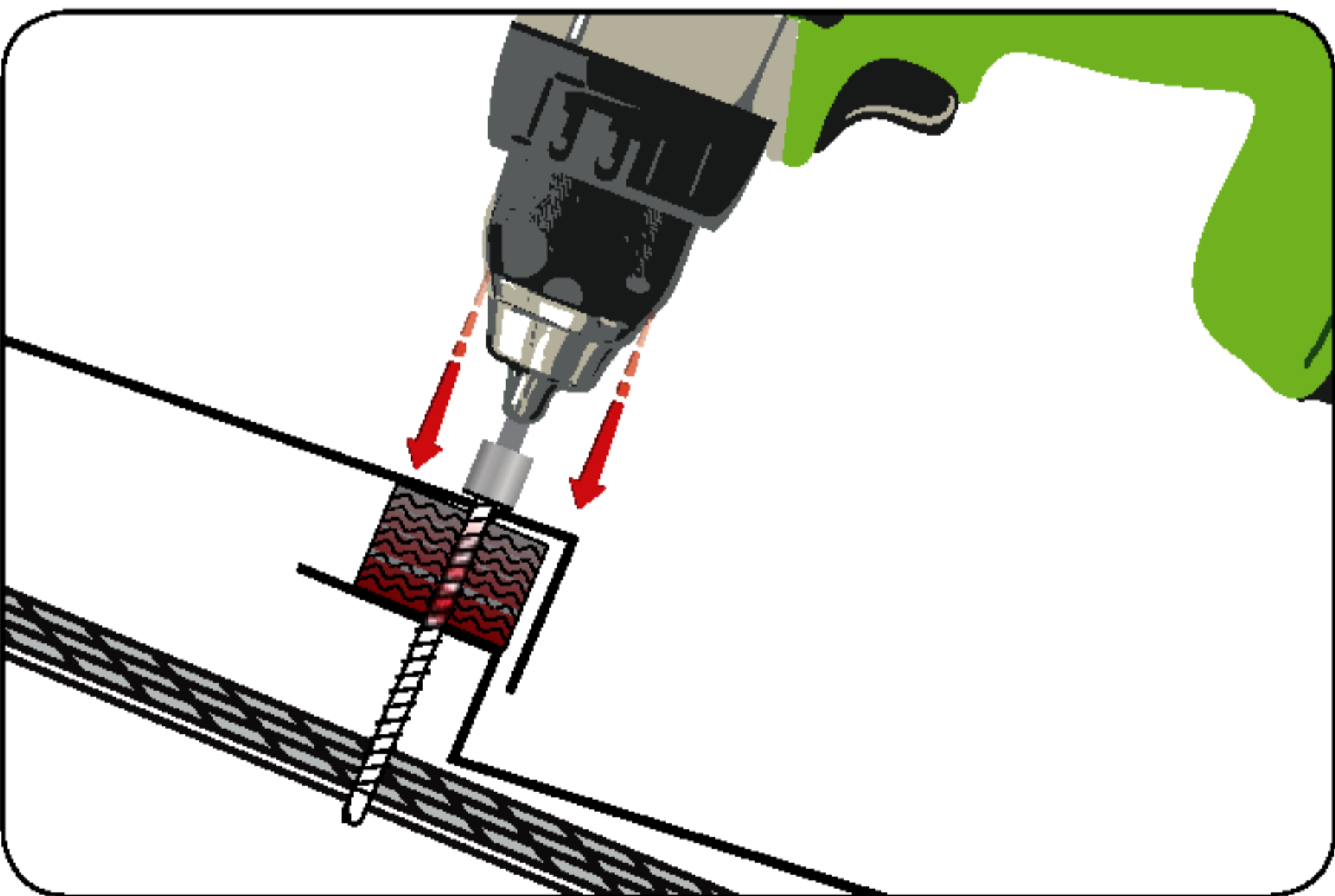
*Seal Back up-turn prior the course below vent.*



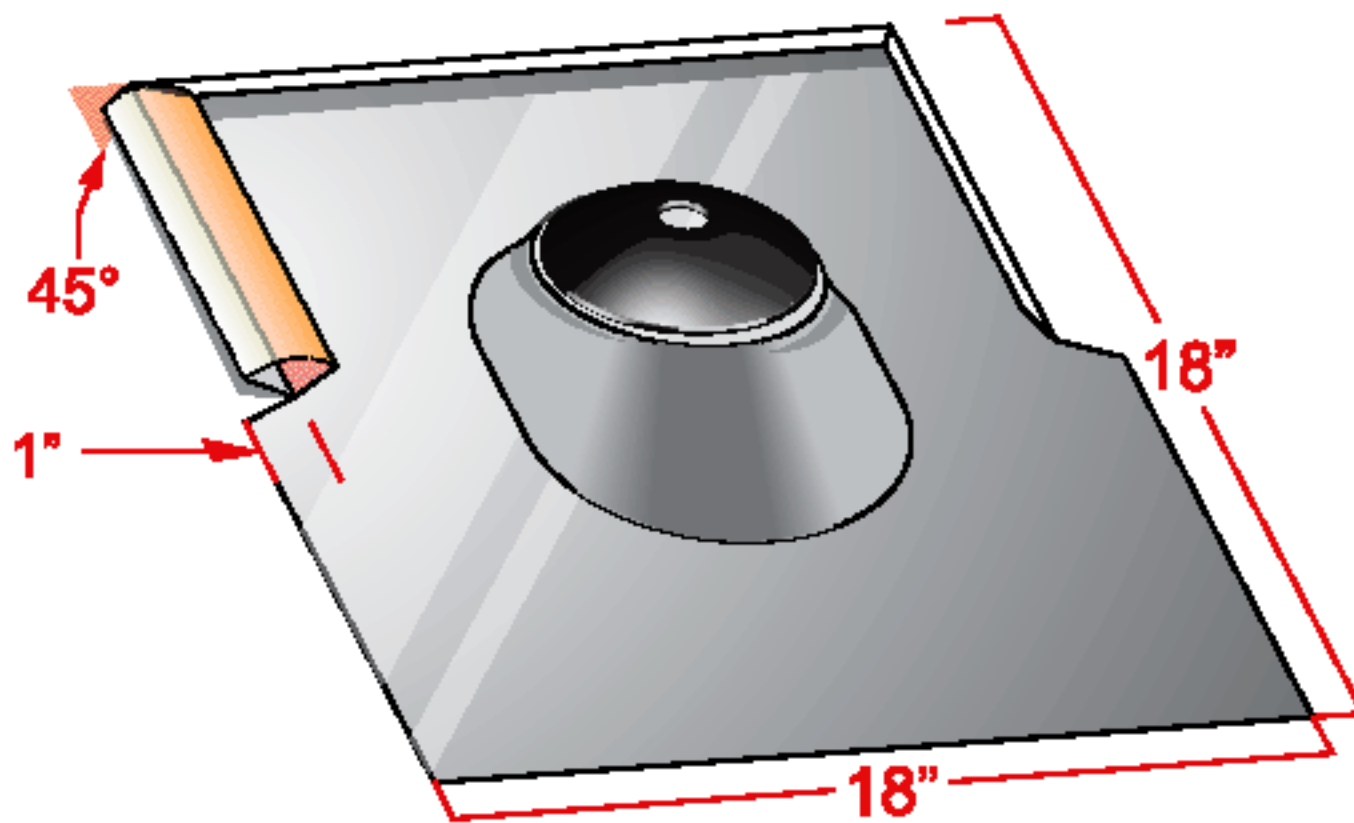
*Secure SMART-vent with screws (#10X2-1/2" HH)(63.5mm)*



Top panel fastening is acceptable behind Metro SMART-Vents, Chimney's & Skylights as shown. Use fasteners with self-sealing rubber washers covered by a dome cap or seal fasteners then cover with Metro touch-up kit.

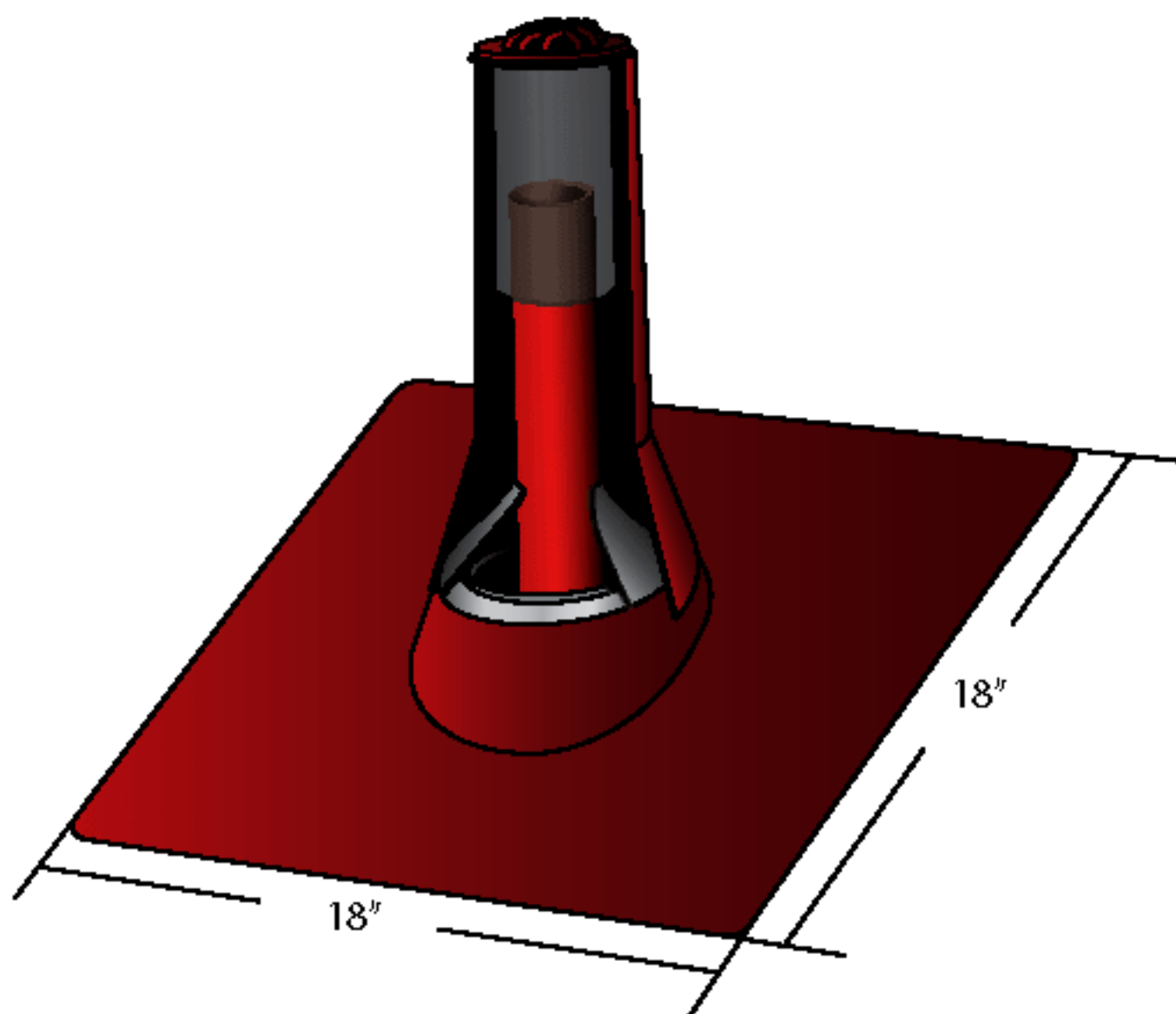


### SMART-JACK PREPARATION



To maintain good weather protection the edges of the SMART-Jack flashing should be folded/bent up as shown to deflect any moisture onto the flashing and out onto the panel below.

### 3-IN-1 SMART-JACK



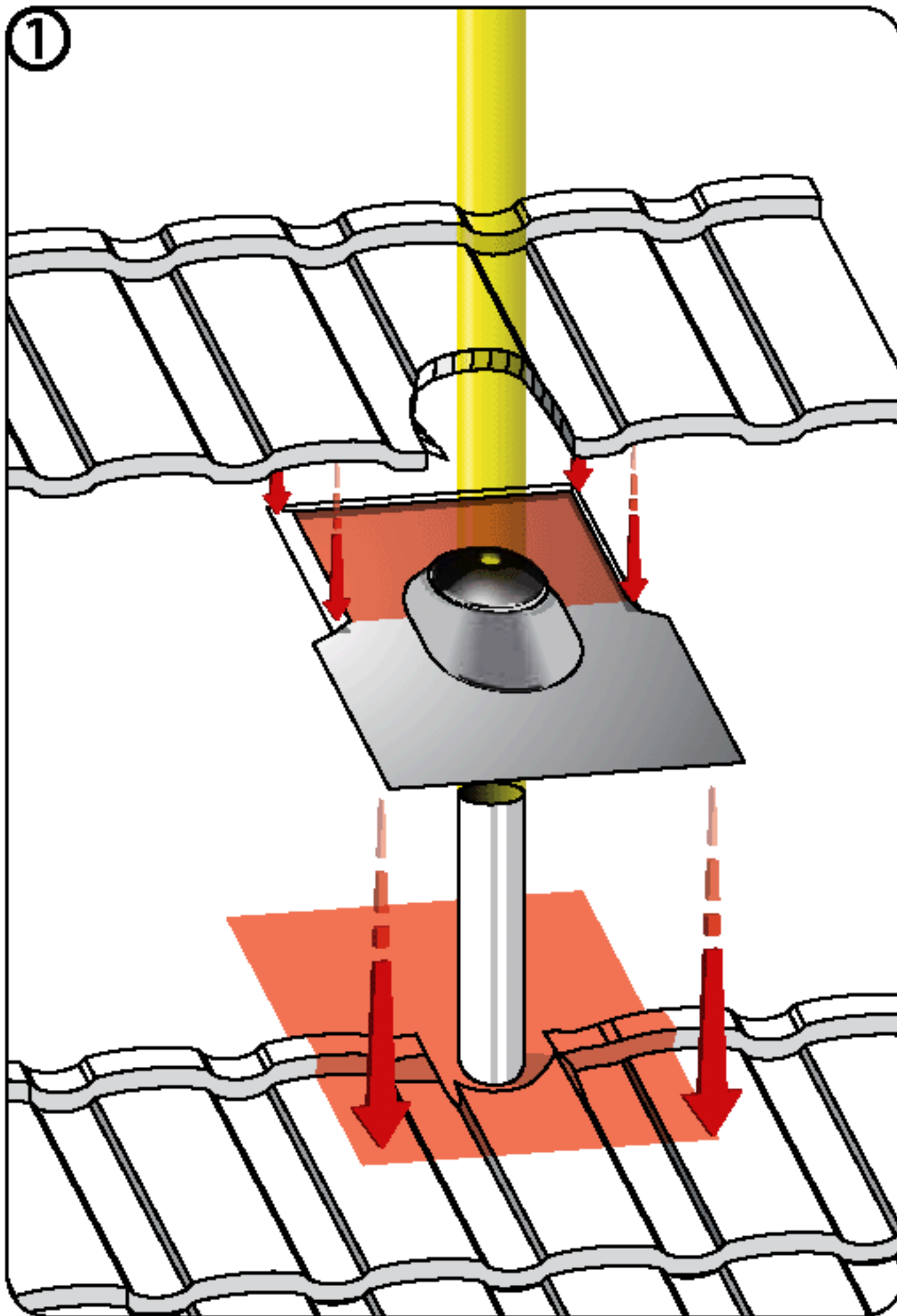
The Metro 3-in-1 SMART-jack is a moldable stone-coated roof flashing that can be used on most roof vent pipes, 1" to 3" in. dia. Apply sealant under 3-in-1 SMART-jack to keep it secured to panel beneath.



*If a vent location prevents SMART-jack 3-in-1 from being able to fold up and over the panels back flange, the Metro 'Sandwich' method should be used*



### SMART-JACK & SMART-SLEEVE



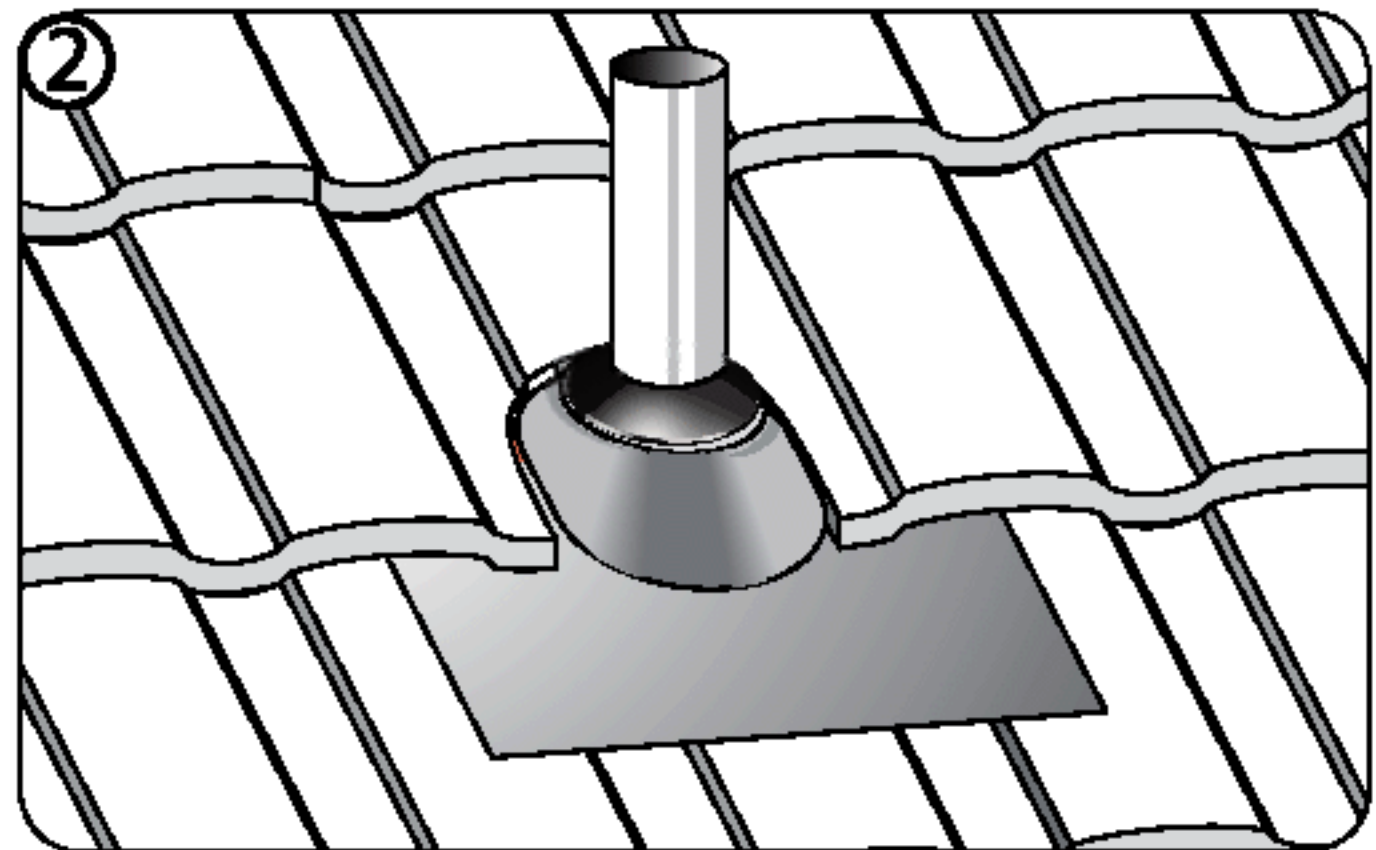
Cut panel tight to pipe and flatten the 'back-flange' portion of underlaying panel where highlighted in red above. Then seal and create a 1/2" hem around the perimeter of the SMART-Jack on the section above the pipe as shown.

Install a support block (1X4) behind the protrusion to support the back of the SMARTjack.

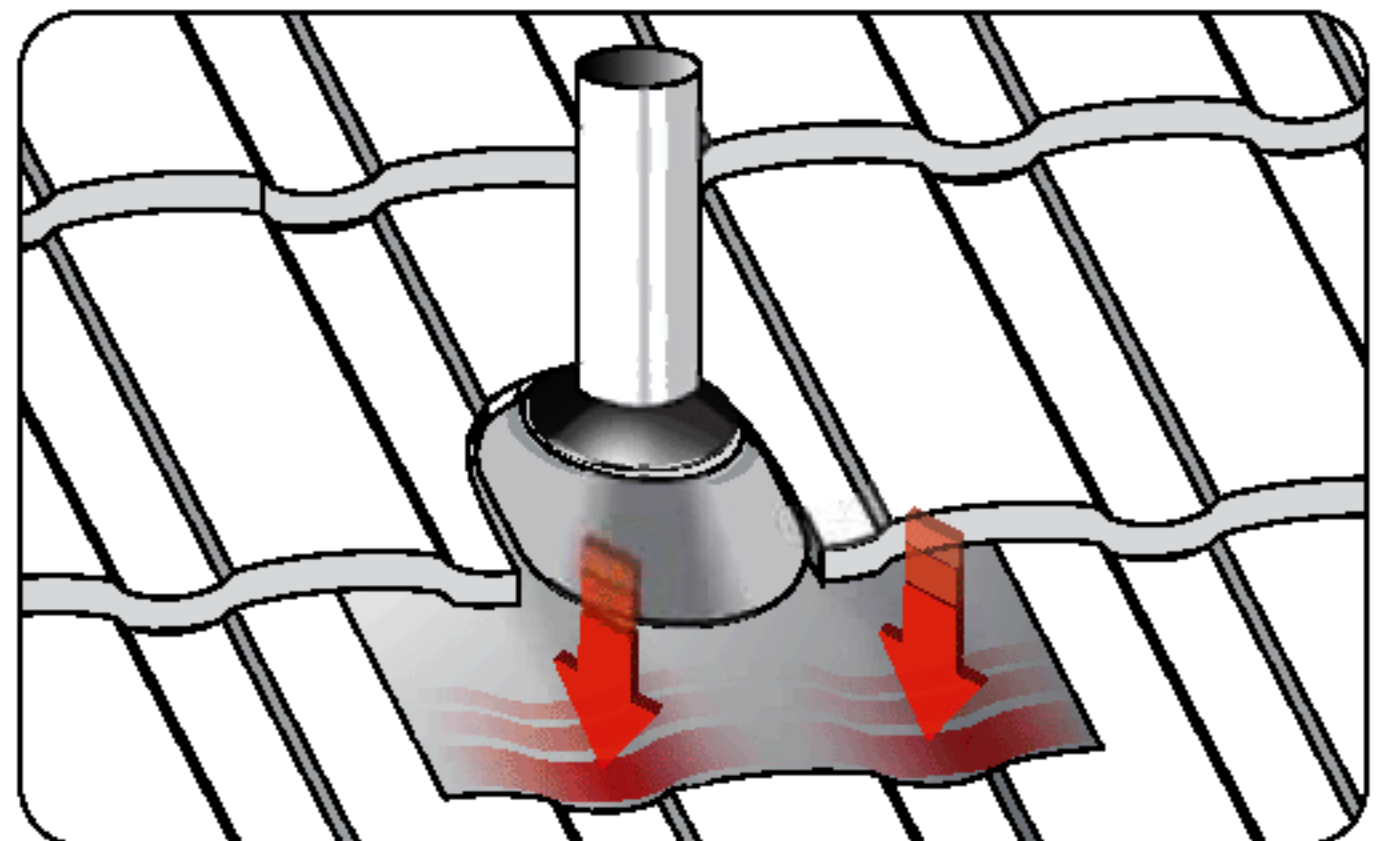
#### Dissimilar Metals



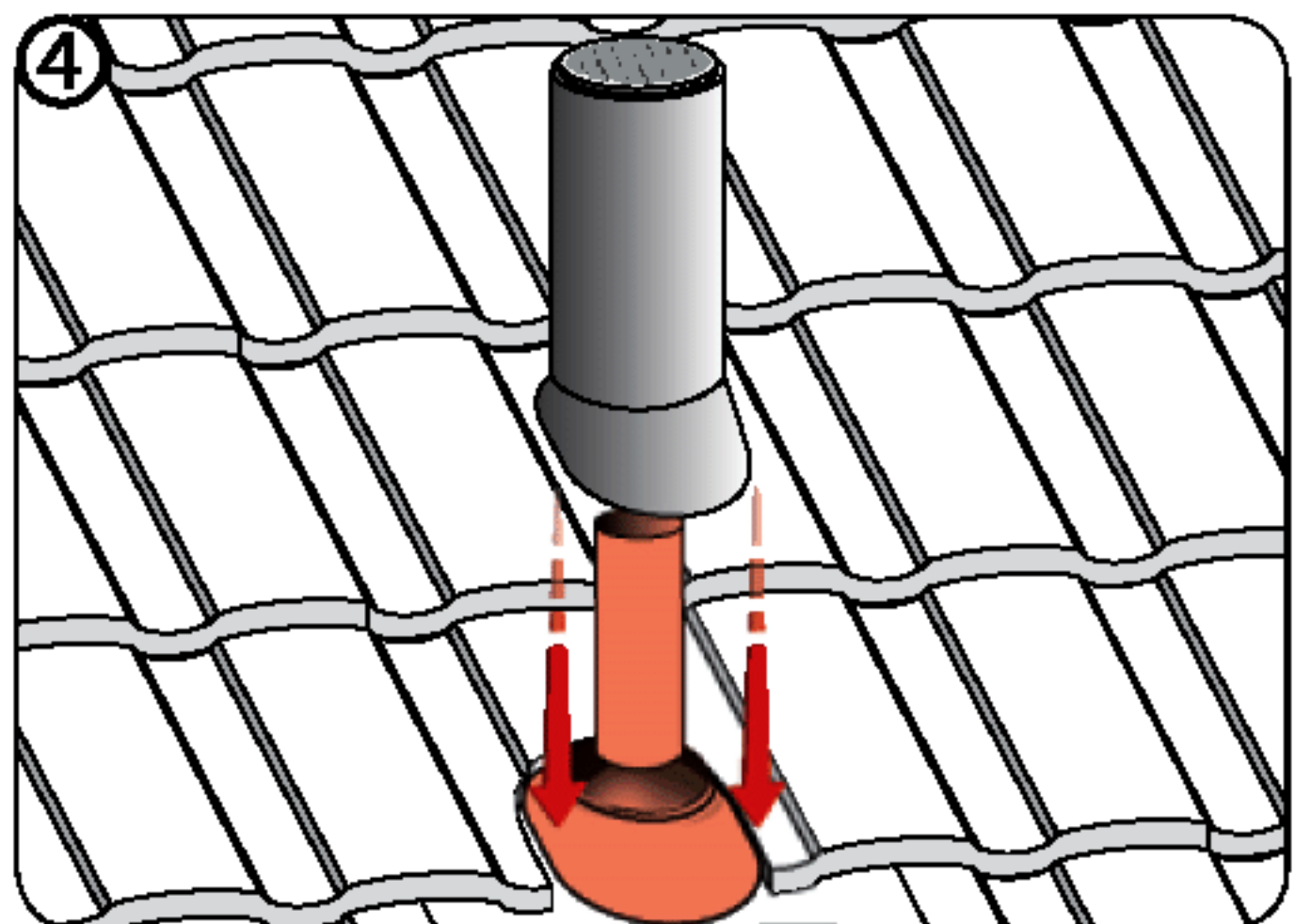
To avoid adverse corrosion effects caused by dissimilar metals, COPPER and LEAD flashings should not be used with Metro roof products and accessories



Mark, measure and cut roman panels to cover back section of SMART-jacks. Seal around flashing.



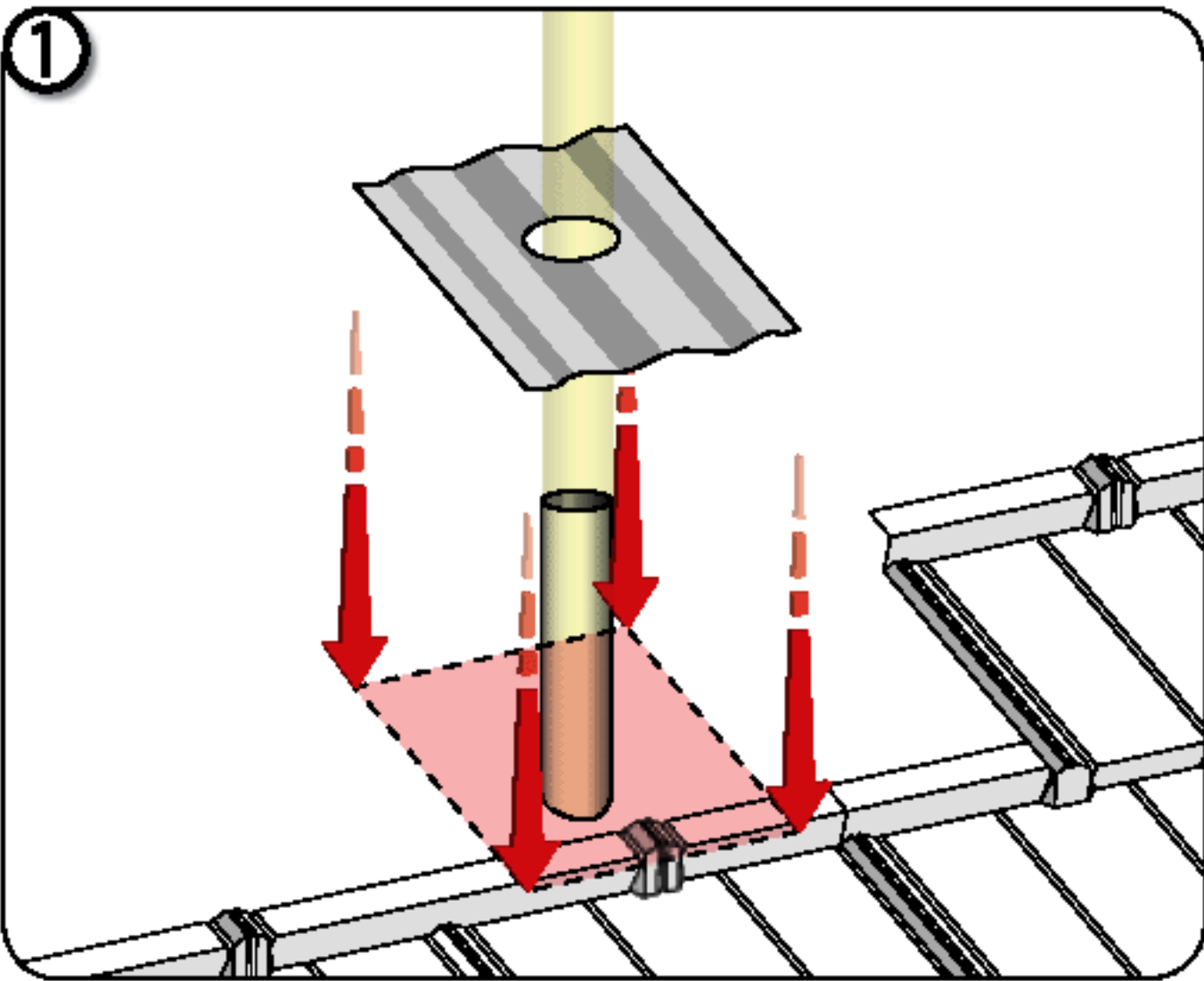
Slide the SMART-jack into place. Mold base of SMART-jack to conform with panel.



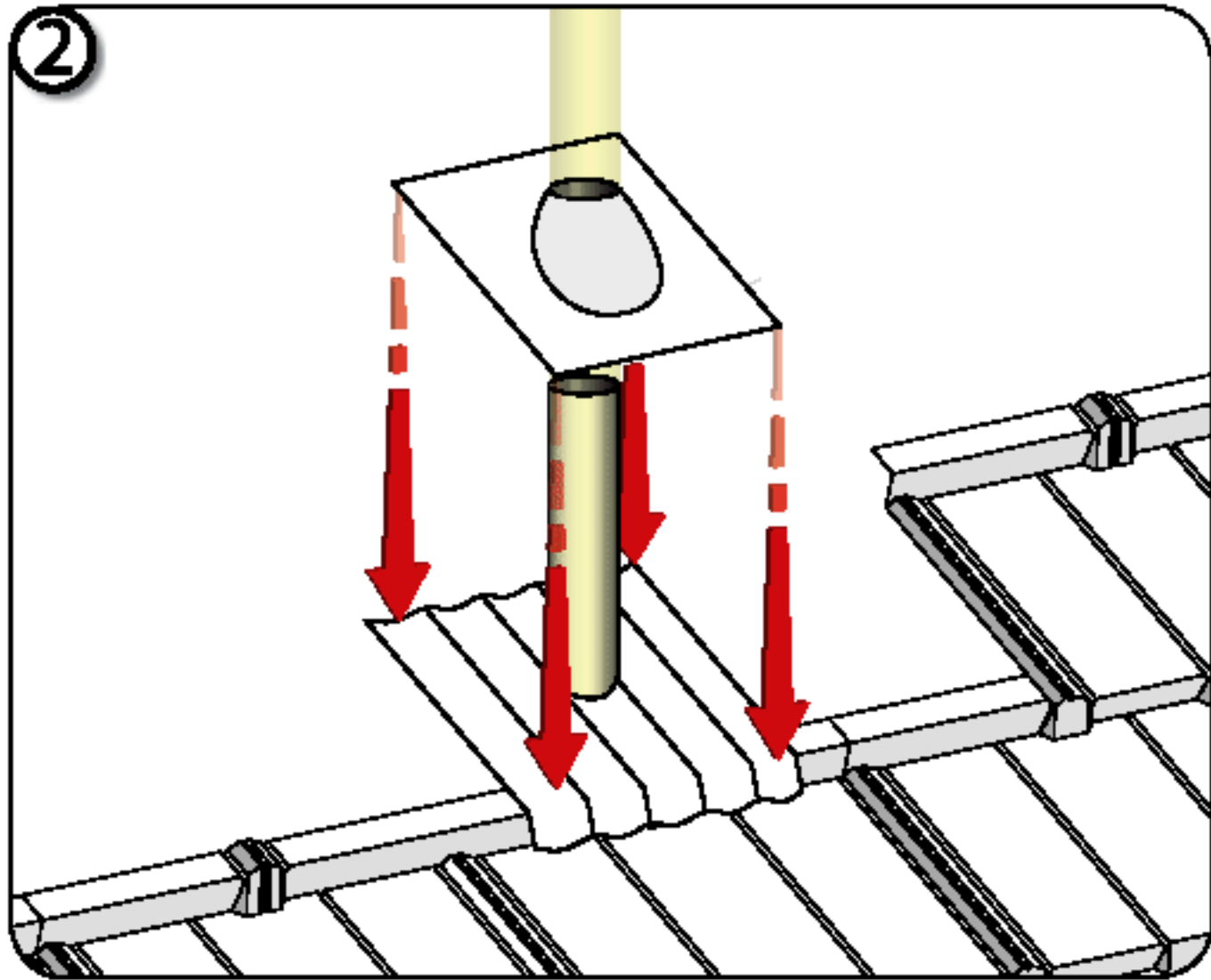
For added protection and appearance, SMART-sleeves are cut to conform to the panels and are installed over pipes. SMART-sleeves are fastened with a screw through the back of the smart sleeve into the pipe.



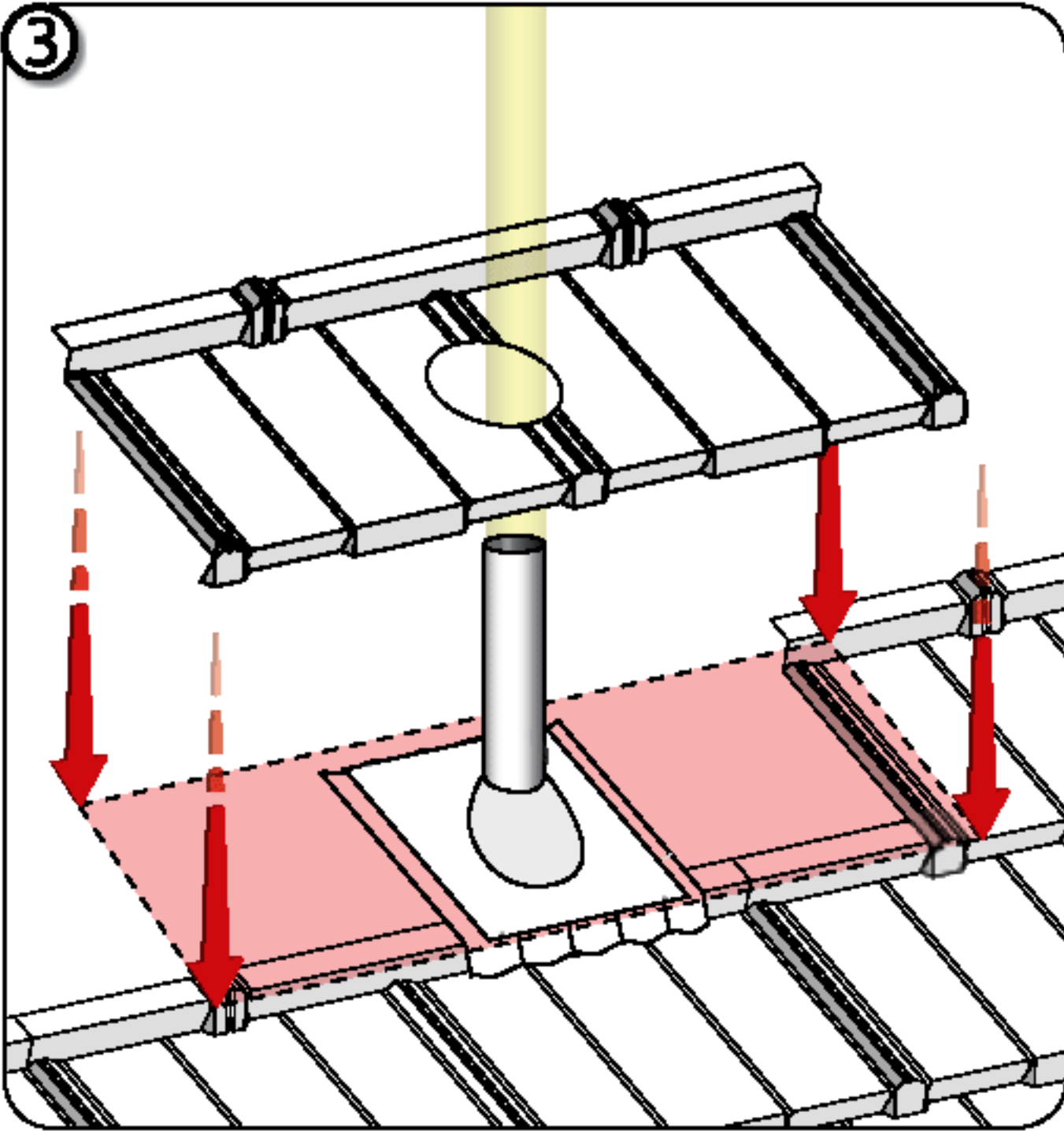
### PIPE FLASHING - UNDERPAN SANDWICH METHOD - SMART-JACK



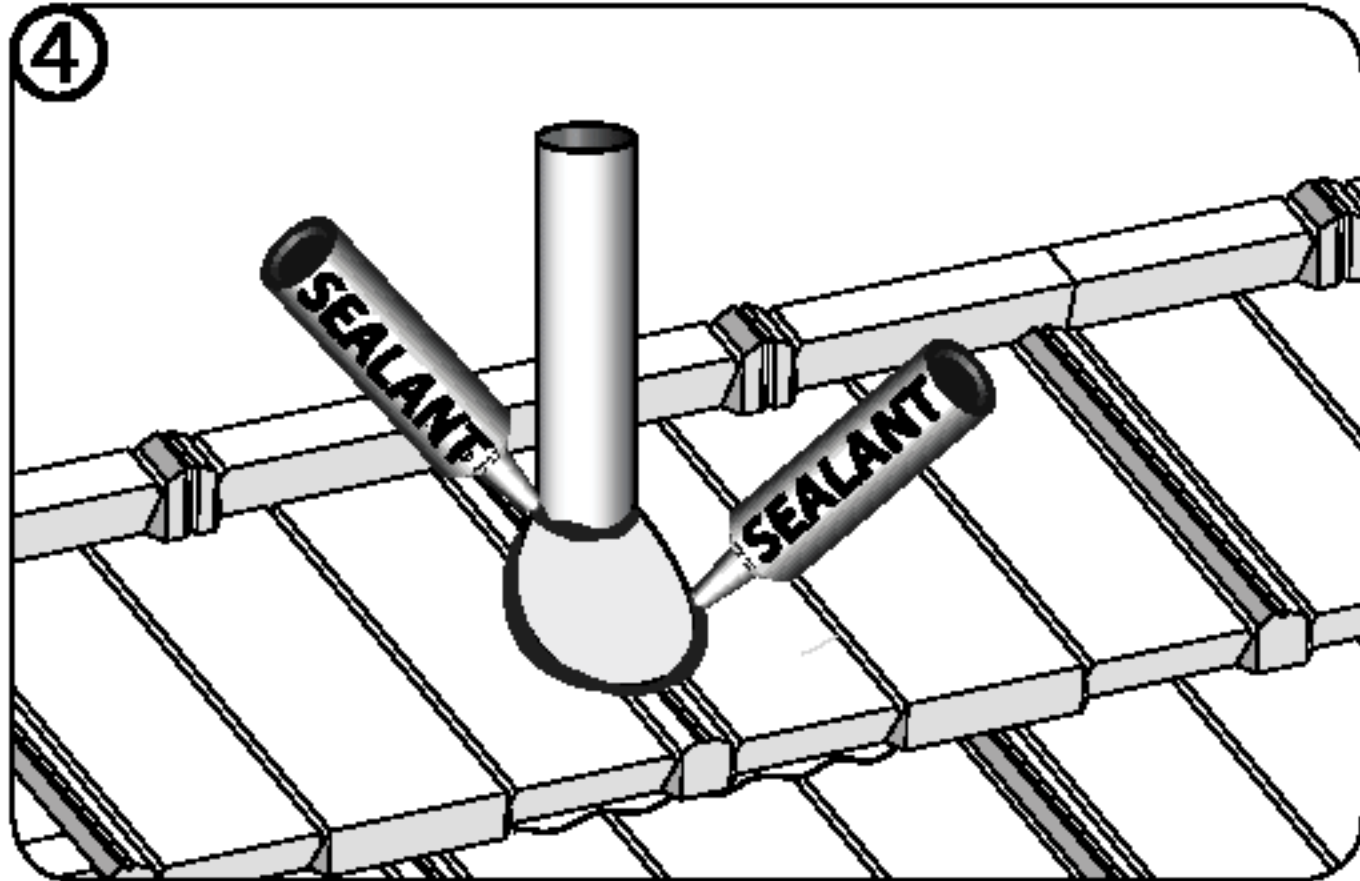
1 Cut 'Under-Pan' flashing around Vent Pipe as shown. Bend front edge of 'Under-Pan' over rear of under lapping panel.



2 Install pipe flashing over 'Under-Pan'.




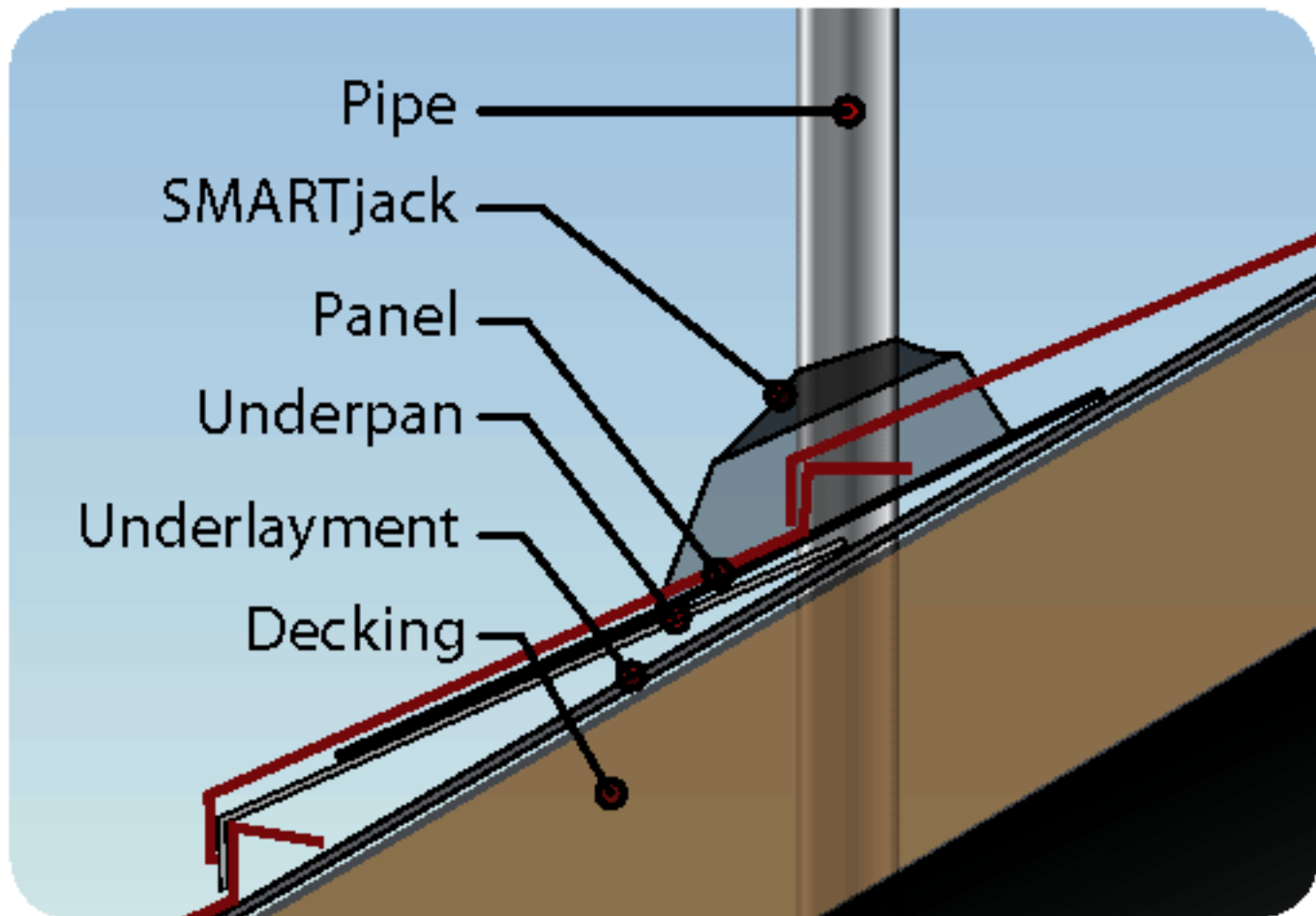
3 Cut a hole in the covering panel to fit the cone of the Pipe Flashing.



4 Seal Vent Pipe around bottom of cone and around pipe flashing as shown.

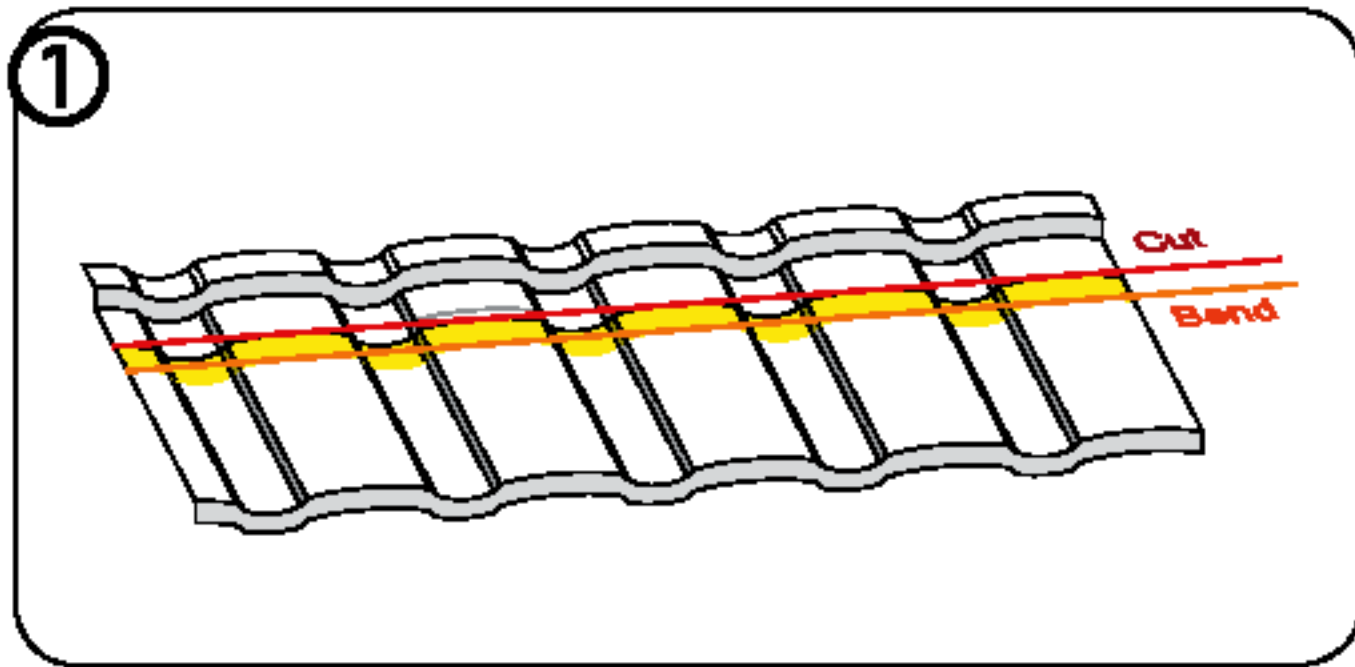
**Dissimilar Metals**

 To avoid adverse corrosion effects caused by dissimilar metals, COPPER and LEAD flashings should not be used with Metro roof products and accessories

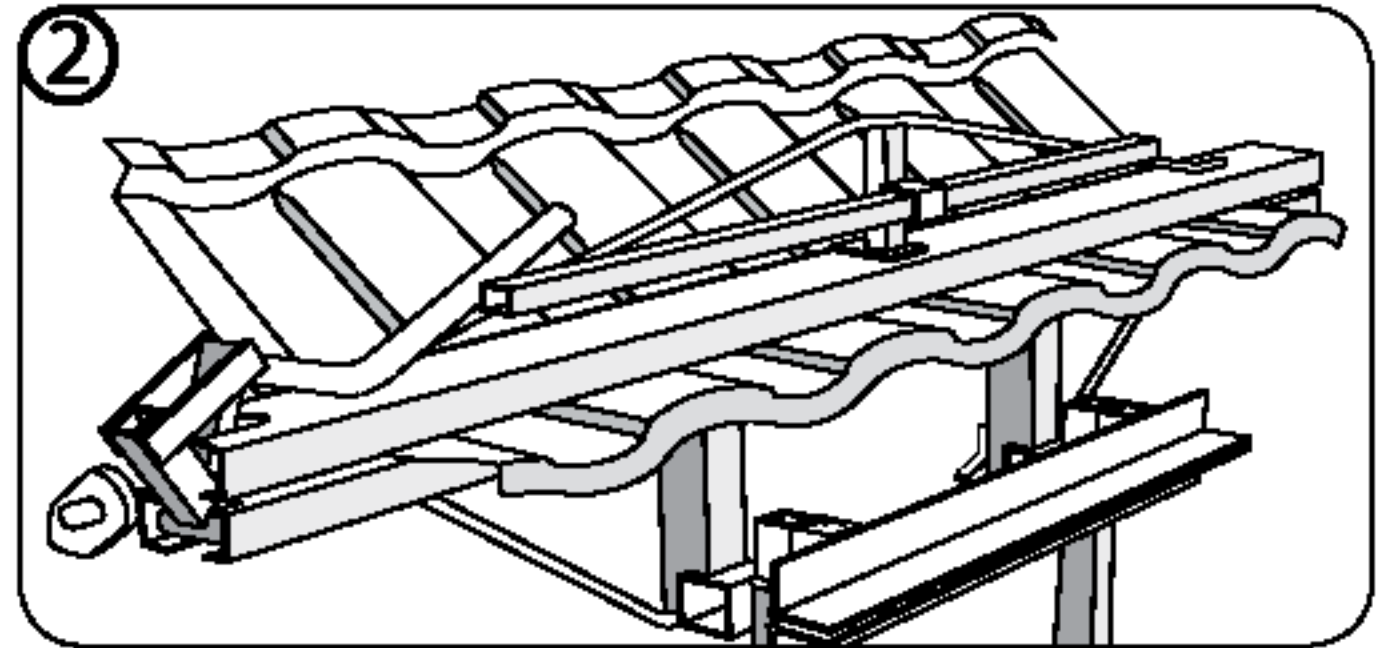


### PREPARE AND CUT RIDGE PANELS

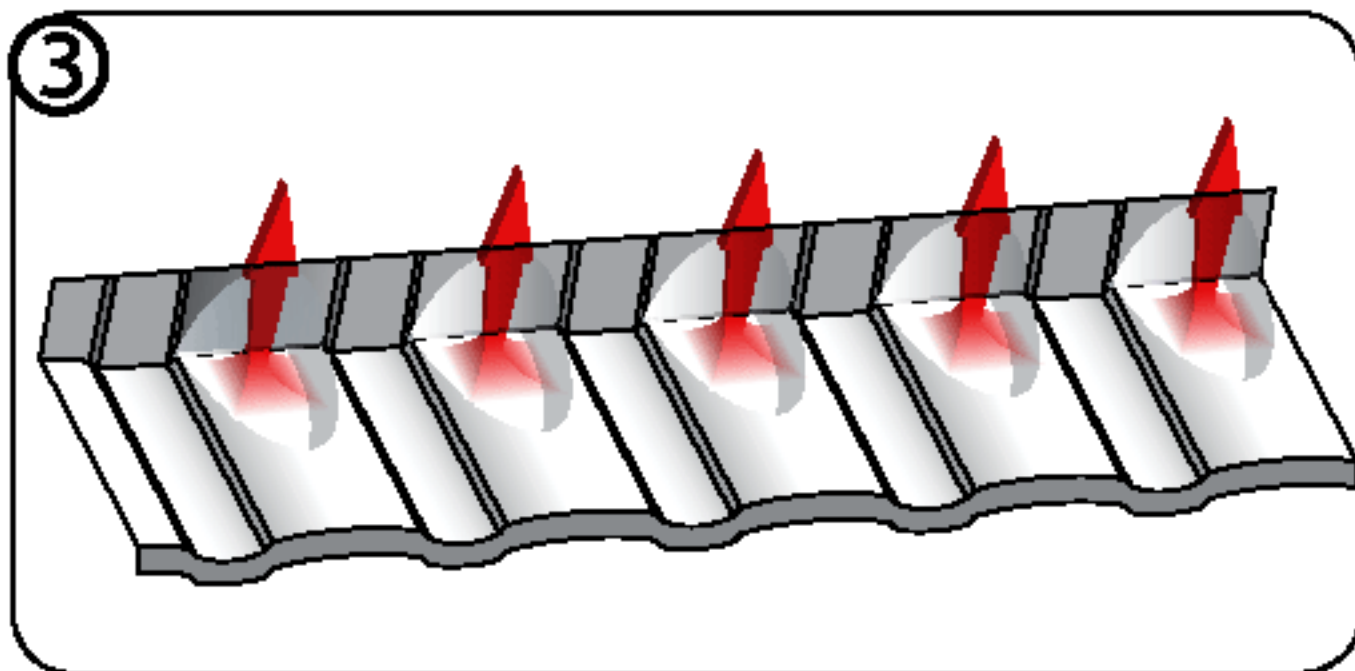
The following steps should be followed to ensure a weather tight installation along the ridge.  
 The top course of panels requires a cut and bent panel to complete the ridge line.  
 Bend all ridge panels using Metro's top bender.




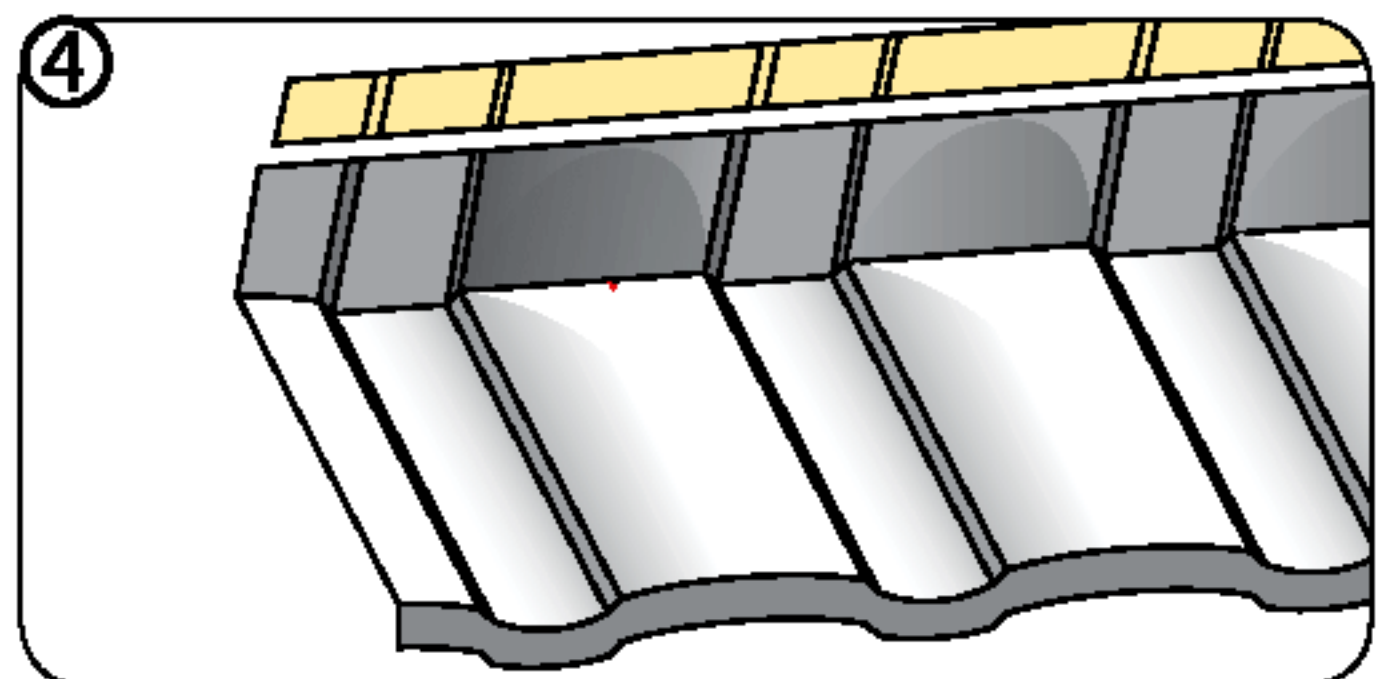
Ridge cut line is 1 1/2" above and parallel to bend-line to allow for bend up on ridge battens.



Always bend the ridge panels before cutting. Deduct 1/4" from measurements. Mark both "bend" and "cut" lines for each panel prior to cutting or bending.

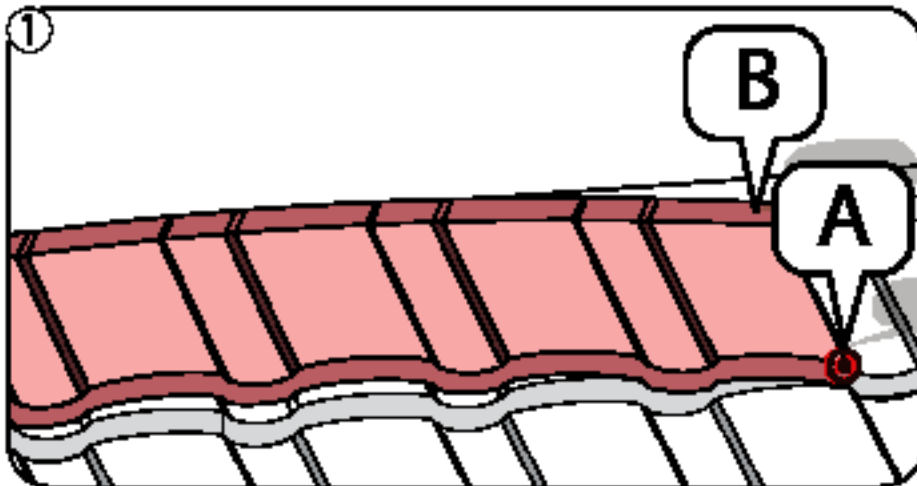


 *Indentations created through ridge panel bending process should be 'popped out' by using a rubber mallet on the under side of the panel.*

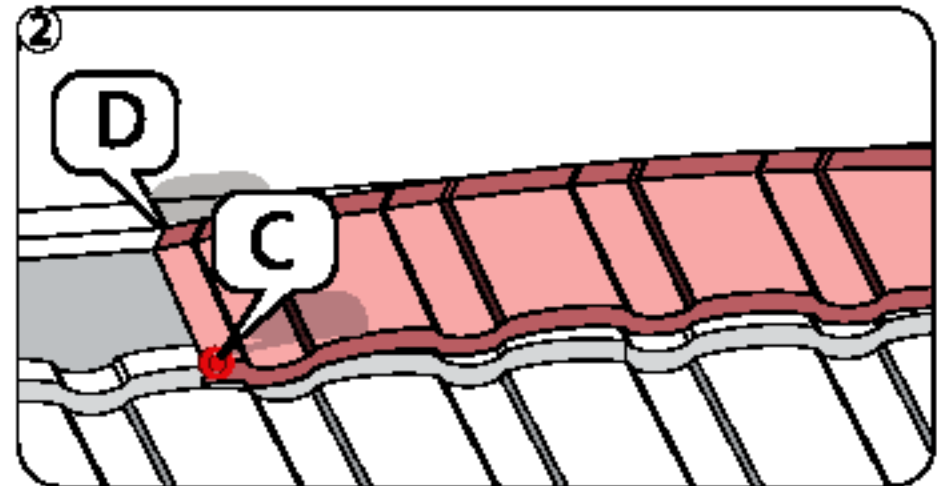


Cut panel at pre-drawn 'cutline'.

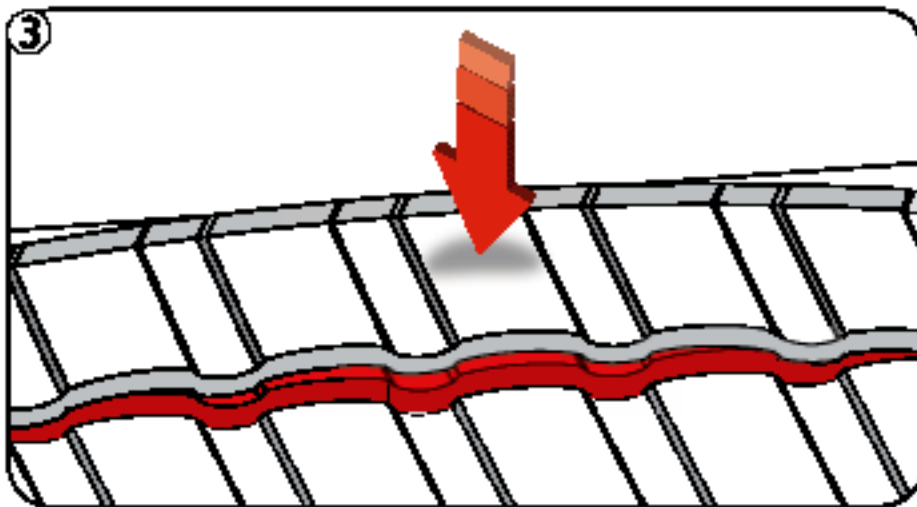
### INSTALL RIDGE PANELS



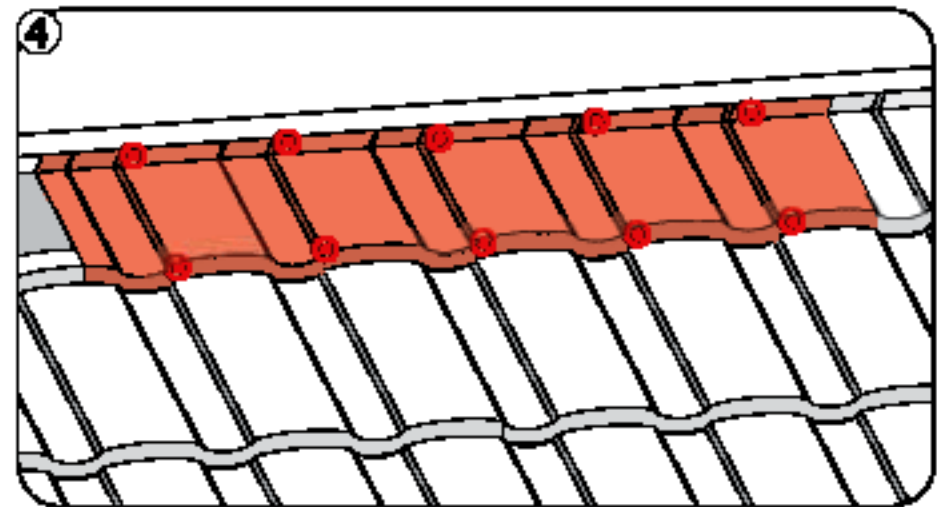
(A) Fasten first at bottom right corner, then at top-right corner (B) as shown.



Then fasten (C) at bottom left corner and top-right corner (D) as shown. Panels are then pushed down to fit coursing properly.

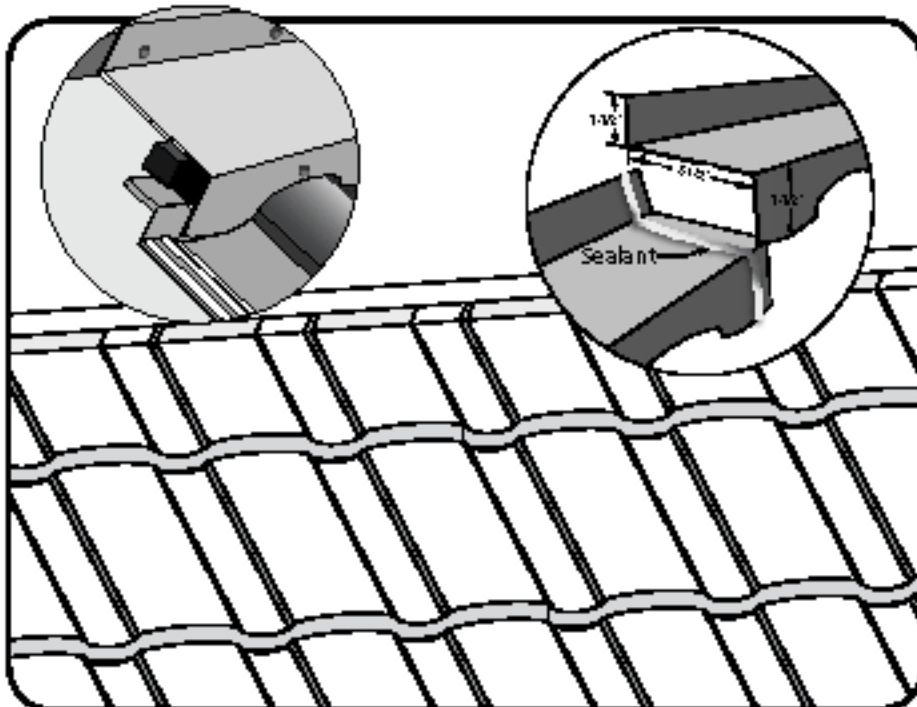


Force back of panel into position against ridge batten before fastening



Additional fasteners are applied as necessary.

### TOP COURSE



*Roman Top Course metal may be used to avoid bending and cutting full panels at the ridge when the 'Top course' is 4-1/2" or smaller*

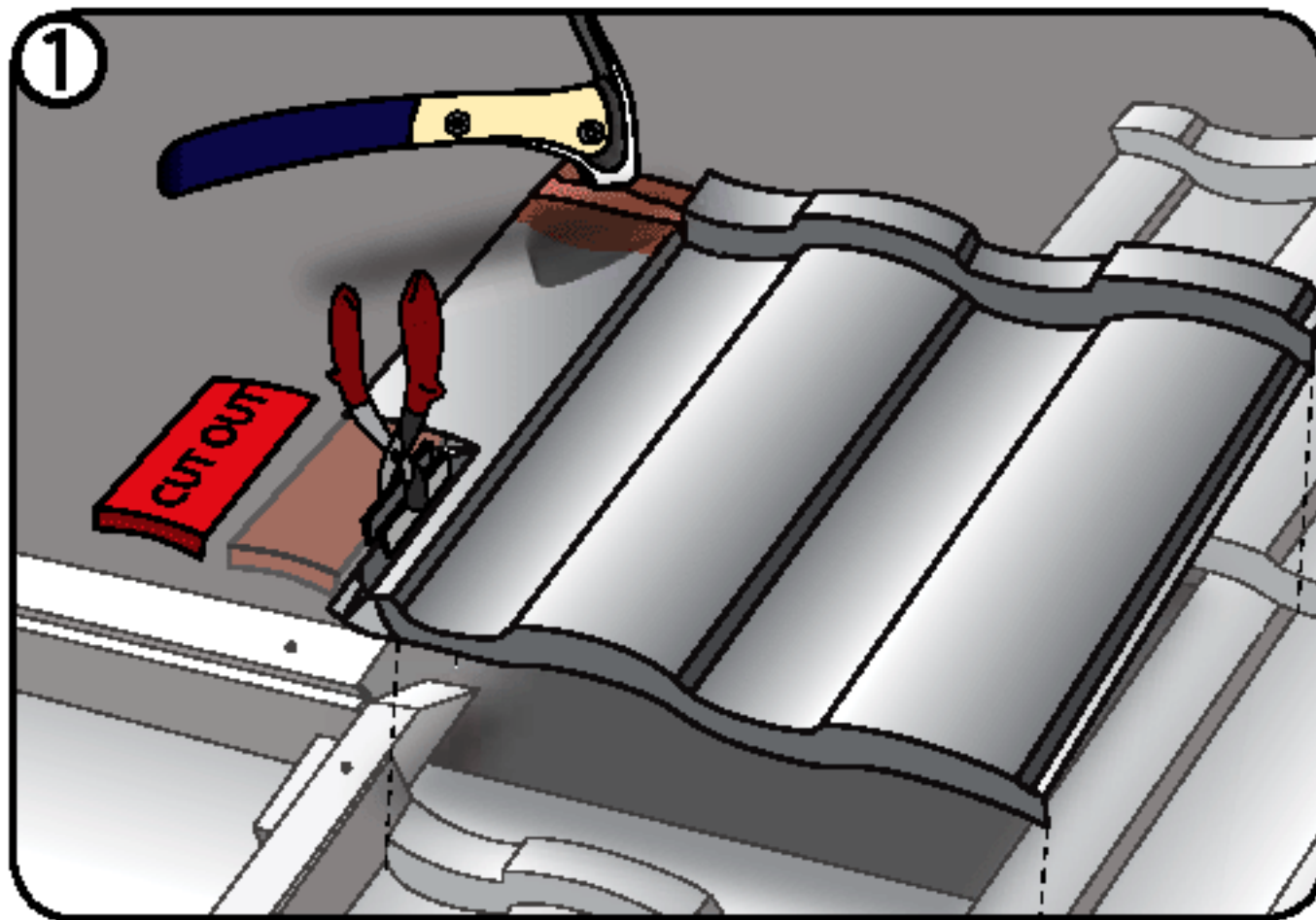
NOTE: Roman Top-Course can also be used at the front of Chimneys - Skylights and Roof-to-Wall as a 'Head-Wall' flashing for Roman panels.

Apply a bead of sealant between two overlapping top course pieces. The Roman top-course side-lap is approximately 6".

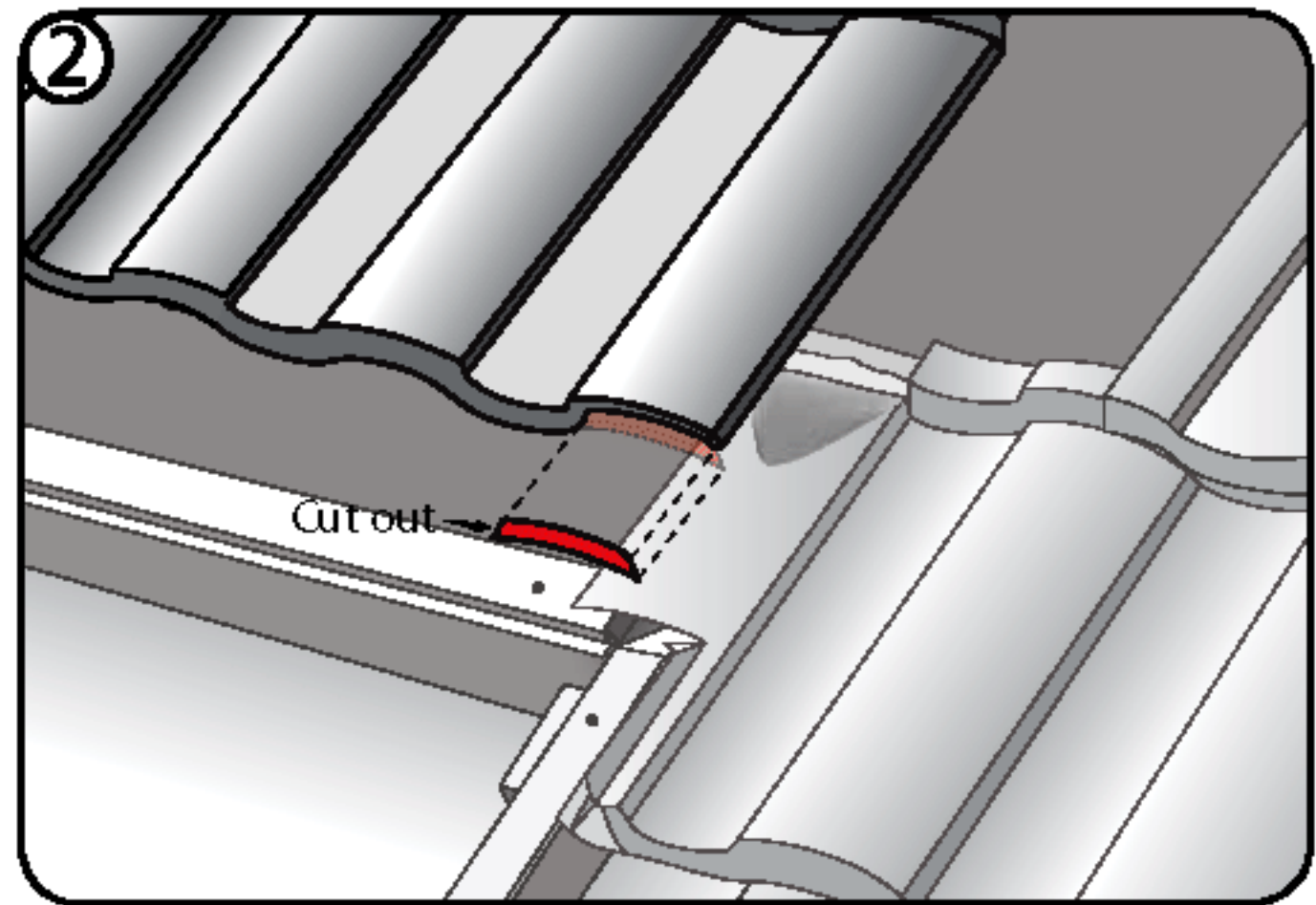


### SHORT COURSE

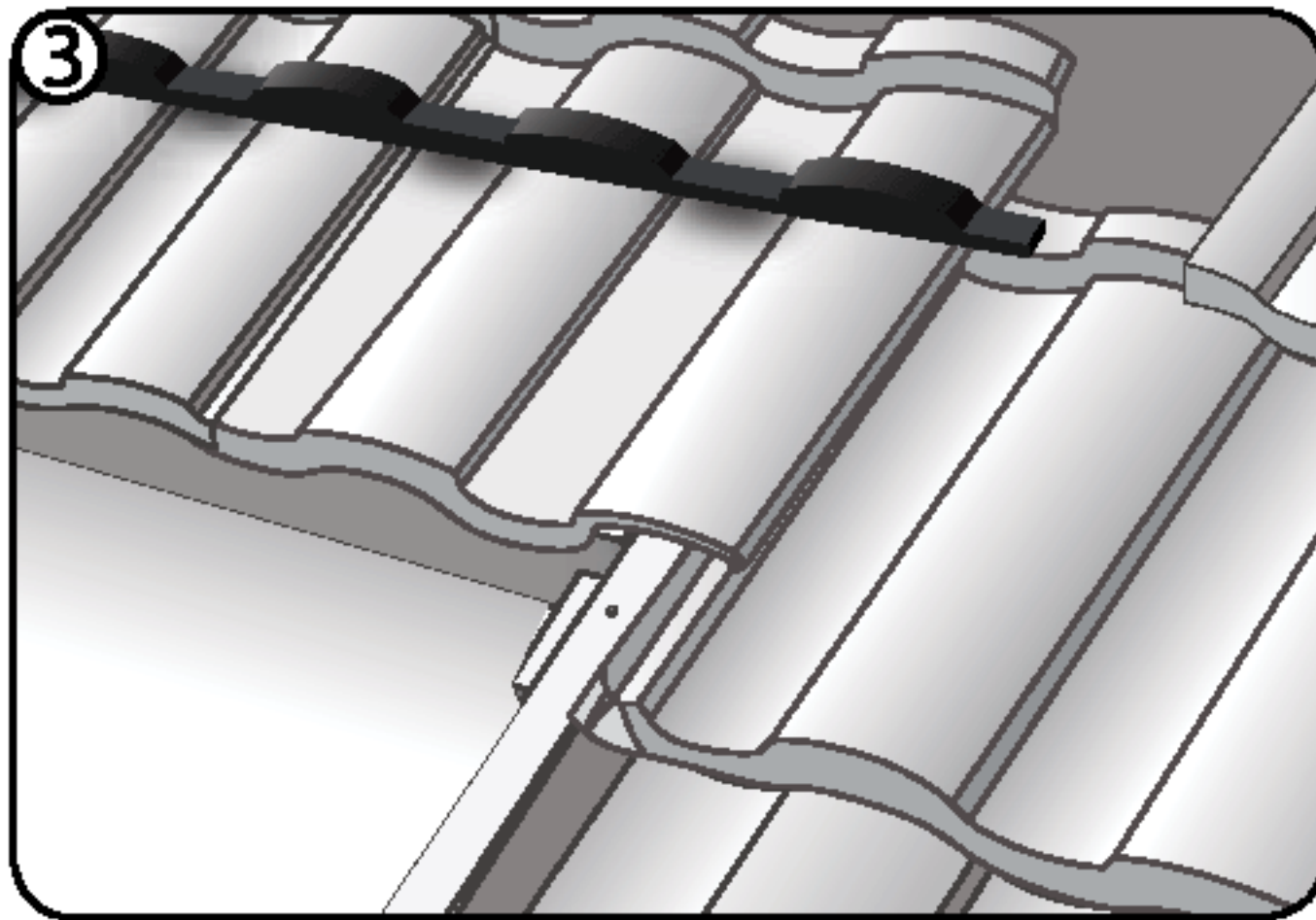
This detail is caused by the fascia/eave stepping out from the main roof course line.



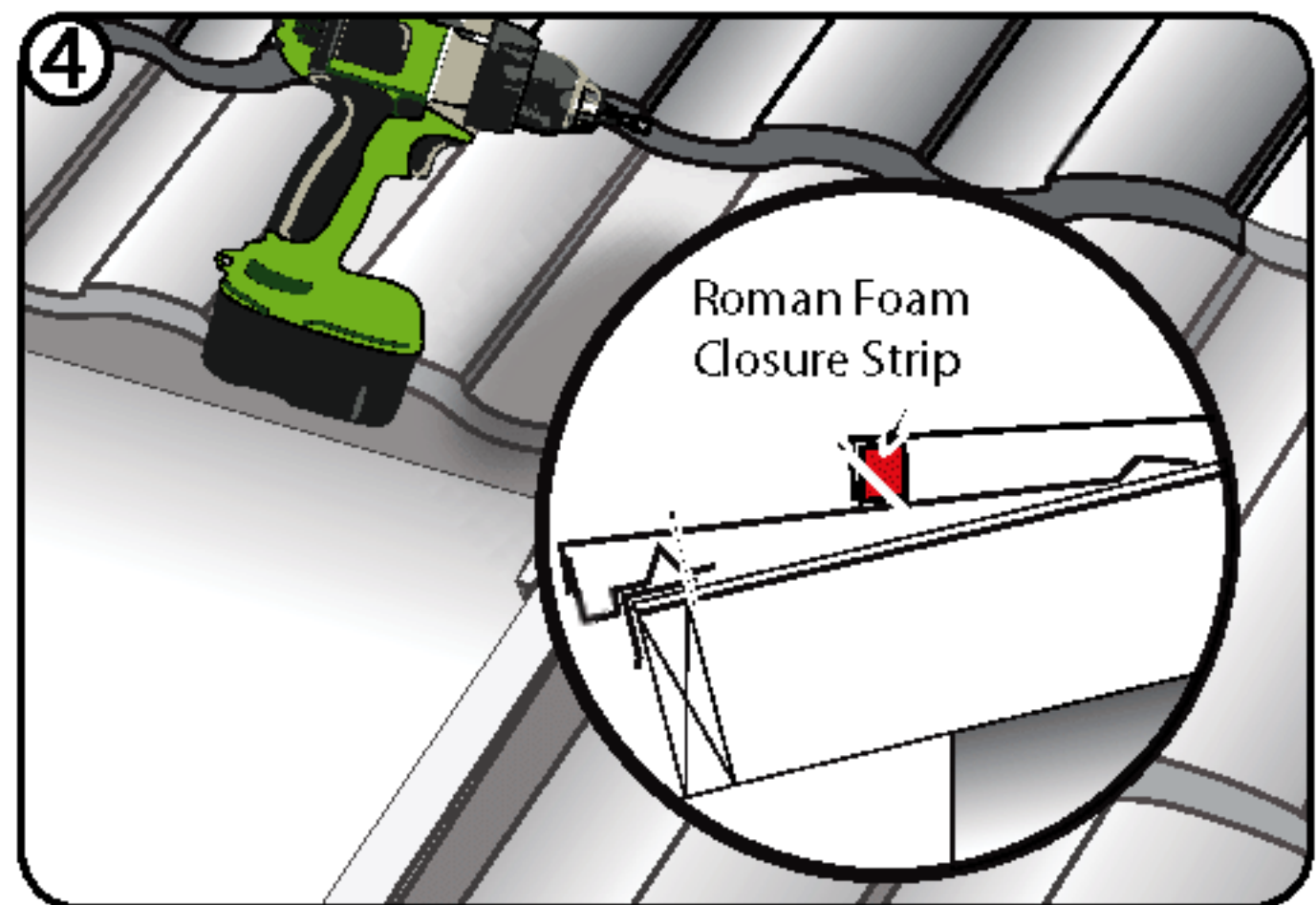
Where panels intersect with stepped fascia, stop panel battens approximately 6" from new fascia line. If necessary notch, cut, and flatten panel at this intersection as shown.



The 1st full panel "Short Course" piece is notched and fitted as shown.



Place Metro Roman FOAM closure strip in line with main coursing row. Use sealant to secure.



Install full panels aligned with main courses. Fasten with screws, through top panel nose through the FOAM closure strip, and into bottom panel as shown.



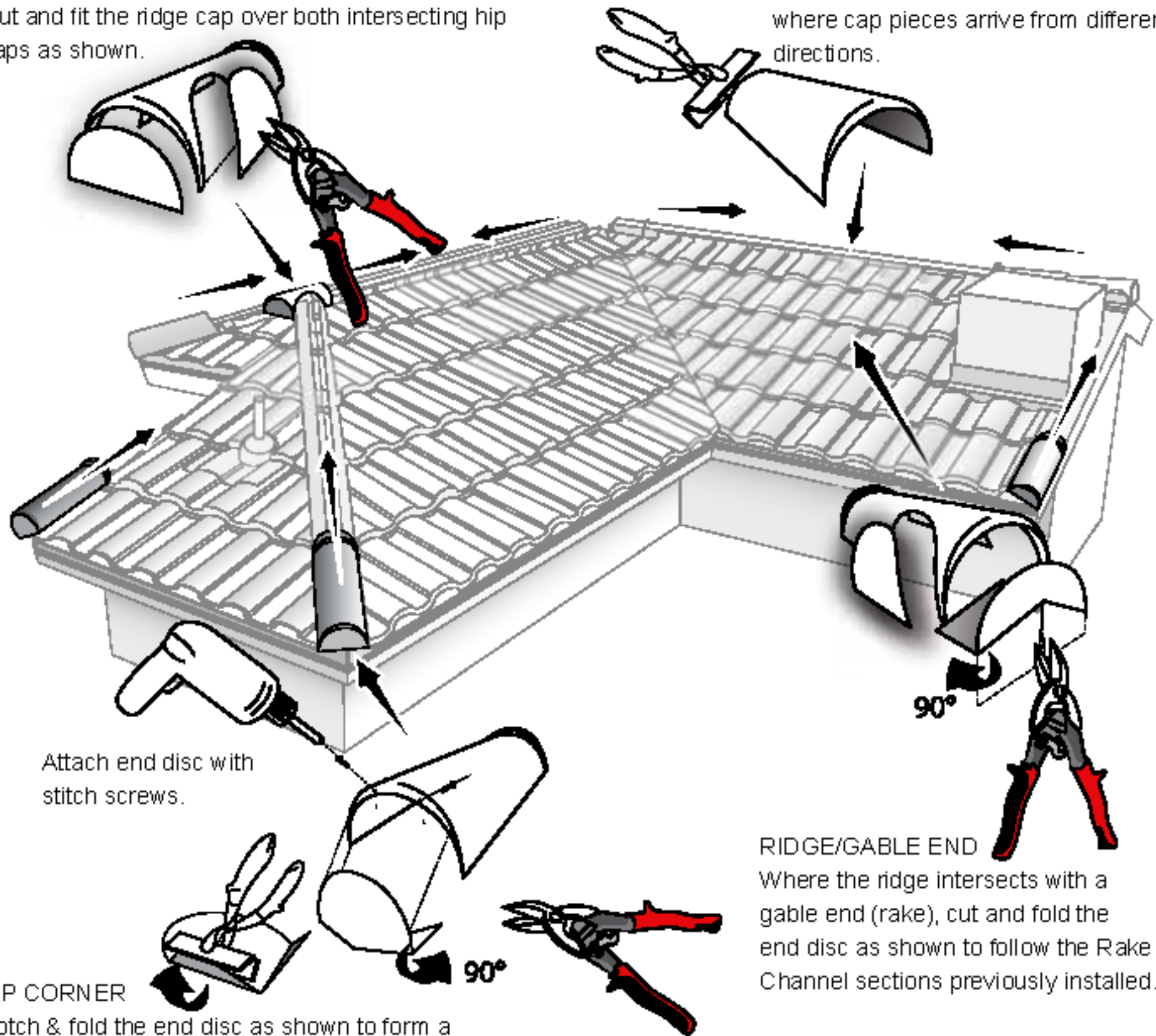
### TRIM CAP DETAILS

#### HIP/RIDGE INTERSECTION

Install hip caps from the bottom using 2 fasteners per trim cap. Overlap trimcaps at hip/ridge intersection. Cut and fit the ridge cap over both intersecting hip caps as shown.

#### RIDGE CENTER CAP

At the center of a ridge line, a small/short ridge cap as shown can be made where cap pieces arrive from different directions.



#### HIP CORNER

Notch & fold the end disc as shown to form a closed 3-dimensional end cap. Fit end disc to bottom hip corner with stitch screws and install balance of trim caps up the hip. To maintain a straight line of trim caps, fasten only 1-side of the ridge or hip and then fasten the other side.

#### RIDGE/GABLE END

Where the ridge intersects with a gable end (rake), cut and fold the end disc as shown to follow the Rake Channel sections previously installed.



*After installing trimcaps at intersections, seal cut edges and apply Metro basecoat and stone chip to provide a complete stone coat finish.*

