



**MODERN**  
METAL ROOFING

**METAL TILE SERIES INSTALLATION MANUAL**



## **General Roofing Instructions**

Failure to follow these instructions may void the product warranty. Please follow all local building codes, which may require additional application techniques beyond these instructions. In such cases, please submit addendums to the installation manual in writing and mailed by certified carrier.

Do not use conflicting metals or unapproved accessories with this product.

## **Roof Slope**

Modern Metal Roofings' Tile panel profile must be installed on a slope 4:12 or greater. If homeowner/contractor chooses to install product, as an aesthetic appeal, to slopes lower than 4:12, the product must be installed over 2 layers of an approved, hot temp metal self-adhering underlayment and submitted for approval or warranty may be voided.

## **Fasteners**

Screws: Use 4 corrosion resistant fasteners in the butt end for standard installation method, not smaller than a #9 hex head (refer to fastening pattern for coastal installations). Make sure they are long enough to penetrate the deck by a minimum of 1/2". Recommended length is at least 1 1/2" long. (2" in FL). This is for all full panel installations.

**NOTE:** The recommended drill type should be a drywall drill with a clutch. This will prevent over tightening the fasteners and avoiding paint loss on the fastener head.

## **Underlayment**

MMR requires all certified contractors to use an approved synthetic underlayment or an approved hi temp metal approved self-adhering underlayment for every installation. Any deviation of this installation must be submitted by certified carrier or electronic means for approval.

## **Re-Roofing**

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. Please check local building codes to determine how many layers this metal roofing product can be installed over, as it can vary from state to state.

When installing over existing asphalt shingles, cut-back the existing roofing flush with the eave and rake edge. If local code requires edges to be cut further, cut what is necessary and install a self-adhering membrane. In situations where code allows installing over multiple layers of asphalt roofing, follow the local code.

## **New Construction**

MMR panels are to be installed over solid decking. Please check with local building codes to determine which substrates are acceptable in your region.

## **Installing in Coastal Areas**

The Metal Tile Series is approved for use in Florida, in either a standard or coastal application fastening method. Per engineering testing for Florida approval, our standard Metal Tile installation fastening method was certified at 79 P.S.F. for uplift, while our coastal application rated at 146 P.S.F.. It is the installation contractor's sole responsibility to use the correct installation method, relative to local building codes and best practices. Refer to the enclosed diagrams.

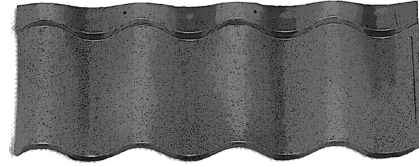
No warranty is provided for smooth or powder coat panels on any steel substrate that is subjected to sea spray or installed on property located 1,500 or fewer feet from any salt-water environment. Materials in the vicinity of any coastal environment must be subjected to two documented wash cycles per year, using clean (sweet) water. MMR has a .032 aluminum installation available for areas closer than 1,500 feet to saltwater.

In coastal areas, the panels around the perimeter must be photographed, documented, and submitted upon installation to be covered by warranty. Please send pictures by certified carrier or electronic means within 30 days of installation or the warranty may be voided.

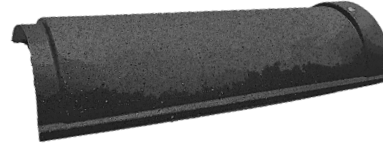


## MODERN METAL ROOFING TILE SERIES ACCESSORIES

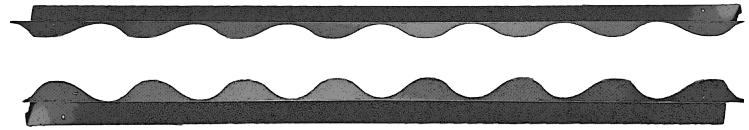
METAL TILE SERIES PANEL  
25.09 PIECES PER SQUARE  
SMOOTH\POWDER COATED FINISH



RIDGE/RAKE COPING  
14.5" EXPOSURE  
SMOOTH\POWDER COATED FINISH



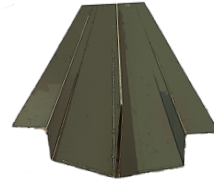
3.5" EAVE TRIM/RIDGE CLOSURE  
10' LENGTHS  
SMOOTH\POWDER COATED FINISH



HIP CHANNEL  
10' LENGTHS  
SMOOTH\POWDER COATED FINISH



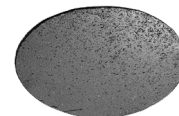
VALLEY PAN  
10' LENGTHS  
SMOOTH\POWDER COATED FINISH



SIDE FLASHING  
10' LENGTHS  
SMOOTH\POWDER COATED FINISH



COPING END CAP  
6" DIAMETER  
SMOOTH\POWDER COATED FINISH



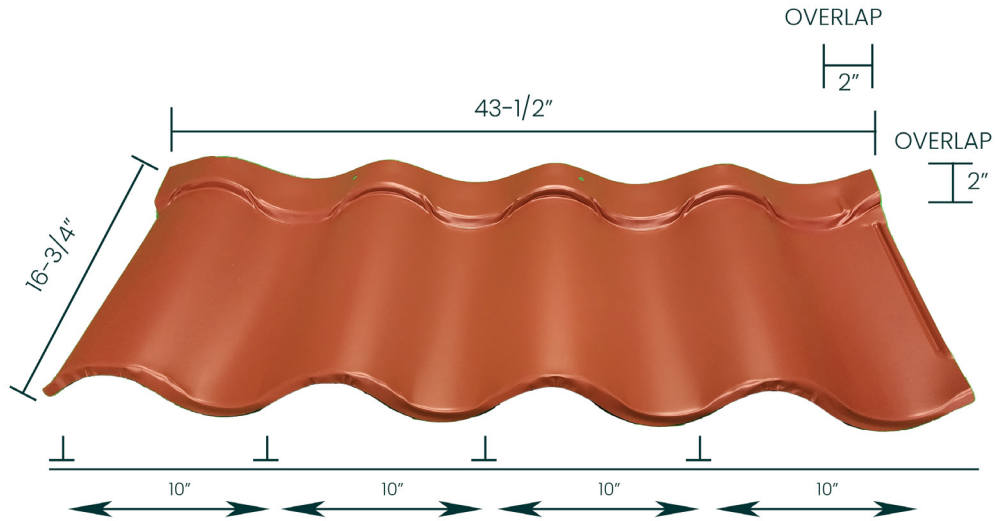
## Florida Approval #41831.4 Standard Installation

Refer to the below diagram for basic panel dimensions and fastening pattern approved by the state of Florida for application in non-coastal zones. For coastal areas, refer to the diagram on the next page for the approved fastening pattern.

## METAL TILE SERIES FL 41831.4 STANDARD INSTALLATION

PANEL SCREW PATTERN TO BATTEN  
 FOR DESIGN UPLIFT PRESSURE - 79 PSF

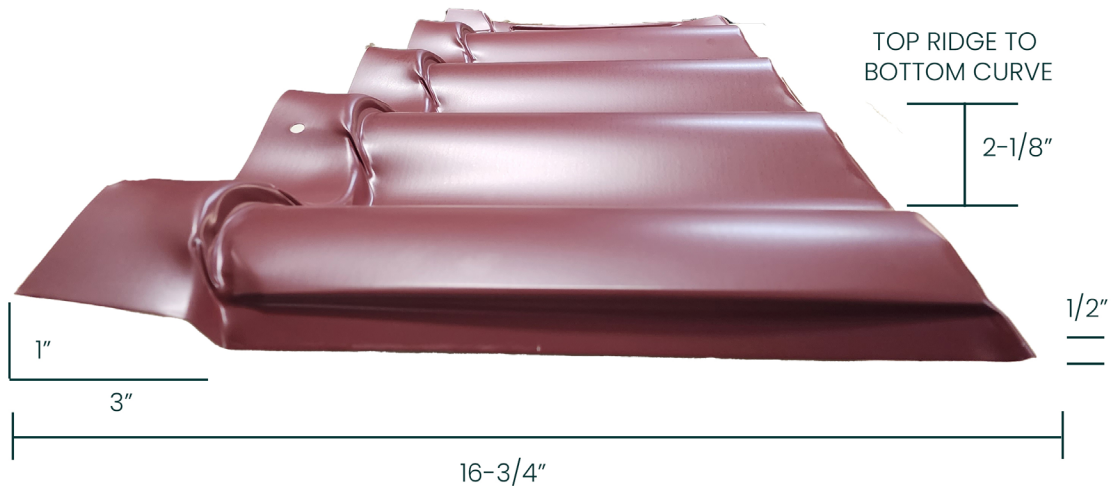
(HALFWAY BETWEEN THE JOIST, SPACED 24" ON CENTER, WITH A SCREW IN EACH JOIST)



PLAN VIEW

ALL FASTENERS #9 X 2" LG. S.D. FASTENERS WITH METAL

## TYPICAL SIDE ELEVATION VIEW



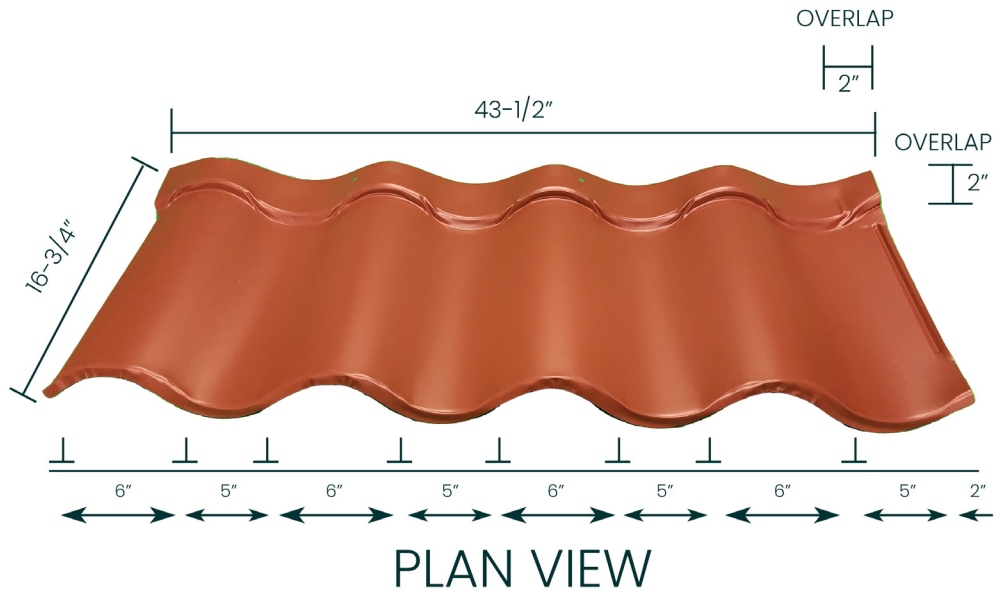


## Florida Approval #41831.3 Coastal Installation

Refer to the below diagram for basic panel dimensions and fastening pattern approved by the state of Florida for application in coastal zones. For non-coastal areas, refer to the diagram on the previous page for the approved fastening pattern.

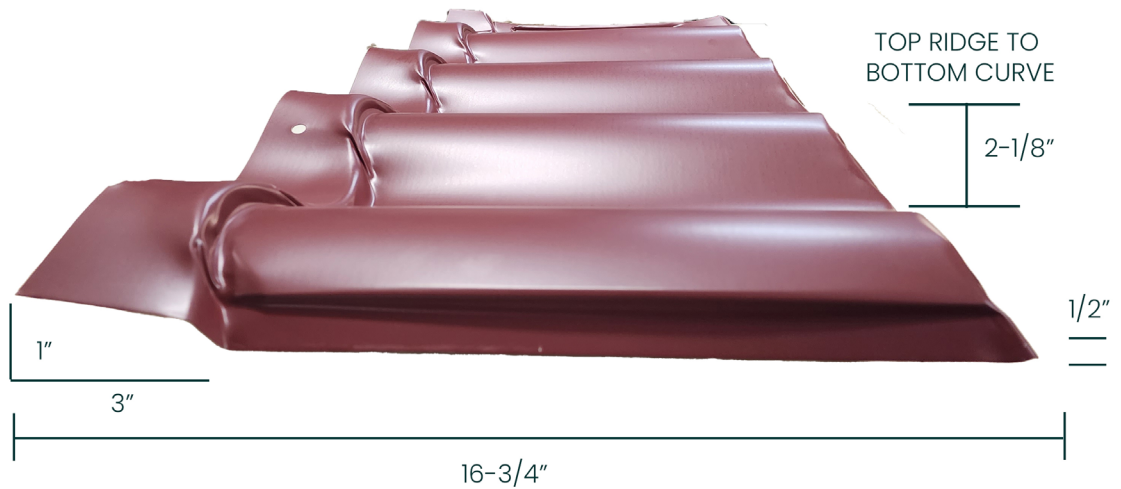
## METAL TILE SERIES FL 41831.3 COASTAL INSTALLATION

PANEL SCREW PATTERN TO BATTEN  
 FOR DESIGN UPLIFT PRESSURE - 146 PSF  
 (HALFWAY BETWEEN THE JOIST, SPACED 24" ON CENTER, WITH A SCREW IN EACH JOIST)



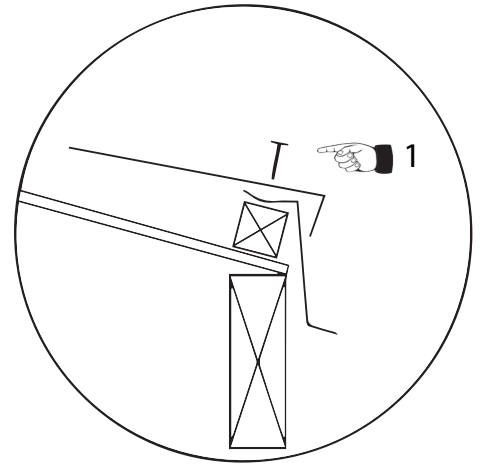
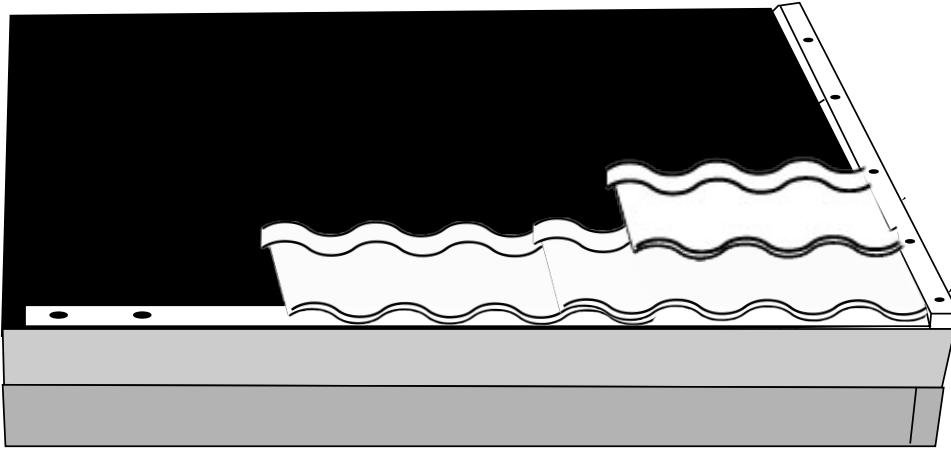
ALL FASTENERS #9 X 2" LG. S.D. FASTENERS WITH METAL

## TYPICAL SIDE ELEVATION VIEW



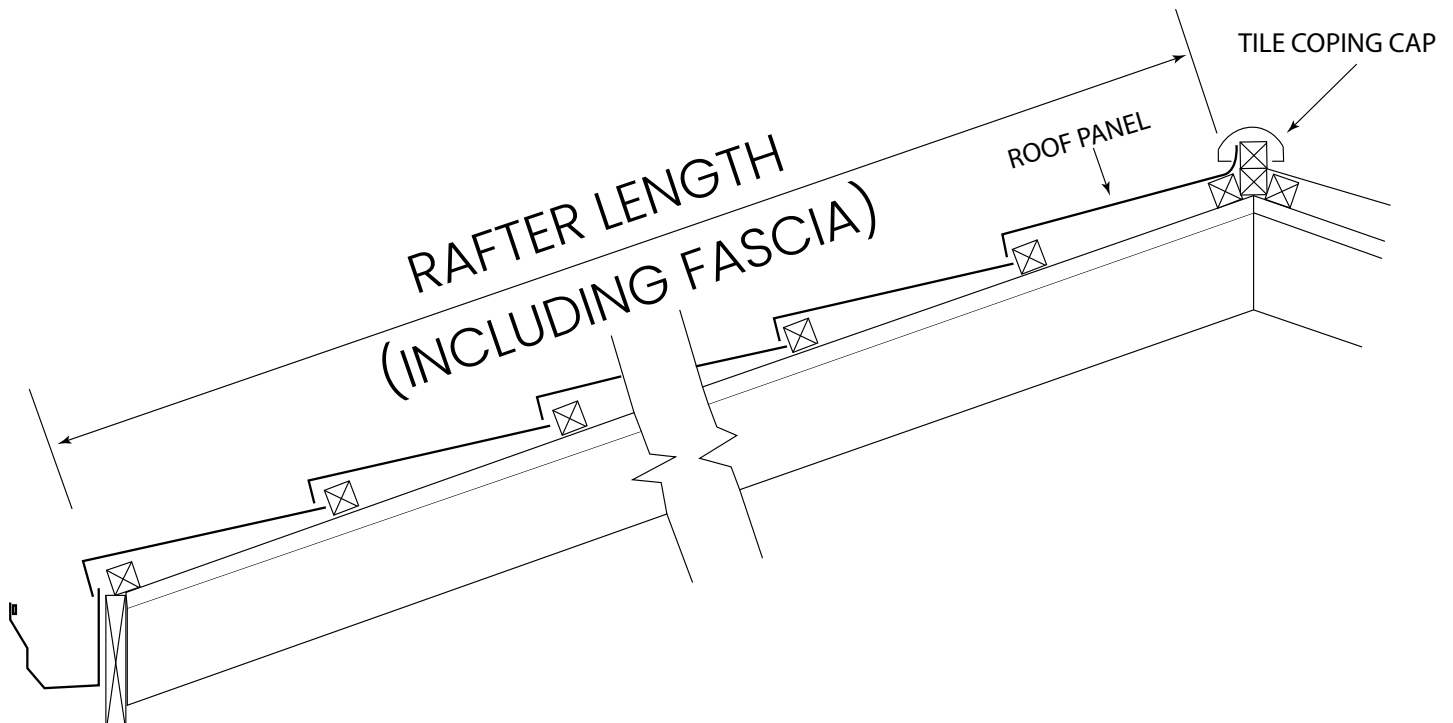
## Eave Starter With Battens

Face screw the eave trim over the horizontal 2" x 2" batten system anywhere water would run in to a gutter. Install the eave trim over the first batten or extended fascia board. Fasten down through the top flange, at a minimum 24" on center. In high wind areas, place additional fasteners in the face as required, being careful not to over tighten and buckle the metal.



## High Wind Detail for Eave Fascia

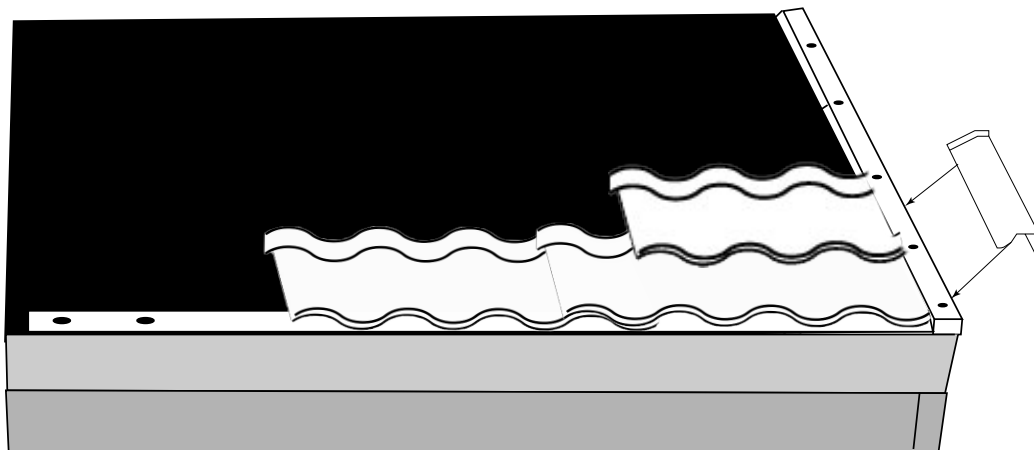
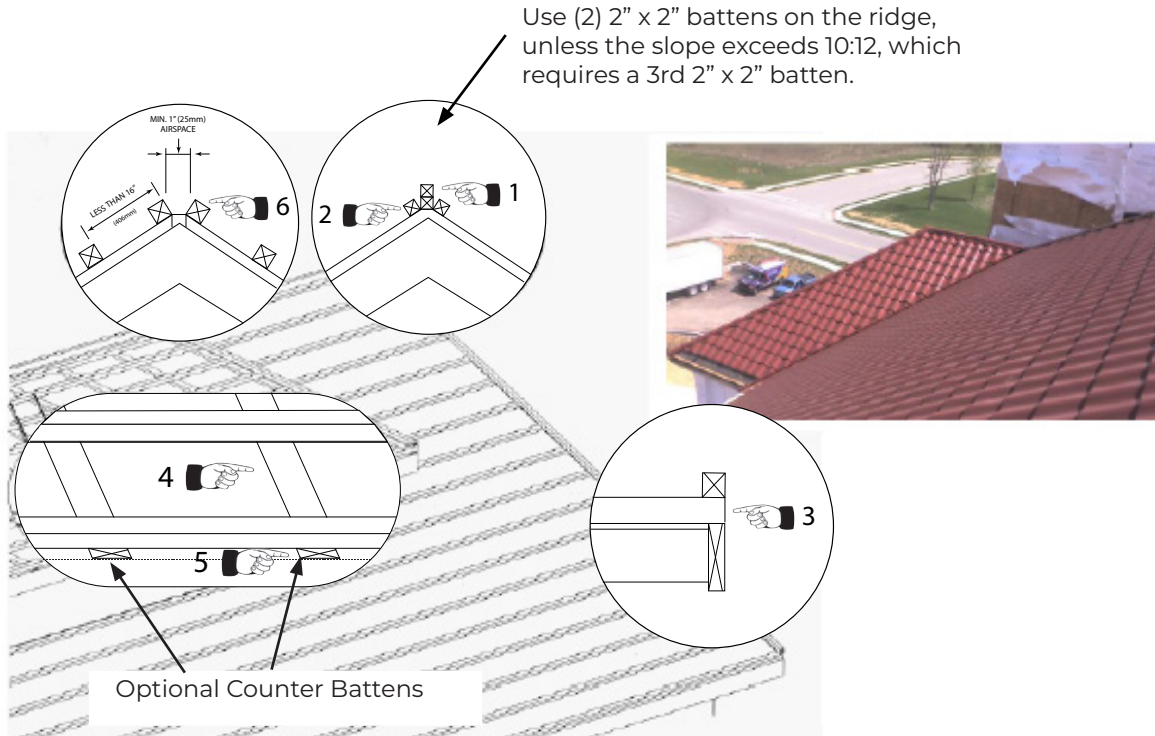
First determine the pitch of the roof, then cut a 2" x 4" at the same angle, so the starting batten row is flush with the fascia board. This will allow the installer to fasten the panel from the front, keeping the fastener out of water channel and doubling wind uplift resistance.



## Ridge and Rake Coping

Upon installation of the 2" x 2" battens horizontally, another 2" x 2" batten should be ran vertically up all rakes, creating a surface for the rake coping to be fastened. Tile panels should be bent up vertically, parallel with the rake batten. Then a MMR approved fastener should be installed on both sides of the rake coping in the designated areas.

At the rakes, top courses will need to be bent up and possibly cut, to allow proper fitting. If ridge ventilation is required, please see option 1 for spacing of the battens. If ridge ventilation is not installed, double up the 2" x 2" battens along the ridge and fasten the ridge coping with an MMR approved fastener.





## Roof Penetrations

Roof penetrations should be finished by installing an approved pipe jack with a MMR approved sealant. Sealants can be ordered in specific colors to match boots/roofing color.

### 1. Select Size and Trim to Fit

Choose an MMR approved master pipe flashing with an opening at least 20% smaller than the pipe diameter. If necessary, trim the opening to fit the pipe.

### 2. Installation

Slide MMR approved master pipe flashing down over the pipe snugly.

### 3. Forming

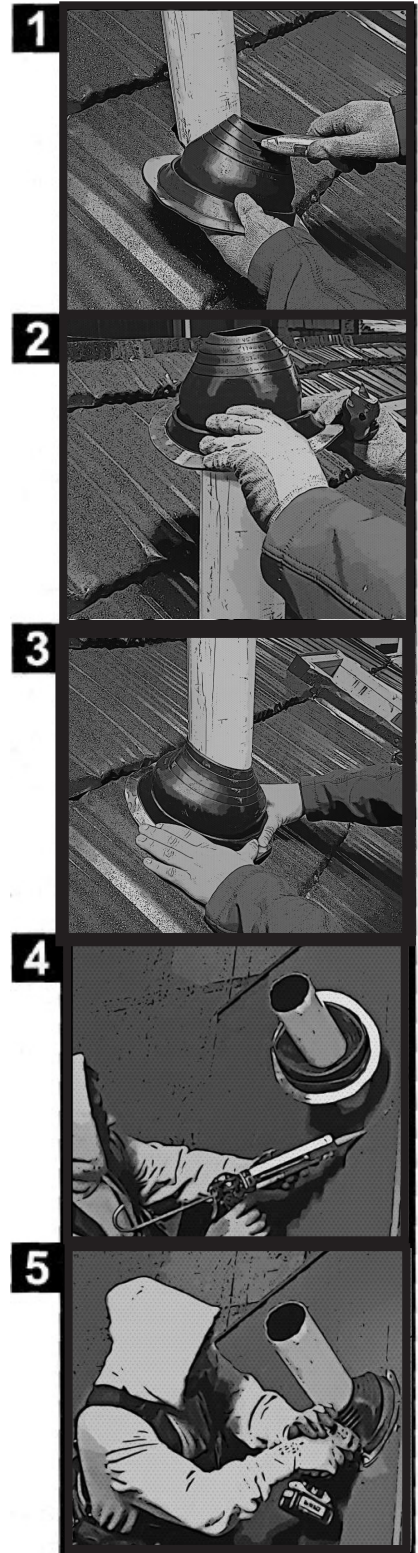
Press master pipe flashing down, bending it to conform to the roof profile or any roof irregularities.

### 4. Apply Sealant

Apply MMR approved sealant between the roof panels and the master pipe flashing boot.

### 5. Fasten

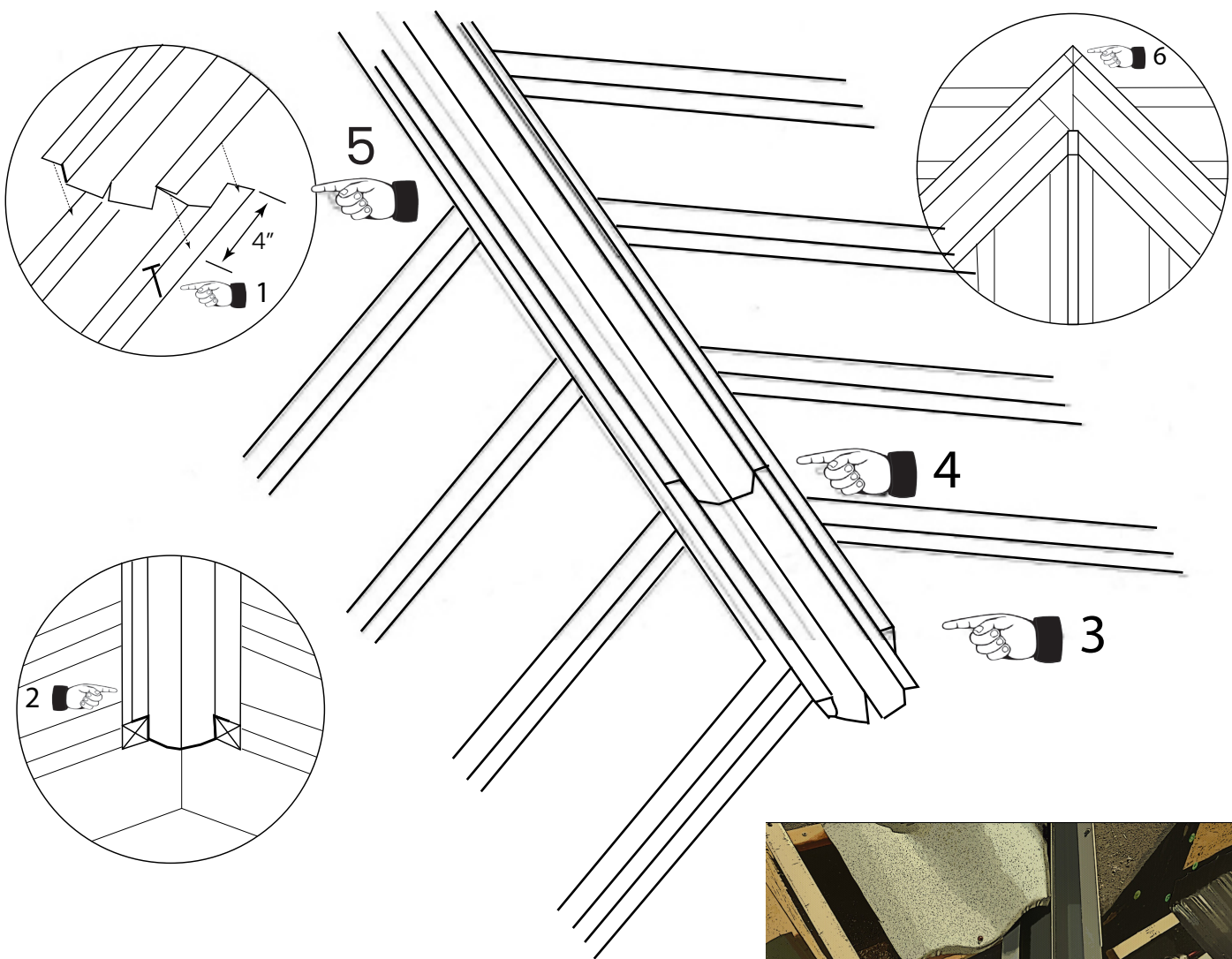
Use MMR approved fasteners to complete the sealing. For the base installation, fastener spacing may not exceed 1.5".



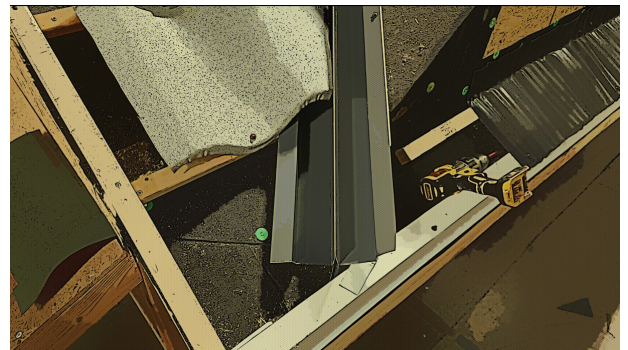
## Valley Installation

The MMR valley flashing is laid in between the two valley battens and fastened with approved fasteners, down through the top flange (note 1). Where the valley terminates at the fascia, the valley flashing should extend past the fascia a minimum of 3" then scribed to the fascia (note 2).

Where the valley terminates onto a lower roof, the lower roof panel should be laid through (note 3), with the valley flashing transitioning out on top of the lower panel, preferably in a lower part. It is generally wise to start with a shorter piece of valley to allow for this transition (note 4). The valley flashing should be lapped a minimum of 4" (100mm) and set in a bead of approved sealant (note 5). Junctions in the valleys should be formed by the standard sheet metal practice of notching and folding each piece in opposite directions, again setting in a bead of sealant (note 6).



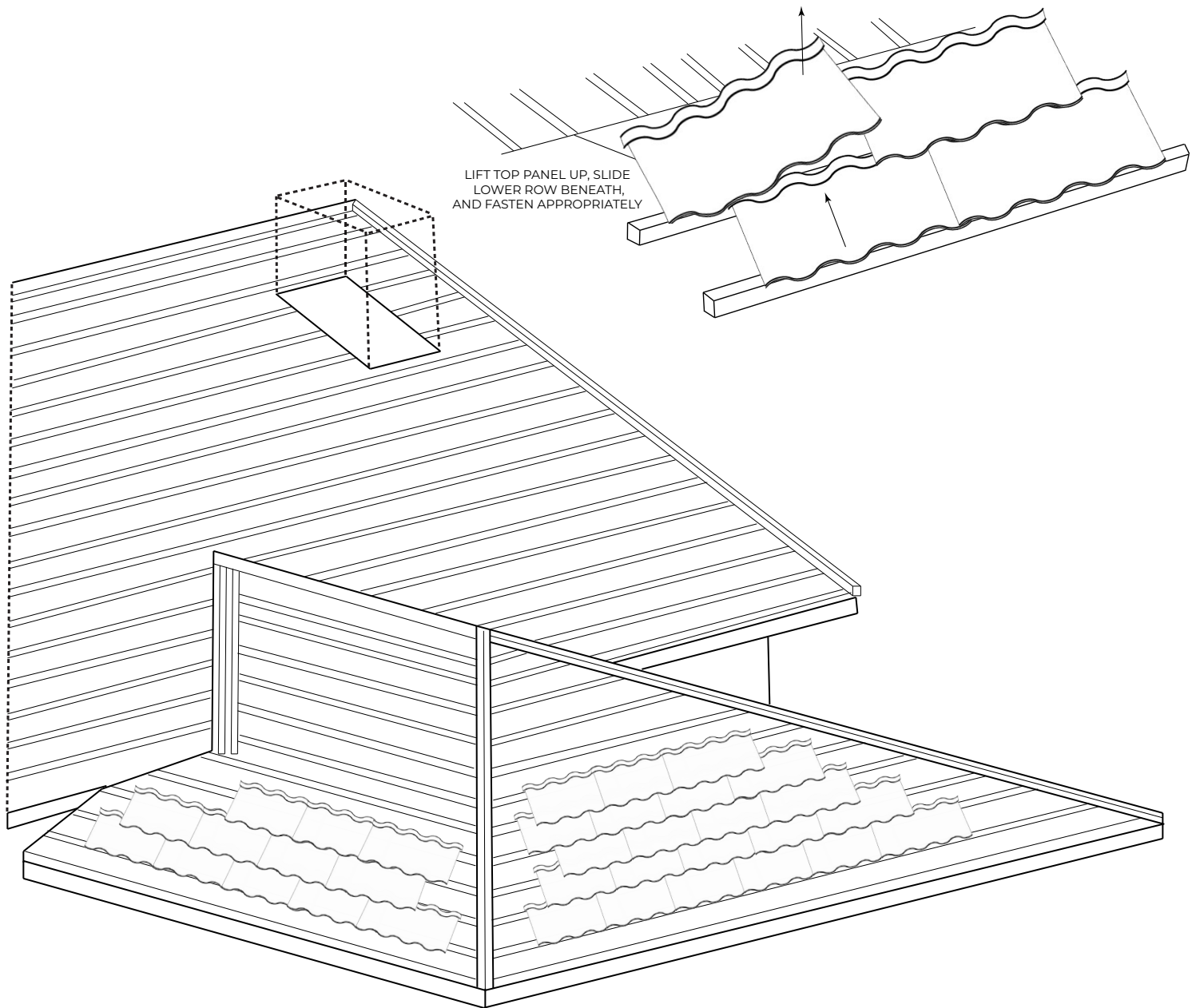
The Tile panels are cut along the valley to overlap the valley channel, as shown in this photo.



## Field Panels

Start your first Tile panel from left gable (note 3), this will place your bends in the valley of the profile. On a gable-to-gable roof, adjust this so that each gable is identical. The above will ensure that you are handling practical size pieces, which will help eliminate waste. This measurement is to be a minimum of 41/2" (114 mm) for hips and valleys from the closest point.

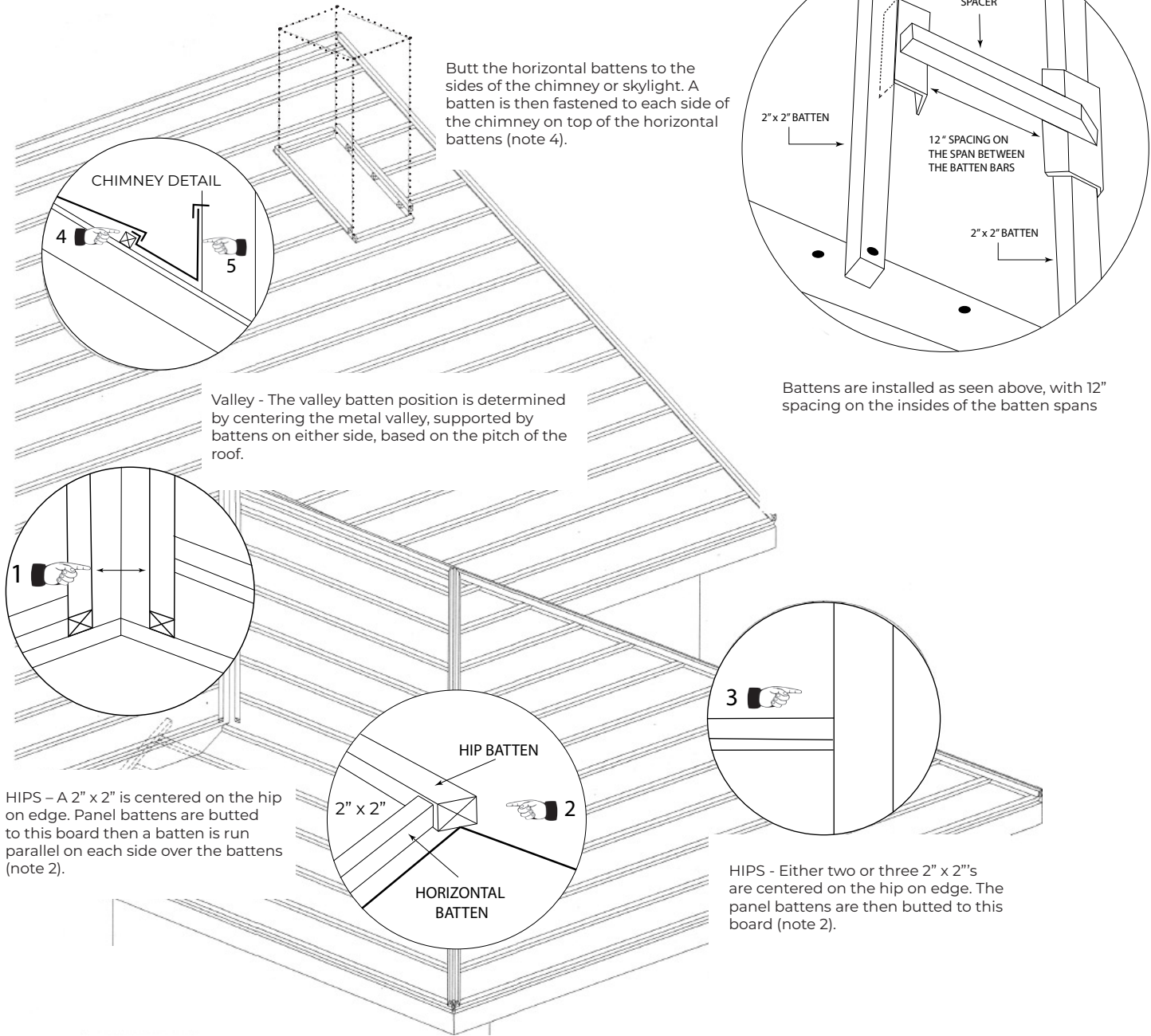
The MMR panels only lap right over left (notes 4 & 5), but panels may be laid right to left by lifting and tucking under (this is slightly more time consuming). The panels are fastened up through the front lip (note 6) in the proper location (notes 7 & 8). The size, type and quantity of fasteners are a requirement of the applicable building code.





## Batten Installation

Preparation work with the MMR approved underlayment and battens should be done before any panels are installed on the roof. A batten spacer can be used to efficiently layout the 2" x 2" battens for the field panels, valleys, hips, and ridges. Please ask your MMR representative if you need a pair of Tile spacers.

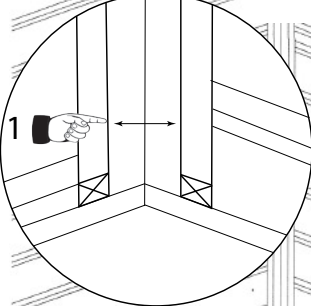


Butt the horizontal battens to the sides of the chimney or skylight. A batten is then fastened to each side of the chimney on top of the horizontal battens (note 4).

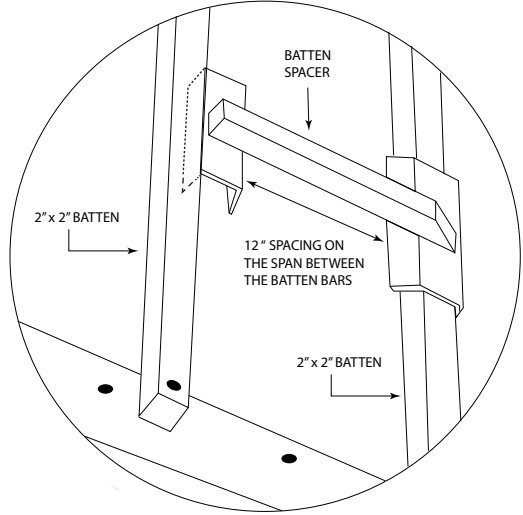
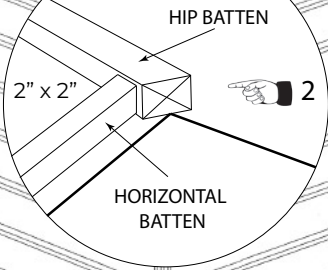
CHIMNEY DETAIL

4 5

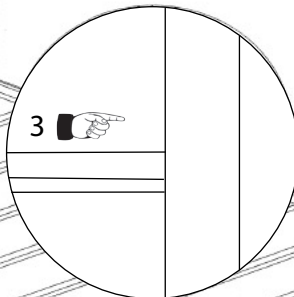
Valley - The valley batten position is determined by centering the metal valley, supported by battens on either side, based on the pitch of the roof.



HIPS - A 2" x 2" is centered on the hip on edge. Panel battens are butted to this board then a batten is run parallel on each side over the battens (note 2).



Battens are installed as seen above, with 12" spacing on the insides of the batten spans

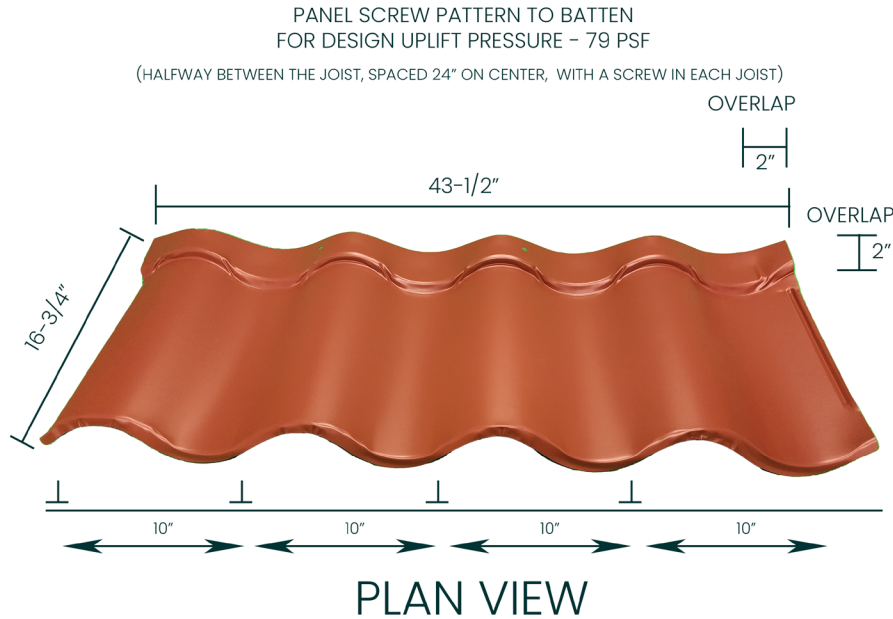


HIPS - Either two or three 2" x 2" are centered on the hip on edge. The panel battens are then butted to this board (note 2).

## Fastener Placement

Each panel is installed with the fastening pattern shown below, using MMR approved screws that are offered in specific colors to match the paint/powder coating of the Tile panels.

The Tile panel is designed to be installed from the top of the roof, working down. This method minimizes foot traffic, as well as making the installation process safer on steeper pitches. If an installation site is designed for coastal areas, refer to the coastal installation method, shown on page 4.

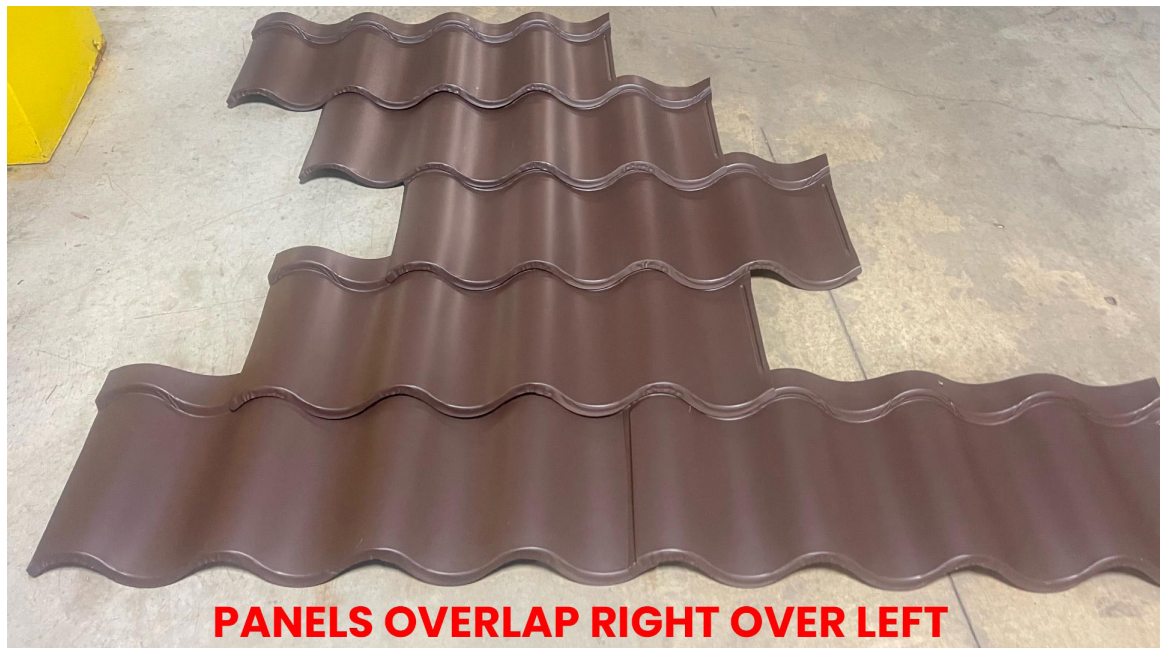


ALL FASTENERS #9 X 2" LG. S.D. FASTENERS WITH METAL

FIRMLY HOLD PANEL DOWN WHEN FASTENING ON THE ROOF. SCREWS WILL BE INSTALLED AT HIGH POINTS ON THE BUTT OF EACH PANEL, AS IT OVERLAPS THE PANEL IMMEDIATELY BELOW. BE CAUTIOUS NOT TO OVERTIGHTEN THE FASTENERS.

## Panel Stagger

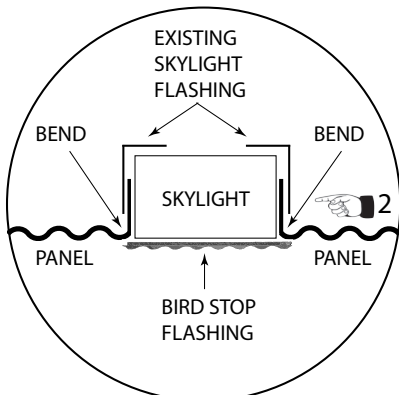
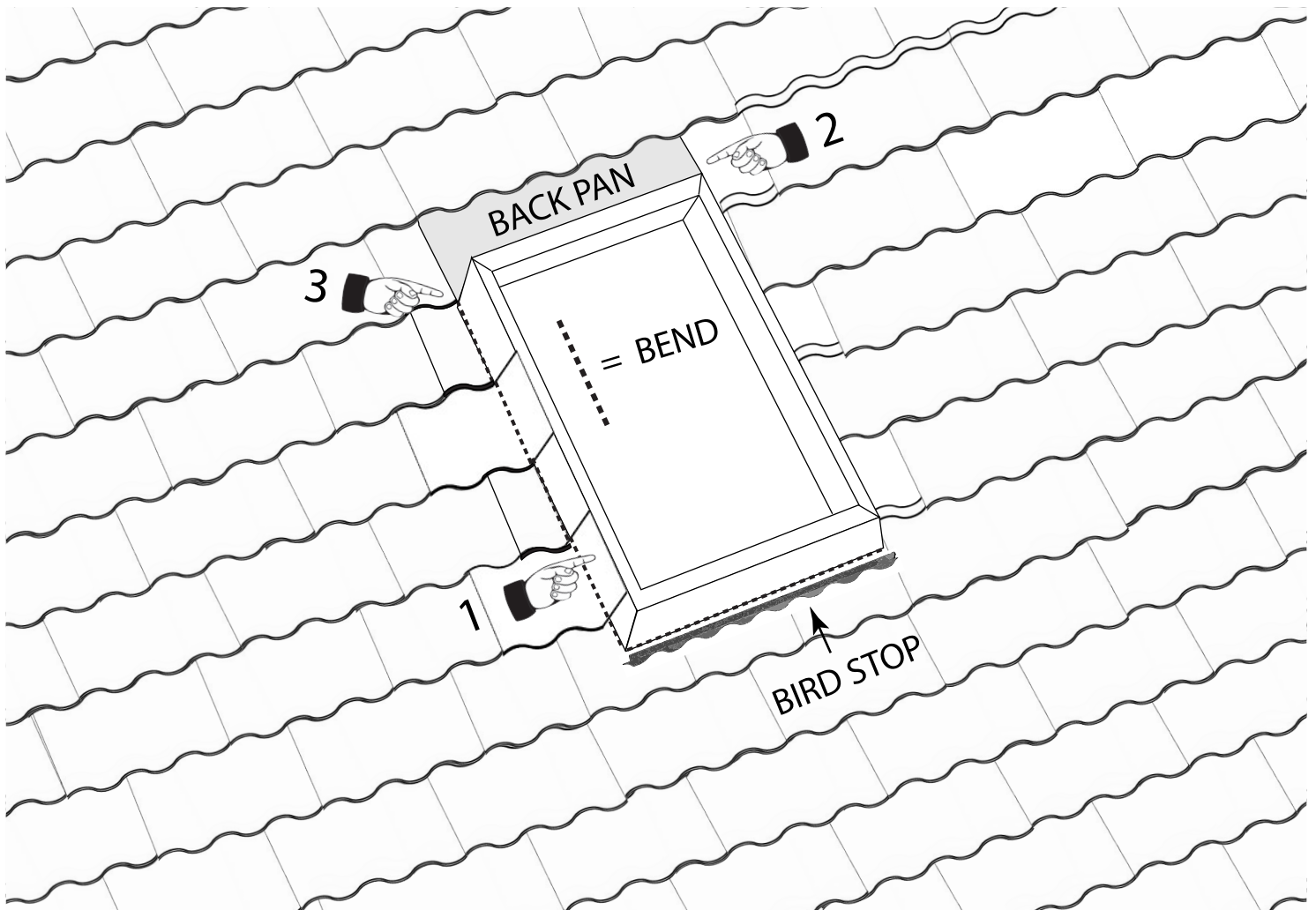
Panels should be installed with a 3-stage stagger process, which will minimize the patterning effect. The panels overlap RIGHT over LEFT.



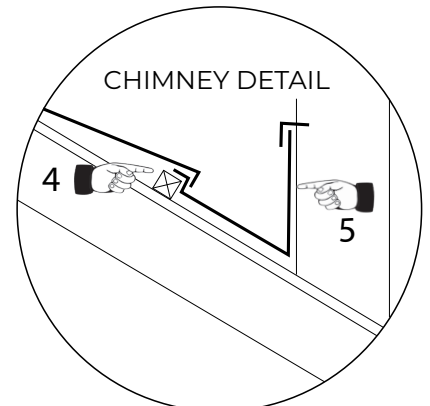
## Skylight/Chimney Installation & Flashing

The Tile panels are bent up against the sides and bottom of the skylight, to a sidewall and head wall condition (note 1). They are flashed over with either the skylight flashing or a counter flashing, made to fit from all-purpose flashing.

The partial panel directly above the skylight is omitted and pan flashing is formed from all-purpose flashing. This pan flashing is made with a back shelf, similar to a Tile panel, and returning up the full height of the skylight (note 2 & 5).



Fabricate the pan flashing past each side of the skylight (a minimum of 4") and bed the joint with the Tile panels in approved sealant (note 3). Cut and fold the protruding corners of the pan flashing around the sides, using standard sheet metal practices and seal. Use an approved closure strip to seal the top shelf, where the panels overlap the top of the pan flashing (note 4).





## **Tools of the Trade**

These are the recommended tools that every MMR certified installer will work with on a daily basis when installing the metal Tile. However, more tools may be necessary for installation conditions on your project. If you need more information on purchasing any of the below tools, please contact your Modern Metal Roofing representative and a quote will be provided to you.





**MODERN  
METAL ROOFING**

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