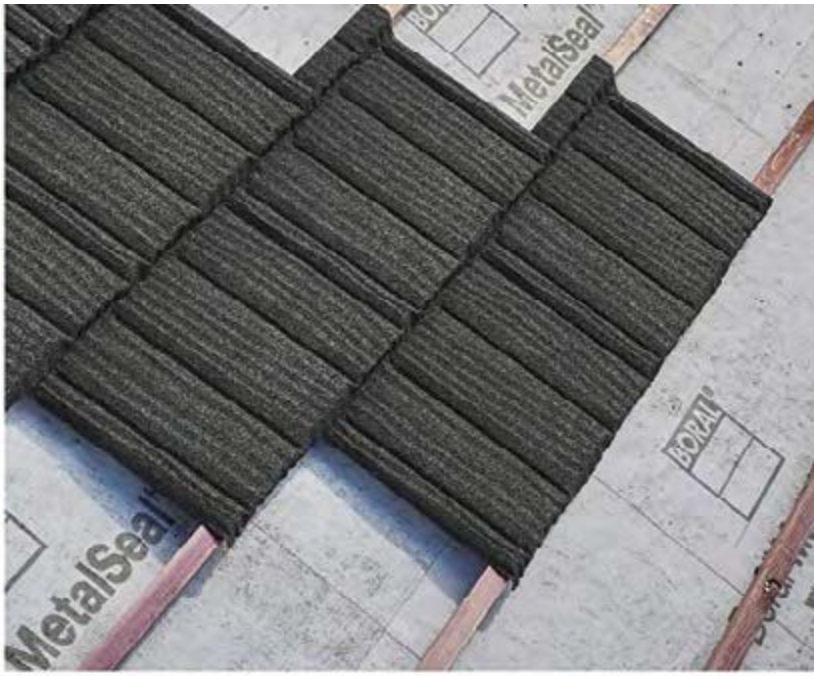
Build something great™

Boral STEEL
STONE COATED ROOFING

BATTEN Installation Guidelines

BARREL-VAULT Tile | PACIFIC Tile | PINE-CREST Shake



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BORAL®

These Guidelines are applicable to the three (3) Boral Steel™ profiles covered by this document. When the detail is unique and specific to a particular profile, we show that detail and label the page with the panel profile name.

INSTALLATION WARNING!

These installation guidelines demonstrate the recommended technique for installing the Boral Steel™ roof panels and accessories covered within this document and accessories or components are subject to change without notice.

The details and information in this document reflect current roofing practices used in the United States. Installers of Boral Steel™ roof panels and accessories should have knowledge of roof structures, an understanding of how to work with stone coated steel panels and accessories, and experience working on sloped roofs.

Boral Steel™ recommends that installers of Boral Steel™ roof products use specialized installation tools and have completed an Installer Orientation Training Program for each profile they installed (see www.Boralroof.com for more details). Boral Steel does not consider its products to be “do-it-yourself” (D.I.Y.) mainly due to specialized cutting & bending tools used during installation.

Panels are susceptible to scuffing from foot traffic when subjected to prolonged periods of water saturation, do not install wet. ***See Technical Bulletin #11 for details.***

BATTEN Installation Guidelines

Boral STEEL
STONE COATED ROOFING

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BATTEN Installation Guidelines

INSTALLATION TOOLS

BORAL STEEL INSTALLATION KIT

- CUTTER
- BENDER
- BATTEN SPACERS

HAND TOOLS

- IMPACT DRIVER
- RED & GREEN SNIPS
- 3” HAND SEAMERS
- NAIL GUN
- HAMMER
- CAULKING GUN
- STANDARD SLOT SCREWDRIVER

OTHER TOOLS

- TAPE MEASURE
- STRING-LINE
- SOAP STONE (used to mark panels)

GENERAL INSTALLATION STEPS

These install details are designed to be used in conjunction with Boral Steel’s *Installer Orientation Training Program.*

Boral Steel Roof Products - 10 Basic Steps to a Great Job:

1. Install BATTENS
2. Install PERIMETER metals, except BirdStop
3. Install VALLEY metals
4. Install field PANELS from the top and work down the roof. Lay field panels with the correct offset/stagger
5. Measure, mark, cut & bend and install - HIP, VALLEY, RIDGE & RAKE PANEL SECTIONS
6. Install BIRDSTOP for BARREL-VAULT Tile
7. Install CHIMNEY / SKYLIGHT flashings panel sections
8. Install PIPE FLASHINGS: EZ-Vents, Pipe-Jacks, Sleeves
9. Install TRIM CAPS on Hip & Ridge and Rake
10. TOUCH-UP any areas that may be required

SAFETY NOTES

The safety tips provided here are for general awareness of the user. Boral Steel™ assumes no liability or responsibility for incorrect use of the products or any personal injury that may be caused as a result of use.

- *Select an open area and establish a safe working perimeter to set up tools. Instruct anyone near the safe working area.*
- *Inspect each tool before use. Do not use a tool that is not in good working condition. Regularly maintain tools for best performance.*
- *Wear personal protective equipment.*
- *Be aware of “pinch points” and keep hands and clothing away from such areas.*

GENERAL INFORMATION

These guidelines use a batten installation method for Boral Steel stone coated panels, at valleys, rakes and roof-to-wall areas. Hip & Ridges are mitered, cut and panels bent up and capped with the appropriate trim. The result is a roof you can count on to weather the elements.

EXPOSED FASTENED
PINE-CREST Shake, PACIFIC Tile and BARREL-VAULT Tile panels are Exposed fastened. Panels are installed on battens, the panel fasteners are positioned out of the panel water channels, through the nose at an angle into the front face of the batten.

MATERIALS
The panels are produced from AZ-50, Aluminum-zinc alloy coated steel complying with ASTM A792.

PACKING AND STORAGE
A pallet of panels contains approximately 20 squares (186 sqM). Panels should be stored under a weather-proof cover or inside in an area free from moisture.

ROOF PITCH
The three Boral Steel™ profiles covered in these guidelines must be installed on a minimum roof pitch of 3:12 (12 degrees) or above. Roof slopes below 3:12 mean the panels act as a decorative roof covering only.

ROOFING UNDERLAYMENT
Minimum one layer ASTM D226 Type-II (No. 30 Felt), head lapped 2” and end lapped 6”, or approved equal to or better per code.

ROOF DECK SHEATHING
The panels must be installed on a minimum 15/32” thick (11.9 mm) plywood, close fitted sheathing or spaced sheathing that complies with the applicable code.

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

FASTENERS
All fasteners (Screws or Ring Shank Nails) used on a Boral Steel system shall meet or exceed the corrosion resistant standard as defined in ASTM B-117, (1,000 hour minimum Salt Spray Corrosion. Panel fasteners are to be a minimum 2" length. Batten fasteners are to be of sufficient length to penetrate the structural member by a minimum of 1".

For HVHZ (High Velocity Hurricane Zone) areas refer to local code requirements and/or Boral Steel website (BoralRoof.com) for details.

TESTING
The panels have been tested and evaluated to industry standards and are covered by International Code Council (ICC-ESR), National Research Council Canada (CCMC), State of Florida (FBC), Miaim-Dade (NOA), and Texas Department of Insurance (TDI) evaluation reports. Testing has been conducted to evaluate fire, wind, impact resistance, water infiltration, and durability resistance. Information regarding specific tests and approvals can be obtained from Boral Steel.

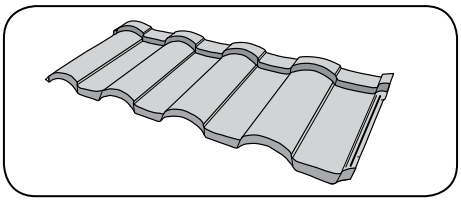
VENTILATION
Ensure proper attic ventilation as prescribed per local codes. Either Boral Steel EZ-Vents or Continuous Ridge venting can be installed to help achieve adequate ventilation.

WARRANTY
The panels carry a limited warranty for fifty years. This limited warranty is transferable and does not cover damage due to improper handling or installation. Complete warranty details available at www.BoralRoof.com.

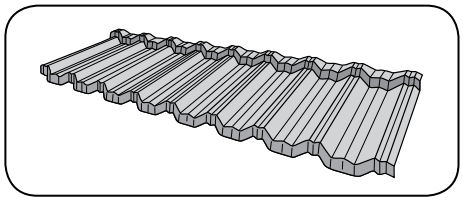
DISSIMILAR METALS
To avoid adverse corrosion effects caused by dissimilar metals, COPPER and LEAD flashings should not be used with Boral Steel panels and accessories.

FINISH COATING
Minor scuffing of the stone coated finish can be repaired with a Touch-Up Kit. Use the basecoat acrylic supplied in the kit (not caulking) for repairs. Unfinished flashing material can be painted with durable acrylic aerosol paints. Note: Colored aerosol paints should never be sprayed on stone coated panels & accessories.

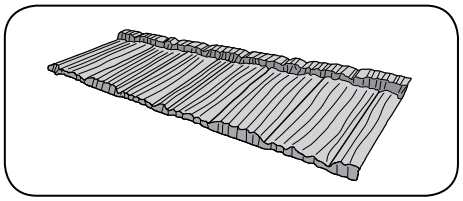
STONE COATED ACCESSORIES



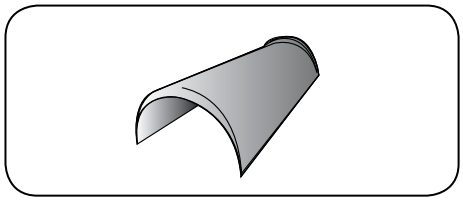
BARREL-VAULT Tile Panel
Cover: 14" x 43" (355 x 1092 mm)
6.3 lbs (2.86 Kg) 24 pcs/sq



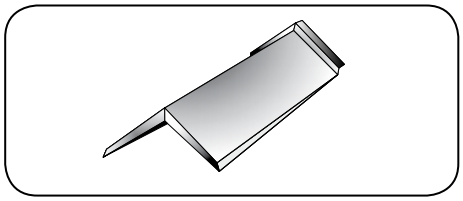
PACIFIC TILE Panel
Cover: 14.5" x 50.00" (368 x 1270 mm)
5.5 lbs (2.50 Kg) 20 pcs/sq



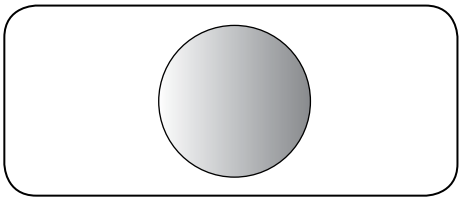
PINE-CREST Shake Panel
Cover: 14.5" x 49.5" (368 x 1257 mm)
6.5 lbs (2.95 Kg) 20 pcs/sq



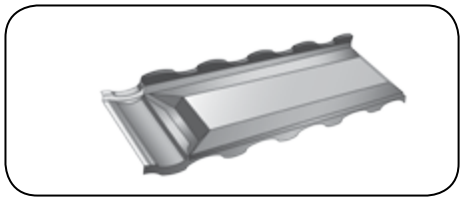
Cap Mission (Hip & Ridge)
6” x 14.5” (150 x 368 mm)



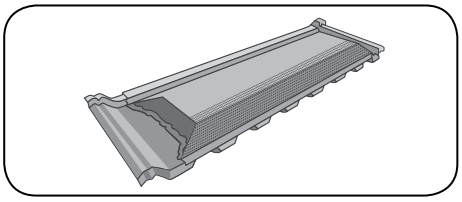
Cap Shake (Hip & Ridge)
6” x 14.5” (150 x 368 mm)



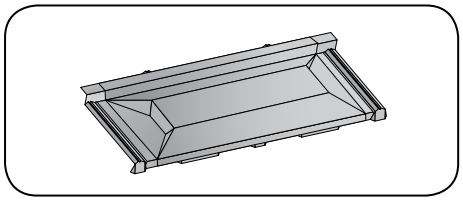
End Disc
6” Dia. (150 mm) 0.15 lbs (0.06 Kg)



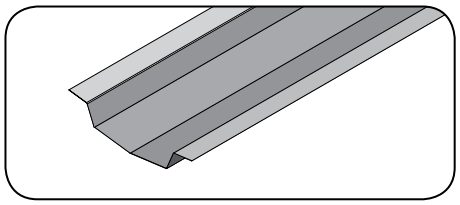
EZ-Vent BARREL-VAULT Tile
14" x 3.5" x 43" (355 x 89 x 1092 mm) 11.64 lbs (5.28 Kg), NFVA 64 Sq. in.



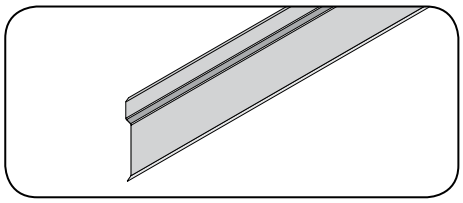
EZ-Vent PACIFIC Tile
14.5" x 3.5" x 52" (368 x 89 x 1321 mm) 12.45 lbs (5.65 Kg), NFVA 64 Sq. in.



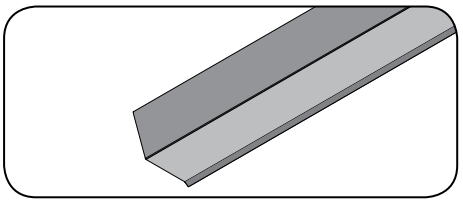
EZ-Vent PINE-CREST Shake
14.5" x 3.5" x 52" (368 x 89 x 1321 mm)
12.45 lbs (5.65 Kg), NFVA 64 Sq. in.



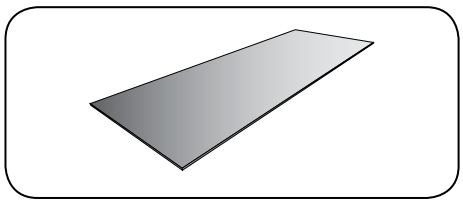
Valley Open 6"
6” X 79” (152x2006mm) 6.6 lbs (3.0 Kgs)



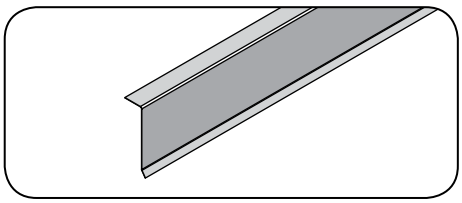
Z-Bar
Used at side wall areas.
5” x 79” (127 x 2006mm) 4.8 lbs (2.18 Kg)



Head-Side-Wall
5” x 3.5” x 79" (127 x 89 x 2006mm)
4.21 lbs (2.22 Kg)

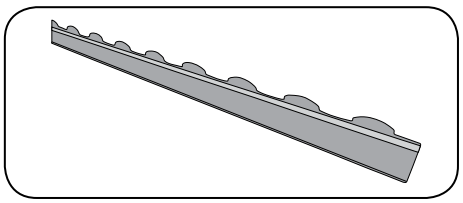


Flat Sheet
18” x 54” (457 x 1372 mm)
7.48 lbs (4.39 Kg)



Fascia 3.5”
3.5” x 79” (89 x 2006mm)
4.21 lbs (2.22 Kg)

Fascia 5”
5” x 79” (127 x 2006mm)
4.21 lbs (2.22 Kg)



BARREL-VAULT BirdStop 3.75”
Used at the eave.
3.75” x 79” (95 x 2006mm)
5.90 lbs (2.68 Kg)

BARREL-VAULT BirdStop 5”
5.0” x 79” (127 x 2006mm)
7.88 lbs (3.58 Kg)

Weights are approximate.

Continued on Next Page

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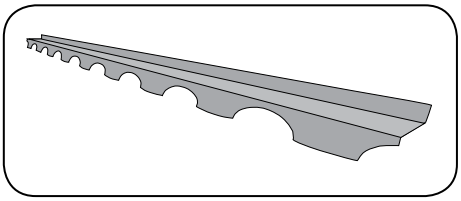
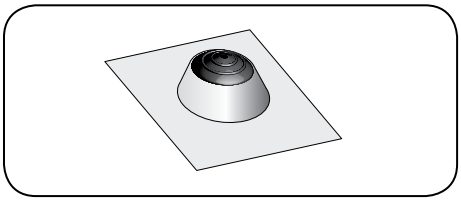
STONE COATED ACCESSORIES

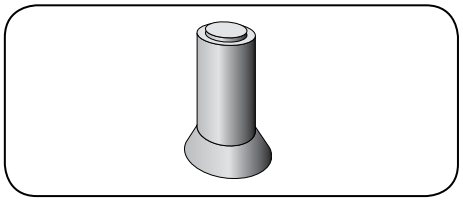


BARREL-VAULT Top Row
Used at the ridge.
3.75” x 79” (140 x 2006mm)
5.64 lbs (2.56 Kg)



Pipe-Jack 3-in-1
Base 18” x 18”, 1” to 3” Pipes (75 mm)
1.78 lbs (0.81 Kg)

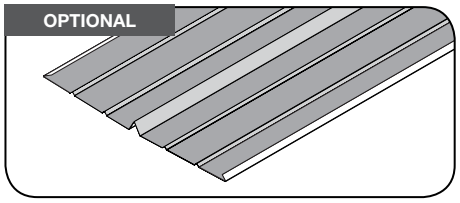
Pipe-Jack 3-in-4
Base 18” x 18”, 3” to 4” Pipes (100 mm)
1.86 lbs (0.84 Kg)



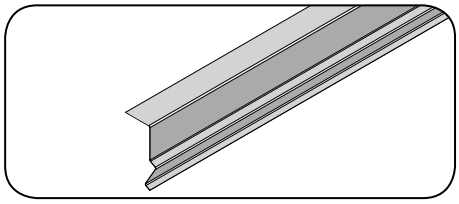
Pipe Sleeve
3/4” – 4” Dia. Pipes (19 – 100 mm)
1.72 lbs (0.78 Kg)

PAINTED OR BARE ACCESSORIES

OPTIONAL

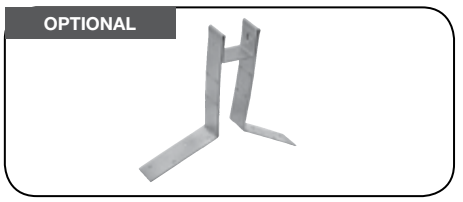


Valley Five ‘V’
18" x 120" (457 x 3048mm) 13 lbs (5.90 Kg)
Painted Black, Brown or White inside

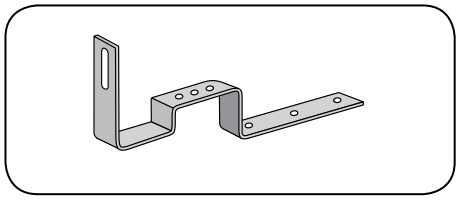


Trim Cap Rake
2” x 3.5” x 120” (50 x 89 x 3048mm)
4 lbs (1.8 Kg)

OPTIONAL

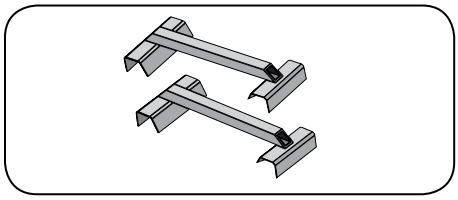


Ridge Riser® Brackets
16 gauge Galvanized Steel



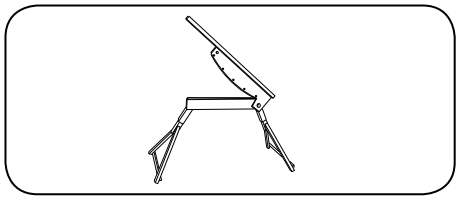
Solar Mounting Brackets (Batten)
9" (229mm) long, 4" (100mm)
Vertical leg side mount, 304 Stainless Steel

TOOLS

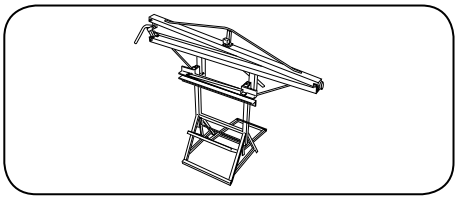


Batten Spacers
BARREL-VAULT Tile:
14" (365mm), 2.7 lbs/Set (1.22 Kgs)

PINE-CREST Shake and PACIFIC Tile:
14.5" (368mm), 2.7 lbs/Set (1.22 Kgs)



Cutter
40 lbs (18.16 kg)

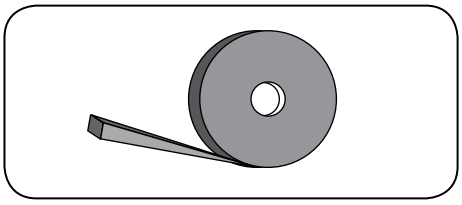


Bender
Full Panel Bender Attachement - 62 lbs (28.1 kg)
Foot Bender: 48 lbs (21.8 kg)

NOTE: *Install Cutter and Bender tools may vary from images shown.*

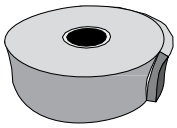
Weights are approximate.

OTHER ACCESSORIES & ROOF SYSTEM COMPONENTS



EmSeal Foam Tape Rolls
19.68 ft x 1" x .75" (6000 x 25 x 19 mm)
1 lbs (0.45 Kg)

OPTIONAL

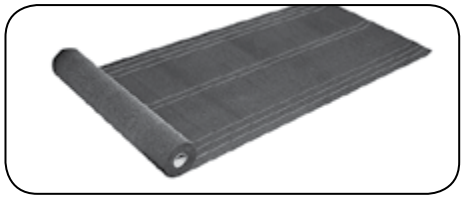


Barrier Foam Rolls
20 ft x 1" x 6" (6096 x 25 x 150 mm)
3.5 lbs (1.6 Kg)

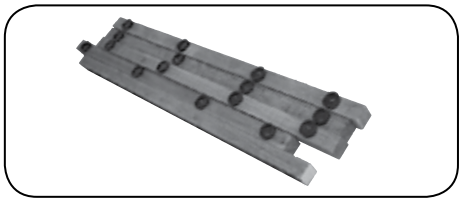
OPTIONAL

Foam Closure Strip
1" x 1-7/8" x 43"

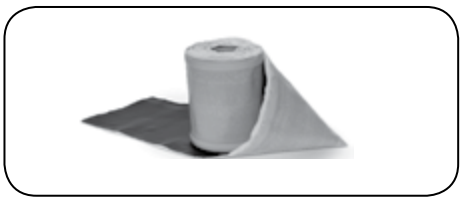
Boral® MetalSeal HT
Ice and water shield, self-adhered,
high-temperature Underlayment
3' x 72' (915mm x 2.96M)



Boral® Ply 40
Underlayment/Base Sheet
39 3/8" x 65' 10" (216 sq ft)

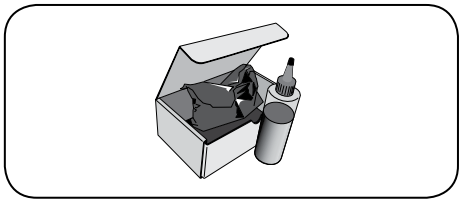


2x2 Elevated Batten System® (EBS)
2" x 2" x 96" (50 x 50 x 2438mm)
12 pcs/Bundle, 1 Bundle = 96 L/ft (29.28 L/M)



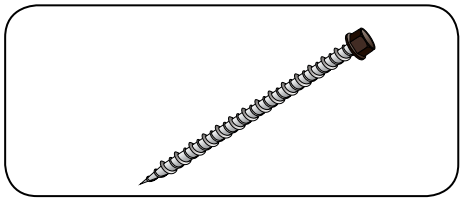
Wakaflex® Universal Flashing
11" x 33'- Black, Brown, Terracotta
(290mm x 10.07M)

Boral Steel™ Ridge Vent
Continuous ridge vent
2.5" x 1" x 20' (64 x 25 x 6096mm)
17 sq.in (NFVA)/Lft.

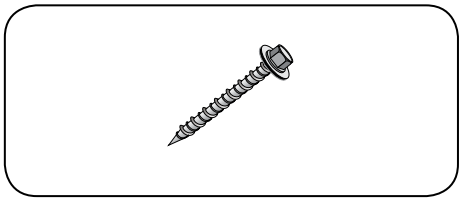


Touch-up Kit
1 Tube of adhesive, 1 Bag of stone chips,
brush. 2 lbs (0.9 Kg)

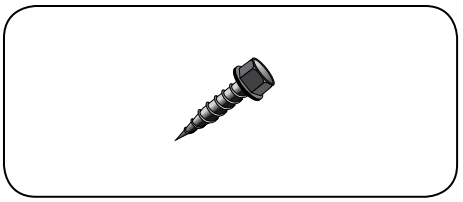
Bulk Stone Chips
1 Bucket of stone chips - 25 lbs (11.3 Kg)



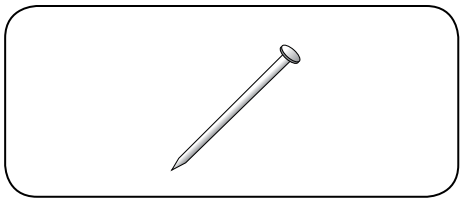
Panel Screws (Carbone Steel or 410 Stainless Steel)
PANEL Screws 2" HWH (50mm)
PANEL Screws 2.5" HWH (63mm)



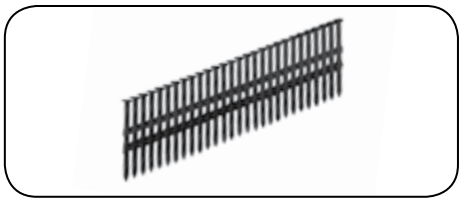
Valley Screws
VALLEY Screws 1.5" HWH (38mm)



Trim & Stitch Screws
TRIM Screws 1.0" HWH (25mm)
STITCH Screws 0.5" HWH (13mm)
STITCH Screws .75" HWH (19mm)



Batten Nails
0.131" Dia x 3.25" (3mm Dia x 83mm)
53 lbs/Box (24.06 Kgs)



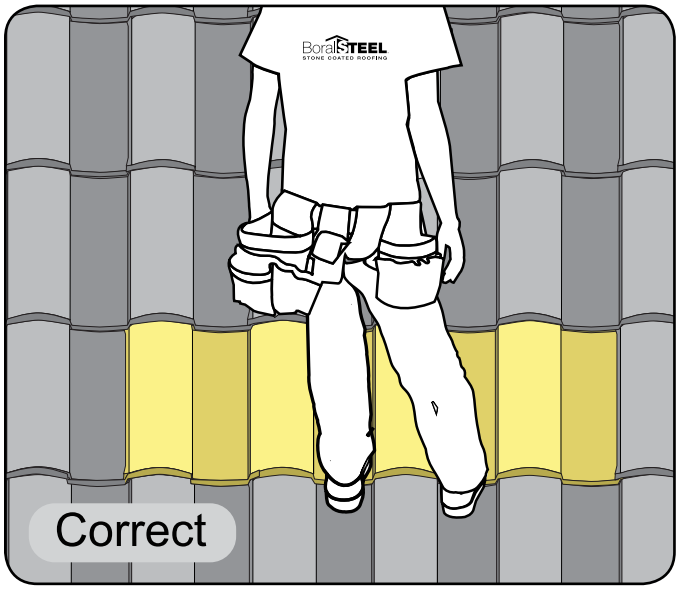
Panel Ring Shank Nails
0.131" Dia x 2.375" (3mm Dia x 60mm)
41 lbs/Box (18.61 Kgs), Black

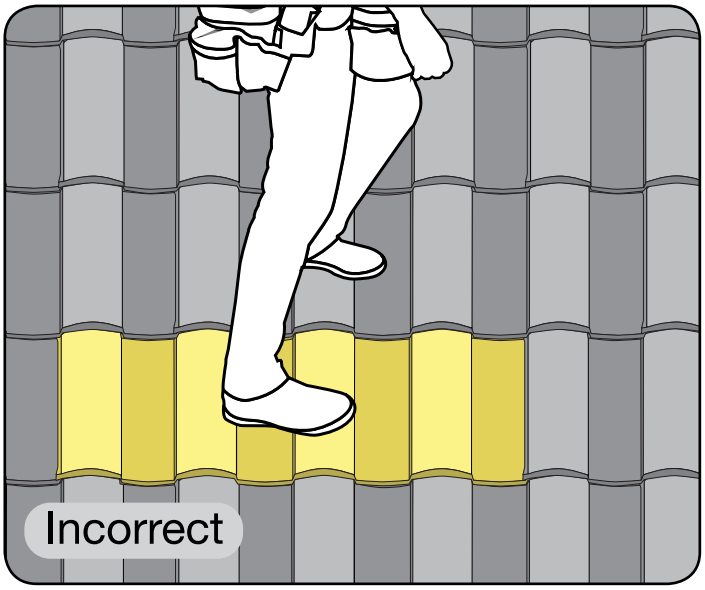
Weights are approximate.

WALKING ON YOUR ROOF (BARREL VAULT Tile shown)

PANEL WALKING

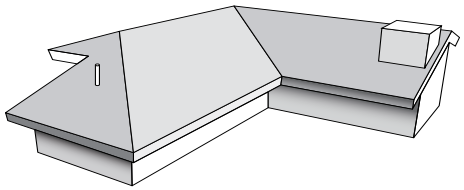
Appropriate OSHA approved fall protection must be used when walking on roofs panels. Place your feet over the front lip of the panels. Avoid walking near the panel side-laps as shown in right image below.





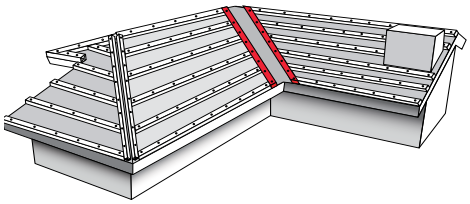
BATTEN Installation Guidelines

GENERAL - PREPARATION (All 3 Profiles)

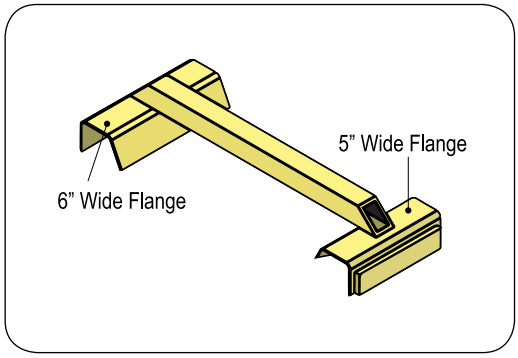


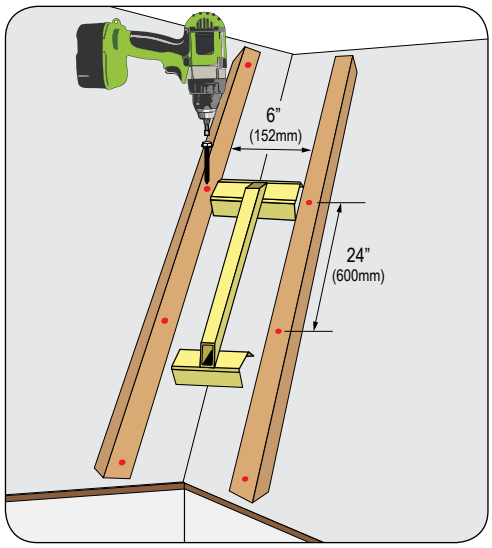
Boral Steel panels are installed on new or existing roofs pitched a minimum of 3:12 (12 degrees). Underlayment is to be installed as per local code and manufacturer's instructions. Boral® MetalSeal (self-adhering membrane) should be installed per local code and product application instructions. See **Boral® MetalSeal HT Installation Guide** available on our website.

VALLEY BATTENS FOR VALLEY OPEN 6" (All 3 Profiles)



Valley battens are spaced 6" apart to accommodate the Valley metal. Use Batten Spacer 6" (152mm) wide end to space the valley battens correctly and fasten at 24" o/c (600mm).



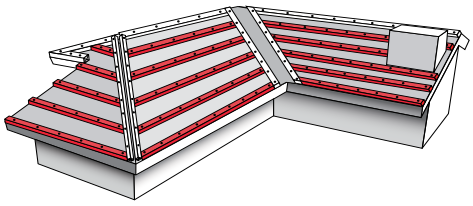


Boral Steel™ offers two different Batten Spacers.
PINE-CREST Shake and PACIFIC Tile use 14-1/2" (368mm) *Batten Spacer.*
BARREL-VAULT Tile use 14" (356mm) *Batten Spacer.*

BATTEN Installation Guidelines

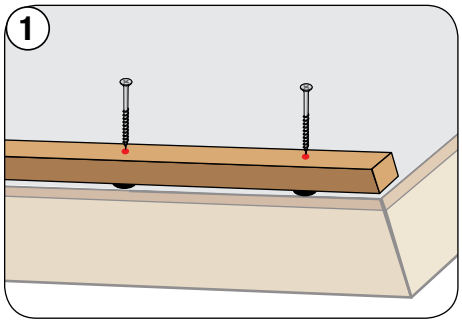
PANEL BATTENS (All 3 Profiles)

See 2X2 Elevated Batten System Brochure

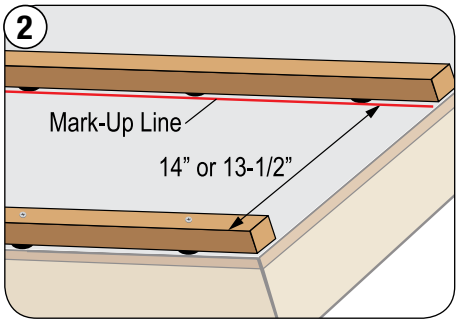


Panel batten spacing is critical as each panel fits snuggly against the front (downward facing side) of the batten. Boral 2x2 (50 x 50mm) Elevated Batten System® (EBS) battens are 8-ft (2.44M) long and have 0.375” (9.5mm) thick plastic pads spaced 12” (304mm) apart and are pre-attached to each batten strip. Each bundle contains 112 lin-ft (34.16M) with 16 battens.

Panel battens may be 2x2 wood (Douglas-Fir / Larch #2 or better) or Steel Hat Sections with a minimum height of 0.75", and 0.017" thick (0.43mm) galvanized steel.



Position the first batten flush with the fascia. Fasten through the batten and plastic pad into the wood deck.

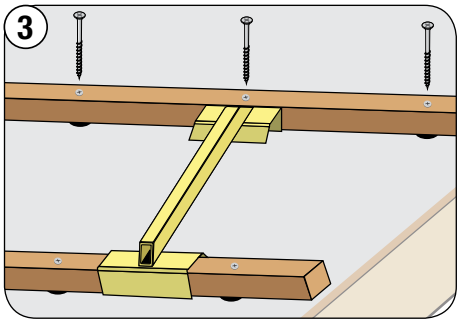


FOR THE SECOND BATTEN ONLY:

For PINE-CREST Shake and PACIFIC Tile mark 14" (356mm) up from the perimeter batten on either side of the roof section.

For BARREL- VAULT Tile measure 13-1/2" (343mm).

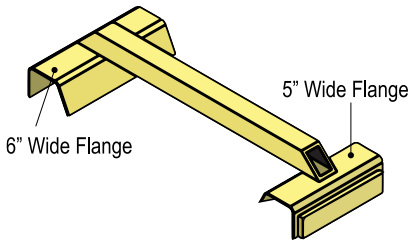
Use a string line to position the second batten to allow adequate overhang at the fascia for gutter/water shed from the roof.



Working across and up the roof, position the Batten Spacer over the second row batten.

Position the next batten firmly against the top face of the Batten Spacer and fasten.

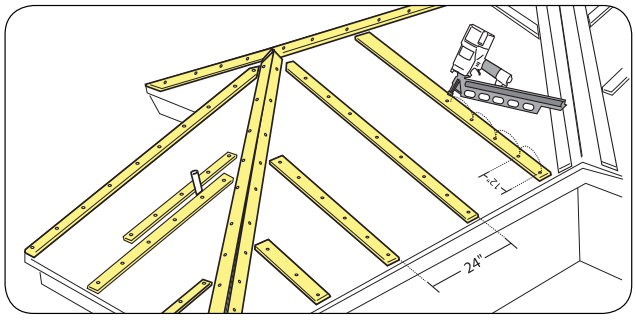
Pay careful attention to positioning the batten spacer the correct way.

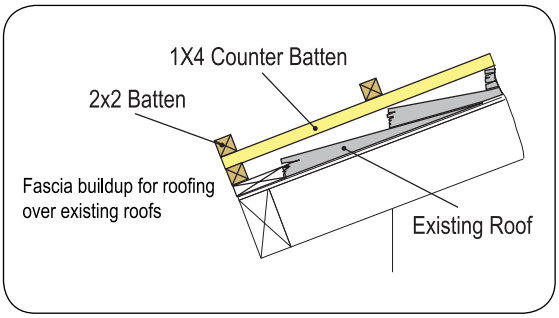


Make sure you are using the correct Batten Spacer tool for the profile you are installing:
14-1/2" for PINE-CREST Shake & PACIFIC Tile
14" for BARREL-VAULT Tile.

COUNTER BATTENS (All 3 Profiles)

When reroofing over irregular roof surfaces (wood shake), 1x4 Counter battens are used.

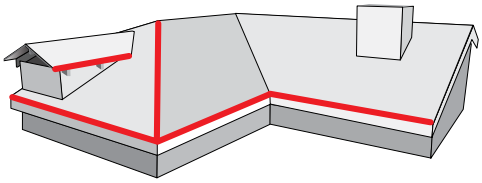




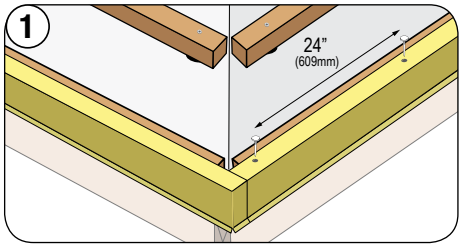
Position 1x4 Counter Batten over rafter, maximum 24" o/c Fasteners must penetrate 1” (25mm) into or through the roof framing members and be placed 12” (305mm) o/c. Consult local codes for all re-roofing requirements.

BATTEN Installation Guidelines

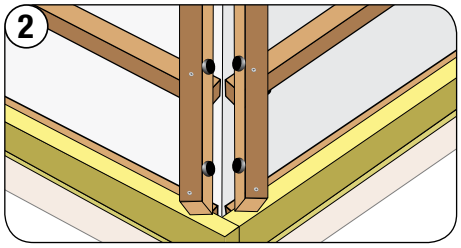
FASCIA AND HIP BATTENS INSTALL - For PINE-CREST Shake or PACIFIC Tile



Fascia metal is available in either 3.5” (89mm) or 5” (127mm) face widths to cover the battens (EBS battens shown) across the eave and to act as a metal drip edge.



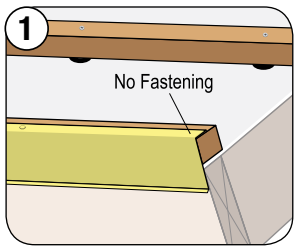
Fascia & Hip Corner: Fit the Fascia on the perimeter battens and fasten at 24” o/c (600mm). Lapping approximately 2” (50mm). Fold Fascia around hip corner, as shown.



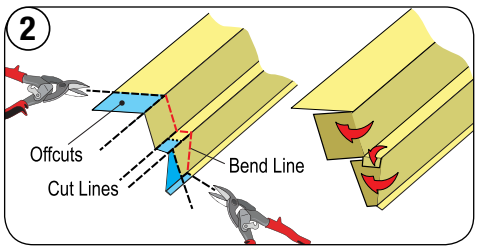
Hip Battens: Install hip battens 5” (125mm) apart. Use the Batten Spacer small flange for this spacing. Rotate EBS batten so the plastic pads are facing towards the hip center line. Fasten at each batten intersection.

Batten Spacer 6” *wide flange can be used to position the valley battens 6" apart inside.*

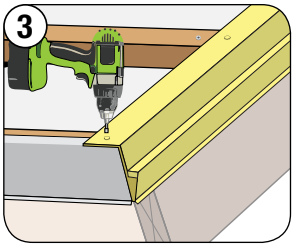
Batten Spacer 5" *can be used to position the hip and ridge battens 5” apart.*



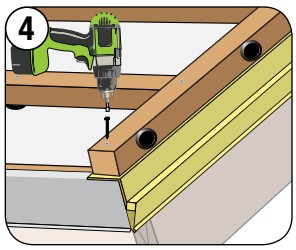
Fascia & Rake Detail: Fit the Fascia flush with the outside rake edge. Do not fasten at the intersection with rake.



Fascia & Trim Cap Rake Detail: Notch and fold Trim Cap Rake metal, as shown.

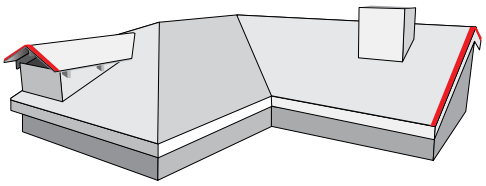


Overlap Trim Cap Rake metal with the Fascia to close off the triangular slot on the front. Fasten into each panel batten.

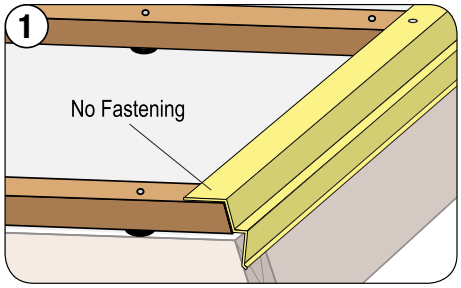


Rake Batten Detail: Place 2x2 EBS batten on top of Trim Cap Rake, flush with the outside edge and fasten into each panel batten.

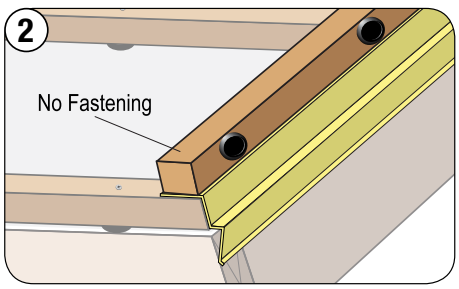
TRIM CAP RAKE AND BIRDSTOP INSTALL - For BARREL VAULT Tile Only



For BARREL-VAULT Tile installs using BirdStop, the Trim Cap Rake metal is left unfastened at the fascia / rake intersection to allow for easy install of the BirdStop after the panels have been laid. This allows for easy alignment of the BirdStop to the panel profile. **See page 21 for BirdStop detail.**



Install Trim Cap Rake metal up the rake. Do not fasten the Trim Cap Rake at the fascia and rake corner.

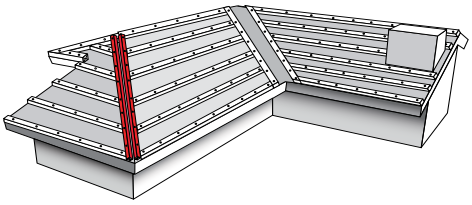


Place 2x2 EBS batten on top of Trim Cap Rake, flush with the outside edge and fasten into each panel batten, except the eave batten.

Do not fasten the Trim Cap Rake and EBS batten at the eave and rake corner.

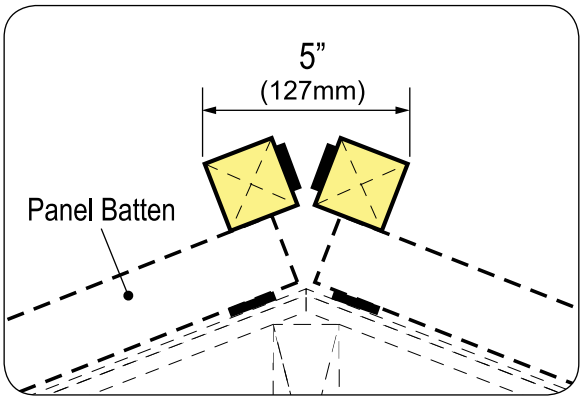
BATTEN Installation Guidelines

HIP BATTENS (All 3 Profiles)

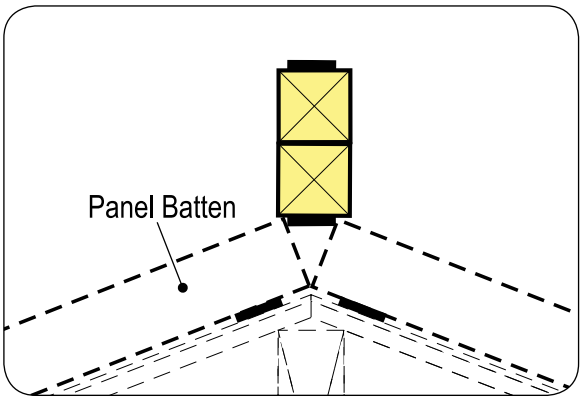


Hip battens can be positioned side by side, or vertically stacked as shown, using 2x2 EBS battens.

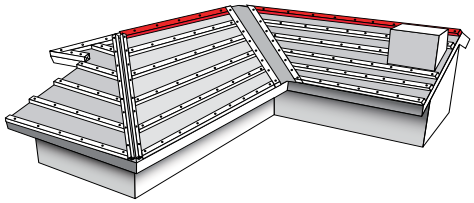
SIDE BY SIDE STACK



VERTICAL STACK

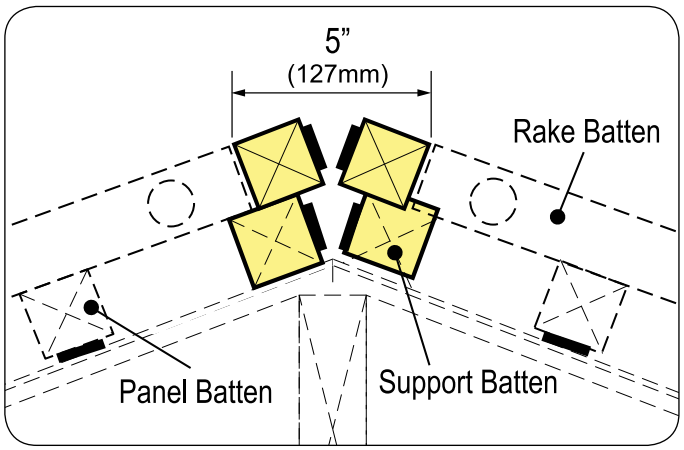


RIDGE BATTENS (All 3 Profiles)

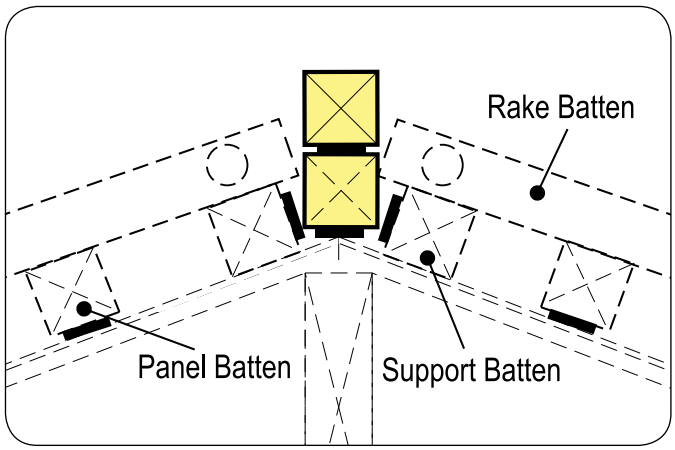


Ridge battens can be positioned side by side, or vertically stacked as shown, using 2x2 EBS battens.

SIDE BY SIDE STACK



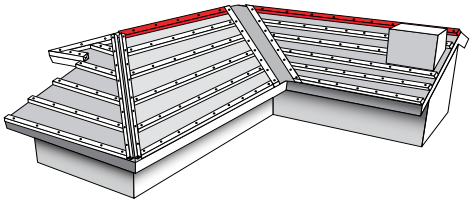
VERTICAL STACK



Ridge batten stack height will change with roof pitch.

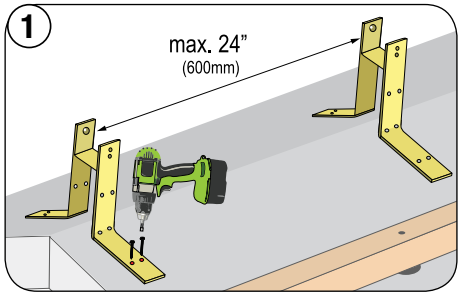
BATTEN Installation Guidelines

RIDGE RISER® BRACKETS (All 3 Profiles) See Ridge Riser Brackets Installation Guidelines OPTIONAL

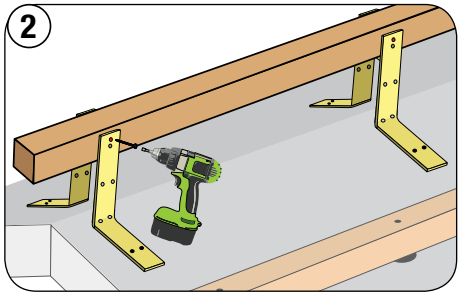


Ridge Riser Brackets may be used instead of battens to position a single 2x2 (50 x 50mm) batten to secure the ridge to.

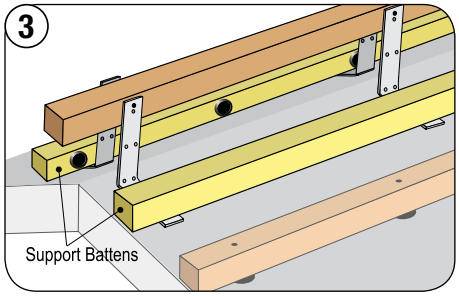
Florida requires Ridge Riser Brackets be no greater than 18" apart and fastened to the deck and 2x2 wood nailer with screws only.



Install Ridge Riser Brackets no greater than 24" (600mm) apart.

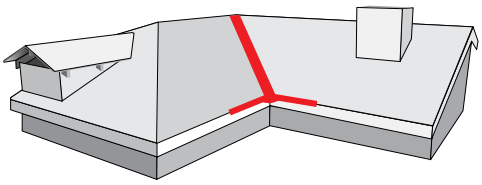


Place a 2x2 wood nailer board into Ridge Riser Brackets. Fasten wood nailer to Ridge Riser Brackets with a #8 min. 0.75" (19mm) screw or roofing nail.

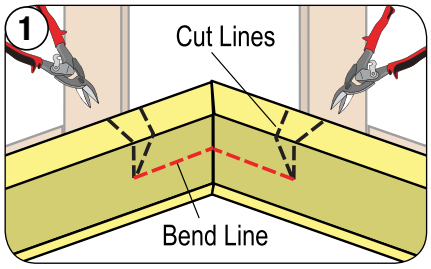


Place support battens (shown in yellow) across the ridge. Support battens allow the ridge cut bent panel to be seated in the same roof plane as the rest of the field.

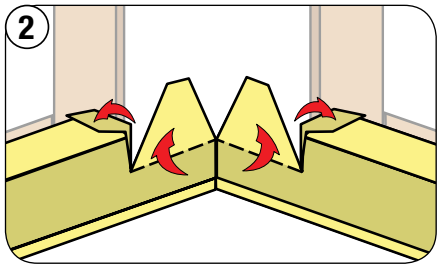
VALLEY OPEN 6" / FASCIA INTERSECTION - For PINE-CREST Shake and PACIFIC Tile



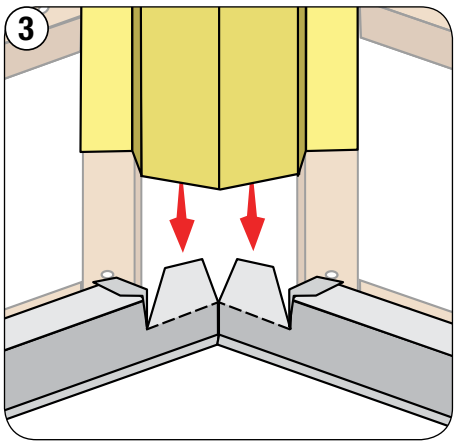
For BARREL-VAULT Tile detail refer to page 21.



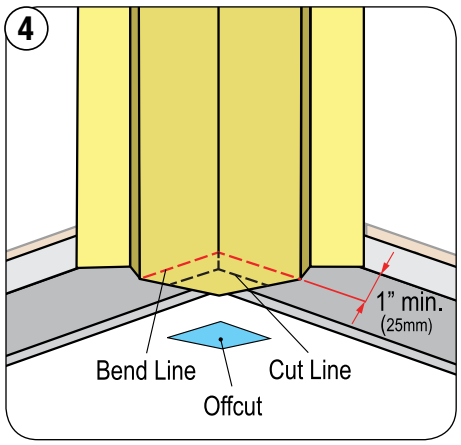
Position the Valley between the battens and scribe the valley profile onto the inside of the Fascia metal.



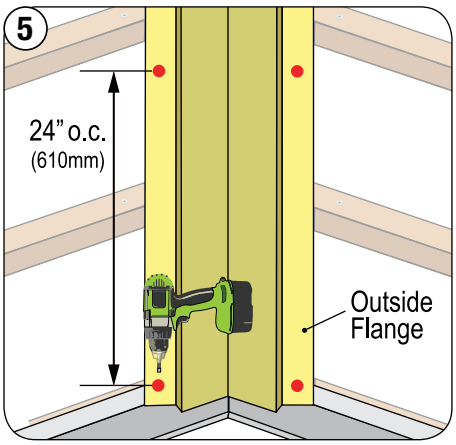
Cut and bend the sections, as shown



Slide the Valley Open 6” into position. Extend Valley a minimum of 1" (25mm) past the Fascia.



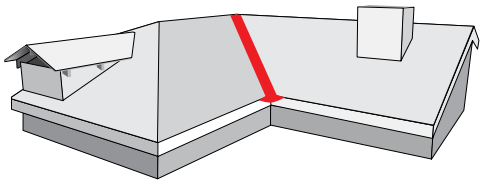
Cut the valley exit point and bend to form an internal corner.



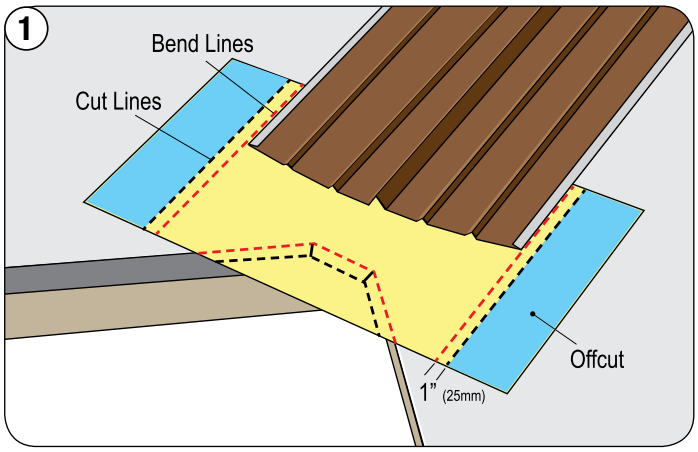
Fasten Valley Open "6" with regular panel fasteners on both outside flanges at 24" o.c. (610mm).

Overlap Valley sections a minimum of 4" (100mm).

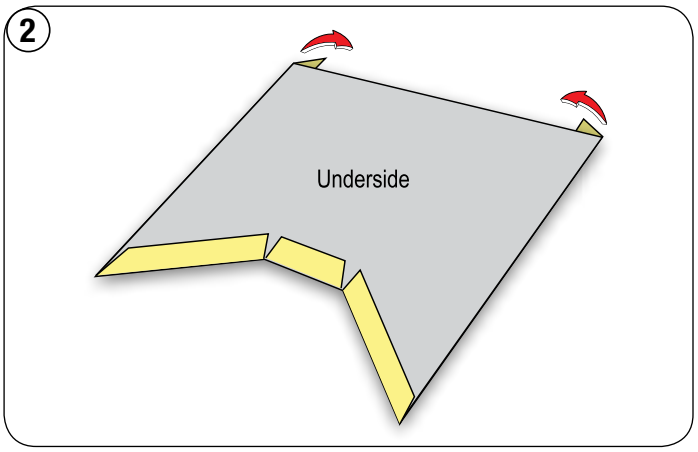
VALLEY FIVE 'V' EXIT TRAY - FASCIA (All 3 Profiles)



When using Valley Five 'V' metal, an exit tray helps provide a finished appearance to the exit area of the valley especially if the valley is exiting onto another roof section such as from a Dormer roof.

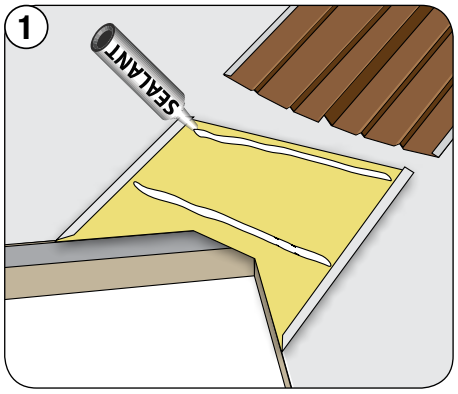


Position Valley Five 'V' at the center of the valley. Place half a Flat Sheet under the Valley. Extend Flat Sheet a minimum of 1" (25mm) past fascia. Mark, cut and bend, as shown.

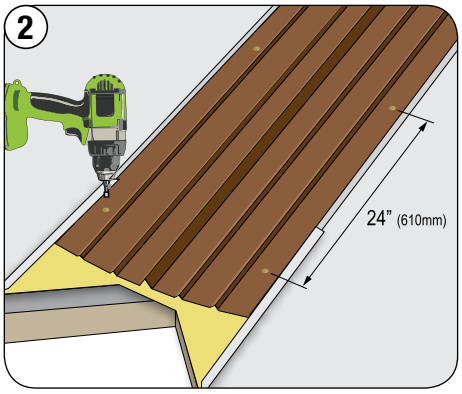


Hem both sides of the folded Flat Sheet to fit around outside edges of valley. Hem the valley water flow exit area as shown by the dark grey area.

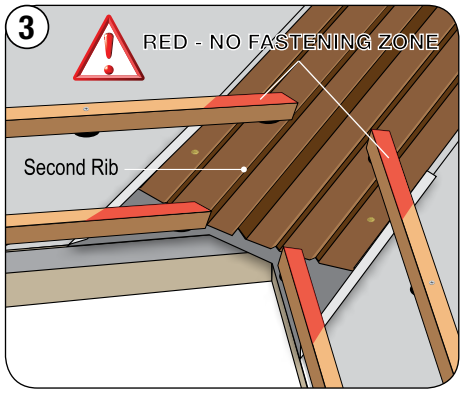
VALLEY FIVE 'V' INSTALLATION (All 3 Profiles)



Fit the Exit Tray at the fascia, before installing the panel battens across the fascia. Apply sealant, as shown.

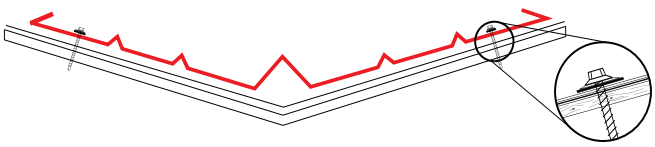


Insert Valley Five 'V' into the Valley Exit. Fasten Valley with washer and grommet screws in the outside locations a minimum of 24" o/c (610mm) up both sides.



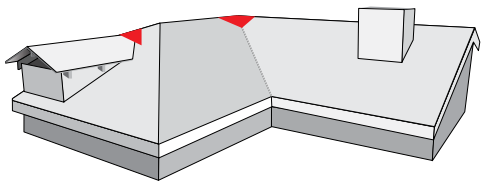
Place EBS battens into the Valley's Five 'V' second rib.

Overlap Valley sections a minimum of 4" (100mm).



When fastening through the valley metal, fasteners must have a rubber washer covered by metal cap to ensure a seal around the fastener location.

VALLEY/RIDGE INTERSECTION - WAKAFLEX® METHOD (All 3 Profiles) OPTIONAL



Where two valleys meet at the ridge line, Wakaflex® universal flashing can be used to seal the intersecting pieces of valley.

The following necessary steps are provided to prevent water migration under the roof tile.

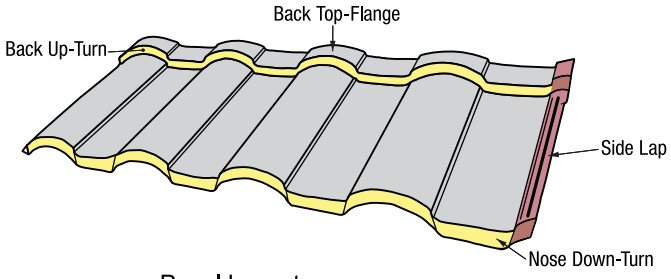
1. Cut Wakaflex of equal width to form on top of the 2 pieces of valley metal extended minimum 6” (150mm) on both sides.
2. Remove the protective film exposing the butyl strip and form on top both sides of valley metal.
3. Ensure that the top upper side of the Wakaflex is integrated into underlayment installed to prevent moisture from penetrating roof deck.

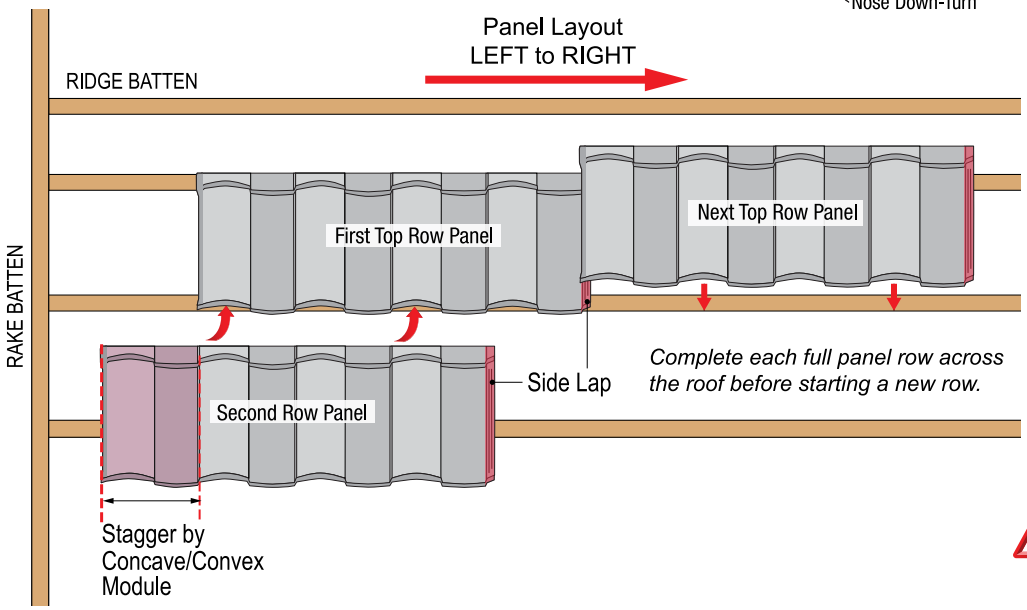
Wakaflex can also be used for:

- *Sidewalls*
- *Splayed Gables*
- *Hip & Ridge Junctures*
- *Solar Panels*
- *Chimneys*
- *Tricky details that require weather protection*
- *Variety of repair applications*

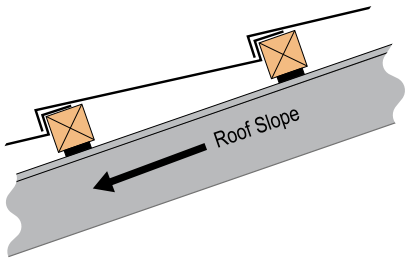
BARREL-VAULT TILE - PANEL LAYOUT

BARREL-VAULT Tile panels have a 9/16" (14 mm) side-lap and can be staggered by one or multiple concave/convex modules across the panel, as needed. The panels are designed to be installed in a staggered pattern and they **CANNOT be straight laid.**



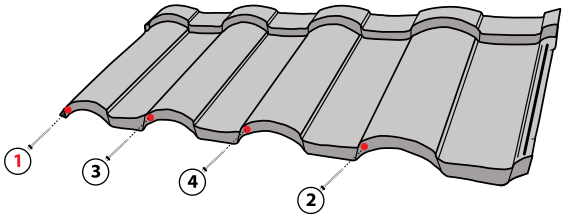


Complete each full panel row across the roof before starting a new row.



*BARREL-VAULT Tile panels can only be laid **LEFT to RIGHT***

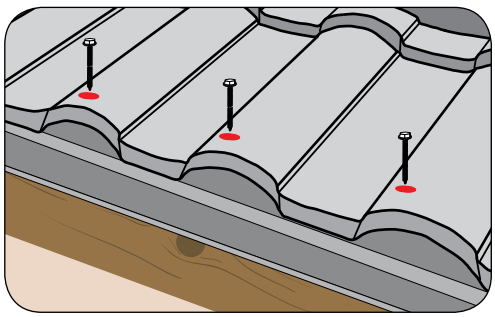
BARREL-VAULT TILE - FASTENING SEQUENCE



The fastening pattern for BARREL-VAULT Tile uses four (4) fasteners across the front nose down-turn. Fastener **#1** is fastened after placing the next panel of the same course, and goes through both panels.

FASTENING SEQUENCE shown is applicable to any location and ensures the panels stay correctly aligned.

BARREL-VAULT TILE - BOTTOM ROW FASTENING



Fasten the bottom row panels through the top of the panel on the left or the right side of each concave section, out of the main water channel of the panel.

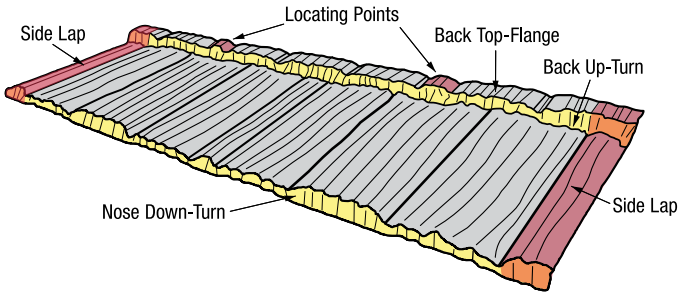
NOTE: Top panel fastening is also acceptable behind Boral Steel EZ-Vents and chimney/skylight details, as necessary.

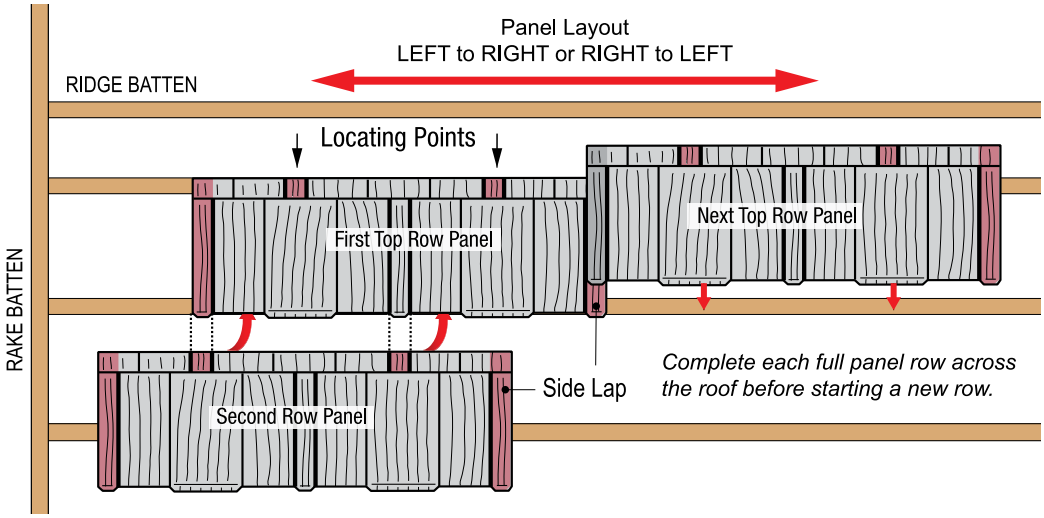
Use the Touch-Up kit to seal and cover each top fastener.

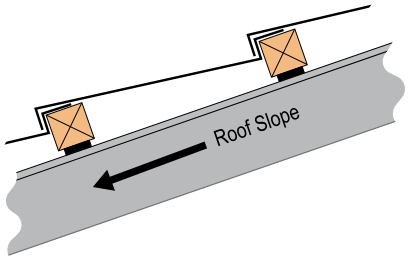
BATTEN Installation Guidelines

PINE-CREST SHAKE - PANEL LAYOUT

PINE-CREST Shake panels have a 2” (50 mm) side-lap and two staggered locating points along the back flange of the panel. The panels are designed to be installed on battens or batten-less (direct-to-the-roof-deck) in a staggered pattern and placed according to their locating points. They **CANNOT** be straight laid.

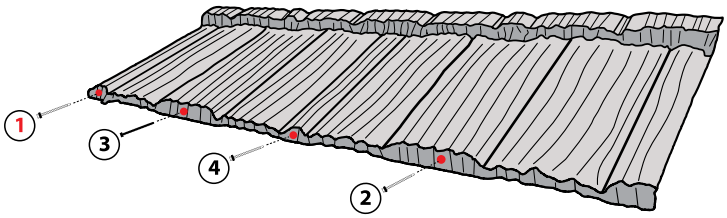






*PINE-CREST Shake panels can be laid **LEFT to RIGHT or RIGHT to LEFT.***

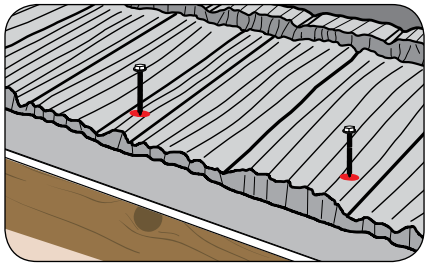
PINE-CREST SHAKE - FASTENING SEQUENCE



The fastening pattern for PINE-CREST Shake uses four (4) fasteners across the front Nose Down-Turn.Fastener **#1** is fastened after placing next PINE-CREST Shake panel of the same course, and goes through both panels.

FASTENING SEQUENCE shown is for the Left to Right layout direction; applicable to any location and ensures the panels stay correctly aligned.

PINE-CREST SHAKE - BOTTOM ROW FASTENING



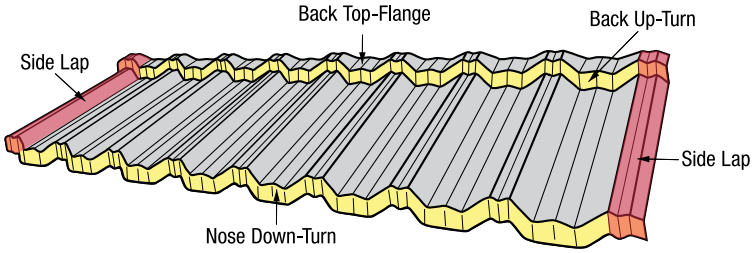
Fasten the bottom row panels through the top of the panel as shown, out of the main water channel of the panel. Top panel fastening is acceptable behind Boral Steel EZ-Vents and chimney/skylight details, as necessary.

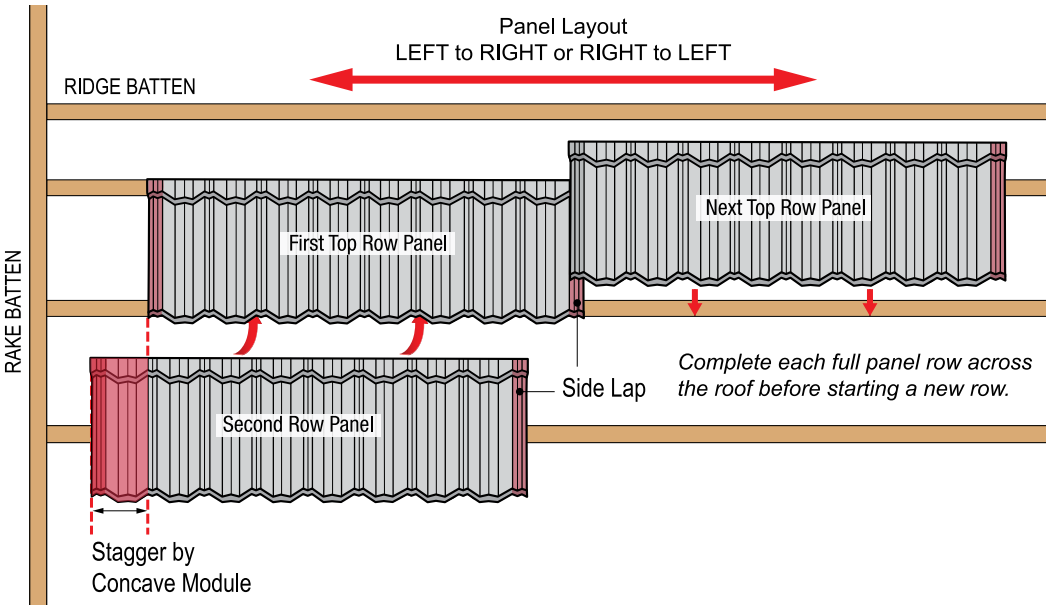
Use the Touch-Up kit to seal and cover each top fastener.

BATTEN Installation Guidelines

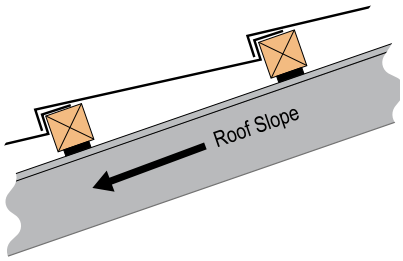
PACIFIC TILE - PANEL LAYOUT

PACIFIC Tile panels have a 2” (50 mm) side-lap and can be staggered by one or multiple concave modules across the back of the panel as needed. The panels are designed to be installed on battens or batten-less (direct-to-the-roof-deck) in a staggered pattern and **CANNOT** be straight laid.



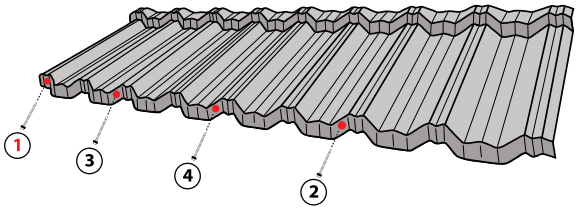


Complete each full panel row across the roof before starting a new row.



*PACIFIC Tile panels can be laid **LEFT to RIGHT** or **RIGHT to LEFT.***

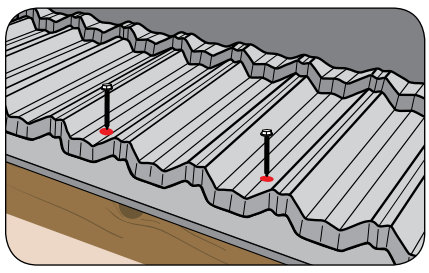
PACIFIC TILE - FASTENING SEQUENCE



The fastening pattern for PACIFIC Tile uses four (4) fasteners across the front Nose Down-Turn. Fastener **#1** is fastened after placing next PACIFIC Tile panel of the same course, and goes through both panels.

FASTENING SEQUENCE shown is for the LEFT to RIGHT layout direction; applicable to any location and ensures the panels stay correctly aligned.

PACIFIC TILE - BOTTOM ROW FASTENING



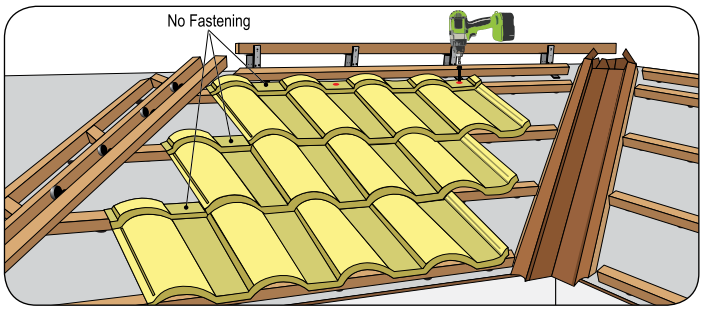
Fasten the bottom row panels through the top of the panel as shown, out of the main water channel of the panel.

NOTE: Top panel fastening is acceptable behind Boral Steel EZ-Vents and chimney/skylight details, as necessary.

Use the Touch-Up kit to seal and cover each top fastener.

BATTEN Installation Guidelines

FULL PANELS LAYOUT (All 3 Profiles)

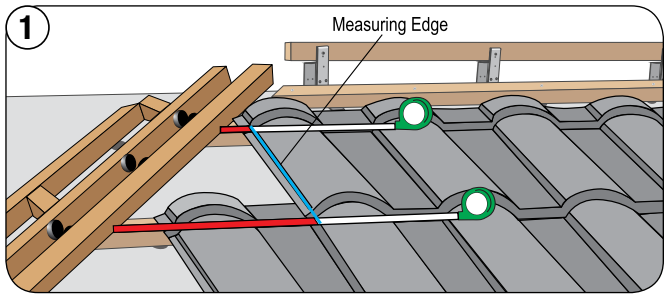


Panel layout starts at the top full course of panels in any roof section. Panels are laid from the **ridge down to the fascia.**

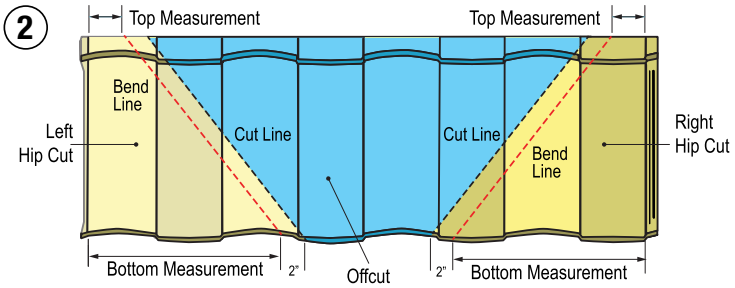
The top row is fastened in position by placing the fastener through the back-top-flange as shown by the red dots. This ensures the panel is positioned securely against the batten and helps align panels down the roof to fit to the batten correctly.

Once the full panels are laid on a roof section and fastened, the triangular sections for Hips and Valleys need to be measured, marked, cut and bent for these areas.

HIP PANEL CUTS DETAIL (BARREL-VAULT Tile shown)

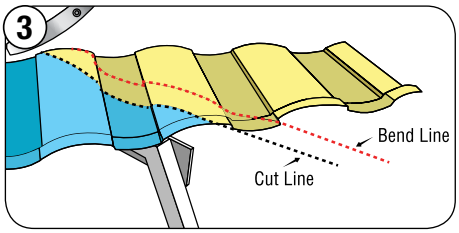


Hip panel cuts are always smaller across the top than the bottom due to the pitch of the roof and angle of the hip cut. When measuring the Hip panel cut, make sure to keep the tape measure in the same “plane” as the panels and parallel to the panel nose or back up-turn.

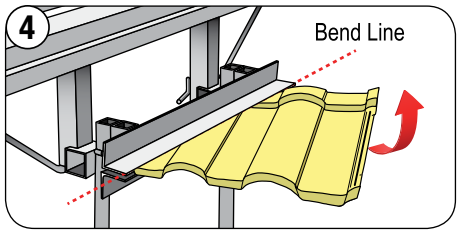


Measure and record the top and bottom of each hip cut (do this for the entire hip length on both the right & left side of the hip centerline). Measurement indicates the Bend Line. Use 2X2 batten and mark the Cut Line on the other side.

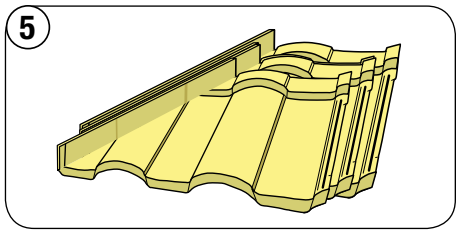
*Always **DEDUCT 1/2”** (13mm) from actual measurements to ensure an easy fit of Hip cuts.*



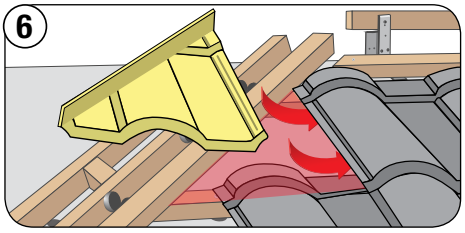
Using the Boral Cutter, start the cut from the nose edge of the panel to the back up-turn.



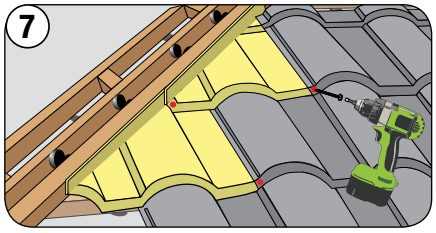
Using the Boral Bender, insert the hip cut into the bender jaws, clamping the hip cut section and bend the hip section up to create an approximate 2” (50mm) bend up on the panel section.



After bending the cut section, start stacking each one, as shown. Be sure to keep them in the correct order so they are easily accessible for installing in the correct spot on the roof.



Install hip cuts starting from the top under the full panel.

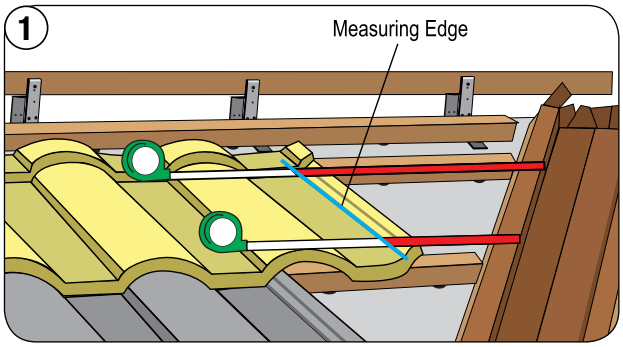


Fasten, as shown. Note, that if installing BARREL-VAULT Tile, hip cut at the eave will be installed after BirdStop.

*For **PINE-CREST Shake** and **PACIFIC Tile** the Fascia metal across the eave is already installed, so the hip cut sections can be completed from top to bottom.*

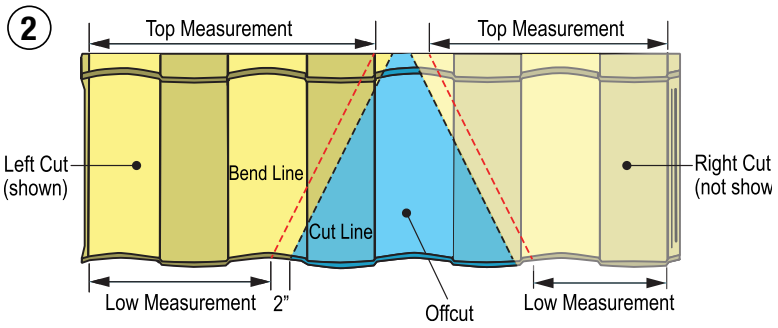
*Final **BARREL-VAULT Tile** Hip Panel Cut will be installed after BirdStop installation is complete*

VALLEY PANEL CUTS DETAIL (All 3 Profiles)

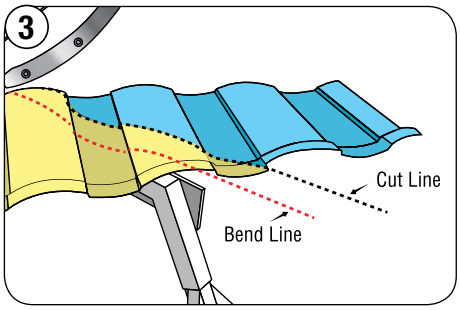


Valley panel cuts are always longer across the top than the bottom due to the pitch of the roof and angle of the valley cut.

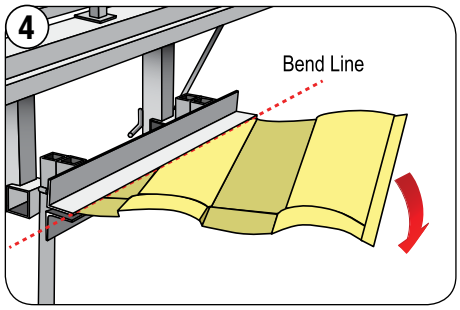
When measuring the valley cut, make sure to keep the tape measure in the same “plane” as the panels and parallel to the panel nose or back Up-turn.



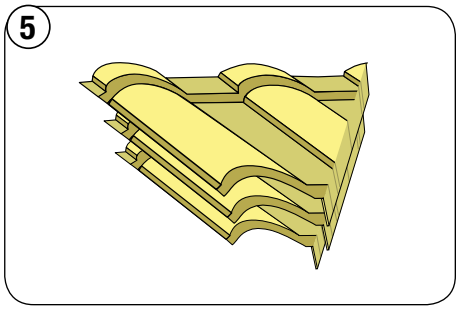
The top & bottom of each valley cut is measured and recorded (do this for the entire valley length on both the right & left side of the valley centerline). Apply the measurements to a stack of panels next to your cutter and bender tools to form the valley cut sections. The measured and marked line is the Bend Line. Using a length of 2X2 batten, mark the Cut Line on the other side.



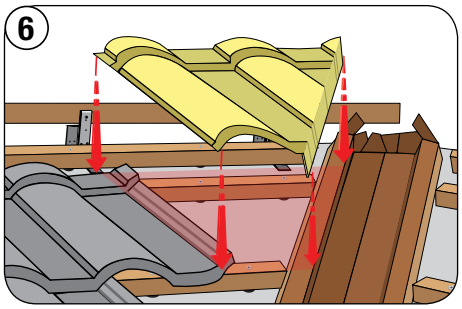
Use the Boral Cutter, start the cut from the nose edge of the panel to the back up-turn.



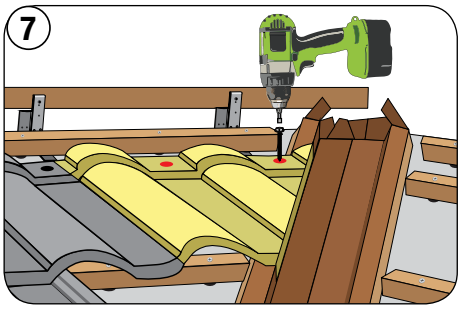
Using the Boral Bender, insert the valley cut into the bender jaws, clamping the valley cut section and bend the valley section down.



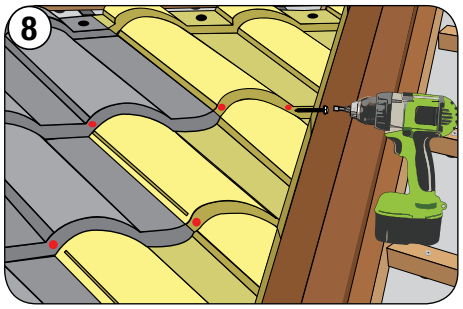
After bending the cut section, start stacking each one as shown. Be sure to keep them in the correct order so they are easily accessible for installing in the correct spot on the roof.



Install the valley cut sections in the same manner as full panels. Start at the top and work down to the fascia.



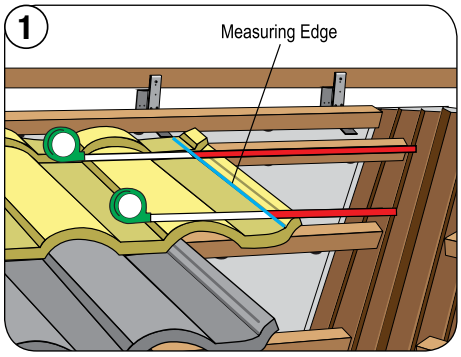
Fasten first valley cut through the back top-flange.



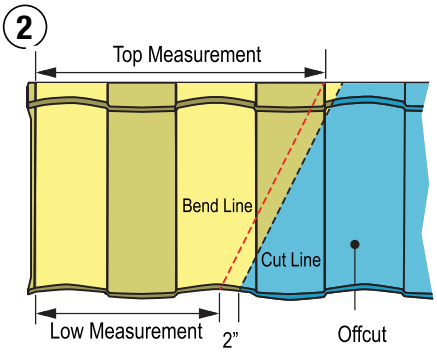
Fasten the following valley cuts in the same manner as full panels through the nose **out of the main water channel** and into the batten.

*For **PINE-CREST Shake** and **PACIFIC Tile** the Fascia metal across the eave is already installed, so the valley panel cut sections can be completed from top to bottom.*

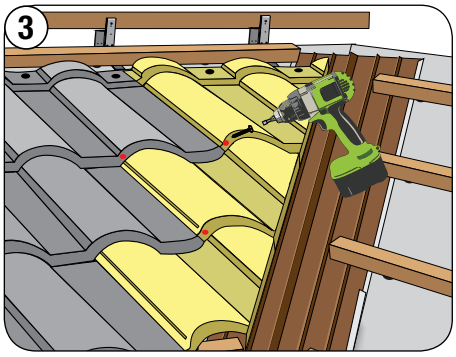
INSTALLING PANEL SECTIONS INTO VALLEY FIVE 'V' (All 3 Profiles) OPTIONAL



Measure each panel row across the top and bottom of the valley cut to the second rib of the Valley Five 'V' to ensure the angle is correct and straight.



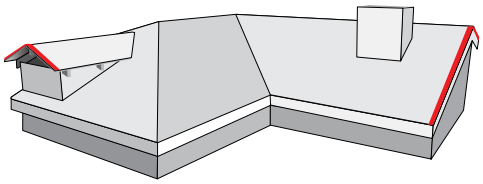
Add 2" to the marked Bend Line. Cut and bend panels, as shown on page 19, drawings 3-5.

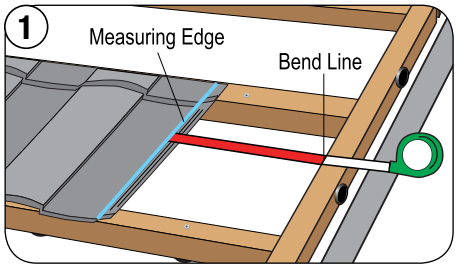


Install valley cuts from the ridge to fascia. If installing BARREL-VAULT Tile, bottom valley cut will be fastened after BirdStop installation.

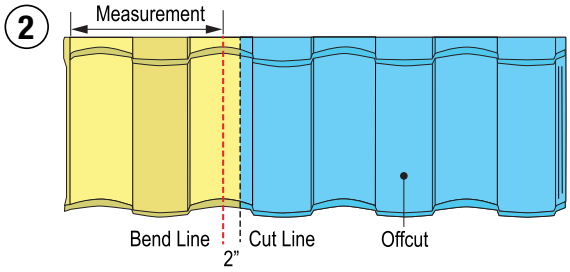
Do not penetrate Valley metal with fasteners.

RAKE PANEL CUTS DETAIL (All 3 Profiles)



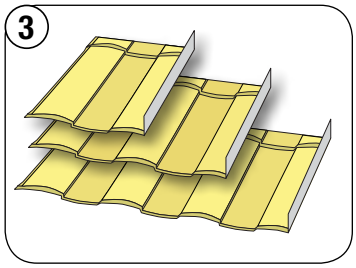


Measure from the full panel across to the rake edge on each course down the rake edge.

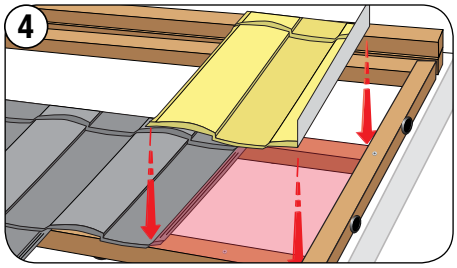


Mark the full panel with both the Cut line and Bend line.

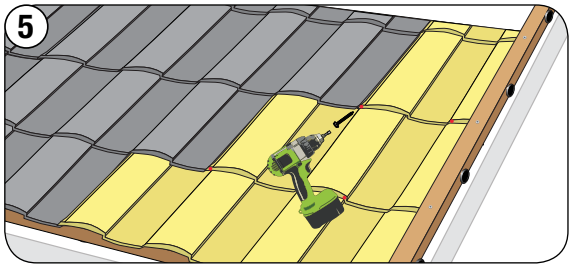
*Always **DEDUCT 1/2”** (13mm) from actual measurements to ensure an easy fit of Rake cuts.*



After bending, stack each piece in the correct order so they are easily accessible for easy installation on the roof.



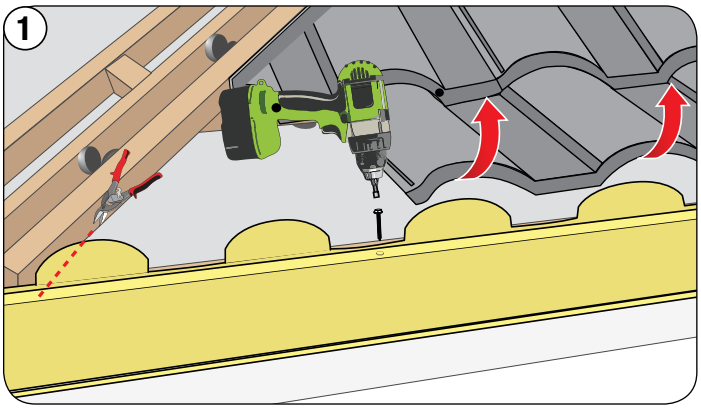
Install rake cut panels from the ridge down to the fascia.



Fasten as a regular field panel.

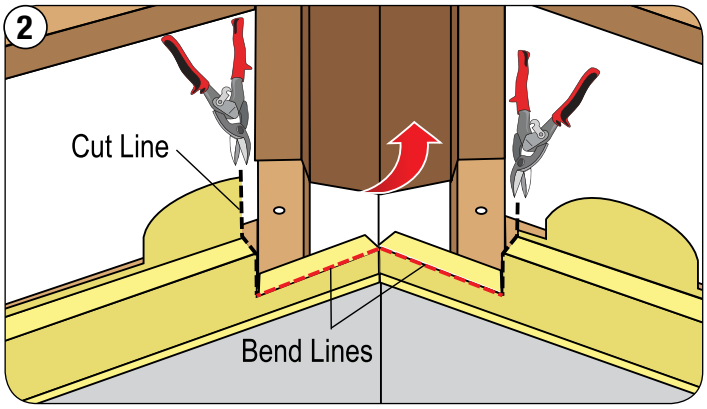
If using BARREL-VAULT Tile, install BirdStop before frastening bottom row.

BIRDSTOP INSTALL - For BARREL-VAULT Tile Only

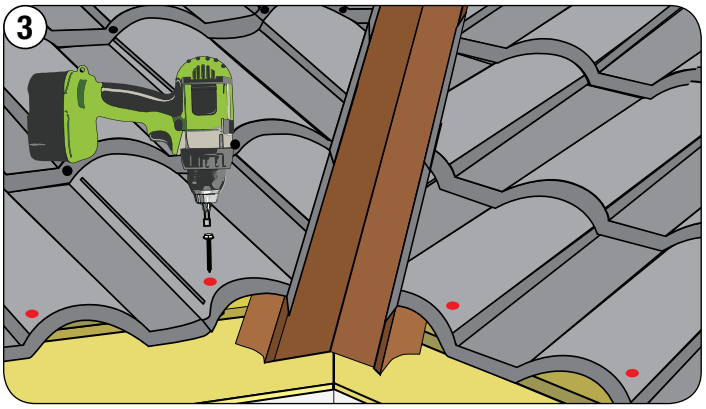


Install the BirdStop across the fascia aligned with the profile of the BARREL-VAULT Tile panel. Fasten every 24” (610mm) through the top flange as shown.

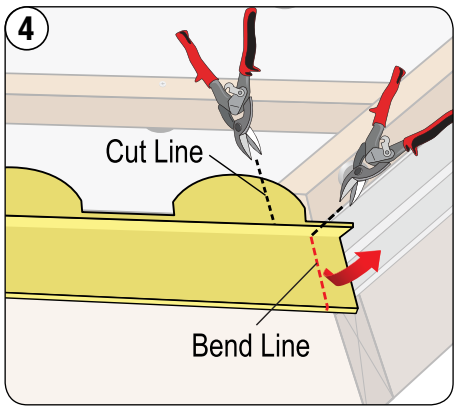
NOTE: For PINE-CREST Shake and PACIFIC Tile the Fascia metal is installed before laying panels.



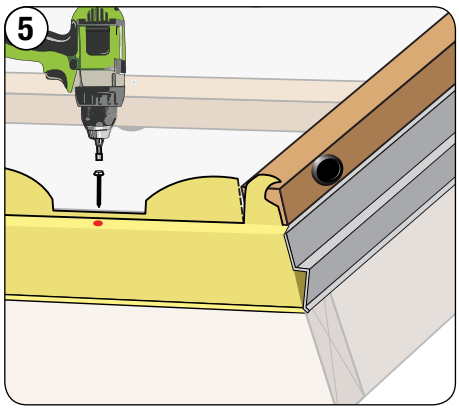
Notch the BirdStop, as shown, to allow the valley pan to exit. Extend Valley metal with a minimum 1" (25mm) past fascia.



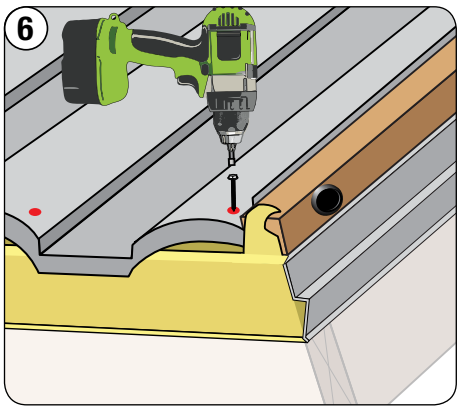
After installing the BirdStop, the last course across the fascia is fastened through the top of the panel out of the main water channel. **Refer to page 12 for Valley exit details.**



At the fascia and rake intersection, the BirdStop is cut & folded **under** the Trim Cap Rake metal.

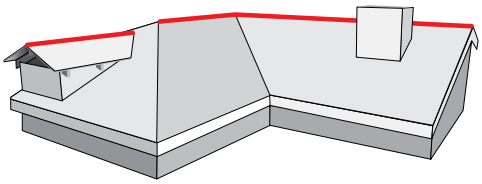


Align the BirdStop with the Trim Cap Rake metal, as shown above and fasten.



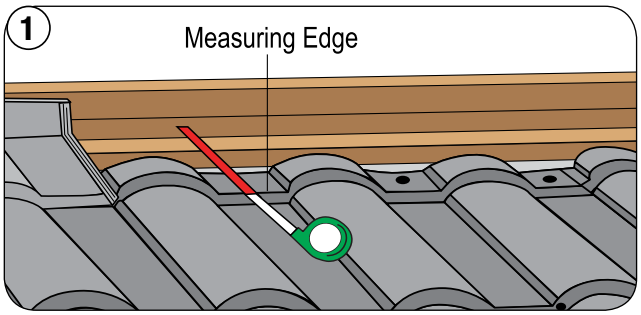
Place panel on top of the BirdStop and fasten.

RIDGE PANELS - BENT UP METHOD (All 3 Profiles)



The top course of panels requires a cut and bent panel to complete the ridge line. The following steps should be followed to ensure a weather tight installation along the ridge.

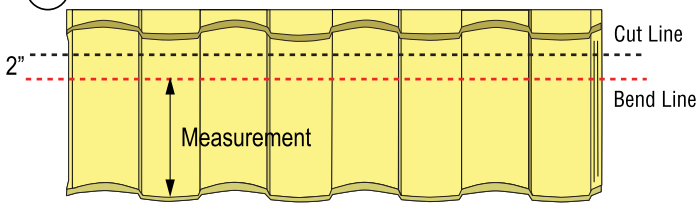
1



Measure the top row from the back-flange upstand to the ridge batten.

DEDUCT 1/2" *(13mm) from actual measurements to ensure an easy fit of Ridge cuts.*

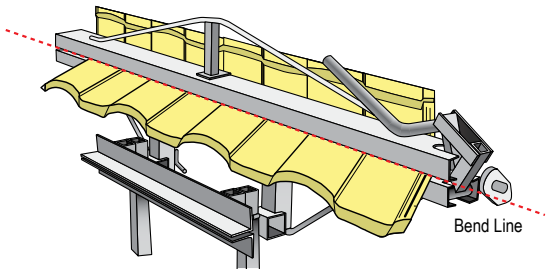
2



Apply measurements to each full panel and mark the Bend Line and Cut Line. Cut Line is 2" above and parallel to Bend Line.

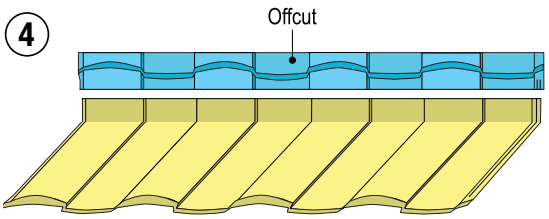
Always bend the ridge panels before cutting, as they deform slightly in the bender.

3



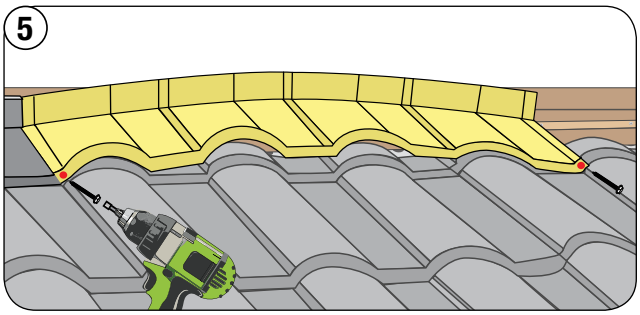
Bend all ridge panels using Boral Steel™ Top Bender. Indentations created through ridge panel bending process should be 'popped out' by using a rubber mallet on the under side of the panel.

4



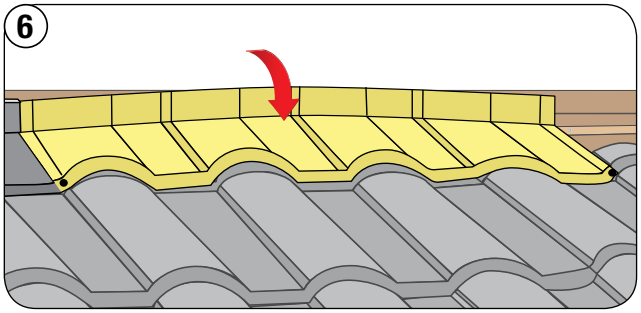
Cut ridge panels at pre-drawn Cut Line.

5



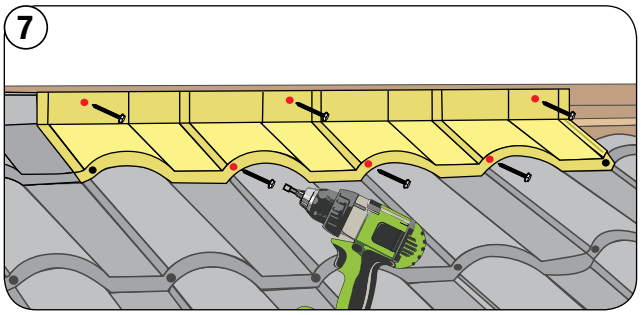
Fasten left end of the panel first, then right end.

6



Push panel down to fit coursing properly. Force back of panel into position against ridge batten.

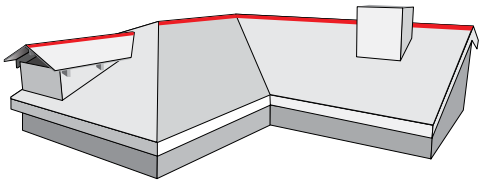
7



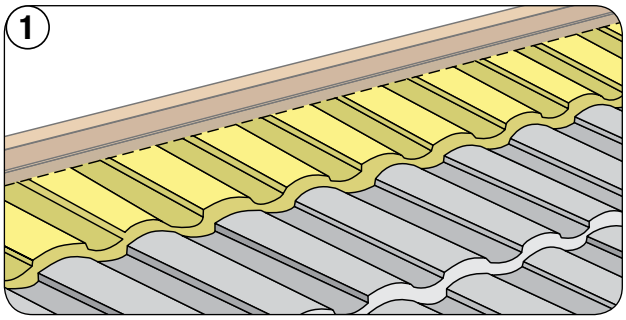
Continue fastening ridge panel across the nose. **Refer to Fastening Sequence on the Panel Layout pages.**

Next, fasten panel through bend-up into ridge batten.

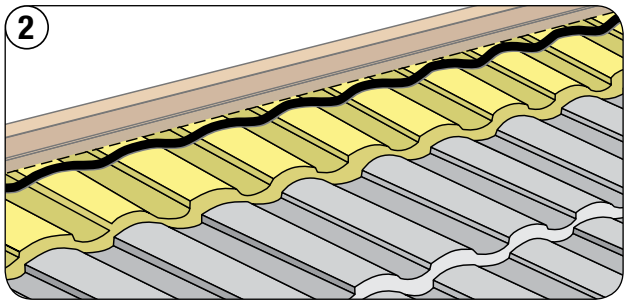
RIDGE PANELS - TOP ROW METAL METHOD - For BARREL-VAULT Tile Only — OPTIONAL



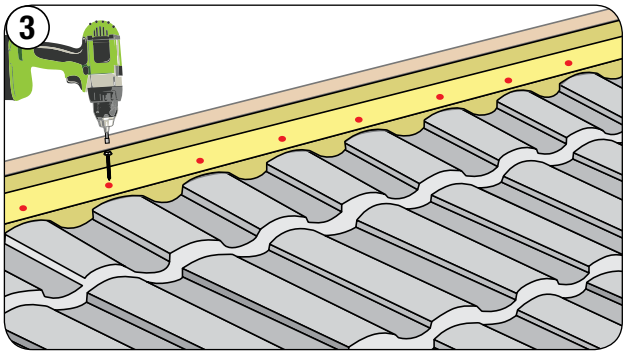
This detail can be used for head-wall flashing at chimney and skylight areas.



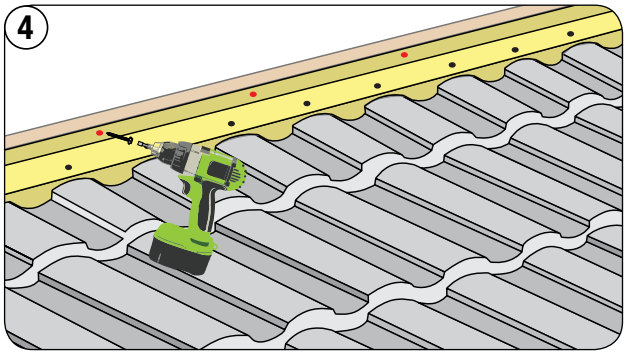
Top Row metal may be used to avoid bending of the full BARREL-VAULT Tile panels at the ridge.



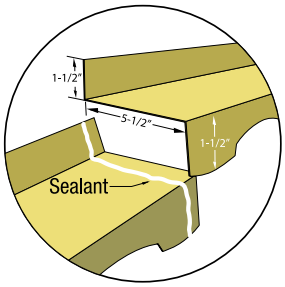
Apply EmSeal Foam Tape or Barrier Foam in a bead of sealant on top of the ridge cut panel under the Top Row metal for wind driven rain protection.



Install Top Row metal and fasten trough the top flange.



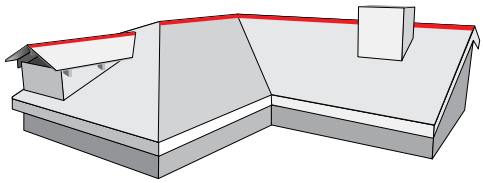
Fasten Top Row to the ridge batten every 16 - 24” (406 - 610mm).



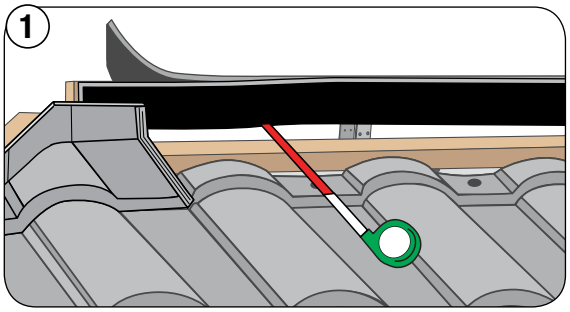
Apply a bead of Sealant between two overlapping Top Row pieces.

Top Row metal can also be fastened through the top but will require sealing of each fastener or use of Valley Screws with a dome cap covering a rubber sealing washer. Fasten Top Row in the same pattern as the full panels.

CONTINUOUS RIDGE VENT INSTALLATION (All 3 Profiles)

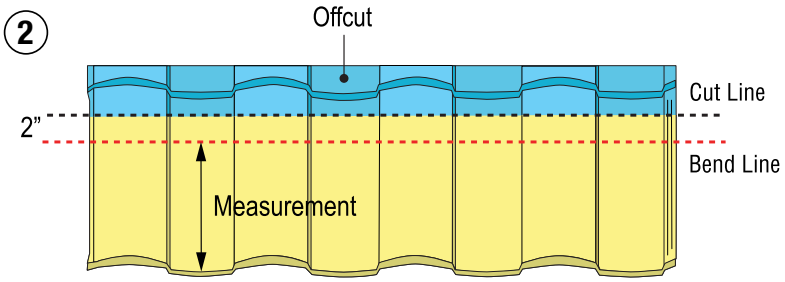


Continuous Ridge Vent is installed on the both sides of the ridge batten.



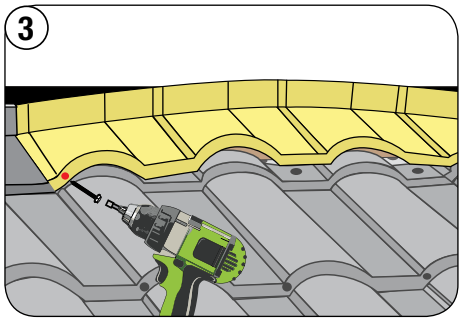
Measure the top row from the back-flange upstand to the Ridge Vent material.

DEDUCT 1/2" *(13mm) from actual measurements to ensure an easy fit of Ridge cuts.*

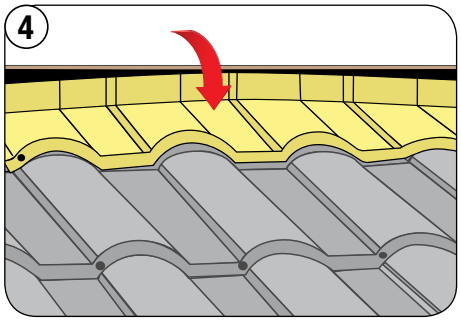


Apply measurements to each full panel. Ridge Cut Line is 2" above and parallel to Bend Line to allow for bend-up on ridge battens. **Refer to page 22 for bending and cutting details.**

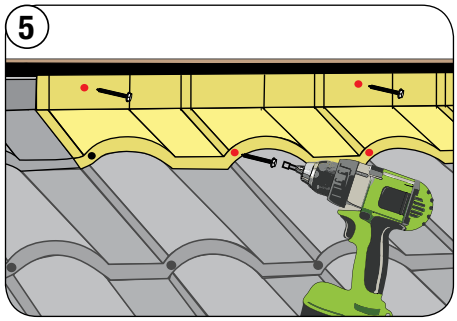
Always bend the ridge panels before cutting, as they deform slightly in the bender.



Fasten left end of the panel first, then right end. **Refer to page 22, detail 5.**

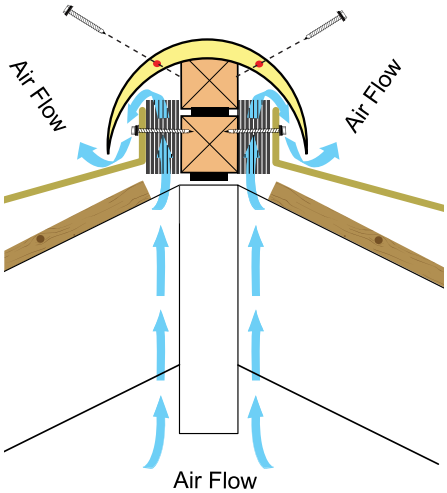


Push panel down to fit coursing properly.



Continue fastening ridge panel across the nose. **Refer to Fastening Sequence on the Panel Layout pages.**

Next, fasten panel through bend-up into continuous Ridge Vent and ridge batten.



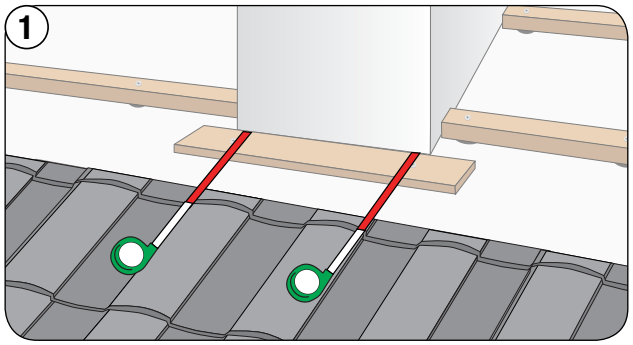
DO NOT *compress the Ridge Vent when fastening panels into the ridge batten. Make sure the air-flow path from the attic space is not restricted.*

Refer to vent manufacturer's specifications for the correct slot-width to be cut on either side of the ridge.

CHIMNEY / SKYLIGHT DETAIL (All 3 Profiles) OPTIONAL

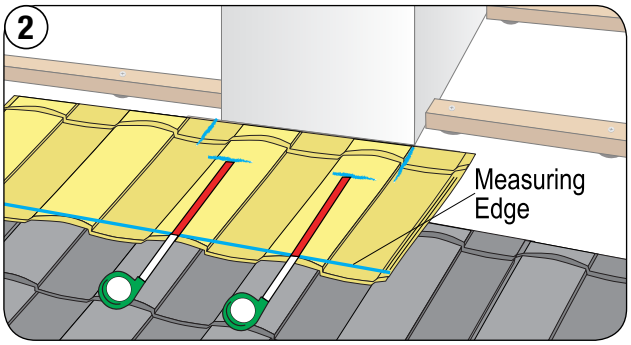
The following details apply to any square cornered protrusion through a roof.

1



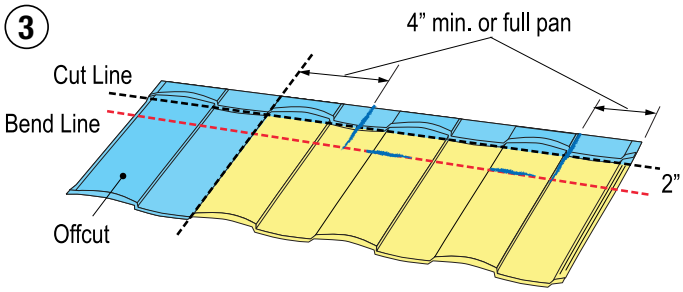
Install a support batten across the front and back of the Chimney/Skylight. Measure the front panel section as if it was a ridge cut panel. Deduct ½" (13mm) from actual measurement to ensure an easy fit.

2



Align the front panel with the course below and the correct layout pattern for the profile, mark the sides of the chimney and mark the measurements from step 1.

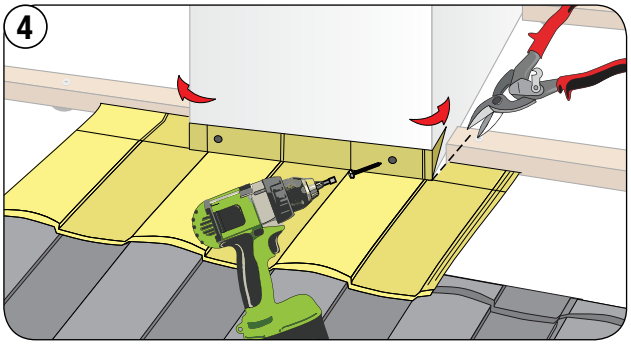
3



Apply the measurements to a full panel and bend the entire length then cut off the excess.

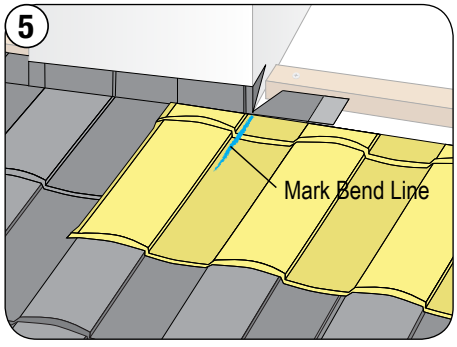
Make sure panel is cut a minimum of 4" (100mm) past the the width of the Chimney/Skylight, or past the pan on BARREL-VAULT Tile.

4



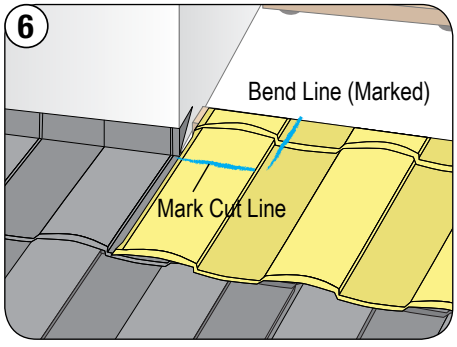
Fit the front bottom flashing section as shown and cut at a 45 degree angle from each side, bend the corners around the Chimney/Skylight.

5



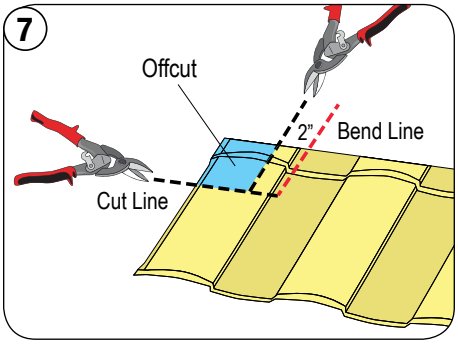
Align side panel with the course below and the correct layout pattern for the profile and mark the Bend line aligned with the Chimney/Skylight side edge.

6



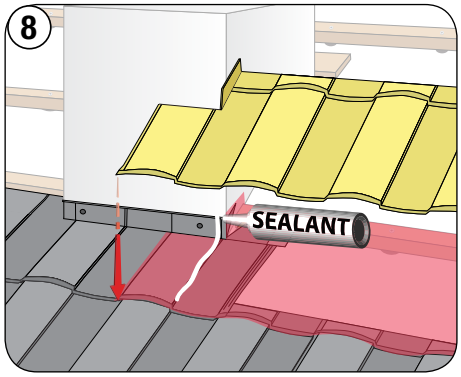
Place marked panel to the side of the chimney, align with the front panel and mark Cut line, aligned with the chimney front edge.

7

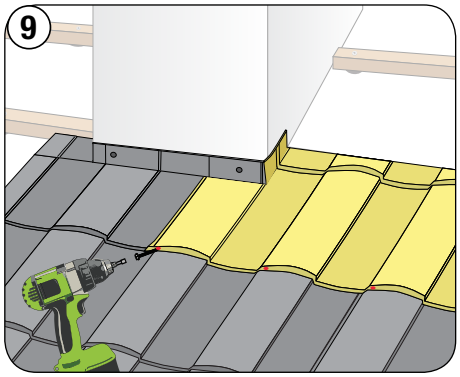


Cut and bend panel according to marked lines.

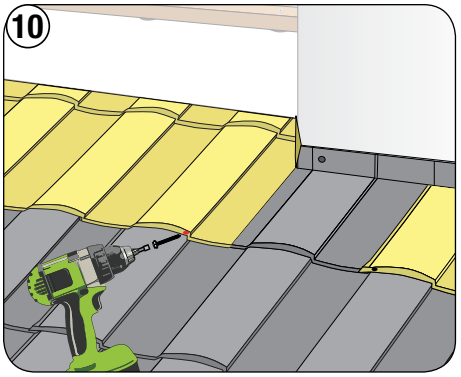
CHIMNEY / SKYLIGHT DETAIL (cont.)



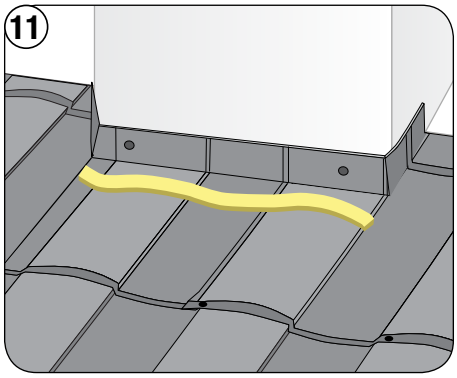
Apply sealant and fit the side panel aligning it with the field panels already installed.



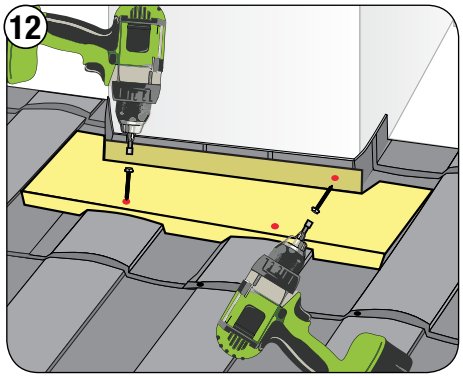
Fasten panels the same way as field panels.



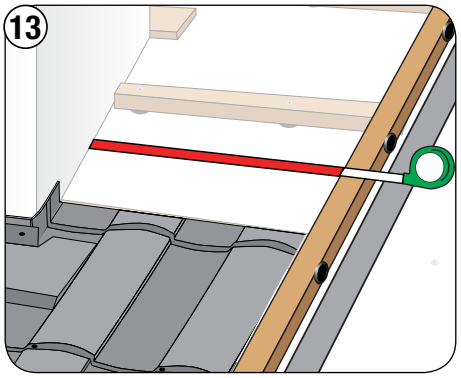
Repeat the procedure on the left side of the Chimney/Skylight.



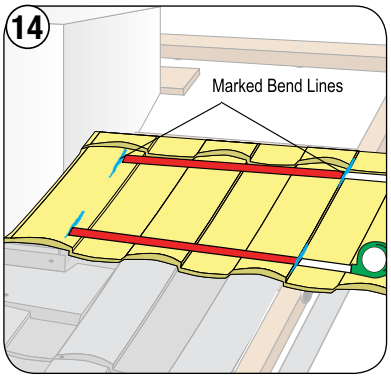
Place EmSeal Foam or Barrier Foam across top of front panel section as a weather block.



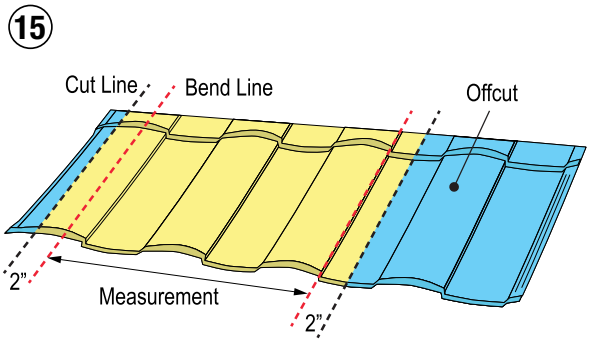
Install Top Row metal with BARREL-VAULT Tile ONLY. All other profiles use Z-Bar or Fascia to act as a counter-flashing over the bent-up panel sections.



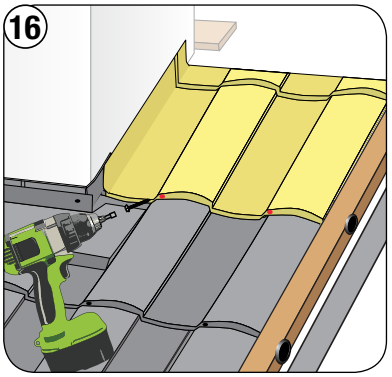
Measure the distance from the side of the Chimney to the rake batten.



Align a full panel or panel section to the panel profile and mark the measurements.



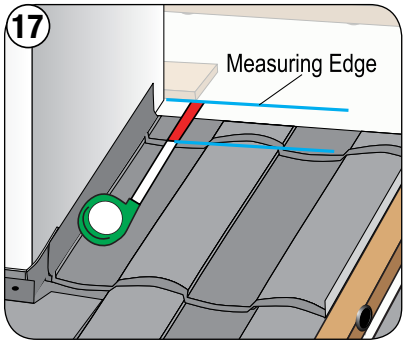
Apply Bend Line measurements to the panel. Add 2" to mark Cut Line.



Install the side sections on both sides of the chimney and fasten as regular panels.

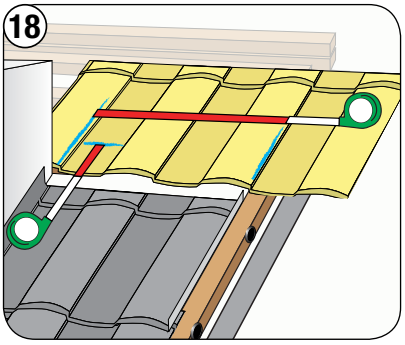
CHIMNEY / SKYLIGHT DETAIL (cont.)

17



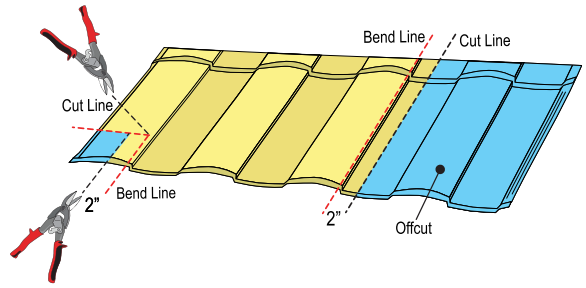
Measure from the Back-up Turn to the back of the chimney.

18



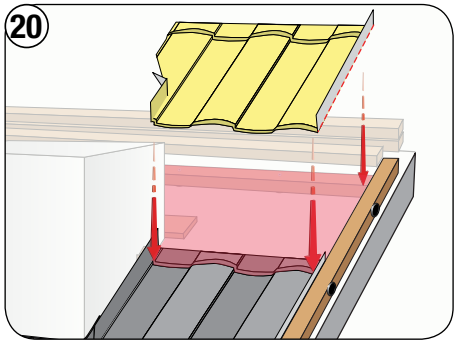
Align a full panel or panel section to the panel profile and mark the measurements.

19



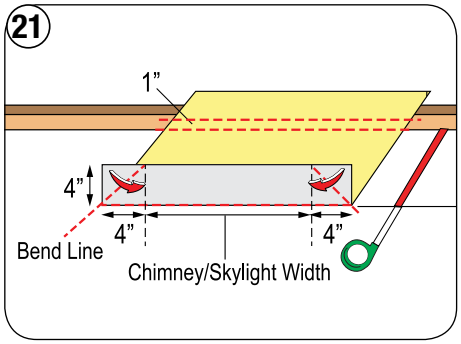
Cut and bend the panel.

20



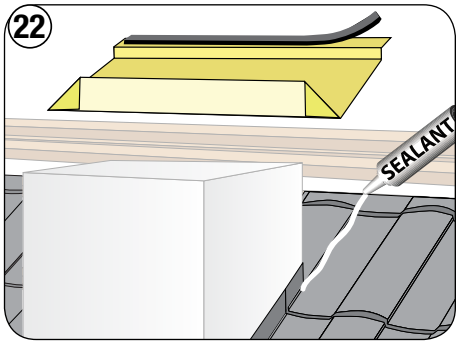
Install side panels on both sides, insuring they are sitting firmly on the back support batten.

21



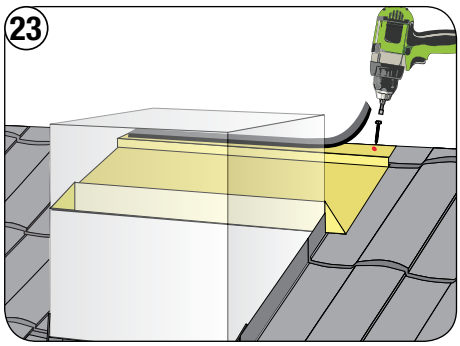
Using a section of Flat Sheet, mark and bend it up 4" (100mm) minimum, forming a saddle flashing for the back of the item being flashed. Make sure it is 4" (100mm) wider on each side of Chimney/Skylight.

22



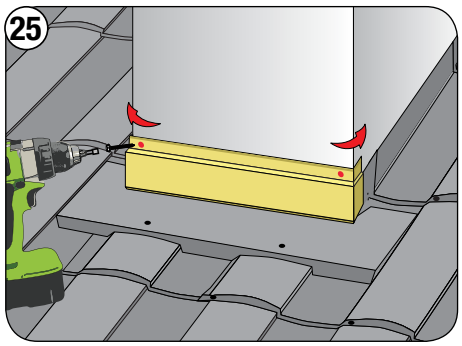
Apply sealant down both sides of the panel in line with the chimney width. Apply an EmSeal tape to the back-flange of the Saddle.

23



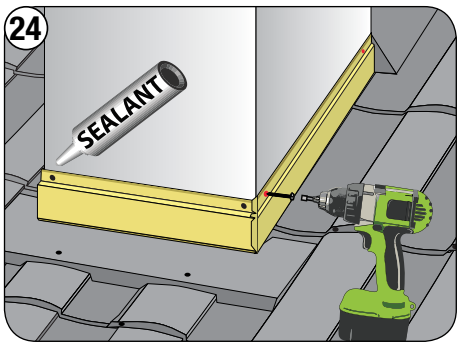
Fasten each end of the Saddle through the back-flange under EmSeal tape.

25



Measure, cut and bend Z-Bar metal, starting across the front.

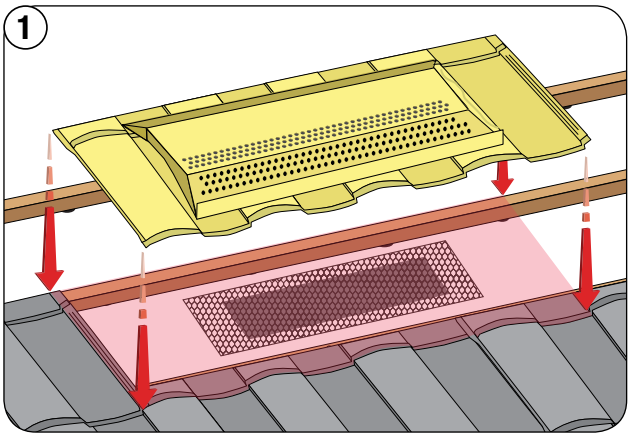
24



Complete Z-Bar installation up both sides, scribed to the Chimney saddle. Apply sealant along the top edge of the Z-Bar.

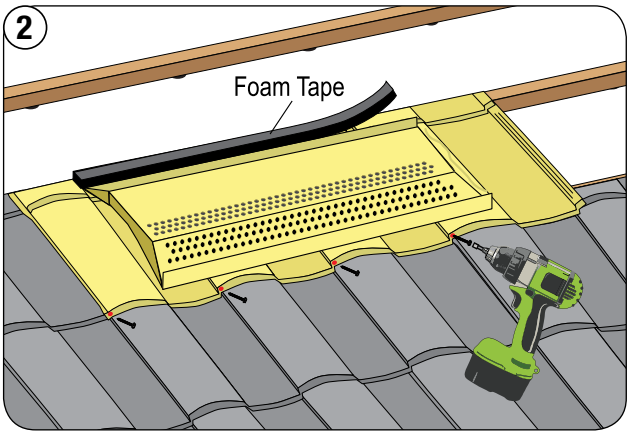
EZ-VENT (All 3 Profiles)

Boral Steel EZ-Vents are used in place of regular panels on the first full course down from the ridge where exhaust ventilation is required. Care should be taken to adequately ventilate the building. Check with the local codes for correct Net Free Vent Area required for attic ventilation.

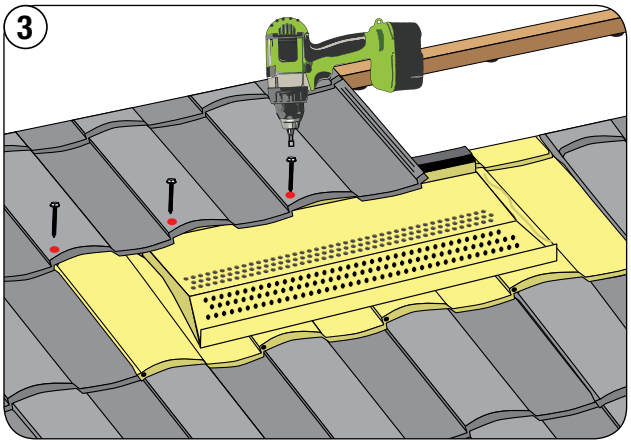


Cut a hole in the decking, approximately 5" x 30" (127 x 762mm). Cover the hole with metal mesh (0.25" (6.5mm) square) to prevent rodents from entering the attic.

Install the EZ-Vent unit interlocking and overlapping as field panels.



Install a section of EmSeal tape or Barrier Foam across the back edge where the ridge panel will overlap across the EZ-Vent. This provides additional weather protection across the back of the EZ-Vent. Fasten, as field panels.

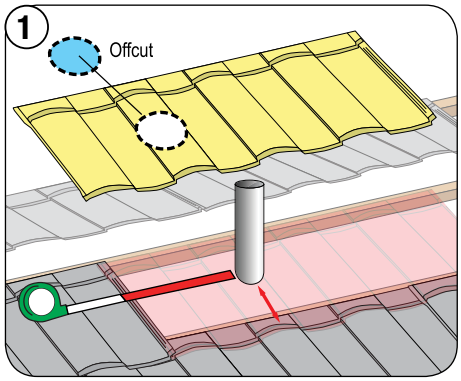


Make sure the back-fastening flange is in the correct alignment to allow the top course to be installed across the ridge.

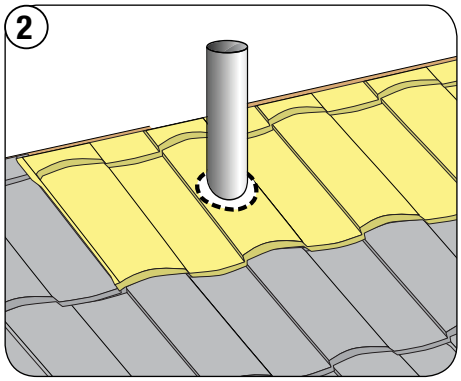
The top course above the EZ-Vent can be fastened like the bottom row (through the top of the panel). Make sure to locate these fasteners out of the main panel water channel and use the Touch-Up kit to seal each top row fastener.

PIPE FLASHING - SANDWICH METHOD (All 3 Profiles)

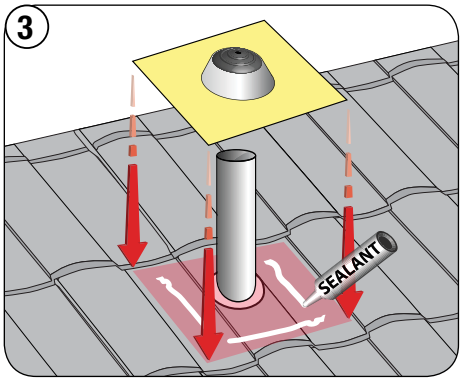
New Pipe-Jacks are installed at roof penetrations. Panels are neatly cut around protrusions as required and installed over vent flashings.



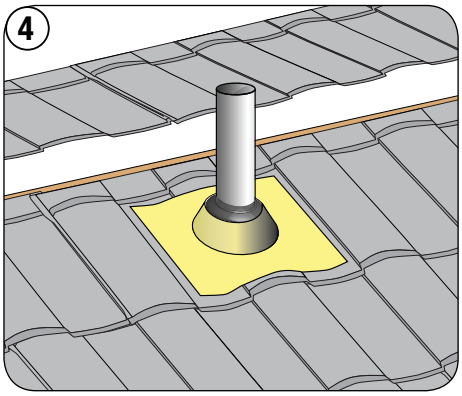
Measure, mark and cut the lower panel to fit around the vent pipe.



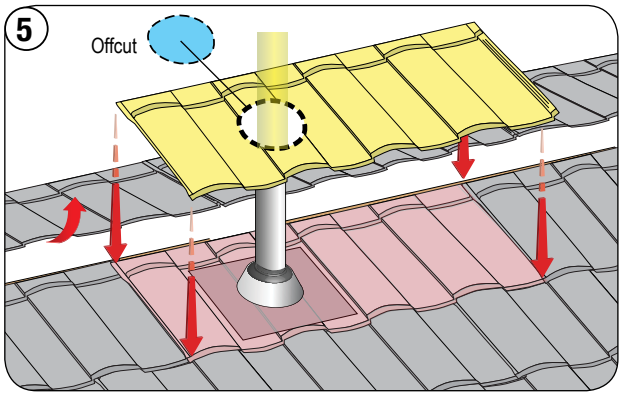
Install lower panel to fit around the vent pipe.



Apply bead of sealant to the panel. Position Pipe-Jack flashing over the pipe.

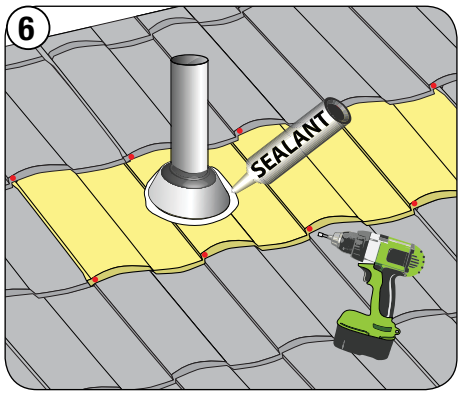


Press the Pipe-Jack flashing firmly over the contours of the panel.

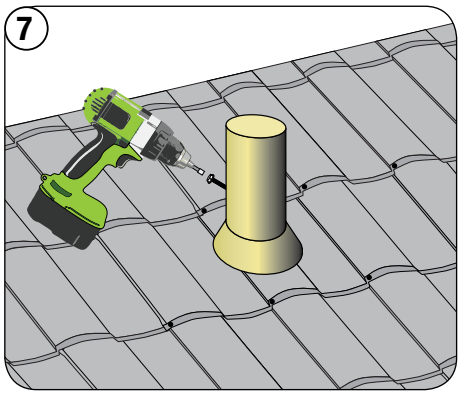


Measure, mark and cut the top cover panel around the cone base to fit around the flashing cone.

Trim Pipe Jack base, as needed, to fit panel course.



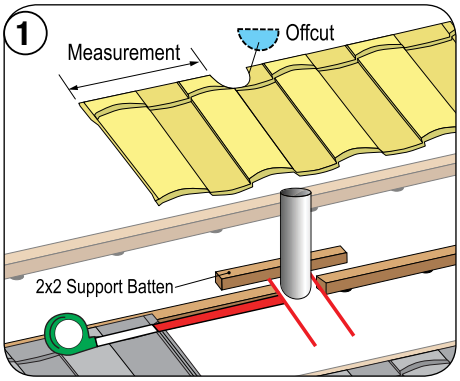
Install top panel and fasten as field panel. Apply sealant around the Pipe-Jack.



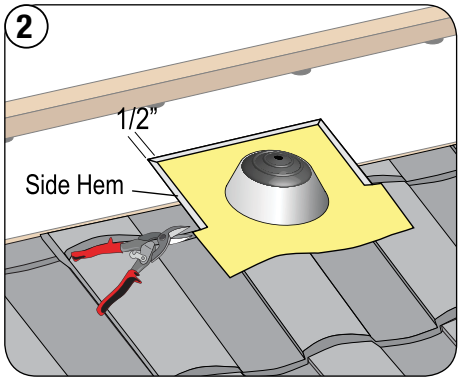
Install and fasten Pipe Sleeve from the back into the PVC pipe to finish the detail.

Dissimilar Metals:
To avoid adverse corrosion effects caused by dissimilar metals, ***COPPER and LEAD flashings should not be used*** *with Boral Steel panels and accessories.*

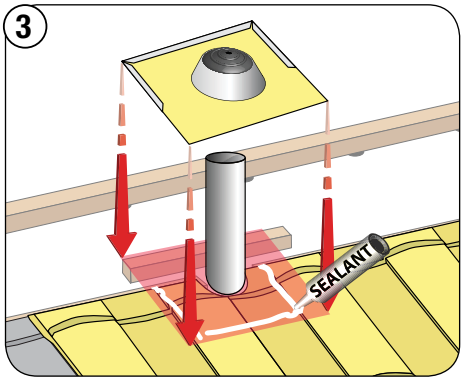
PIPE FLASHING - STANDARD METHOD (All 3 Profiles)



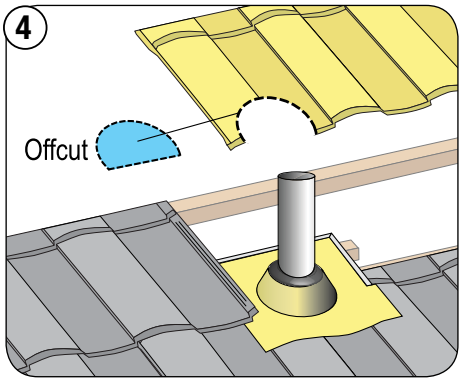
Install 2x2 support batten at the back of the pipe, minimum 12" (300mm) long. Measure and cut lower panel to fit around the vent pipe. Install panel.



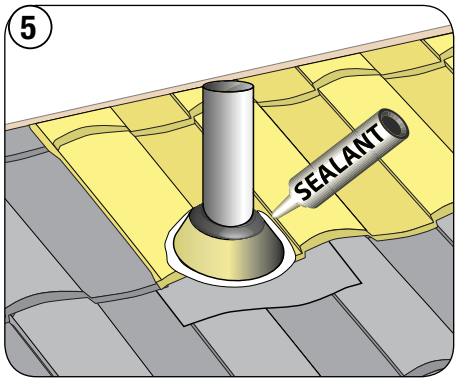
Place Pipe Jack on the panel to the side of the pipe and make 1/2" (13mm) cuts in line with the back up-turn of the panel. Hem the edges, as shown.



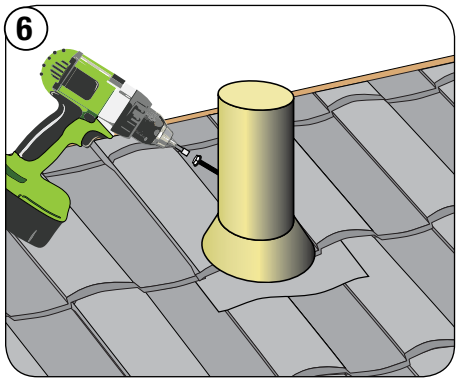
Apply sealant to the area where the Pipe-Jack will be installed.



Install full panel to the side of the pipe. Mark the top panel to where the flashing cone base will align, cut out this piece to allow the panel to fit around the flashing cone.



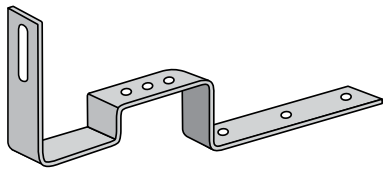
Apply sealant around the cone.



Install and fasten Pipe Sleeve from the back into the PVC pipe to finish the detail.

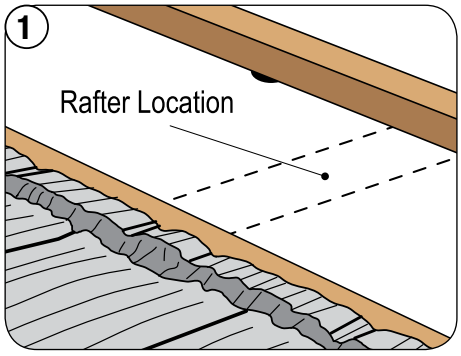
Dissimilar Metals:
To avoid adverse corrosion effects caused by dissimilar metals, ***COPPER and LEAD flashings should not be used*** *with Boral Steel panels and accessories.*

SOLAR MOUNTING BRACKETS (BATTEN) (All 3 Profiles)

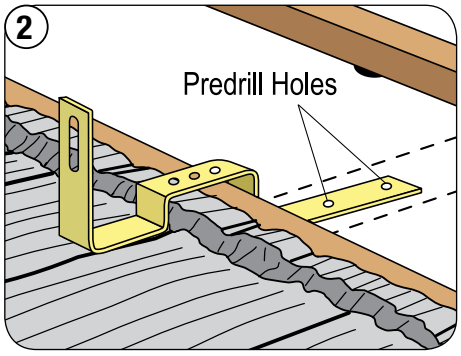


Solar Mounting Brackets unique design allows for easy layout and attachment of solar panels to stone coated steel roofs. The 'Side-Mount' Solar Mounting Bracket allows setting support rails up to 4 inches (100mm) above the roof panel surface ensuring good air flow under the solar panels.

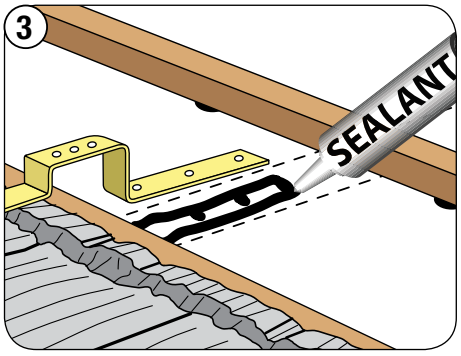
Solar Mounting Brackets are installed without making any penetration through the Boral Steel panels. This is achieved by bending the nose of the upper cover panel directly above the Solar Mounting Bracket so the bracket easily exits between the panel courses and when the cover panel is fastened the system does not require any flashing to provide a weather seal around the bracket. These Solar Mounting Brackets are designed to be used with all three (3) profiles shown in these guidelines.



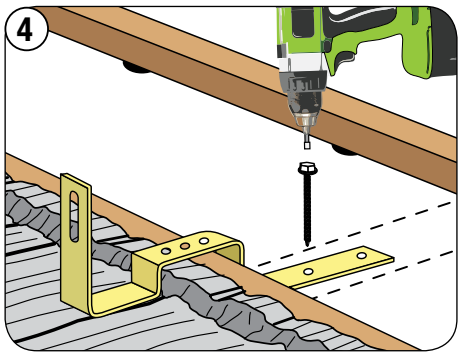
Find and mark the location of the rafter beneath the roof deck.



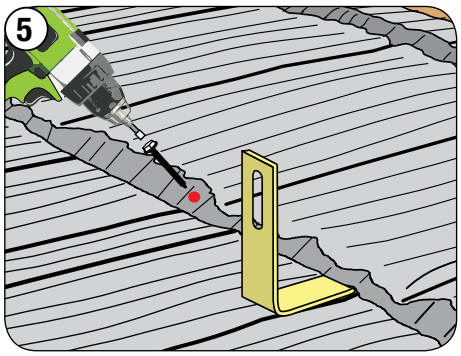
Place the Solar Mounting Bracket and predrill holes using 3/16" Drill Bit.



Apply a bead of sealant beneath Solar Mounting Bracket mounting foot and in each hole.



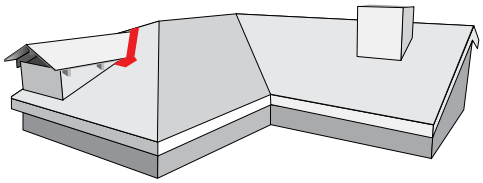
Install Solar Mounting Bracket with mounting foot embedded in sealant and fasten with lag bolt screws, per local code.



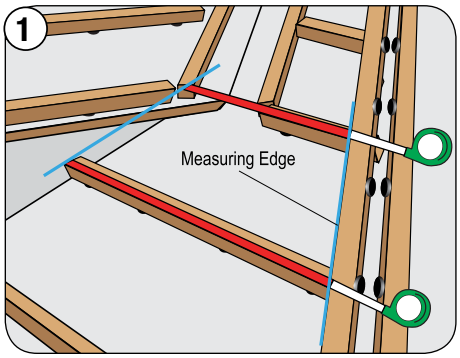
Install the panel above the Solar Mounting Bracket. Bend the panel nose where it intersects with the Solar Mounting Bracket to ensure a tight fit. Fasten the panel through the nose, as regular field panels.

Depending on rafter location it may necessary to place a pad of peel-n-stick material or Wakaflex® strip beneath each Solar Mounting Bracket where it canter levers out onto the panel beneath to prevent abrasion.

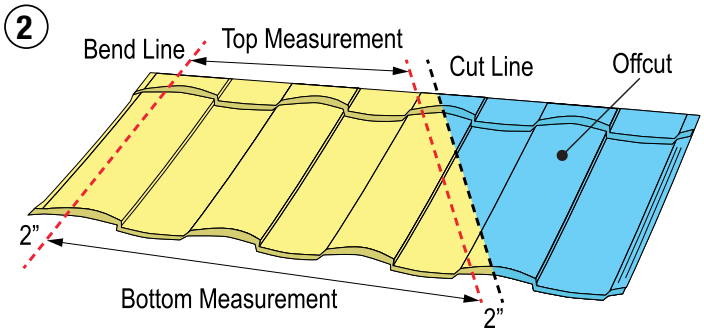
DORMER VALLEY EXIT (All 3 Profiles)



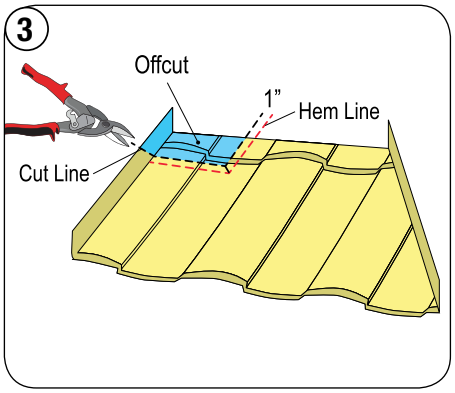
Valley exit onto a roof section is a critical roof area and requires special attention to ensure good weather protection.



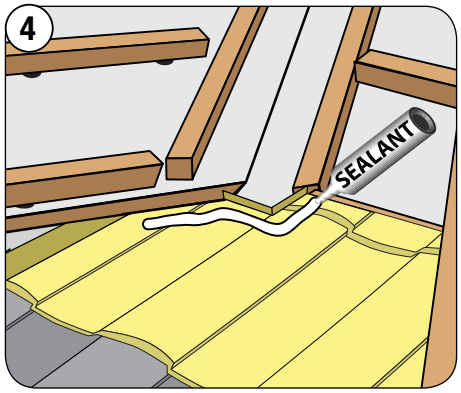
Measure the top and bottom of the panel section from the side wall to the hip batten.



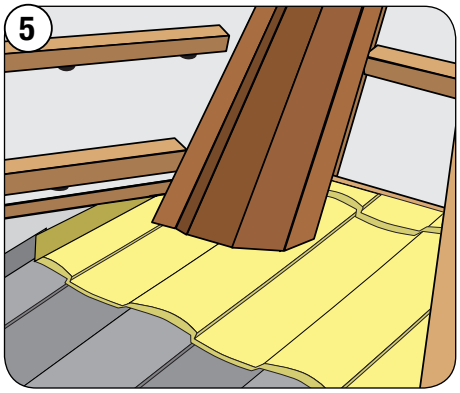
Apply top and bottom measurement to a full panel. Add 2" (50mm) to allow bend-up.



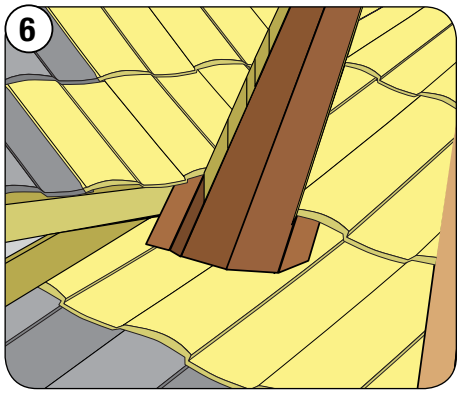
The top left corner needs to be cut out, hemmed to fit under the valley exit area.



Install the valley exit panel to fit under the dormer eave overhang and valley exit. Apply sealant to the valley exit area.

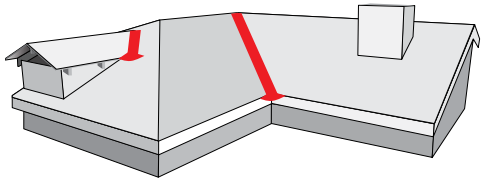


Install the Valley Open 6" metal seating it down into the sealant.



The rest of the panels above are measured, marked, cut and bent and fitted as regular hip or valley panels cut sections.

DORMER VALLEY EXIT - WAKAFLEX® METHOD (All 3 Profiles) See Wakaflex® Installation Video **OPTIONAL**



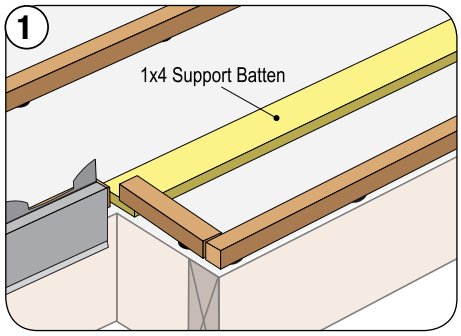
WAKAFLEX® FLASHING USE INSTEAD OF VALLEY EXIT TRAY

Where a typical standard metal valley flashing transitions onto an adjoining roof plane, a Wakaflex® flexible extension may be added to make certain that moisture flows from the valley and onto the courses of roof tiles below. The following necessary steps are provided to prevent water migration under the roof panels.

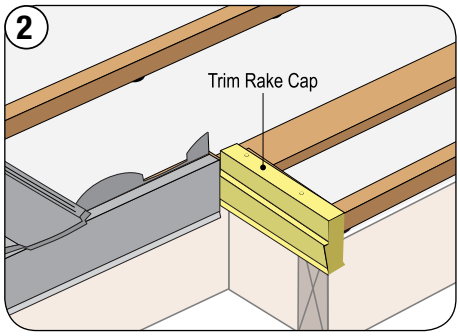
1. Cut Wakaflex of equal width of the valley metal plus additional amount to allow Wakaflex to cover 1" (25mm) minimum past the high barrel portion (crown) of the profiled panel on both sides.
2. With top surface facing up fold forward completely 6" (152mm) one end of the Wakaflex (butyl strip side is now facing upwards) place under the lower end of the valley metal.
3. Remove the 5-1/2" strip protective release film to expose butyl, press butyl strip firmly onto the bottom side of valley metal. This will prevent any windblown moisture under the valley metal.
4. Form the other portion of Wakaflex on top of the panel, remove the protective release film and form Wakaflex to top side of profile panel ensuring a complete bond.

Wakaflex can be stone coated to color match:

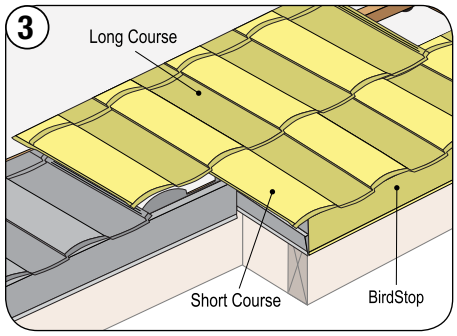
SHORT COURSE DETAIL (All 3 Profiles, shown with BirdStop)



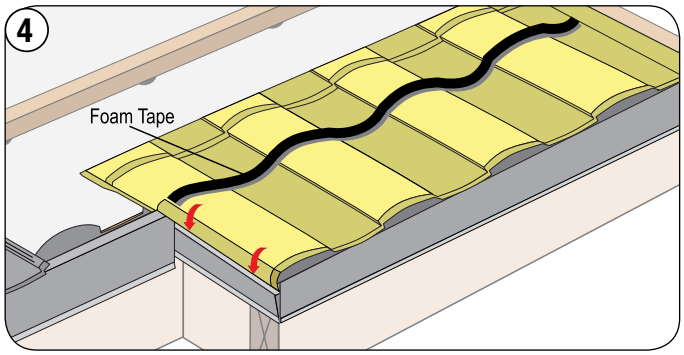
Install 1x4 (25 x 100mm) support batten where the short course intersects with the first full panel course on the longest fascia length.



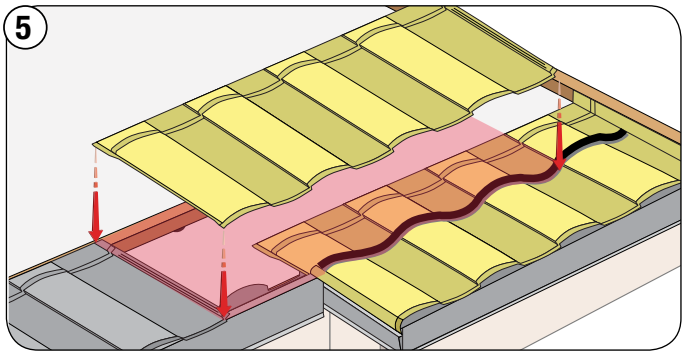
Install Trim Cap Rake metal on the short course rake edge.



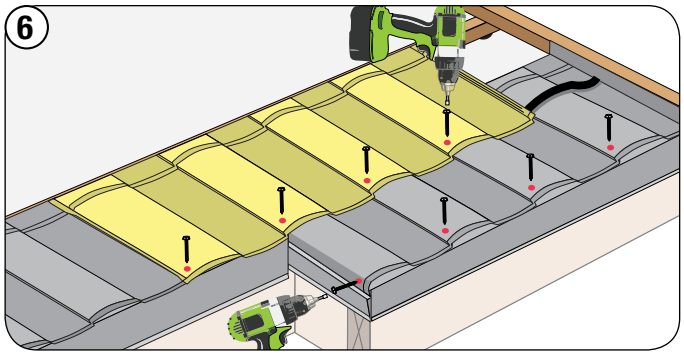
Place the full long course panel lapped to the previous panel on the bottom row. Align the short course panel to the long short panel and install the BirdStop for BARREL-VAULT Tile.



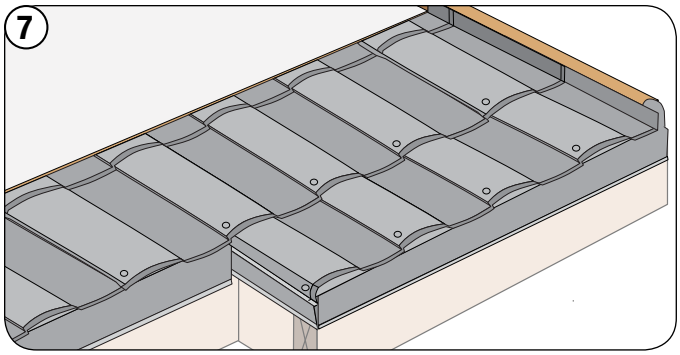
Install the short course panel to sit on the 1x4 support batten. Mark, bend and fit the short course panel left edge onto the Trim Cap Rake metal. Apply EmSeal or Barrier Foam embedded in a bead of sealnt, aligned with the nose of the long course.



Install the long course panel over the short course panel.

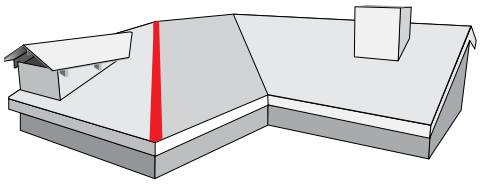


Fasten the long course panel through the top, foam tape and short course panel into the support batten.



The completed Short Course detail should look almost seamless from the rest of the field.

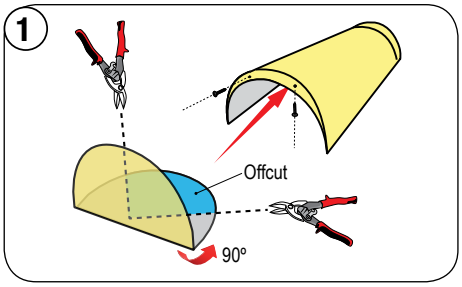
HIP TRIM CAPS DETAIL (All 3 Profiles)



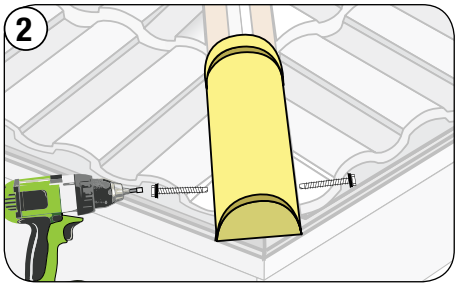
NOTE: This detail applies to both Cap Mission and Cap Shake.

After field panels, hip / ridge cut panels and rake cut sections are installed, the final step is to install trim caps.

A Starter Cap is created by inserting a 6” (152mm) End Disc into the trim cap.

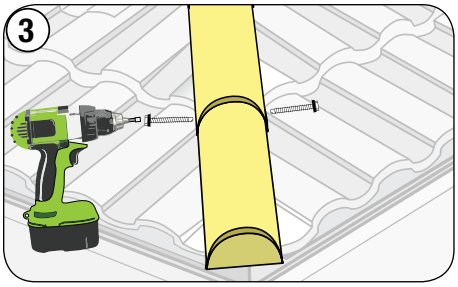


Insert the End Disk into Trim Cap and fasten with stitch screws. Bend End Disk at 90 degrees. Mark and cut at 45 degrees to fit around hip corner.



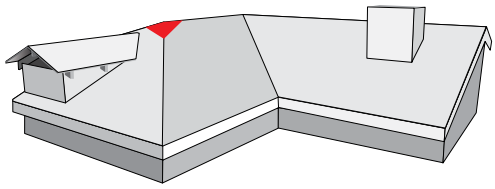
Fasten the starter cap through the sides.

Starter Cap End Disks should always be bent at a 90 degree angle to form 3-dimensional effect.



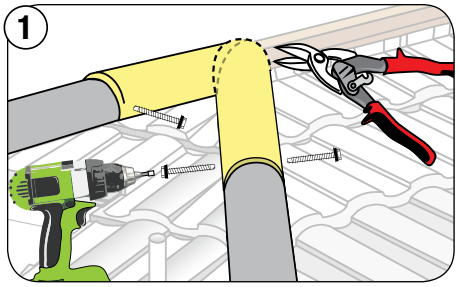
Fit each cap up the hip, making sure to keep the caps straight. Fasten through the sides.

HIP/RIDGE INTERSECTION DETAIL

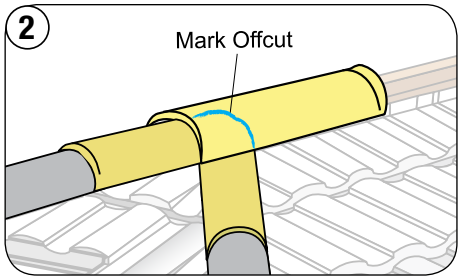


NOTE: This detail applies to both Cap Mission and Cap Shake.

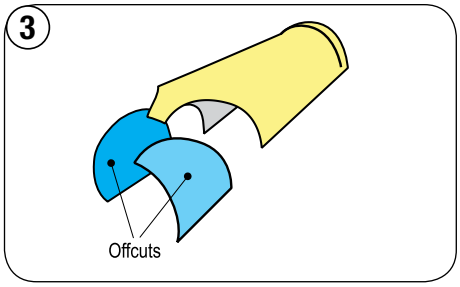
When two hips intersect, its necessary to mark and cut them so they intersect tightly and allow the ridge caps to cover over the two hip caps, providing a finished detail at this trim cap intersection.



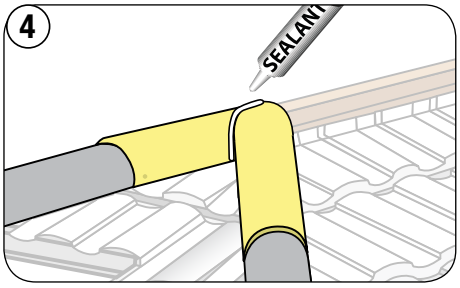
Position the two hip caps at the ridge intersection. Mark and cut them to fit by overlapping each other. Fasten, as shown.



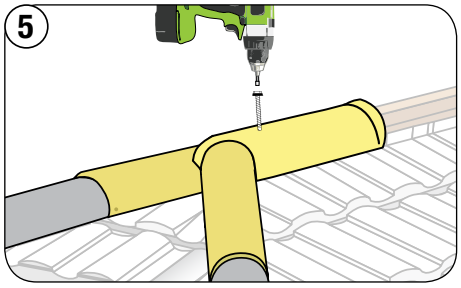
Position the ridge cap over the intersecting hip caps and scribe the hip cap profiles on both sides.



Cut out the ridge cap scribed lines to fit over the two intersecting hip caps.



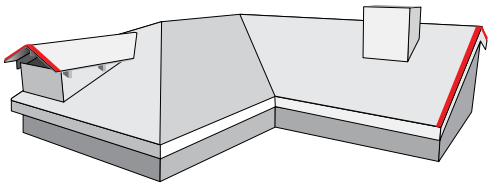
Apply a bead of sealant along the intersection.



Fit the ridge cap and fasten into the ridge batten. Use the Touch-Up kit to seal fasteners.

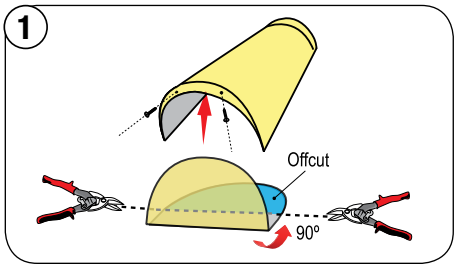
Any fasteners that penetrate through the top of Trim Caps must be sealed and chipped using the Touch-Up kit.

RAKE TRIM CAP DETAIL

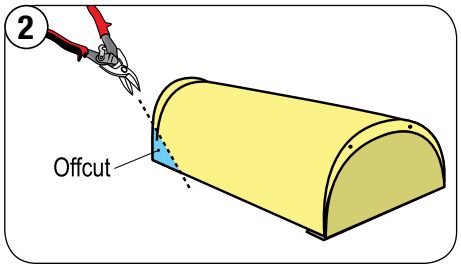


NOTE: This detail applies to both Cap Mission and Cap Shake.

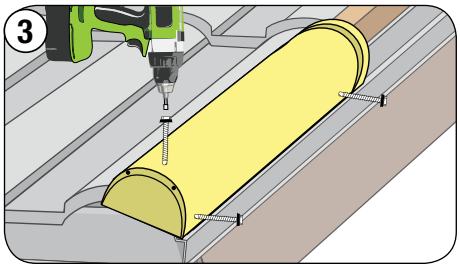
When installing Trim Caps on the rake, the Trim Cap Rake metal (painted) should be used. This creates a perfect ledge to align the Rake Trim Caps up the rake and ensure water is directed away from the rake rafter board.



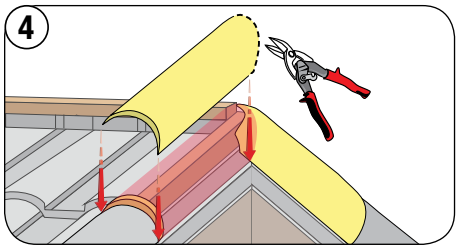
Insert the End Disk into Trim Cap and fasten with stitch screws. Bend End Disk at 90 degrees. Mark and cut to fit around the nose of the panel at the rake edge.



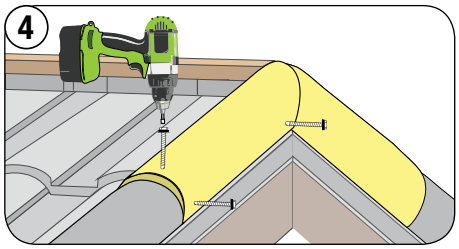
Notch Starter Cap's inside corner, as shown, to allow it to fit on the bottom panel course.



Position the rake Starter Cap at the fascia and fasten into the rake batten and into the side of the Trim Cap Rake metal.



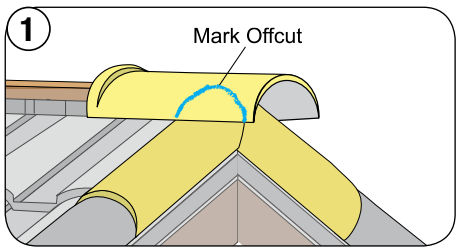
Fit each cap up the rake until it intersects with the ridge. Mark, cut and fit the final rake cap at the ridge.



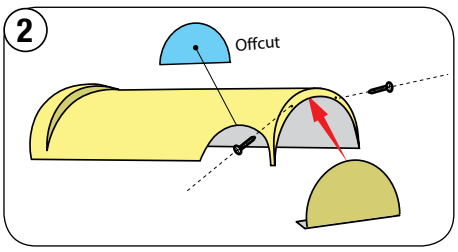
Fasten at the top and sides. Use the Touch-Up kit to finish this detail.

Any fasteners that penetrate through the top of Trim Caps must be sealed and stone chipped using the Touch-Up kit.

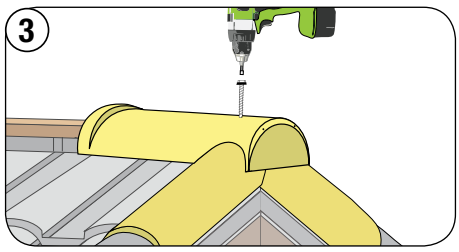
RAKE /RIDGE INTERSECTION DETAIL



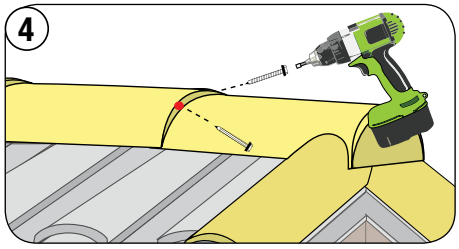
Position the Ridge / Rake Starter Cap as shown and scribe the profile of the rake caps on either side.



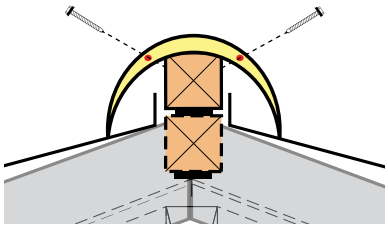
Cut out the rake cap profiles on each side and fit an end disc into the Ridge / Rake Starter Cap.



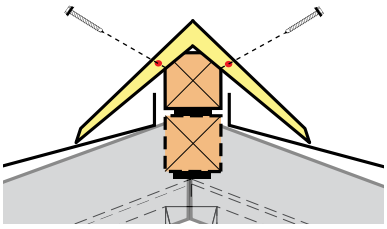
Fasten the Ridge / Rake Starter Cap through the top into the ridge batten.



Install Ridge Trim Caps across and fasten through the nose on both sides, as shown.

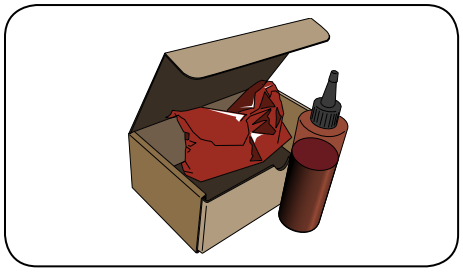


CAP MISSION FASTENING



CAP SHAKE FASTENING

FINISHING TOUCHES



After completing the roof installation, check the overall job for areas where the coating is scuffed or marked during install. Apply Boral Steel™ adhesive and stone chip to provide a complete stone coat finish.

NOTES

Boral STEEL
STONE COATED ROOFING

PINE-CREST Shake Charcoal

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ABOUT BORAL ROOFING

Boral Roofing LLC is a subsidiary of Boral USA and is the country's largest premium provider of complete roofing and re-roofing solutions for architects as well as commercial and residential builders. Boral Roofing operates manufacturing plants throughout the U.S.

ABOUT BORAL NORTH AMERICA

Headquartered in Roswell, Georgia, Boral North America is a leader in key construction materials and building products markets with operations across the USA, Canada and Mexico. In 2017 Boral acquired Headwaters Incorporated, expanding Boral's product offering and manufacturing and distribution footprint across North America. In construction materials, Boral has a national footprint and industry-leading position in the processing and distribution of fly ash – a by-product of coal combustion.

In building products, Boral manufactures and supplies cladding, roof tiles, windows and other light building products for residential and commercial markets nationally. Boral's manufactured stone veneer includes leading brands Cultured Stone® by Boral®, Boral Versetta Stone®, Eldorado Stone™, Dutch Quality Stone and StoneCraft. Boral's light building products portfolio includes Boral TruExterior® Siding & Trim – a pioneer of the innovative poly-ash category of exterior building products – as well as shutters, gable vents, mounting blocks and tool systems. In roofing, Boral is a leading manufacturer of clay and concrete roof tiles, and also produces composite polymer and stone coated metal roof tiles.

Boral also has a 50% share of the Meridian Brick joint venture, a leading clay and concrete brick manufacturer which was formed with Forterra Brick in 2016.

CADdetails

NATIONAL ROOFING CONTRACTORS ASSOCIATION

MRA METAL ROOFING ALLIANCE

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