METAL ROOFING
INSTALLATION GUIDE

ProVia®
THE PROFESSIONAL WAY

BARREL TILE

– INSTALLATION GUIDE –

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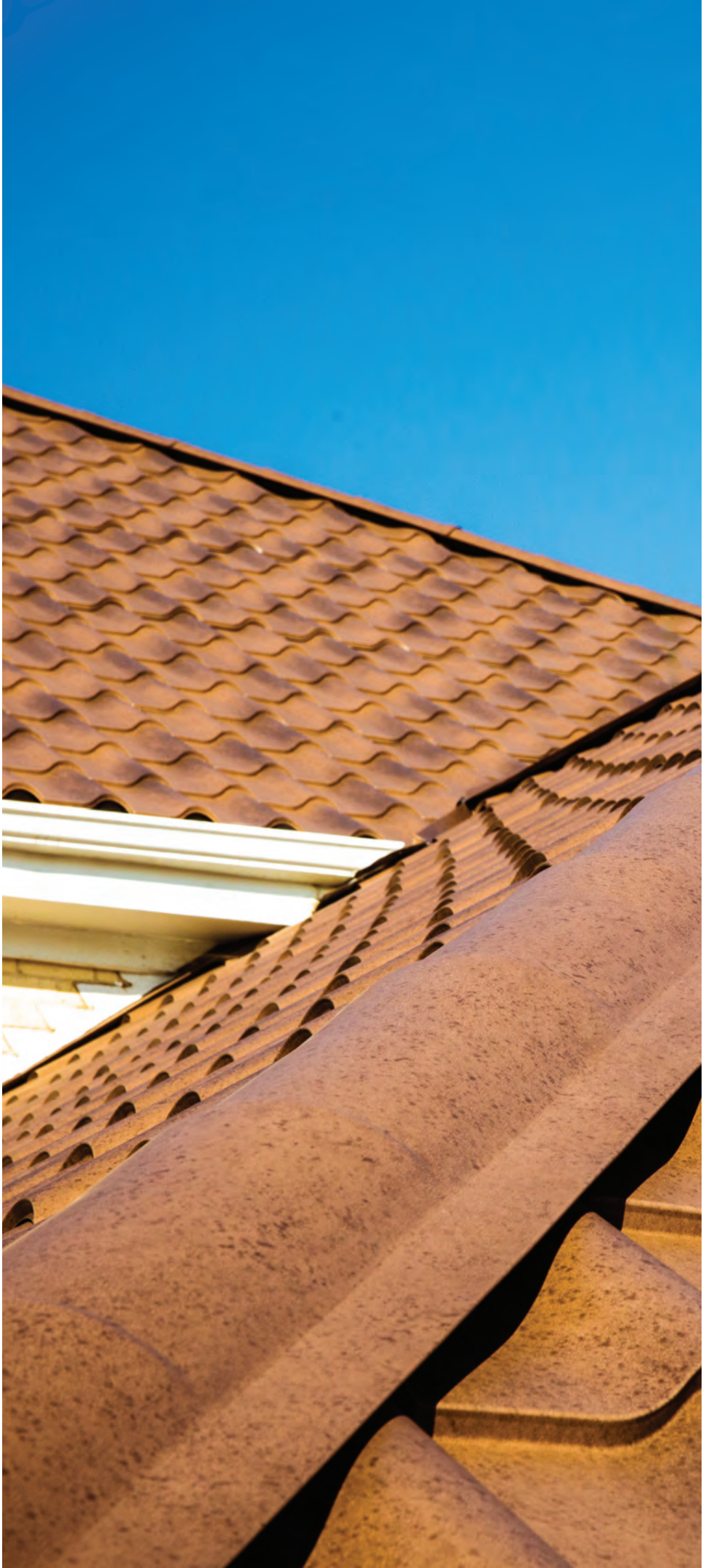


INTRODUCTION

These are the manufacturer's installation instructions for the roofing conditions described. ProVia® LLC assumes no responsibility for leaks or personal injury due to faulty installation. ProVia's metal roofing products are covered by a LIFETIME LIMITED WARRANTY. For a copy of the warranty, visit our website at provia.com, or call 800-669-4711.

These installation details are designed to be used in conjunction with ProVia's Certified Installer Training Program.

SAFETY FIRST

- Make sure to use appropriate safety and fall restraint equipment as well as wearing soft rubber-soled shoes. Soft rubber-soled shoes will better grip the surface of the panel, as well as protect the painted finish. **USE CAUTION; product may be slippery, especially when wet or dusty.**
- Always follow governmental safety guidelines, including, but not limited to, all Workman's Compensation and OSHA safety guidelines.
- Always be aware of your surroundings. Watch for roof openings such as skylights, roof edges, equipment, electric wires, and other potential safety hazards. Block off the danger zone directly beneath the roof area to prevent people, children or pets from getting too close. A well-organized work area can help prevent accidents.

DISSIMILAR METALS

- Do not use accessories that contain dissimilar metals such as copper, lead, or aluminum with ProVia's metal roof system, as they are incompatible and may cause panel failure.

TESTING

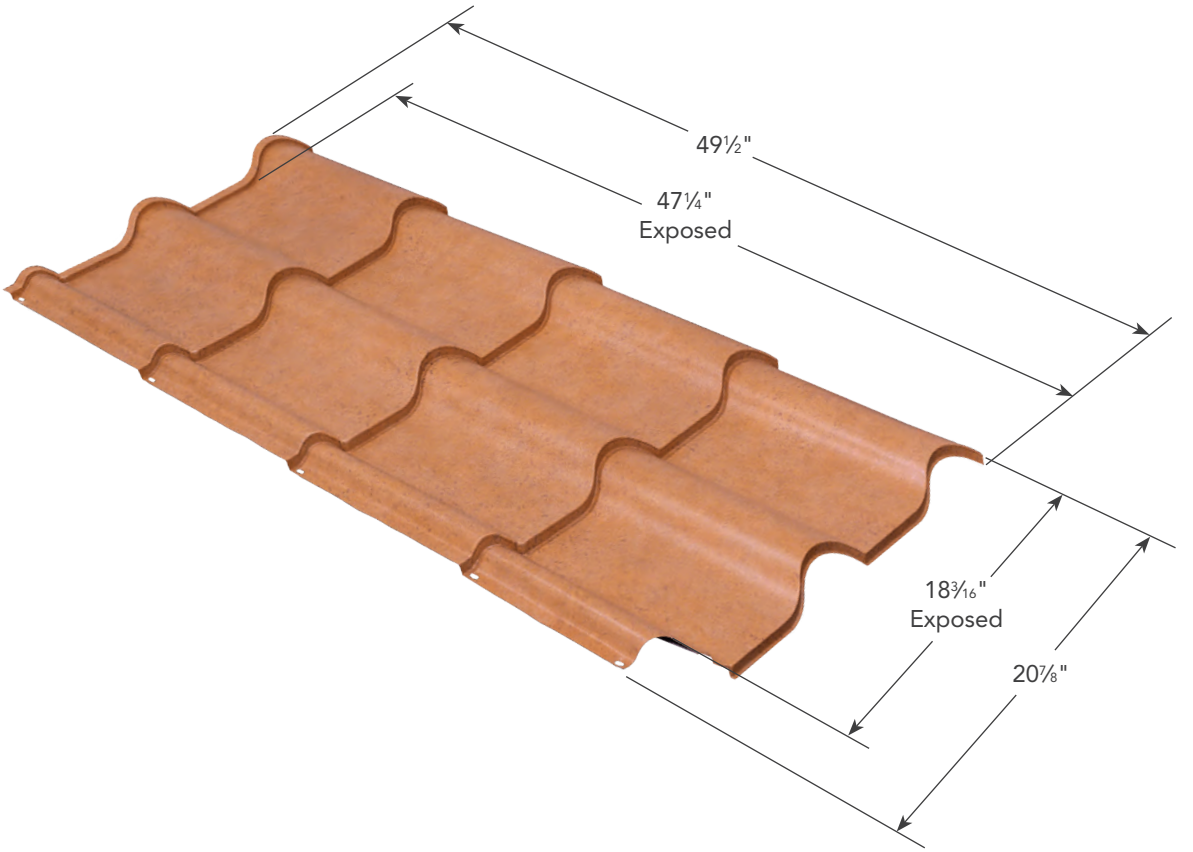
- ProVia's metal roofing has been tested in accordance with local and national building codes. See page 32 for accreditations and testing information.

CODES

- These installation instructions should not be substituted for any local or national building code specifications. Some areas may dictate local construction practices be followed to address unique climatic conditions.

SECTION 1 | PRE-INSTALLATION

BARREL TILE PANEL DIMENSIONS



4 COURSE PANEL DETAILS

Overall Dimensions	20⅞" x 49½"
Exposure Dimensions	18³⁄₁₆" x 47¼"
Coverage	17 Panels per square
Weight Per Panel	6.4 lbs
Weight Per Square	103 lbs

4 COURSE MATERIAL QUANTITIES

Panels Per Box	8
Boxes Per Pallet	20
Weight Per Box	53 lbs

2 COURSE PANEL DETAILS

Overall Dimensions	20⅞" x 25⅞"
Exposure Dimensions	18³⁄₁₆" x 23⅝"
Coverage	34 Panels per square
Weight Per Panel	3.3 lbs
Weight Per Square	109 lbs

2 COURSE MATERIAL QUANTITIES

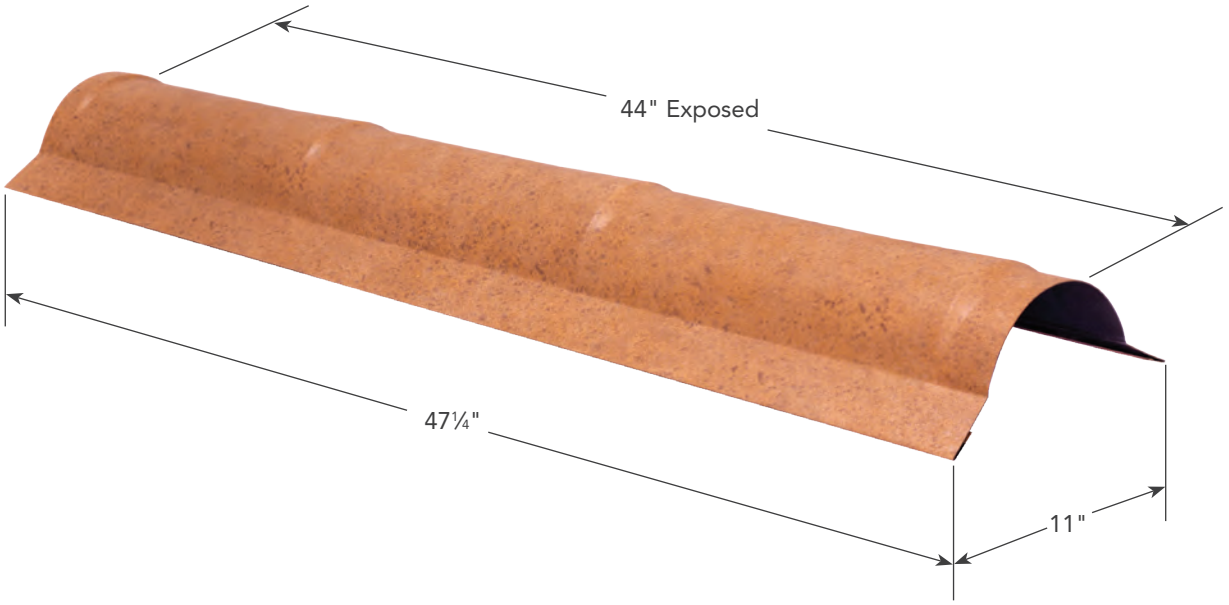
Panels Per Box	8
Boxes Per Pallet	30
Weight Per Box	28 lbs

CAUTION

Care should be taken to store panels under a weatherproof tarp or in a moisture and chemical-free environment.

SECTION 1 | PRE-INSTALLATION

RIDGE/HIP CAP DIMENSIONS



RIDGE/HIP CAP DETAILS

Overall Dimensions	47¼" x 11"
Exposure Dimensions	44"
Weight Per Ridge/Hip Cap	3.8 lb

MATERIAL QUANTITIES

Ridge/Hip Caps Per Box	10
Boxes Per Pallet	24
Weight Per Box	40 lbs

FASTENERS

#10 x 1" Pancake Screw
Zinc coated pancake screw with square drive. Refer to use in installation instructions.

#10 x 1" Hex Head Screw
Hex head screw with a self-sealing washer. Refer to use in installation instructions.

#10 x 1¼" Hex Head Screw
Color matched hex head screw, used anywhere an exposed fastener is required.

CAUTION
Care should be taken to store Ridge/Hip caps under a weatherproof tarp or in a moisture and chemical-free environment.

SECTION 1 | PRE-INSTALLATION

SYSTEM COMPONENTS

1

Ridge/Hip End Cap

2

C-Closure

3

Rake

4

Eave Starter

5

Bird Guard

6

Sidewall

7

Ridge/Hip Cap

8

Apron

9

Wind Stop

10

Vented C-Closure

11

Valley Closure Cap

12

Valley Closure

SECTION 1 | PRE-INSTALLATION

RECOMMENDED TOOLS

Below are some of the tools that may be necessary or helpful for the installation of ProVia's metal roofing system.

10' Brake
Sliding Bevel
12" Speed Square
7" Speed Square
3' Straight Edge
15" Hand Bender
3" Hand Bender
Small Flat-Bar
Large Flat-Bar
Cordless Drill with Turbo Shears
Impact Driver
Tool Belt

Hammer
Dead Blow Hammer
Caulk Gun
Protective Gloves
Safety Glasses
Right and Left Offset Aviation Snips
Pop Riveter
Markers
Pencil
Zip Tool
Metal Cutting Nibbler
Pliers

Tape Measure
Chalk Line
Box Opener
Utility Knife

SECTION 1 | PRE-INSTALLATION

INSTALLATION GUIDELINES

PITCH RECOMMENDATIONS - Fig 6.1

The minimum recommended slope is 4:12 pitch when installed over Sharkskin® Ultra underlayment. The minimum recommended slope when installed over Sharkskin® Ultra SA underlayment is 3:12 pitch.

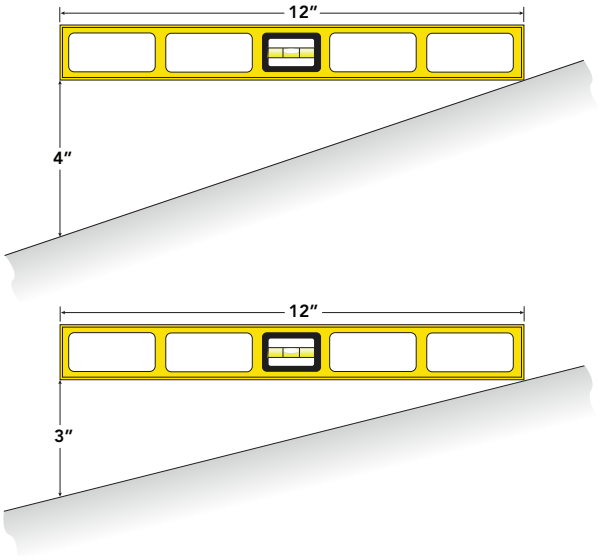


Fig. 6.1

WALKING ON THE PROVIA PANEL - Fig 6.2

Always avoid walking on the barrels of the tile. To avoid scratching the paint, always clean the bottom of shoes before stepping on the metal panel.

INSTALLATION SEQUENCE

***TIP** - Careful attention to flashing details is essential to successful long-term roof performance. It is important to consider water flow and overlap materials in proper sequence.*

Install the components of this roofing system in the following order:

1. Eave Starter
2. Sharkskin® Ultra SA (Ice and Water Shield)
3. Sharkskin® Ultra (High-Temp Underlayment)
4. Rake
5. Valley
6. Sidewall
7. Hip
8. Ridge
9. Field Panels - Start at the bottom right corner, then work bottom to top

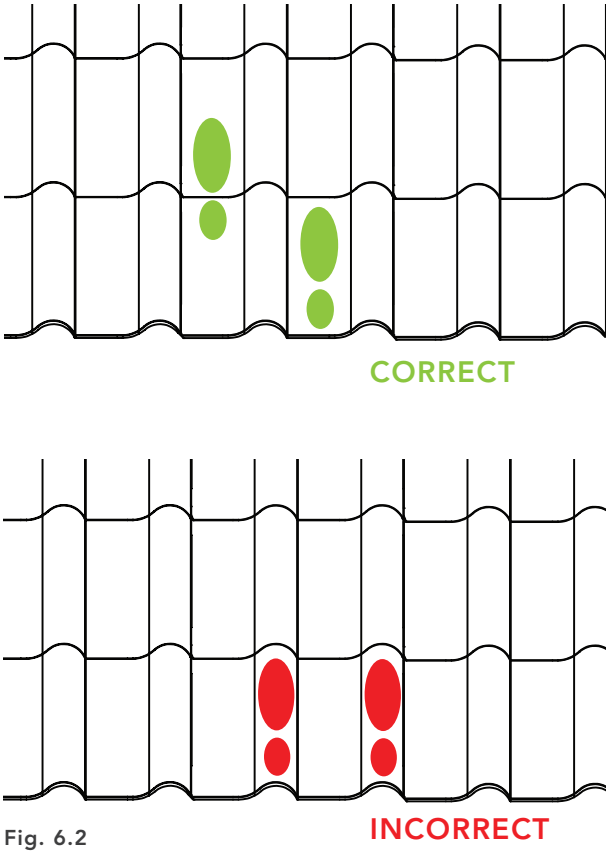


Fig. 6.2

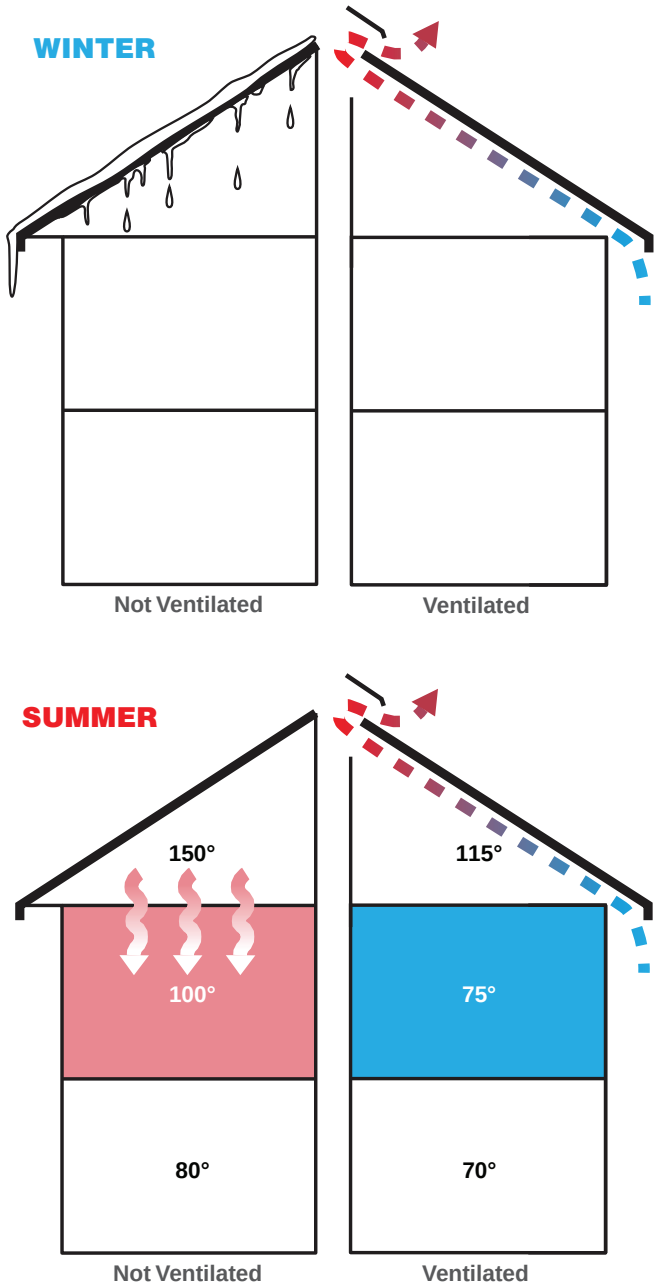


Fig. 7.1

CLASS A FIRE RATING

There are two options to attain a Class A fire rated assembly for ProVia's Barrel Tile according to IAPMO UES Report #817.

Assembly One: The roof shall be sheathed with minimum 15⁄32" thick wood structural panels fastened as prescribed by the code. The sheathing shall be covered with ¼" or ½" thick Georgia Pacific DensDeck Roof Boards fastened in accordance with the DensDeck installation instructions. CertainTeed DiamondDeck, MetaLayment, or WinterGuard HT Underlayment shall be installed in accordance with the underlayment manufacturer's instructions over the DensDeck panels.

Assembly Two: The roof shall be sheathed with minimum 15⁄32" thick wood structural panels fastened as prescribed by the code. The sheathing shall be covered with GAF VersaShield in accordance with the underlayment manufacturer's instructions. CertainTeed DiamondDeck, MetaLayment, or WinterGuard HT Underlayment shall then be installed in accordance with the underlayment manufacturer's instructions over GAF VersaShield underlayment.

VENTILATION CONSIDERATIONS - Fig. 7.1

The primary purpose of ventilation in cold climates is to expel warm, moist air to reduce condensation in the attic, and to maintain a cold roof surface helping to prevent the formation of ice dams from melting snow. In warm climates, proper ventilation will expel hot air from the attic, reducing the cooling load of the structure. Using the ridge vent system recommended by ProVia in conjunction with soffit intake vents is an excellent method for achieving balanced ventilation.

SECTION 1 | PRE-INSTALLATION

ROOF PREPARATION

***TIP** - Before starting a project, check for any pre-existing damage to siding, gutters, fascia, or any other exterior features and take photos to avoid having to take responsibility for previous damage.*

ROOF TEAR-OFF - Fig. 8.1

After tearing off old shingles, clean and prepare roof deck to meet local building codes.

Examine roof sheathing to ensure proper attachment to framing and replace any damaged roof sheathing (Fig. 8.2). Verify deck is clean and smooth, free of any depressions or projections.

Using 1/2" plywood, 15/32" OSB or tightly spaced 3/4" board sheathing is recommended for best performance.

Fig. 8.1

Fig. 8.2

ROOF-OVER PROCEDURES - Fig. 8.3

Installation over existing asphalt shingle roofing is acceptable, when permitted by local building code. Remove all existing hip and ridge caps and old edge trims. Flatten all buckled or curled shingles to provide a smooth surface for the metal panels.

To ensure penetration of roof sheathing when installing over existing roofing, use #10 x 1 1/2" screws.

Synthetic underlayment must be installed over the asphalt shingles (Fig. 8.4).

Fig. 8.3

Fig. 8.4

SECTION 2 | SYSTEM INSTALLATION

UNDERLAYMENT

It is recommended that Underlayment be installed over Eave Starter. However, always follow local building codes and manufacturer's instructions.

Underlayment is required prior to installing the ProVia metal roof system in both new and roof-over applications. A synthetic underlayment specially designed for metal roofing such as Sharkskin® Ultra will offer the best protection.

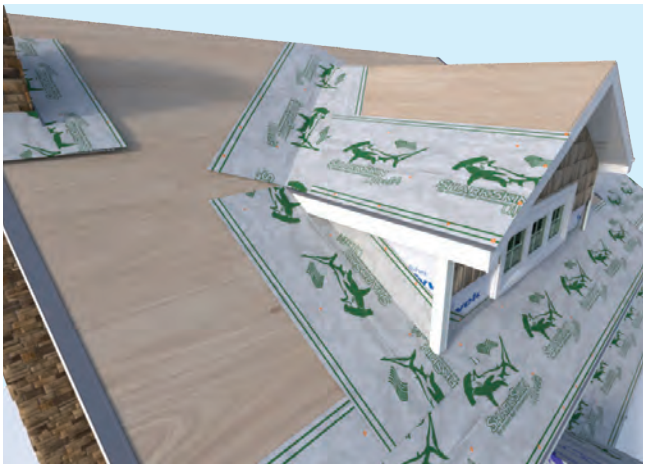


Fig. 9.1 - *Ice and water shield (green) on eave and in valleys*

Install a high temperature, self-adhering underlayment, such as Sharkskin® Ultra SA at all eaves, valleys, pitch changes and around all flashing points such as dormers, skylights, and chimneys.

Sharkskin® Ultra SA underlayment is installed by removing the split-release liner and applying the adhesive side against the roof deck with a 4" horizontal overlap and 12" vertical lap. See manufacturer's installation instructions for details. The underlayment is laid horizontally (parallel) to the eave with the printed slip resistant side up.

Fig. 9.2 - *Ice and water shield (green) around skylight/dormer*

Cover the rest of the roof deck with synthetic underlayment, such as Sharkskin® Ultra.

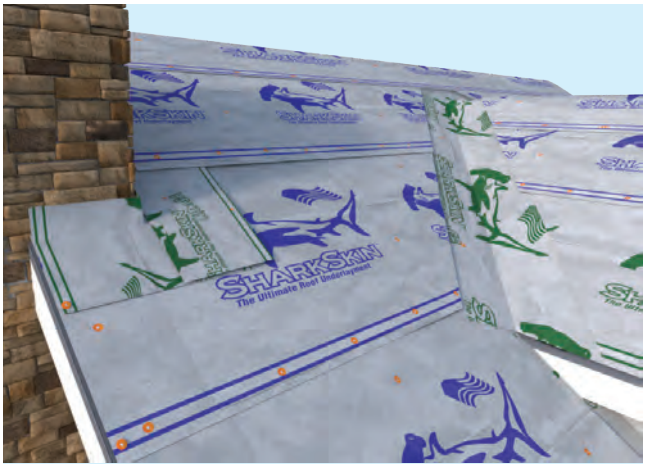


Fig. 9.3 - *Underlayment (blue) on field of roof*

SECTION 2 | SYSTEM INSTALLATION

EAVE STARTER

It is recommended to snap a chalk line to ensure that the Eave Starter is installed straight and does not follow any wave that may be in the fascia. (Fig. 10.1)

Fig. 10.1 - *Eave Starter installed along chalk line*

EAVE TO RAKE

At an eave to rake outside corner, cut the upper leg of the Eave Starter back 1" and fold the remaining 1" lower leg around creating a tab that fits the corner tightly. (Fig. 10.2)

Fig. 10.2 - *Eave Starter installed at rake with corner tab*

Secure in place using #10 x 1" Pancake Head screws every 12". A staggered screw pattern is preferred if possible. (Fig. 10.1 & 10.2)

Fig. 10.3 - *1" angle cut and overlap piece ready to install*

OVERLAP

For a tight-fitting overlap, cut a 1" angle on the front nose of the underlapping Eave Starter before installing subsequent pieces. (Fig. 10.3 & Fig. 10.4)

Fig. 10.4 - *Overlap piece installed*

Fig. 11.1 - *First inside corner piece ready to install*

EAVE TO EAVE INSIDE CORNER

At an eave to eave inside corner, cut the upper leg of the Eave Starter to match the angle of the valley. Leave a 1" tab on the lower leg to fold around the corner. (Fig 11.1)

Fig. 11.2 - *Remaining piece cut and installed*

Cut the subsequent piece of Eave Starter to fit tightly with the previously installed piece. (Fig 11.2)

EAVE TO EAVE OUTSIDE CORNER

At an eave to eave outside corner, cut the upper leg of the Eave Starter to match the angle of the hip. Leave a 1" tab on the lower leg to fold around the corner. (Fig 11.3)

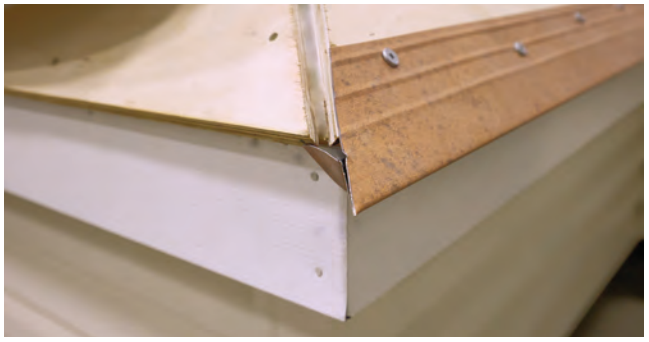


Fig. 11.3 - *First outside corner piece installed*

Cut the subsequent piece of Eave Starter to fit tightly with the previously installed piece. (Fig 11.4)

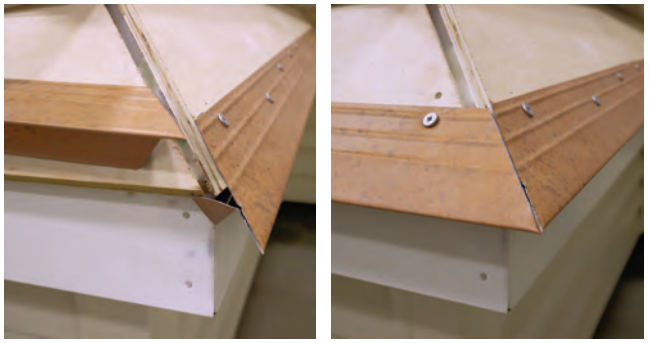


Fig. 11.4 - *Remaining piece cut and installed*

Install a high temperature, self-adhering underlayment over the Eave Starter as directed by local building codes.

SECTION 2 | SYSTEM INSTALLATION

RAKE

Install C-Closure on the rake, over the underlayment, and flush with the front nose of the Eave Starter. The back side of the C-Closure should align with the outside edge of the rake. Fasten in place using #10 x 1" Hex Head Self-Sealing Washer screws every 12". (**Fig. 12.1**)

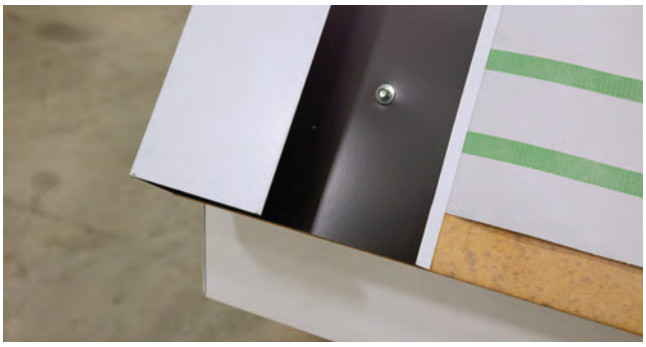


Fig. 12.1 - *C-Closure installed on the rake*

Cut out a 6" section on the top leg of the C-Closure to allow for a tight waterproof overlap. *Apply a generous bead of sealant between the C-Closures before overlapping.* Fasten the next piece of C-Closure in place. (**Fig. 12.2**)

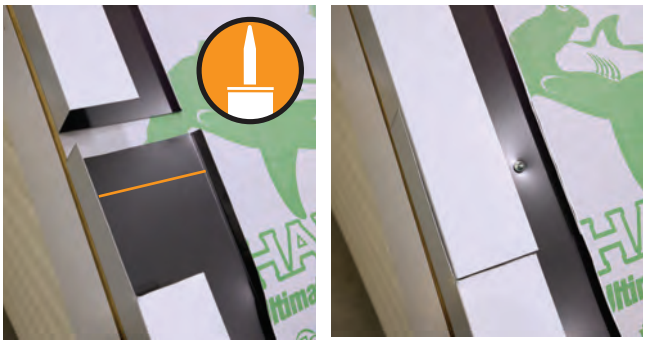


Fig. 12.2 - *Overlapping C-Closure installed*

At the ridge, cut the C-Closure in line with the peak. (**Fig. 12.3**)

Cut the C-Closure on the opposite side of the roof, leaving a 2" tab on the bottom leg to fold over the peak. (**Fig. 12.3**)

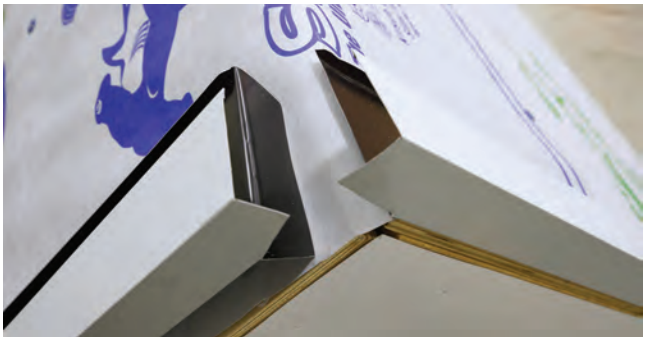


Fig. 12.3 - *C-Closure cut inline with ridge peak*

Fasten the C-Closure in place using #10 x 1" Hex Head Self-Sealing Washer screws. (**Fig. 12.4**)

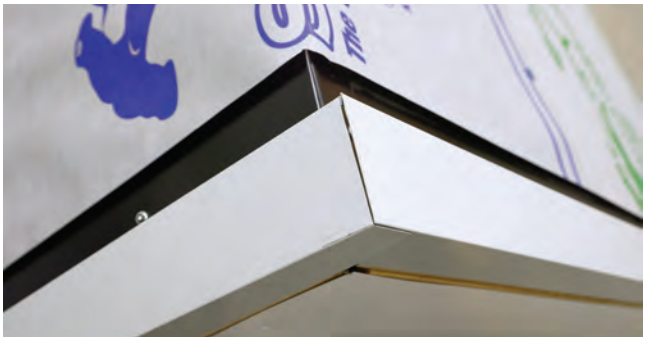


Fig. 12.4 - *Second piece of C-Closure installed*

RAKE

Fig. 13.1 - *Rake installed over C-Closure*

Before installing the Rake over the C-Closure, bend a 2" tab at the bottom edge of the Rake. Fasten in place on the outside edge using #10 x 1¼" color matched Hex Head screws every 24". (**Fig. 13.1**)

Fig. 13.2 - *Overlapping Rake installed*

At an overlap, cut the lock on the first piece of Rake back 2" to slide into the next piece. (**Fig. 13.2**)

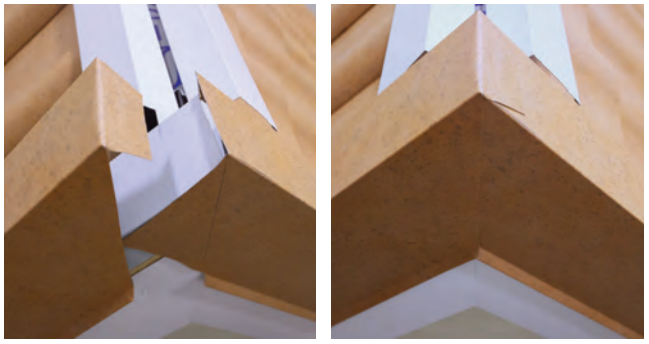


Fig. 13.3 - *Rake installed at ridge peak*

At the ridge, cut the top leg of the Rake inline with the peak. Leave a tab on the side leg for the next piece to overlap. (**Fig. 13.3**)

On the opposite side of the roof, cut the side leg of the Rake in line with the peak, leaving a 2" tab on the top leg to fold over the peak. Fasten in place using #10 x 1¼" color matched Hex Head screws. (**Fig. 13.3**)

Fig. 13.4 - *Ridge/Hip Cap installed at rake*

As an alternative to standard rake trim, Ridge/Hip Cap can be modified to be used in it's place. (**Fig. 13.4**)

SECTION 2 | SYSTEM INSTALLATION

VALLEY

SIMPLE VALLEY (EAVE TO EAVE)

***TIP** - Snap a chalk line in the valley as a guide to ensure a straight valley flashing installation.*

Position the Valley Closures in place extending past the Eave Starter. Mark the Valley Closure along the front nose of the Eave Starter. Cut the Valley Closures at the marked line. Fasten in place using #10 x 1" Hex Head Self-Sealing Washer screws every 12". (Fig. 14.1)

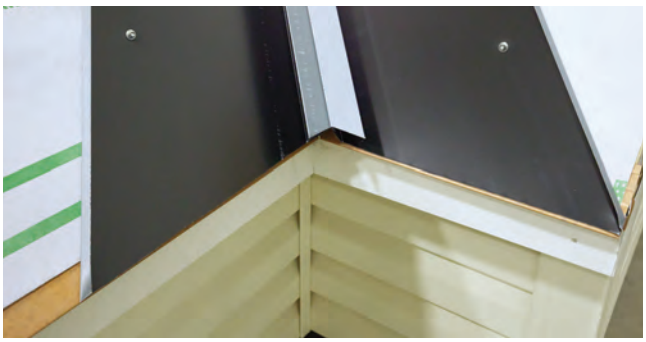


Fig. 14.1 - *Valley Closures installed at eave*

Once the Valley Closures are fastened, slide the Valley Closure Cap onto the Valley Closures, joining them together. Bend a 2" tab on the bottom end of the Valley Closure Cap. (Fig. 14.2)

Fig. 14.2 - *Valley Closure Cap installed*

When overlapping the Valley Closures, trim a 6" section off the top legs of the previously installed Valley Closures. Overlap the next Valley Closures by at least 6" to ensure a tight, waterproof overlap. *Apply a generous bead of sealant between the Valley Closures before overlapping.* Fasten the Valley Closures in place. (Fig. 14.3 & Fig. 14.4)

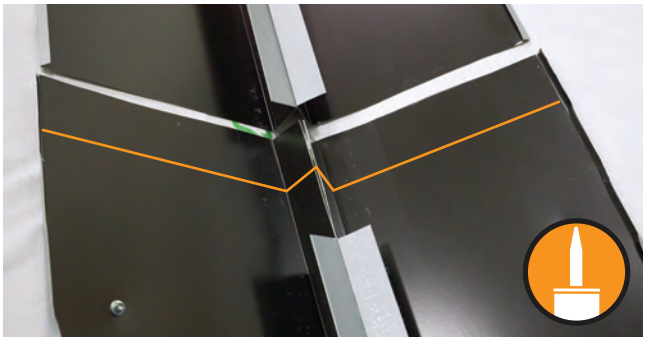


Fig. 14.3 - *Overlap piece ready to install*

Fig. 14.4 - *Overlap piece installed*

Fig. 15.1 - *First pieces cut at the peak*

VALLEY AT A RIDGE

NOTE: Where Valley Closures meet at the top of a ridge, ensure that each piece is carefully fitted together and properly sealed while maintaining a neat appearance.

Fig. 15.2 - *Second pieces ready to install*

Cut the first Valley Closure piece (right side) at the peak. Extend the next piece (roof side) sufficiently to meet the water stop of the Valley Closure on the opposite side of the ridge. (**Fig. 15.1**)

Fig. 15.3 - *Valley Closure with tab*

Position the Valley Closure for the opposite side of the ridge into the valley and bend a 1" tab to fold over the peak. (**Fig. 15.2**)

Fig. 15.4 - *Valley Closures installed at ridge*

Prepare the Valley Closure on the roof side of the valley by cutting a 1" tab on the leg to wrap around the existing Valley Closure. *Apply sealant under the overlap before fastening in place.* (**Fig. 15.3 & Fig. 15.4**)

VALLEY

FLOATING VALLEY (METHOD 1)

In a floating valley, install panels to just beyond the bottom point of the valley before installing Valley Closure. Be sure to patch any ice guard that may have been cut for panel installation. Panel may need to be flattened to install under Valley Closure. (Fig. 16.1)

Fig. 16.1 - *Panels installed before Valley Closure*

Position the Valley Closures in the valley and extend below the Eave Starter to meet the panel below. Bend a water stop at the end of the left closure to direct water onto the panel below. *Apply a generous amount of sealant between the panel and the Valley Closure before fastening the Valley Closure in place.* (Fig. 16.2)

Fig. 16.2 - *Valley Closures installed*

Install the next panel into the Valley Closure and remove the bottom lock where it crosses over the Valley Closure. (Fig. 16.3)

Fig. 16.3 - *Panel installed into the Valley Closure*

Continue with installation of panels. Once all panels are in place, install the Valley Closure Cap. (Fig. 16.4)

Fig. 16.4 - *Panels and Valley Closure Cap installed*


Fig. 17.1 - *Panels installed before the Valley Closure*

FLOATING VALLEY (METHOD 2)

NOTE: As an alternative to Method 1, C-Closure and Sidewall can be installed around the soffit and fascia up to the bottom of the valley. (Fig. 17.1)

Install panels to just beyond the bottom point of the valley before installing the Valley Closure. Panel may need to be flattened to install under Valley Closure. (Fig. 17.1)

Fig. 17.2 - *Valley Closures positioned*

Position the Valley Closures in the valley and trim along the Eave Starter. (Fig. 17.2)

Fig. 17.3 - *Water stop formed on Valley Closure*

Bend a water stop at the end of the left Valley Closure, as shown, to direct water onto the panel below. *Apply a generous bead of sealant between the panel and Valley Closure and fasten in place.* (Fig. 17.3)

Install the next panel into the Valley Closure and bend the bottom lock open where it crosses the Valley Closure. (Fig. 17.4)

Fig. 17.4 - *Panels and Valley Closure Cap installed*

Continue with installation of panels. Once panels are in place, install the Valley Closure Cap. (Fig. 17.4)

SECTION 2 | SYSTEM INSTALLATION

PANEL INSTALLATION

PANEL INSTALLATION GUIDELINES

The ProVia barrel tile panel is always installed eave to ridge, right to left. Always be careful to ensure all panels are completely interlocked. Attach each panel using (5) #10 x 1" Pancake Head screws through the pre-drilled screw flange. (Fig. 18.1)

Fig. 18.1 - *Panel fastened through screw flange*

Before installing panels along the eave of the roof, install Bird Guard on top of the Eave Starter. (Fig. 18.2)

Fig. 18.2 - *Bird Guard installed*

Alternatively, panels may be installed overhanging the Eave Starter eliminating the need for Bird Guard. (Fig. 18.3)

Fig. 18.3 - *Panels installed below the Eave Starter*

***TIP** - In general, you can simply install full four course panels along the eave and across the field of the roof. However, it may be advantageous to alternate using a two course panel at the eave on every other vertical row to avoid the development of any overlap patterns.*

To fully lock the panel to the previous row, position the panel down and to the right, engaging the side lock into the flange by sliding the panel left and then upward. (Fig. 18.4)

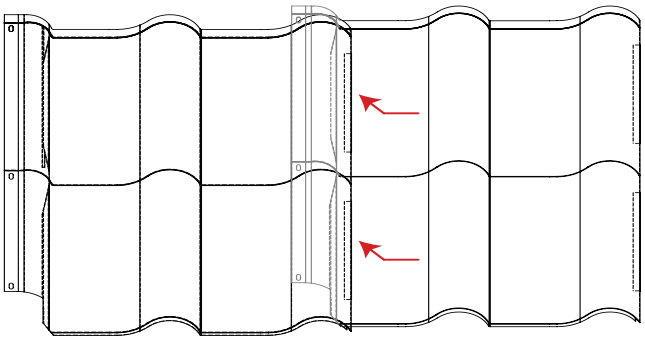


Fig. 18.4 - *Panel to panel installation*

Fig. 19.1 - *Panel installed at Rake with vertical chalk line*

PANELS ENDING AT RAKE

When installing panels at a rake edge it's critical that panel rows are installed square to the Eave Starter. It may be helpful to snap a vertical chalk line to keep the rows properly aligned with the eave. (Fig. 19.1)

Fig. 19.2 - *Panel fastened through sidelock*

In some applications it may be necessary to fasten the last row of panels through the sidelock using #10 x 1¼" color matched Hex Head screws. (Fig. 19.2)

Fig. 19.3 - *Panels installed into a Valley Closure*

PANELS INTO/OUT OF VALLEY

When installing panels into a valley, cut panels to fit into the Valley Closure but leave a ½" space between the edge of the panel and the back of the Valley Closure channel to allow water to drain properly. (Fig. 19.3)

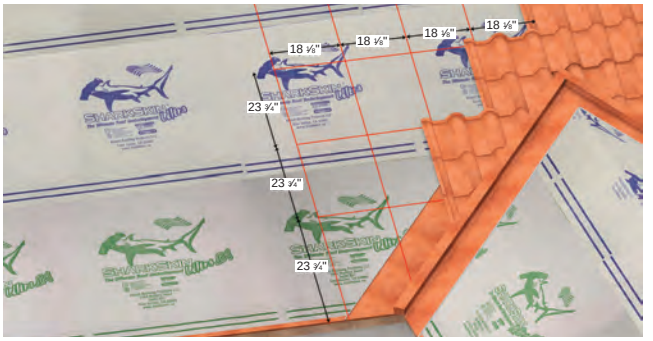


Fig. 19.4 - *Panels installed at a dormer valley*

When installing panels over a dormer valley, use chalk lines to ensure the courses of panels on both sides of the valley meet at the same height. (Fig. 19.4)

SECTION 2 | SYSTEM INSTALLATION

PANEL INSTALLATION

PITCH CHANGE TRANSITION

At a pitch change, use Apron as a transition trim, or bend a custom transition trim using trim coil.

Install C-Closure at the transition point of the pitch change. Fasten in place using #10 x 1" Hex Head Self-Sealing Washer screws every 12". (**Fig. 20.1**)

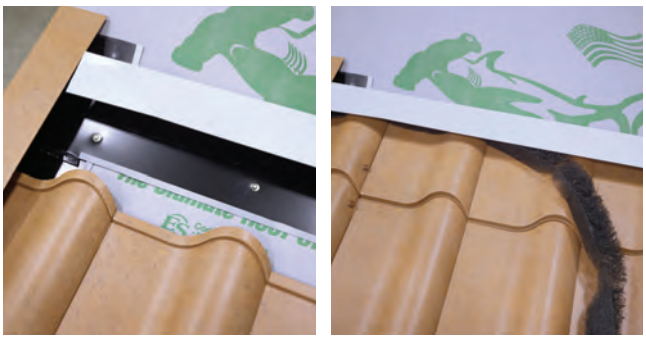


Fig. 20.1 - *C-Closure installed at pitch change*

Install panels up to the pitch change and fit tightly into the C-Closure. Insert Wind Stop between the panel and C-Closure. (**Fig. 20.1**)

Lock a piece of Apron or custom trim onto the C-Closure, up the pitch change, and then fasten in place using #10 x 1¼" color-matched Hex Head screws through every other barrel in the tile. (**Fig. 20.2**)

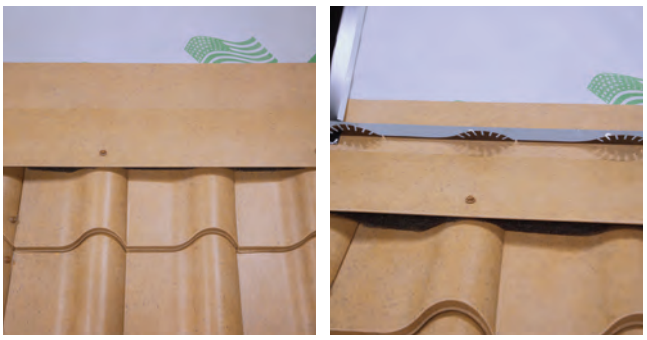


Fig. 20.2 - *Transition trim installed at pitch change*

Place Bird Guard along the upper leg of the Apron making sure the barrels on top of the pitch change will line up with the barrels below. Fasten the Bird Guard in place using #10 x 1" Pancake Head screws. (**Fig. 20.2**)

Install the remaining panels above the pitch change as normal. (**Fig. 20.3**)

Fig. 20.3 - *Panels installed above the pitch change*

Alternatively, if the transition point of the pitch change falls directly beneath a barrel shift in the tile, it is possible to simply bend the panel in the area that corresponds to the transition point and install without the use of other trims. (**Fig. 20.4**)

Fig. 20.4 - *Panel installed at pitch change without trim*

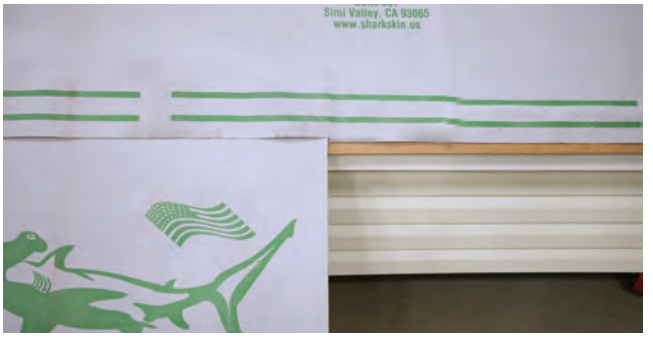


Fig. 21.1 - *Eave Starter installed at short course location*

Fig. 21.2 - *C-closure, Rake, and Bird Stop installed*

Fig. 21.3 - *Panels with top lock trimmed*

Fig. 21.4 - *Panels installed above the short course*

SHORT COURSE

A short course is necessary where the tops on panels will not align, such as a roof with a bump out, and an adjustment needs to be made to the first course of panels along the eave.

Place a piece of Eave Starter at the short course location and fasten in place using #10 x 1" Pancake Head screws every 12". (Fig. 21.1)

Install C-Closure, Rake, and Bird Guard at the short course location next. Be sure to overlap the trims as shown. (Fig. 21.2)

Cut off the top lock of the short course panels (as shown). Install panels at the short course location. (Fig. 21.3)

Then install the remaining panels above the short course as normal, making sure the overlap points on the short course line up neatly with each other. (Fig. 21.4)

***TIP** - When possible, make up the difference on the first course of panels at the lower or shorter eave and avoid short courses in the middle of a roof plane.*

SECTION 2 | SYSTEM INSTALLATION

PENETRATION POINTS

WEEP TRIMS AT CORNERS

Weep trims provide a secondary source of protection and act as drainage systems to protect vulnerable flashing points. Weep trims should be field formed for best results.

***TIP** - Careful attention to flashing details is important to successful long-term roof performance. Always consider water flow and apply sealant generously where needed.*

Install courses of panels until there is less than a full panel remaining between the penetration and the course of tiles below. (Fig. 22.1)

Place the weep trim under the C-Closure and over the bottom panel. Angle the weep trim to the nearest flat section of the panel. Mark the bottom of the weep trim parallel with the top of the panel. Mark and fold a side tab on the weep trim to deflect water onto the flat section of the panel. (Fig. 22.2)

Mark the top lock of the panel where the weep trim passes over it. (Fig. 22.3)

Cut the top lock of the bottom panel, then bend open and flatten. *Apply sealant to the flattened portion of the top lock before installing weep trim* and then fasten in place using #10 x 1" Hex Head Self-Sealing Washer screws. (Fig. 22.3)

Cut and open the lock on the C-Closure to drain onto the weep trim. (Fig. 22.4)

Before installing the next panel over the weep trim, open the bottom lock to allow for water drainage. (Fig. 22.4)

Fig. 22.1 - *Panels installed below penetration point*

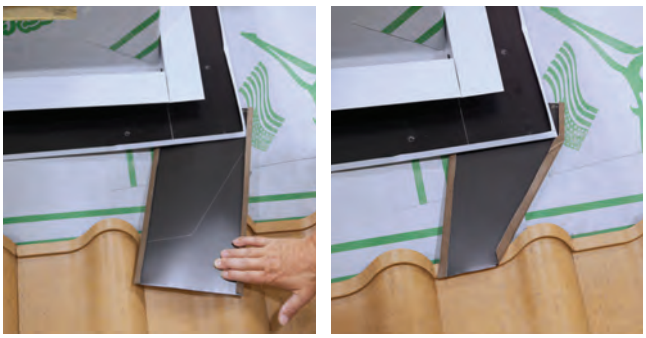


Fig. 22.2 - *Weep trim located under C-Closure and over panel*

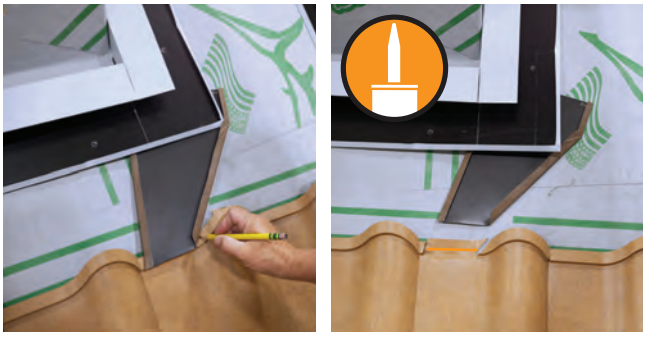


Fig. 22.3 - *Panel top lock cut and flattened*

Fig. 22.4 - *C-Closure and bottom lock on panel opened*

Fig. 23.1 - *Panel installed around vent pipe*

VENT PIPE FLASHING

Cut the panel to fit tightly around the vent pipe. (Fig. 23.1)

***TIP** - It is always advantageous and will provide an extra source of protection if a weep trim is installed around the vent pipe before the panel.*

Fig. 23.2 - *Vent pipe flashing fastened to panel*

Apply a bead of sealant around the vent pipe before installing the pipe flashing. (Fig. 23.1)

Fit a flexible pipe flashing over the vent pipe and form to the contour of the panels.

Apply a generous bead of sealant under the screw flange of the pipe flashing. Fasten the pipe flashing with a sealed washer screw every 1" around the perimeter of the flashing. Refer to pipe flashing manufacturer specifications for more information. (Fig. 23.2)

SECTION 2 | SYSTEM INSTALLATION

PENETRATION POINTS

GOOSE NECK PIPE FLASHING

Install panels up to the goose neck pipe flashing. (Fig. 24.1)

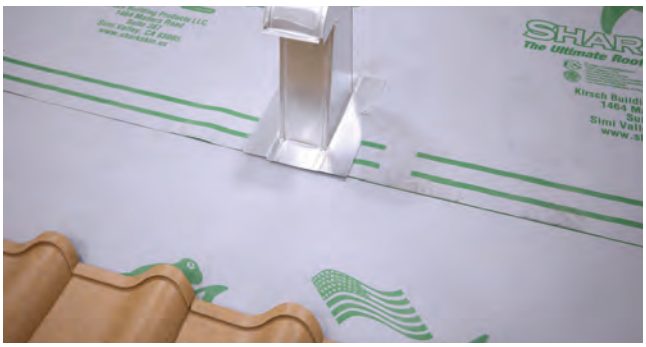


Fig. 24.1 - *Panel installed with clearance for weep trims*

Form weep trims with 5" tabs that fit tightly around the goose neck pipe flashing. Be sure to overlap the weep trims in a way that water will flow out from underneath the next panel onto the panel below as shown. *Apply sealant as needed.* (Fig. 24.2)

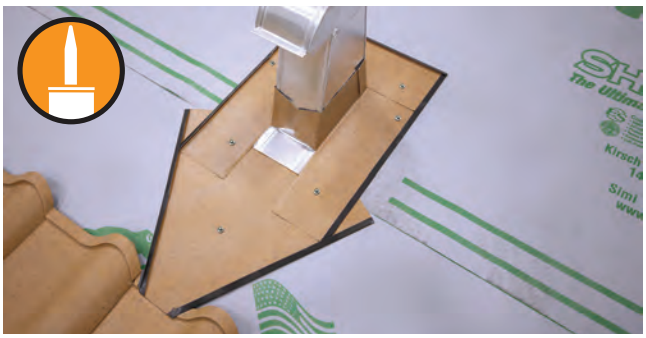


Fig. 24.2 - *Weep trims installed around pipe flashing*

Cut and fit the next panel to fit tightly around the goose neck pipe flashing, then fasten in place.

Fig. 24.3 - *Panel installed around the pipe flashing*

Once the panel is installed, fasten the weep trim tabs to the flashing with #10 x 1¼" color-matched Hex Head screws. (Fig. 24.3)

Fig. 24.4 - *Panel bottom lock opened*

Be sure to cut the bottom lock open where the panel crosses the weep trim exit point. Then install the remaining panels as normal. (Fig. 24.4)

Fig. 25.1 - *Chimney with 1" deep kerf*

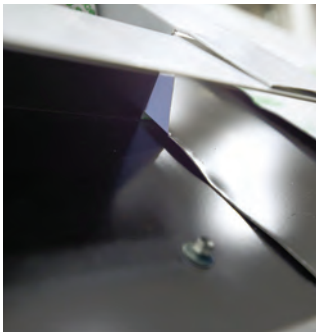


Fig. 25.2 - *C-Closure installed with diverters*

Fig. 25.3 - *Weep trim installed at bottom corners*

Fig. 25.4 - *Apron installed at bottom of chimney*

CHIMNEY FLASHING

NOTE: These illustrations are for a masonry chimney, different types of chimneys may require slight variations in method.

***TIP** - Careful attention to flashing details is important to successful long-term roof performance, always consider water flow and apply sealant generously where needed.*

Cut a 1" deep kerf into the chimney approximately 6½" above the roof deck for the counter-flashing to fit into. (Fig. 25.1)

Apply Sharkskin® Ultra SA around the perimeter of the chimney and up the side approximately 6".

Install C-Closure around the perimeter of the chimney. The C-Closure must be the correct distance away from the chimney to allow the Apron and Sidewall to lock in place. *Apply sealant as needed.* (Fig. 25.2)

Leave diverters at the corners of the C-closures for optimum water flow. (Fig. 25.2)

Install weep trim at the bottom corners of the C-Closures for water to drain properly. See page 22 for weep trim installation. (Fig. 25.3)

Cut a piece of Apron to the required length and bend 1" tabs around the bottom corners of the chimney. Temporarily fasten the Apron in place.

Once panels are installed, insert Wind Stop under the Apron then fasten through the C-Closure and into the panels using #10 x 1¼" color matched Hex Head screws every 12". (Fig. 25.4)

PENETRATION POINTS

CHIMNEY FLASHING - CONTINUED

Fill kerf with sealant before installing any flashings and *apply a second bead of sealant after the flashings are securely installed*.

Field form a piece of counter-flashing to cover the Apron. Bend 1" tabs outward at the bottom corners of the chimney. *Apply sealant on the back side of the counter-flashing,* then fasten in place using masonry screws. (**Fig. 26.1**)

Fig. 26.1 - *Counter-flashing installed*

Cut a piece of Sidewall to the required length. Bend a 1" tab to fit into the kerf. Form tabs and bend around the top and bottom corners of the chimney. *Apply sealant under the Sidewall,* then fasten the Sidewall in place using masonry screws as needed. Repeat previous steps for other Sidewall. (**Fig. 26.2**)

Fig. 26.2 - *Sidewall installed*

Cut a piece of Sidewall to the required length for the top of the chimney. Position the piece in place then mark the corners of the chimney and form a diverter at both locations. Bend a 1" tab on the top of the Sidewall to fit into the kerf. *Apply sealant between the Sidewalls,* then fasten in place using #10 x 1¼" color matched Hex Head screws or masonry screws as needed. (**Fig. 26.3**)

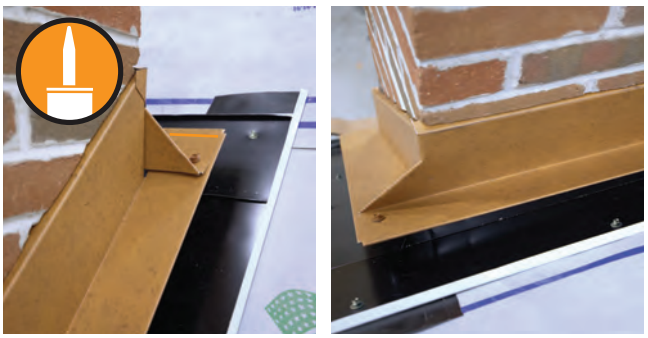


Fig. 26.3 - *Sidewall installed at chimney top with diverters*

Install panels around the chimney. (**Fig. 26.4**)

Fig. 26.4 - *Panels installed around the chimney*

Fig. 27.1 - *Underlayment installed around skylight*

Fig. 27.2 - *C-Closure installed around skylight*

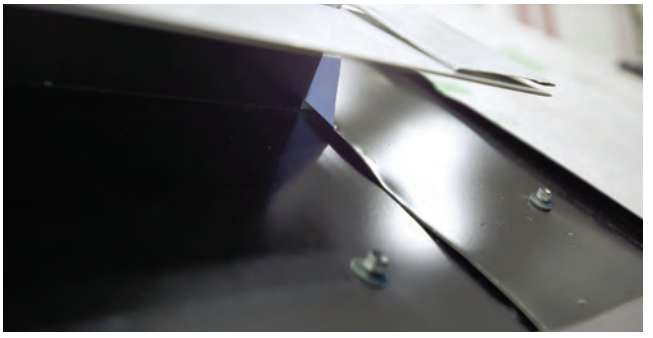


Fig. 27.3 - *Diverter formed at the corners on C-Closure*

Fig. 27.4 - *Weep trim installed at bottom corner*

SKYLIGHT FLASHING

NOTE: These illustrations are for a curb mount skylight. Other types of skylights may require variations of the following steps.

***TIP** - Careful attention to flashing details is important to successful long-term roof performance. Always consider water flow and apply sealant generously where needed.*

Apply Sharkskin® Ultra SA around the perimeter of the skylight and up the side. (**Fig. 27.1**)

Install the C-Closure around the perimeter of the skylight. The C-Closure must be the correct distance away from the skylight to allow the Apron and Sidewall to lock in place. *Apply sealant as needed.* (**Fig. 27.2**)

Be sure to leave a tab to act as a diverter where the C-Closures meet at each corner for optimum water flow. (**Fig. 27.3**)

Install Weep Trim at the bottom corners of the C-Closures for water to drain properly. See page 22 for Weep Trim installation. (**Fig. 27.4**)

SKYLIGHT FLASHING - CONTINUED

Cut a piece of Apron to the required length and bend 1" tabs around the bottom corners of the skylight. Temporarily fasten the Apron in place. (Fig. 28.1)

Fig. 28.1 - *Apron installed at the bottom of skylight*

Once panels are installed, insert Wind Stop under the Apron then fasten through the C-Closure and into the panels using #10 x 1¼" color matched Hex Head screws every 9".

Cut a piece of Sidewall to the required length. Form tabs and bend around the top and bottom corners of the skylight. *Apply sealant under the Sidewall,* then fasten the Sidewall in place using #10 x 1" Pancake Head screws. Repeat previous steps for the other Sidewall. (Fig. 28.2)

Fig. 28.2 - *Sidewall installed on the sides of skylight*

Cut a piece of Sidewall to the required length for the top of the skylight. Position the piece in place and mark the corners of the skylight then form a diverter at both locations. *Apply sealant between the Sidewalls,* then fasten in place using #10 x 1" Pancake Head screws. (Fig. 28.3)

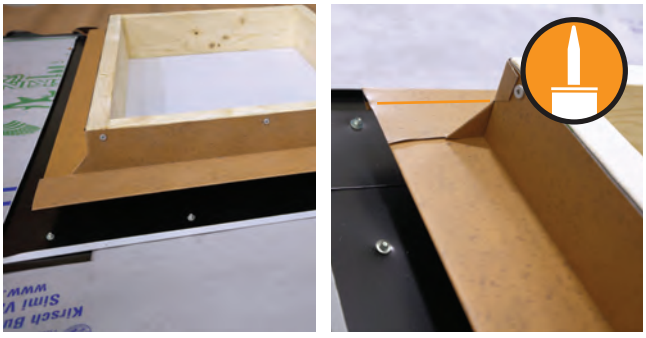


Fig. 28.3 - *Sidewall installed at the top of skylight*

Install panels around the skylight. (Fig. 28.4)

Fig. 28.4 - *Panels installed around skylight*

HIP DETAILS

Fig. 29.1 - *C-Closures installed at hip*

Install C-Closures at the hip. It may be helpful to use a short section of Ridge/Hip Cap to set the location of the C-Closures. Fasten the C-Closures in place using #10 x 1" Hex Head Self-Sealing Washer screws every 12". (Fig. 29.1)

Install the remaining panels into the C-Closures.

Fig. 29.2 - *Prepared Ridge/Hip Cap with End Cap installed*

Bend the first piece of Ridge/Hip Cap to the correct pitch, then attach the End Cap. Lock the prepared piece onto the C-Closures at the bottom of the hip. (Fig. 29.2)

Fig. 29.3 - *Ridge/Hip Cap pieces ready to overlap*

Overlap the Ridge/Hip Cap sections 4". Trim the corners of the previously installed section to allow the pieces to fit together. *Apply sealant between the pieces before fastening.* (Fig. 29.3)

When two hips end into a ridge, trim the Ridge/Hip Caps and overlap as needed to create a watertight transition. *Apply sealant between the pieces before fastening.* (Fig. 29.4)

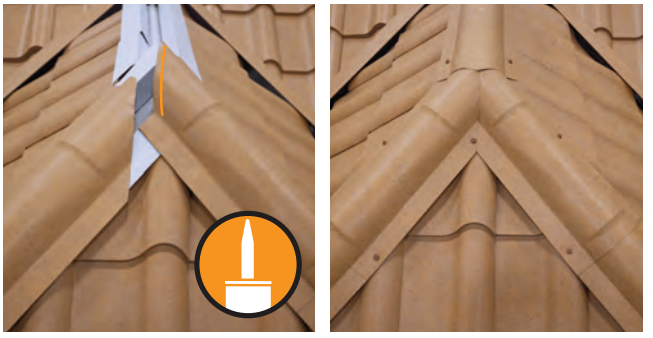


Fig. 29.4 - *Ridge/Hip Cap installed at two hips*

Once the remaining Ridge/Hip Caps are locked onto the C-Closures, fasten through every other barrel using #10 x 1¼" color matched Hex Head screws. (Fig. 29.4)

SECTION 2 | SYSTEM INSTALLATION

RIDGE DETAILS

NON-VENTED RIDGE

Install C-Closure at the ridge. It may be helpful to use a short section of Ridge/Hip Cap to set the location of the C-Closure. Fasten the C-Closure in place using #10 x 1" Hex Head Self-Sealing Washer screws every 12". (Fig. 30.1)

Install the remaining panels into the C-Closure.

Lock the first piece of Ridge/Hip Cap into the C-Closures at the Rake. Modify the End Cap as needed and fasten it to the Ridge/Hip Cap.

Fasten the Ridge/Hip Cap and the End Cap to the Rake making sure to secure them both using #10 x 1¼" color matched Hex Head screws. (Fig. 30.2)

Overlap the Ridge/Hip Cap sections 4". Trim the corners of the previously installed section to allow the pieces to fit together. *Apply sealant between the pieces before fastening.* (Fig. 30.3)

When ending into a valley, trim the Ridge/Hip Cap to match the contour of the panels. Tuck the Wind Stop in place under the Ridge/Hip Cap before fastening.

Fasten the Ridge/Hip Cap through every other barrel of the panel using #10 x 1¼" color matched Hex Head screws. (Fig. 30.4)

VENTED RIDGE

For a vented ridge application use Vented C-Closure in place of standard C-Closure.

Fig. 30.1 - *C-Closures installed at ridge*

Fig. 30.2 - *Ridge/Hip Cap and End Cap installed*

Fig. 30.3 - *Ridge/Hip Cap ready to be overlapped*

Fig. 30.4 - *Ridge/Hip Cap installed*

SECTION 3 | POST-INSTALLATION
MAINTENANCE AND CLEANING

The factory-applied paint finish on your new metal roof has a surface coating specially designed to resist the accumulation of common environmental residues, such as airborne dirt and industrial pollutants. In most areas, a typical rainfall will adequately wash away these particles and maintain a clean appearance.

As general guidance to this low-maintenance benefit, ProVia® promotes paying simple attention to your roof's appearance to further protect its beauty and prolong coating life.

It is good practice to periodically scan your roof for fallen debris from nearby trees. Remove any leaves, twigs, pine needles or other elements that may cause moisture retention, improper drainage or blocked sunlight, as this can lead to formations of algae, moss or mildew. Fluids from these organisms can encourage rust and an unsightly appearance on your roof panels over time.

Safety Precautions
A metal roof is slippery and attempting roof maintenance can be extremely dangerous. To avoid risk of injury resulting from falls from ladders or roofs, ProVia recommends hiring a skilled professional when accessing or traversing the roof is required.

Routine Cleaning
In most cases, clean water from a garden hose will remove most dirt and accumulated deposits. When heavier stubborn dirt or contaminants such as tree sap are present, follow the additional cleaning methods suggested below.

Preparations
1. Protect shrubs or trees from direct contact with cleaning agents.
2. Use proper personal protection and follow precautionary instructions for product usage located on container labels.
3. Prepare needed solution according to soil levels listed below.
4. Test a small inconspicuous area with the cleaning solution before proceeding to entire roof.
5. Always use a cloth or soft brush for application. Never use a wire brush, scouring pad or harsh solvents.

Hot or Cold Detergent Solutions

A 5% solution in water of commonly used commercial (non-industrial) detergents will not have any deleterious effect on a paint surface. These solutions should be followed by an adequate rinse of water. Use a cloth or a soft brush for application.

To prevent streaking, work from top to bottom of panels with well-soaked soft cloth, sponge or brush. Flush thoroughly with fresh water during and after cleaning to ensure no residue is left on the surface.

Spot Cleaning
Mildew

In areas subjected to high humidity levels, dirt and spore deposits can permit mildew growth to occur. The following solution is recommended to remove mildew when necessary.

- ⅓ cup dry powdered laundry detergent (ex. Tide™)
- 1 qt. sodium hypochlorite 5% solution (ex. Clorox™)
- 3 qts water

Dip cloth or soft brush in solution, scrub areas with mold or mildew, repeat this process until area becomes free from contaminants. Rinse area thoroughly with water to remove all traces of solution.

Warnings
Non-pressure cleaning methods are always recommended. When using a garden hose, take extra care to prevent water being forced under panels or vents and an experienced roof cleaner is suggested.

Warranty
Misuse of the cleaning agents above will result in a voided surface warranty.

SECTION 4 | STANDARDS AND CERTIFICATIONS

ACCREDITATION AND TESTING

ProVia's metal roofing products are voluntarily third-party tested and certified, and meet or exceed stringent industry standards.

EVALUATION

Barrel Tile Panels

TEST TYPE	STANDARD	RATING
Wind Uplift	AC166, UL 580, UL1897	130 mph
Impact Resistance	UL 2218	Class 4
Gravity Load	ASTM E72	Pass
Weather Resistance	ASTM G-154	Pass
Wind-Driven Rain	AC166	Pass
TDI Wind Approved	TDI Listing	Pass
Fire Classification	ASTM E-108	Pass
ACC166 Report #	IAPMO_ER_#817	Pass
Florida Product #	FL41822	Pass

Each of ProVia's metal roofing panel colors have been rated for solar reflectance, and these values are listed by the Cool Roof Rating Council (CRRC) at coolroofs.org.

The CRRC was created in 1998 to develop accurate and credible methods for evaluating and labeling the solar reflectance and thermal emittance (radiative properties) for roofing products, to support research, and serve as an educational resource for information on roofing.

ENERGY STAR AWARD 2019
PARTNER OF THE YEAR
Sustained Excellence

At ProVia, we manufacture energy efficient products and exercise environmental stewardship by recycling, reducing pollution emissions and much more. In fact, our company has received repeated awards from the Environmental Protection Agency such as Partner of the Year - Sustained Excellence for outstanding efforts in energy savings.

MRA METAL ROOFING ALLIANCE®

ProVia is a proud member of the Metal Roofing Alliance (MRA), which is the leading voice for companies and professionals involved in the residential metal roofing industry. An affiliate organization of the Metal Construction Association, the MRA is dedicated to helping homeowners make educated roofing decisions and connecting them with expert metal roofing professionals. As such, we support advocacy in building code and standards arenas, quality materials, installation and design using metal roofing.

PEACE-OF-MIND

LIFETIME
LIMITED WARRANTY

ProVia's metal roofing products are backed by an **industry-leading Lifetime Limited Warranty**. Visit **provia.com/warrranty** for more details.

*For additional information and helpful videos, visit our Homepage for Installers by scanning the QR Code shown on the right.

"To serve, by caring for details in ways others won't." It's not just our mission, but a way of letting our light shine every day at ProVia®. We continually strive to put these words into action by providing unmatched quality and service. The P-icon symbolizes each employee's commitment to devoting the utmost care, pride and quality into each building product we manufacture…**it's The Professional Way.**

ProVia®
THE PROFESSIONAL WAY

DOORS | WINDOWS
SIDING | STONE | ROOFING

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