



## INSTALLATION GUIDELINES



**DISCLAIMER:** The installation recommendations provided in this guide are being furnished as general information to the users of Westlake Royal™ EnviroPro™ products. Westlake Royal Roofing Solutions™ is the manufacturer of Newpoint™ concrete roofing tiles and the EnviroPro™ roofing component. The installation of the roofing tiles and the EnviroPro™ roofing component is the responsibility of the roofing contractor and must be performed in accordance with prevailing building code requirements. In some instances, a licensed engineer must also approve the roofing tile and component installation. Accordingly, Westlake Royal Roofing LLC makes no representations or warranties of any type regarding (i) the effectiveness of any method of installation (ii) the accuracy of the information contained herein or (iii) the suitability of its materials for any application. These recommendations are not to be used in lieu of reliance upon the expertise of a roofing contractor or an engineer, if applicable, or in lieu of following the prevailing building code rules and regulations that are applicable in your geographic location.

## GENERAL NOTES

EnviroPro™ product is designed to be used as a component product in all field cut areas of the roof. EnviroPro™ product profiles are designed to work with related Newpoint™ standard concrete field tiles and installed following the general guidelines of standard roof tiles. For pitch requirements between 2-1/2:12 and 4:12, refer to local building code for underlayment requirements. For aesthetic installations below 2-1/2:12 a built up roofing system is required per building code requirements. Follow local building code and product evaluation directions, as found in ER-412.

Recommendations contained in this guide are offered as a service to the users of EnviroPro™ products. Minimum requirements are identified as dictated by prevailing building code. Any deviation from these standards are to be approved by the Authority Having Jurisdiction (AHJ).

## OSHA RESPIRABLE CRYSTALLINE SILICA (RCS) STANDARD

EnviroPro™ roofing component is manufactured with reduced crystalline silica content. Installation in accordance with instructions and good construction practices results in significantly less respirable crystalline silica (RCS) exposures compared to conventional roofing materials excusing use of a wet saw or mandatory respiratory protection. To be in full compliance with the OSHA RCS Standard, 29 CFR 1926.1153, installers of this product - as with any other concrete roof tile - must have:

- (1) a written Exposure Control Plan;
- (2) a Competent Person to assume responsibility for proper health and safety practices;
- (3) availability of relevant Safety Data Sheets (SDS); and
- (4) communication and training of workers on RCS health hazards and proper work practices.

See enclosed Templates 1 – 5 and EnviroPro™ roofing component Safety Data Sheet (SDS) for a suggested plan and training materials. Each employer must evaluate its own working conditions to ensure compliance with all OSHA standards. Other OSHA occupational safety and health standards apply to roofing installation work. See [www.osha.gov/Publications/OSHA3755.pdf](http://www.osha.gov/Publications/OSHA3755.pdf)

## ENVIRONMENTAL STATEMENT

Westlake Royal Roofing Solutions™ is an environmentally conscious company whose policies and practices reflect a commitment to the preservation and welfare of our environment. Newpoint™ concrete roofing tiles and EnviroPro™ roofing component are manufactured in accordance with prevailing environmental guidelines. Because Newpoint™ roof tiles and EnviroPro™ roofing component are designed to last, they will not add to the volume expected at overtaxed landfills as other roofing materials do.

## EVALUATION REPORTS AND CODE COMPLIANCES

For more information, refer to Safety Data Sheets (SDS) available on our web at [WestlakeRoyalRoofing.com](http://WestlakeRoyalRoofing.com)

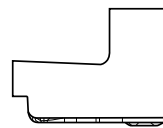
## STRUCTURAL LOADING CONSIDERATIONS

EnviroPro™ product does not affect the standard roof load distribution and should be loaded per structural designation. Refer to roof load diagram on page 2.

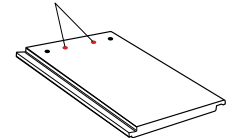
## IDENTIFYING ENVIROPRO™ ROOFING COMPONENT

To help identify the EnviroPro™ product, Westlake Royal™ Roofing Components has created a patent pending design for the underlap/water channel and added two fastener locations (total of four) for each profile.

**Low (Flat) Profile:** The primary fastening locations are the inner holes on the low profile.

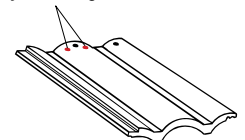


Primary Fastening Locations



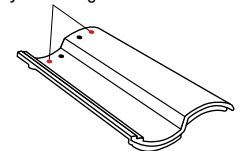
**Medium Profile:** The primary fastening locations are indicated on the medium profile.

Primary Fastening Locations



**High Profile:** The primary fastening locations are the outer holes on the high profile.

Primary Fastening Locations

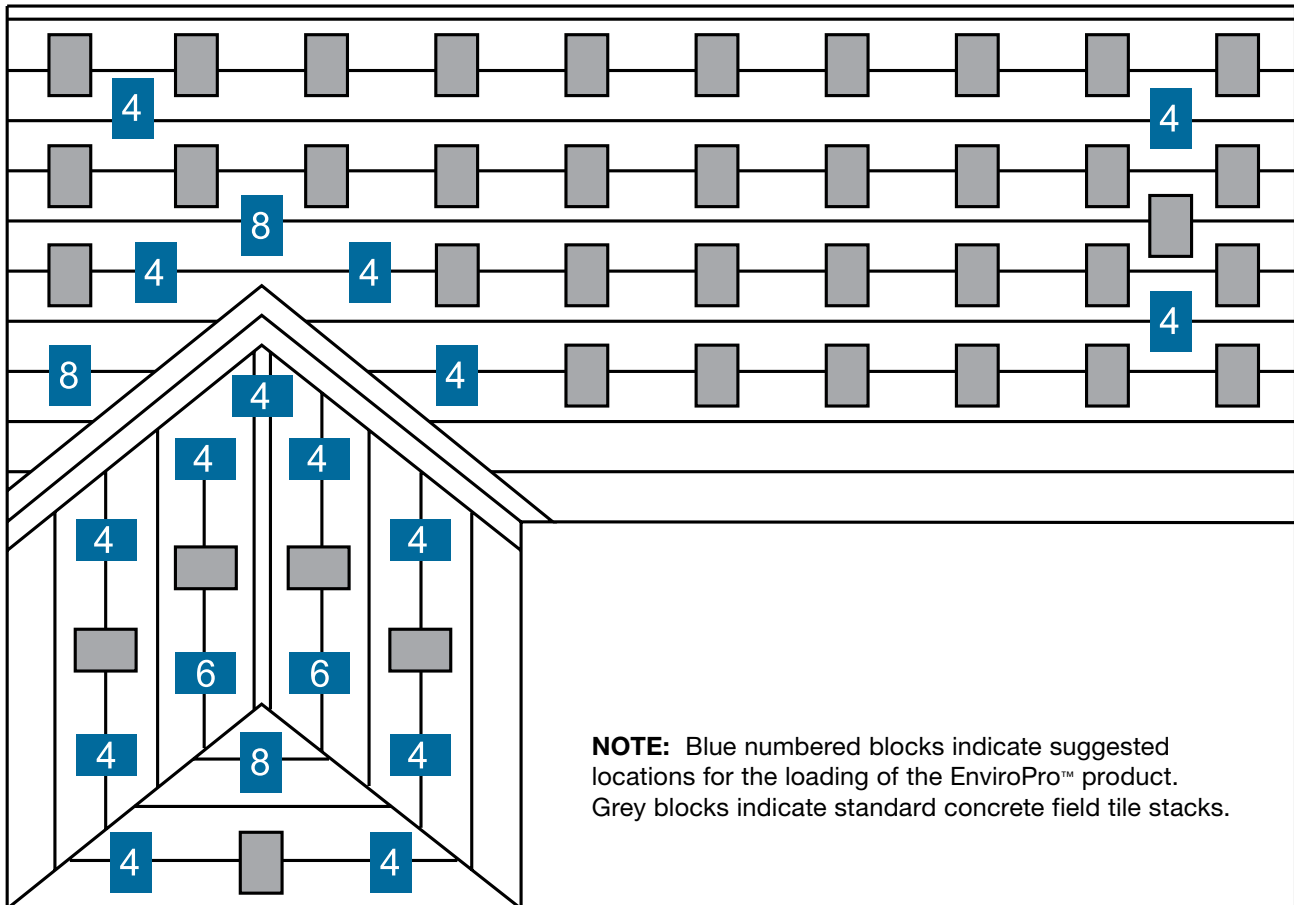


**NOTE:** Depending upon the profile selected for the project, the EnviroPro™ product may be installed in a “Straight bond” or a “Half (Broken) bond” pattern. “Straight bond” is illustrated in the Sidewall and Tile Pan details, while the “Half bond” or “Broken bond” is illustrated in the Skylight, Rake and Vent Pipe details.

ROOFING LAYOUT PER PROFILE		
Profile	Layout (Install) Pattern	
	Straight Bond	Half (Broken) Bond
Low (Flat)		●
Medium	●	●
High	●	

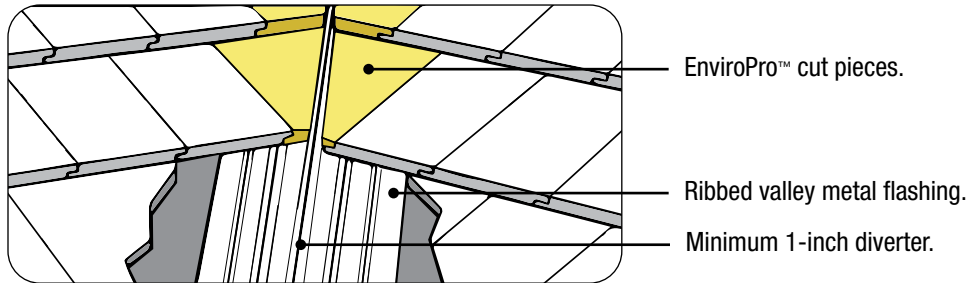
## ROOF LOADING OF THE ENVIROPRO™ COMPONENT PRODUCT

The loading shown below represents a method of placement of EnviroPro™ product in relation to standard concrete field tiles. It is not intended to suggest that this is the only method that will work. Each applicator will have personal preferences for the stack location and spacing. An important aspect of loading EnviroPro™ product is to provide enough material at the location to have the correct amount of product for the detail being performed.



1. Course lines should be measured and chalked according to the roof layout recommendation above, before loading the roof.
2. Determine the approximate number of EnviroPro™ product that is needed for each section of the roof.
3. The spacing and location of the EnviroPro™ product is determined by the number needed per course.
4. Starting on the third course from the eave, and continuing with every other course, distribute EnviroPro™ product evenly over the roof. If cuts are required at gables, load one (1) EnviroPro™ product per course of needed cuts.
5. Load two (2) of the EnviroPro™ product per course at the hips and valleys.
6. If more than one color of EnviroPro™ products has been selected to be installed, care should be taken upon roof loading to mix them throughout the cut detail locations.

## TYPICAL CLOSED VALLEY DETAIL

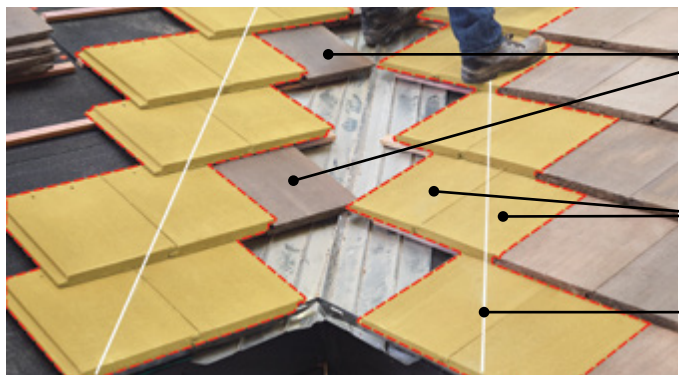


**NOTE:** Ensure that no fasteners are located inside the valley ribs.

Mark and cut EnviroPro™ product to the desired position and install to local building codes and jurisdictions.

### CLOSED VALLEY – “SPEED CUTTING” OR “LAYBACK” INSTALLATION METHOD

- Loosely place two (2) of the EnviroPro™ products as tight to the center valley “V” as possible, leaving space for the EnviroPro™ products. Do not extend the EnviroPro™ product past the center line of the valley.
- Measure the exposed width of the two (2) EnviroPro™ products.
- At the top and bottom of the valley, using the two-piece measurement, measure out from the center of the valley and mark the EnviroPro™ products horizontally.
- Snap a chalk line up the valley on the marks (this is the cut line).
- Cut the EnviroPro™ product up the chalk line (care must be taken to not cut into the underlayment).
- Remove the two (2) EnviroPro™ cut pieces.
- Install two (2) standard concrete field tiles.
- Install the EnviroPro™ cut pieces into the valley.
- The EnviroPro™ cut pieces should be secured by either of the following:
  - Local building code approved adhesive; or
  - Local building code approved fastening device.



Standard concrete field tiles used to temporarily support the EnviroPro™ product during layout.

**NOTE:** Do not cut the support tiles.

Two (2) of the EnviroPro™ products per course.

Chalk line (cut line).

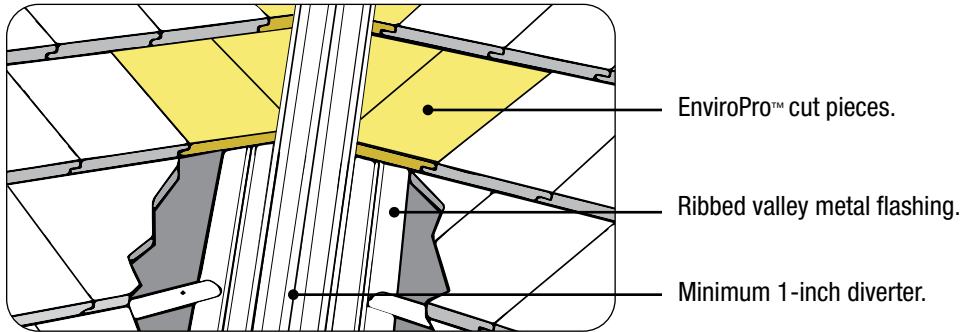
*Example of closed valley layout and chalk line (cut line).*

### CLOSED VALLEY - “CUT IN PLACE” OR “MARK AND CUT” INSTALLATION METHOD

- Install standard concrete field tiles as tight to the center valley “V” as possible, leaving space for the EnviroPro™ product. Do not extend the EnviroPro™ product past the center line of the valley.
- Measure the remaining space at both the bottom and top of the opening.
- Transfer measurements to the EnviroPro™ product.
- Mark and cut the EnviroPro™ product to size.
- Install the EnviroPro™ cut pieces into place.
- The EnviroPro™ cut pieces should be secured by either of the following:
  - Local building code approved adhesive; or
  - Local building code approved fastening device.

**NOTE:** Removal of cut dust by blowing as a short duration activity at the end of each shift is acceptable for EnviroPro™ roofing component installation.

## TYPICAL OPEN VALLEY DETAIL



**NOTE:** Ensure that no fasteners are located inside the valley ribs.

Mark and cut EnviroPro™ product to the desired position and install to local building codes and jurisdictions.

### OPEN VALLEY – “SPEED CUTTING” OR “LAYBACK” INSTALLATION METHOD

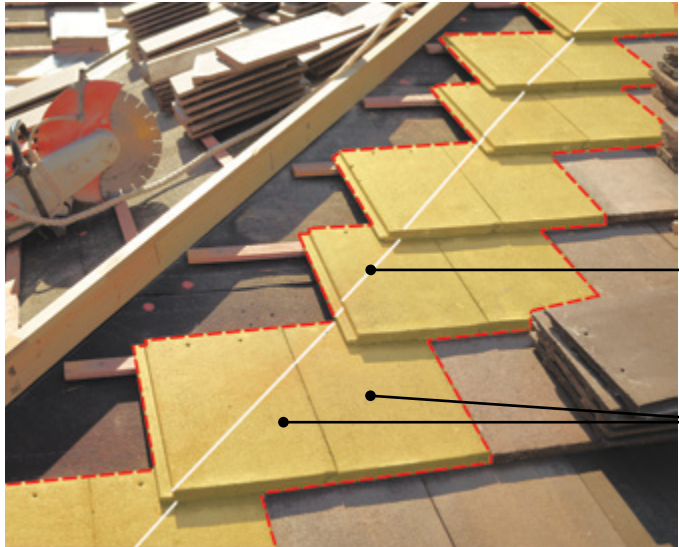
1. Loosely place two (2) of the EnviroPro™ products as tight to the center valley “V” as possible, leaving space for the EnviroPro™ products. Do not extend EnviroPro™ product past the center line of the valley.
  2. Measure the exposed width of the two (2) EnviroPro™ products, plus the desired “open” width of the valley.
- NOTE:** a. Finished roof product **MUST** extend a minimum of 4” over the valley metal.  
 b. It may be necessary to use a third EnviroPro™ product at a given course, if valley opening exceeds the two-piece layout.
3. At the top and bottom of the valley, using the two-piece measurement, measure from the desired position of the valley and mark the EnviroPro™ products horizontally.
  4. Snap a chalk line up the valley on the marks (this is the cut line).
  5. Cut the EnviroPro™ product along the chalk line (care must be taken to not cut into the underlayment).
  6. Remove the two (2) EnviroPro™ cut pieces.
  7. Install two (2) standard concrete field tiles.
  8. Install the EnviroPro™ cut pieces into the valley.
  9. The EnviroPro™ cut pieces should be secured by either of the following:
    - a. Local building code approved adhesive; or
    - b. Local building code approved fastening device.

### OPEN VALLEY - “CUT IN PLACE” OR “MARK AND CUT” INSTALLATION METHOD

1. Install standard concrete field tiles as tight to the center valley “V” as possible, leaving space for the EnviroPro™ product. Do not extend EnviroPro™ product past the center line of the valley.
  2. Measure the remaining space at both the bottom and top of the opening, plus the desired “open” width of the valley.
- NOTE:** a. Finished roof product **MUST** extend a minimum of 4” over the valley metal.  
 b. It may be necessary to use a third EnviroPro™ product at a given course, if valley opening exceeds the two-piece layout.
3. Transfer measurements to the EnviroPro™ product, adding for the desired “open” width of the valley.
  4. Mark and cut the EnviroPro™ product to size.
  5. Install the EnviroPro™ cut pieces into place.
  6. The Westlake Royal™ EnviroPro™ cut pieces should be secured by either of the following:
    - a. Local building code approved adhesive; or
    - b. Local building code approved fastening device.

**NOTE:** Removal of cut dust by blowing as a short duration activity at the end of each shift is acceptable for EnviroPro™ roofing component installation.

## HIP DETAIL



Chalk line (cut line).

Two (2) of the EnviroPro™ products per course.

*Example of closed valley layout and chalk line (cut line).*

### HIPS - “SPEED CUTTING” OR “LAYBACK” INSTALLATION METHOD

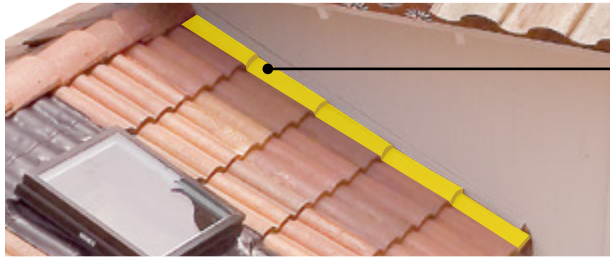
1. Loosely place two (2) of the EnviroPro™ products adjacent to the hip nailer (within a 1/2” of nailer board).
2. Measure the exposed width of the two (2) EnviroPro™ products.
3. At the top and bottom of the hip, using the two-piece measurement, measure out from the hip board and mark the EnviroPro™ product horizontally.
4. Snap a chalk line up the hip on the marks (this is your cut line).
5. Cut the EnviroPro™ product along the chalk line
6. Remove the EnviroPro™ cut pieces.
7. Install two (2) standard concrete field tiles.
8. Install the EnviroPro™ cut pieces next to hip board.
9. The EnviroPro™ cut pieces should be secured by either of the following:
  - a. Local building code approved adhesive; or
  - b. Local building code approved fastening device.

### HIPS - “CUT IN PLACE” OR “MARK AND CUT” INSTALLATION METHOD

1. Install standard concrete field tiles as tight to the hip nailer as possible (within a 1/2” of nailer board), leaving space for the EnviroPro™ product.
2. Measure the remaining space at both the bottom and top of the opening.
3. Transfer measurements to the EnviroPro™ product.
4. Mark and cut the EnviroPro™ product to size.
5. Install the EnviroPro™ cut pieces into place.
6. The EnviroPro™ cut pieces should be secured by either of the following:
  - a. Local building code approved adhesive; or
  - b. Local building code approved fastening device.

**NOTE:** Removal of cut dust by blowing as a short duration activity at the end of each shift is acceptable for EnviroPro™ roofing component installation.

## SIDEWALL DETAIL



EnviroPro™ cut pieces.

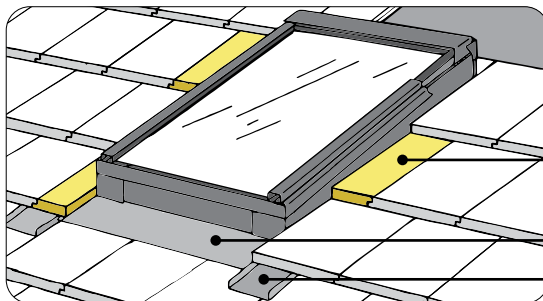
### SIDEWALL - “CUT IN PLACE” OR “MARK AND CUT” INSTALLATION METHOD

1. Install standard concrete field tiles as tight to the wall as possible, leaving space for the EnviroPro™ product.
2. Measure the remaining space at both the bottom and top of the opening.
3. Transfer measurements to the EnviroPro™ product.
4. Mark and cut the EnviroPro™ product to size.
5. Install the EnviroPro™ cut pieces into place.
6. The EnviroPro™ cut pieces should be secured by either of the following:
  - a. Local building code approved adhesive; or
  - b. Local building code approved fastening device.

**NOTE:** Removal of cut dust by blowing as a short duration activity at the end of each shift is acceptable for EnviroPro™ roofing component installation.

## ROOF CURB/WALL DETAIL (SKYLIGHT, VENT AND/OR CHIMNEY)

### CONTINUOUS FLASHING METHOD

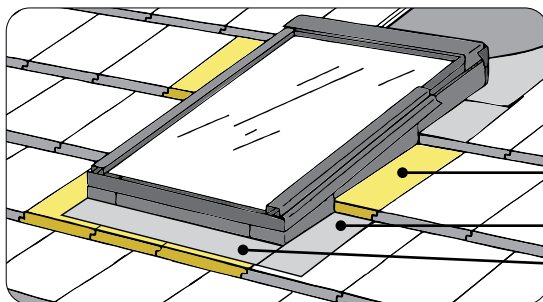


EnviroPro™ cut piece.

Apron flashing.

Continuous flashing.

### STEP FLASHING METHOD

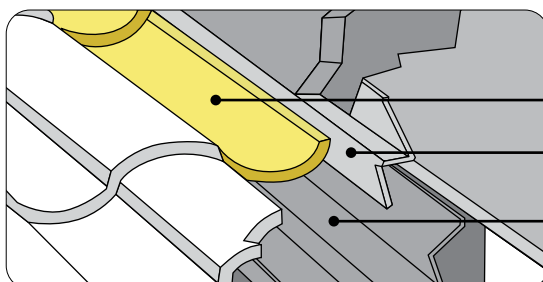


EnviroPro™ cut piece.

Step flashing a minimum of 17" in length.

Apron flashing.

### TILE PAN METHOD

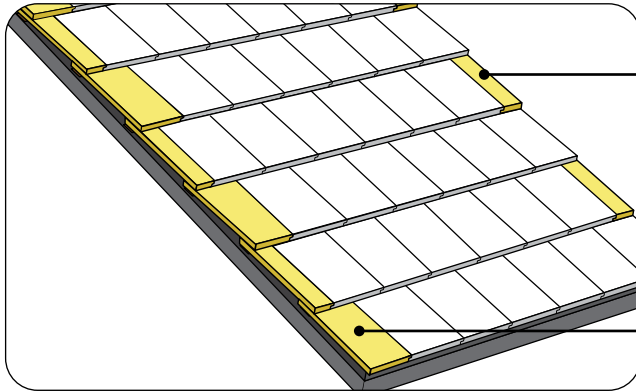


EnviroPro™ cut piece.

Counterflashing.

Tile pan.

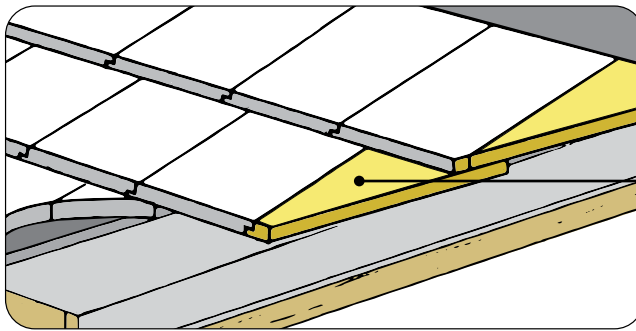
### RAKE DETAIL



Cut EnviroPro™ product to create proper stagger for roof layout.

Mark and cut EnviroPro™ product at left side to fit roof layout.

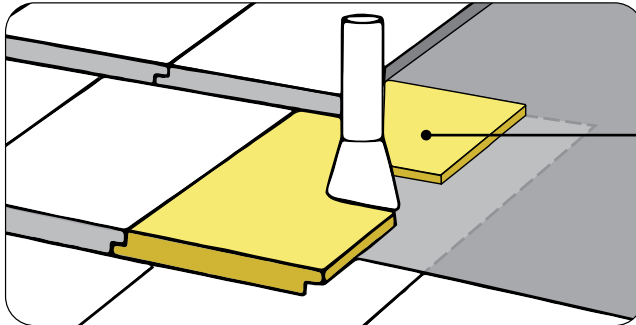
### SPLAYED GABLE DETAIL



EnviroPro™ cut piece.

### VENT PIPE DETAIL

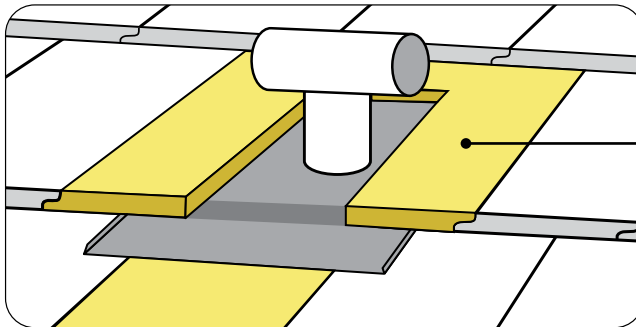
#### OPTION 1



EnviroPro™ product cut around vent pipe.

**NOTE:** Pipe penetrations are to be flashed as per industry and building code standards.

#### OPTION 2



EnviroPro™ product cut to meet at vent material and flashing.

**NOTE:** Removal of cut dust by blowing as a short duration activity at the end of each shift is acceptable for EnviroPro™ roofing component installation.





### ABOUT WESTLAKE ROYAL ROOFING SOLUTIONS™

Westlake Royal Roofing Solutions™ is the combination of DaVinci® Roofscapes and the former Boral North America roofing product lines. The company is a recognized, national leader in durable and sustainable clay, composite, concrete, and steel roof systems and components. The company’s offerings include US Tile® products, a legacy line of premium, stunning clay tile solutions manufactured to the highest standard of sustainability and craftsmanship: DaVinci® Roofscapes, beautiful and durable composite slate and shake roofing tiles; Newpoint™ Concrete Tile Roofing, the enduring line of concrete tile known for its superior strength, Class A fire rating and long-lasting beauty; Unified Steel™ Stone Coated Roofing, the ultra-lightweight roofing system which benefits from the structural strength of steel; and Westlake Royal™ Roofing Components, a full line of integrated roof components designed to deliver a higher standard of roof installation and performance.

### ABOUT WESTLAKE ROYAL BUILDING PRODUCTS

Westlake Royal Building Products USA Inc., a Westlake company (NYSE:WLK), is a leader throughout North America in the innovation, design, and production of a broad and diverse range of exterior and interior building products, including Siding and Accessories, Trim and Mouldings, Roofing, Stone, Windows and Outdoor Living. For more than 50 years, Westlake Royal Building Products has manufactured high quality, low maintenance products to meet the specifications and needs of building professionals, homeowners, architects, engineers and distributors, while providing stunning curb appeal with an unmatched array of colors, styles, and accessories.

For more information, please visit [WestlakeRoyalBuildingProducts.com](http://WestlakeRoyalBuildingProducts.com). Follow us on LinkedIn and Instagram and “Like” us on Facebook.

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