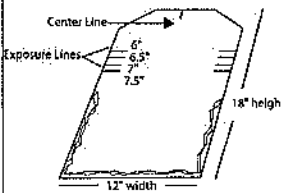
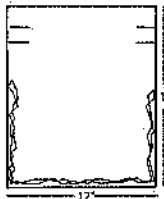
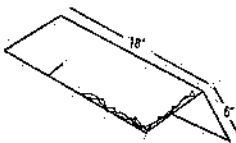


ONLY BASIC ROOFING TOOLS REQUIRED

- Hand fastened or fastened with a pneumatic nail gun
- Utility knife or a standard circular saw
- Tape measure, pry bar, tin snips
- Chalk line with blue chalk (do not use red chalk)

PRODUCT SPECIFICATIONS

Classic Slate	Starter Piece	Hip and Ridge
 Height: 18" Width: 12"	 Height: 13 1/2" Width: 12"	 Length: 18" Height: 6" Exposure: 6" - 7.5" Pre-formed Pitch: 3/12 - 18/12

Exposure	Pieces / Bundle	Pieces / Square	Lbs. / Square	Bundles / Square	Squares / Pallet
7.5" exposure	25	160	240	6.4	6.25
7" exposure	25	172	258	6.88	5.8
6.5" exposure	25	185	278	7.4	5.4
6" exposure	25	200	300	8	5

Product Ratings and Certifications
Hail Rating – UL2218 Class IV
Fire Rating – Class A or Class C
TAS – 100 (110 mph wind driven rain)
ESR-2745

Accessory Items	
Original Snow Guard	100 per box
1 1/2" Stainless Steel Ring Shank Coil Nails	7,200 pcs. per box
1 1/2" Stainless Steel Ring Shank Hand Nails	3,475 pcs. per 25 lb box
Roofing Underlayment	Boral® Ply 40 (2 square coverage roll)

Classic Hip & Ridge (Class A / Class C)	
Lbs. per piece	1.5
Lbs. per bundle	38
Pieces per bundle	25
Tiles per lineal foot	2
Lineal feet per bundle (6" exposure)	15.5
Lineal feet per bundle (7.5" exposure)	12.5

Classic Starter	
Lbs. per piece	1
Lbs. per bundle	25
Pieces per bundle	25
Tiles per lineal foot	1
Lineal feet per bundle	25

Exposure Requirements	
Roof Slope	Classic Slate Exposure
5:12 and above	6", 6.5", 7", 7.5"
3:12-5:12	6"

GETTING STARTED

Preparation:

- Under all circumstances, existing roofing materials must be removed down to the substrate, prior to installation.
- The surface area must be uniformly flat, smooth, sound, clean and free of irregularities.
- Examine roof sheathing to verify that sheathing joints are supported by framing and blocking and/or metal clips.
- Verify that substrate is sloped for drainage and completely anchored to sound framing. Any foreign particles shall be cleaned from interlocking areas to ensure proper seating and to prevent moisture intrusion and ice damming. Proper provisions must be made for flashings and roof penetrations.
- Even though metal flashing and other specialty flashings may not be the responsibility of the roofing contractor, these items must be in place prior to slate installation. Work by other trades which penetrate the roof plane must be completed.

Storing the Product: For proper installation, the slates need to be stored on the original pallet, on a flat surface. Proper storage of the product at the jobsite is important. Classic Slate should not be stored on roof decks in such a manner as to over-stress and/or damage the deck and supporting structure. The slates are cambered to ensure that maximum pressure is transferred to the leading edge of the slate during installation. **Do not double stack pallets.**

Work Conditions: Perform work when existing and forecasted weather permits. Work should be performed in a safe, professional manner and ambient weather conditions are within the limits listed below. Be sure to follow the manufacturer's installation requirements for all underlayment and any other applications. Comply with any and all local building code requirements. **Note of Caution:** The slates can be slippery under certain conditions and jobsite safety procedures should be enforced.

Cold Weather Installation: Slates should be stored in original packaging in a storage facility where the temperature meets or exceeds 45°F. Use protective coverage over all pallets while being temporarily stored on-site. Roof slates must be conditioned at a temperature no lower than 45°F for twenty-four (24) hours prior to use. Slates may be installed at temperatures as low as 32°F hand fastened, or with a pneumatic gun.

Recommended Materials:

- The choice of metals and fasteners should be consistent in material.
- Building materials must last the lifetime of the roofing tiles.
- Inspire® by Boral Roofing Products does not warranty components of the roof system not manufactured by Inspire® by Boral.

RING SHANK NAIL FASTENERS (Note: Stainless steel ring shank nails are required in coastal regions.)			
	Head Ø	Length	Material
Tile	3/8"	1 ½"	Stainless steel, hot dipped galvanized or copper
Vented Ridge	3/8"	3"	Stainless steel, hot dipped galvanized or copper

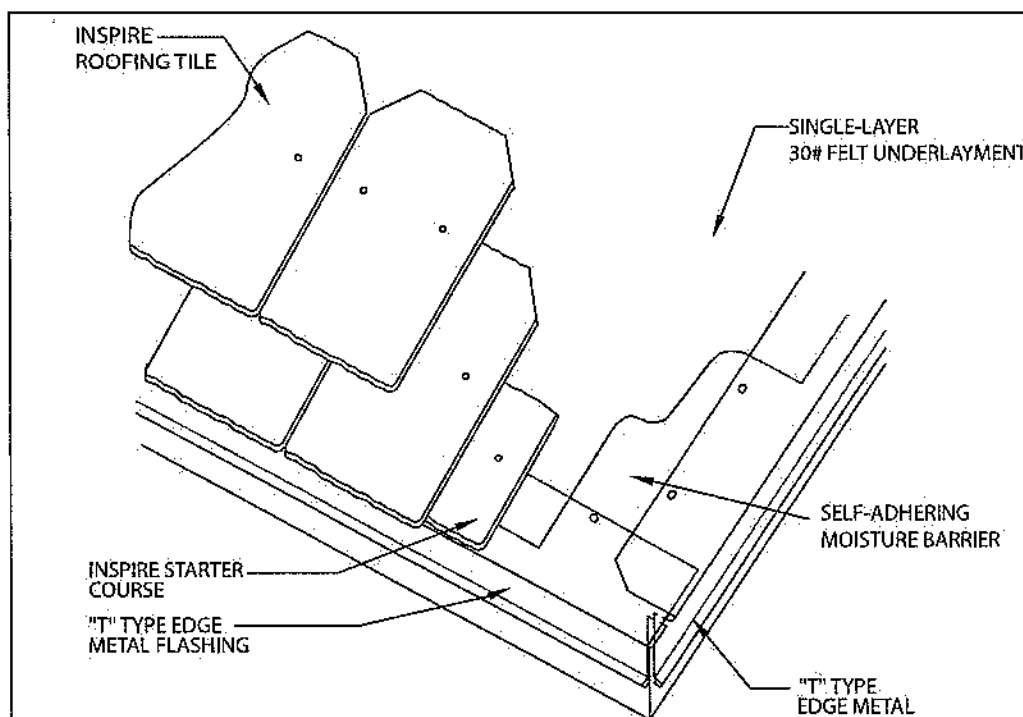
ACCEPTABLE SHEATHING	
Roofing Decking Materials	Thickness
Plywood	Minimum of 15/32"
Solid Wood	Minimum of 15/16"
Oriented Strand Board (OSB)	Minimum of 7/16"

METAL RECOMMENDATIONS	
Material	Minimum Requirement
Copper	16 oz
Aluminum	.030
Steel	26 gauge

INSTALLATION

Underlayment: Underlayment is an extra layer of protection on your roof, required by most building codes.

- **Self-Adhering Ice and Water Barrier** – In areas where the average winter temperature drops below 25° F a self-adhering ice and water barrier should be installed. At eaves the barrier should extend 2' beyond the interior wall and 3' for all sidewalls, headwalls, valleys, rakes and roof penetrations. Be sure to follow underlayment manufacturer installation recommendations and observe your local building codes.
- Install the recommended underlayment on all parts of the roof deck not covered by the self-adhering ice and water barrier. Lap edges of underlayment over self-adhering ice and water barrier no less than 2" in direction to shed water. Lap ends of felt no less than 6" over self-adhering ice and water barrier. Underlayment should not be placed under the self-adhering ice and water barrier and should overlap a minimum of 2". Side laps should be no less than 6".
- **Class C Fire Rating** – Single-layer Boral® Ply 40, Single-layer ASTM D-226 #30 Felt Underlayment, or equivalent to or better. Underlayment should be preserved unbroken, tight and whole. Install perpendicular to roof slope in parallel courses. Install to manufacturer specifications with design minimum of; lap sides of successive courses a minimum of 2" over each underlying course. Lap ends a minimum of 6".
- **Class A Fire Rating** – Underlayment as per Inspire® by Boral® Evaluation Reports.

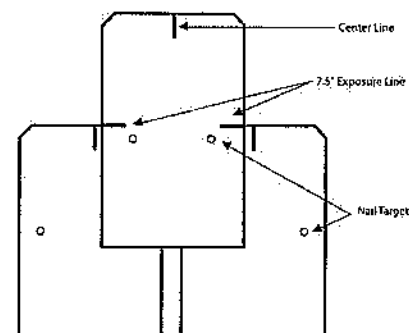


Fasteners:

- Caution should always be used to prevent over/under penetration of the fastener.
- Two fasteners must be placed in the proper nail target areas on each tile. Improper fastening can compromise the roof system and voids the manufacturer warranty.
- Fastener must penetrate roof decking at least $\frac{3}{4}$ ".

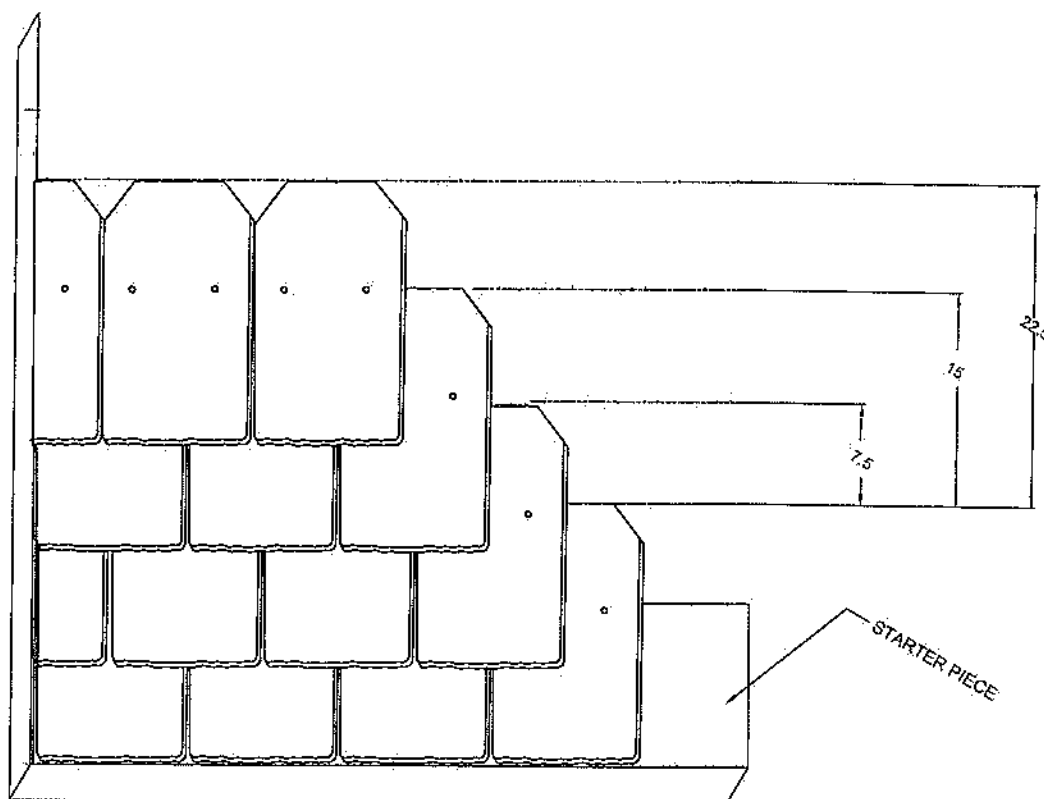
Starter and First Course:

- Starter tiles should hang past the drip edge a minimum of $\frac{1}{2}$ " and no more than $1\frac{1}{2}$ " and should be fastened in the target areas provided.
- The gap between starter tiles should be approximately $\frac{1}{4}$ ".
- The first course of slate should be installed even with the butt edge of the starter course.
- The vertical joints between the starter and first course and all succeeding courses should be a minimum of 2". This ensures that nails are covered by the next course and no through joints from roof surface to underlayment are exposed.



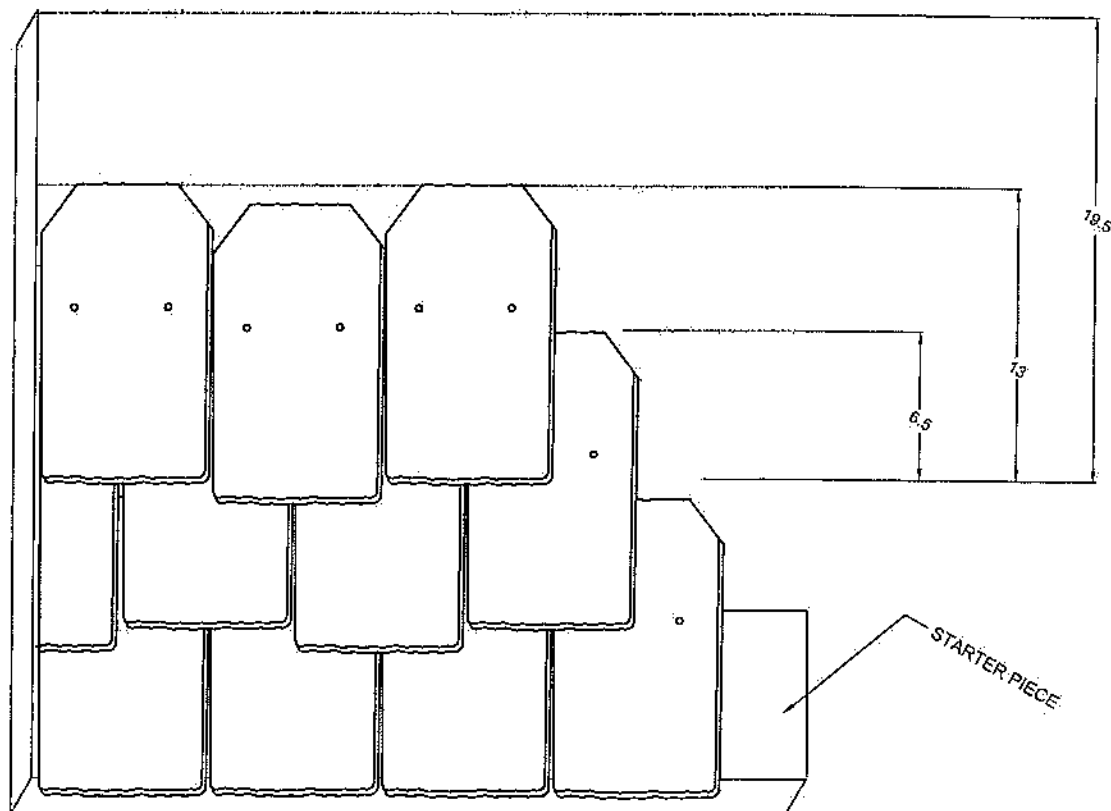
Straight Courses:

- Strike horizontal chalk lines at the desired exposure level, to ensure that the slates are installed straight and uniform. 7.5" is the maximum exposure when installing straight courses for roof pitches 5/12 and above.
- 7.5", 7", 6.5" and 6" exposure marks are provided on each tile. These are used by placing the mark on the top of the tile of the proceeding course.



Staggered Courses:

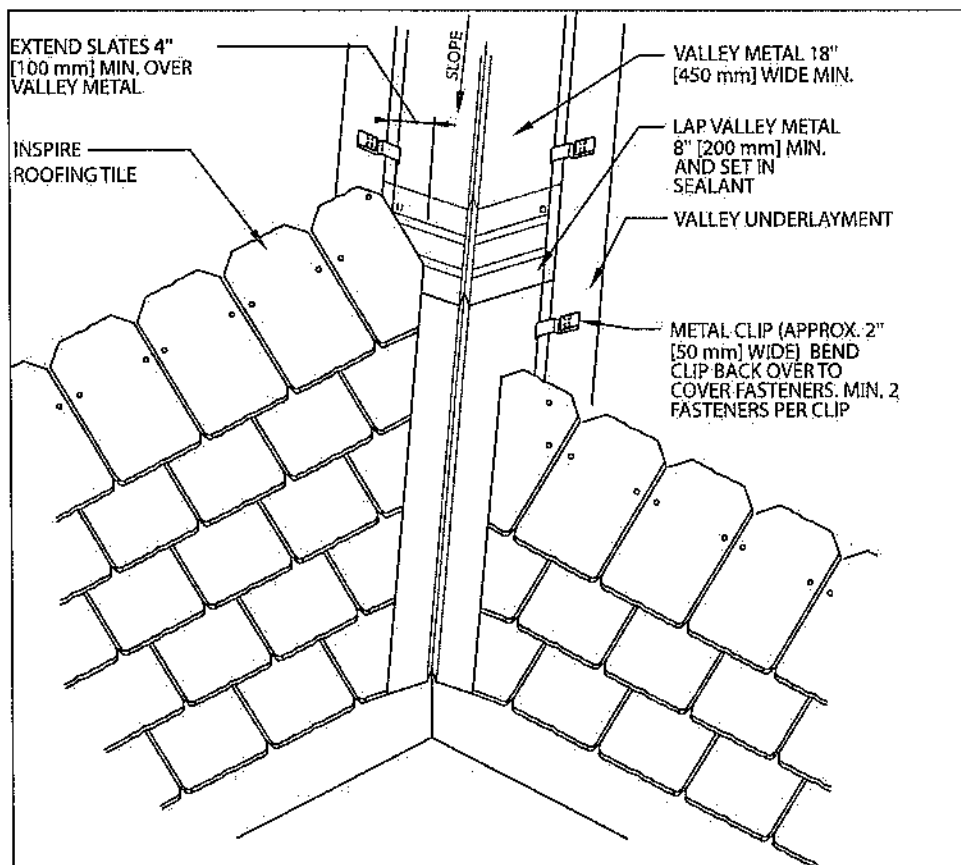
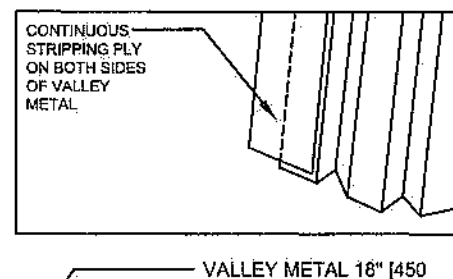
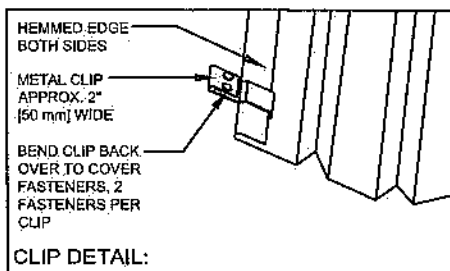
- The first course should be installed directly over the starter course. The first Chalk line should be 6.5" from the top of the first course.
- The top of the first slate should be placed on the chalk line. The next slate should be placed 1" below the chalk line.
- 6.5" is the maximum exposure when installing staggered courses for roof pitches below 4/12.



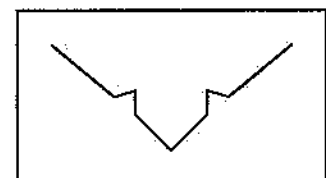
Valleys: A valley is created at the downslope intersection of two roof planes.

- Install a full 36" piece of ice and water shield centered through the entire valley.
- Fasten the valley every 2' using metal cleats.
- Slates must cover valley flashing by a minimum of 4", make sure not to drive fasteners from slates into the valley flashing.
- An open or closed valley may be used.

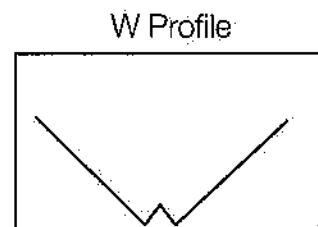
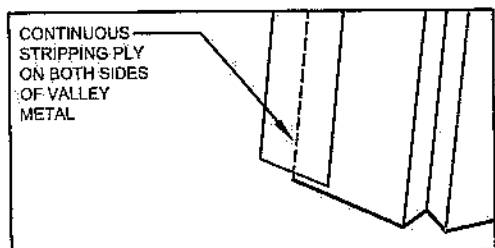
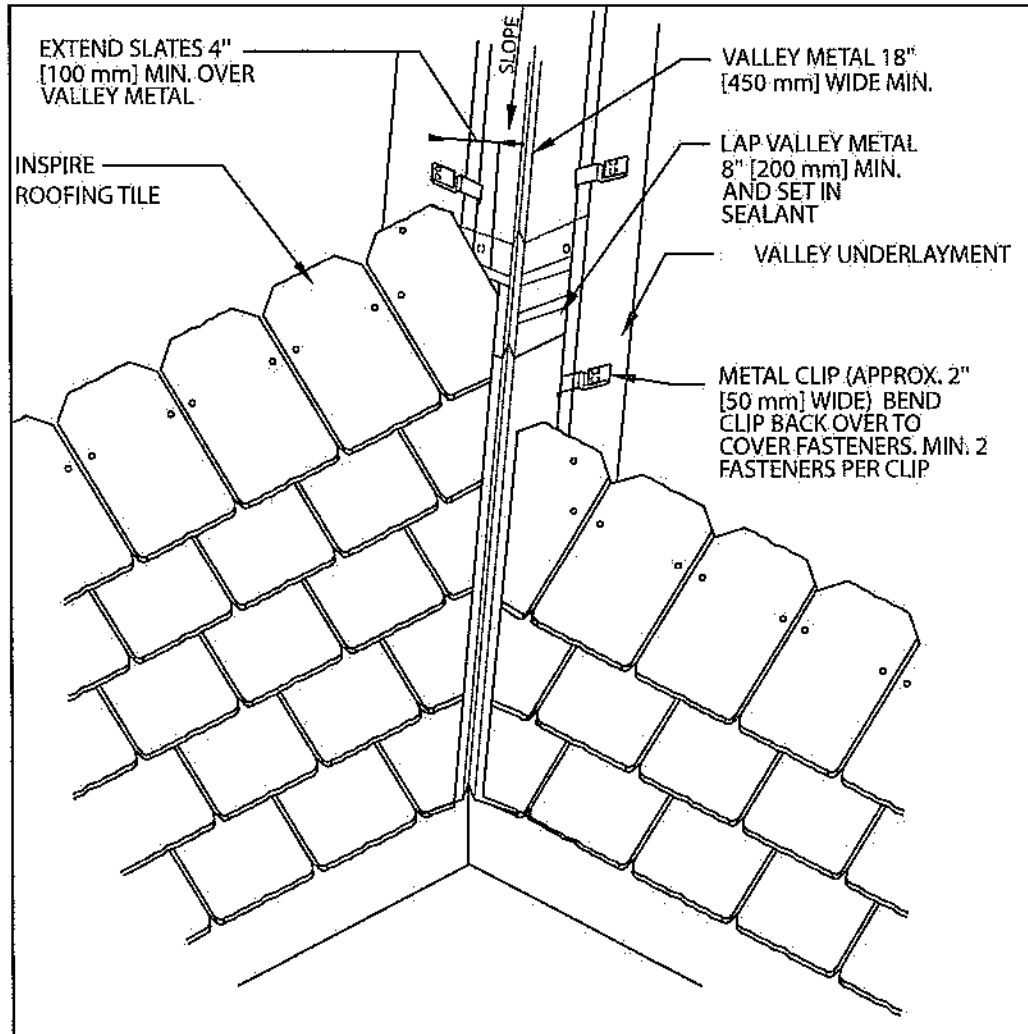
Open Valley Design: Open is good for snow, ice and debris. For an Open Valley Design a double "W" Valley is recommended to avoid seeing the structural ribbing.



Double W Profile



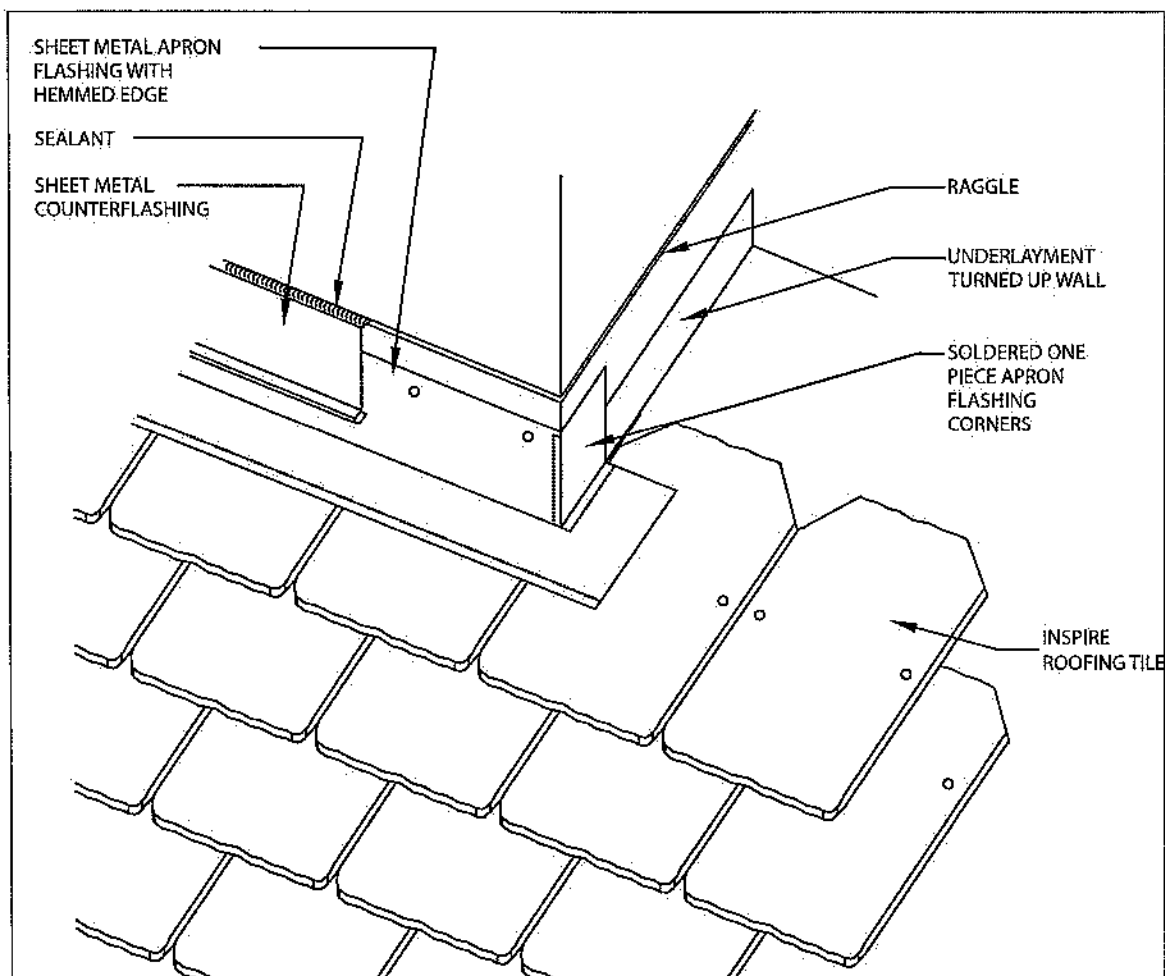
Closed Valley Design: For a Closed Valley, a Single Diverter "W" Valley or Standing I Seam valley should be used. Slates should be butted next to the diverter,



Flashings: Flashings should be used around all roof penetrations, such as walls, chimneys, dormers, vent pipes, or skylights.

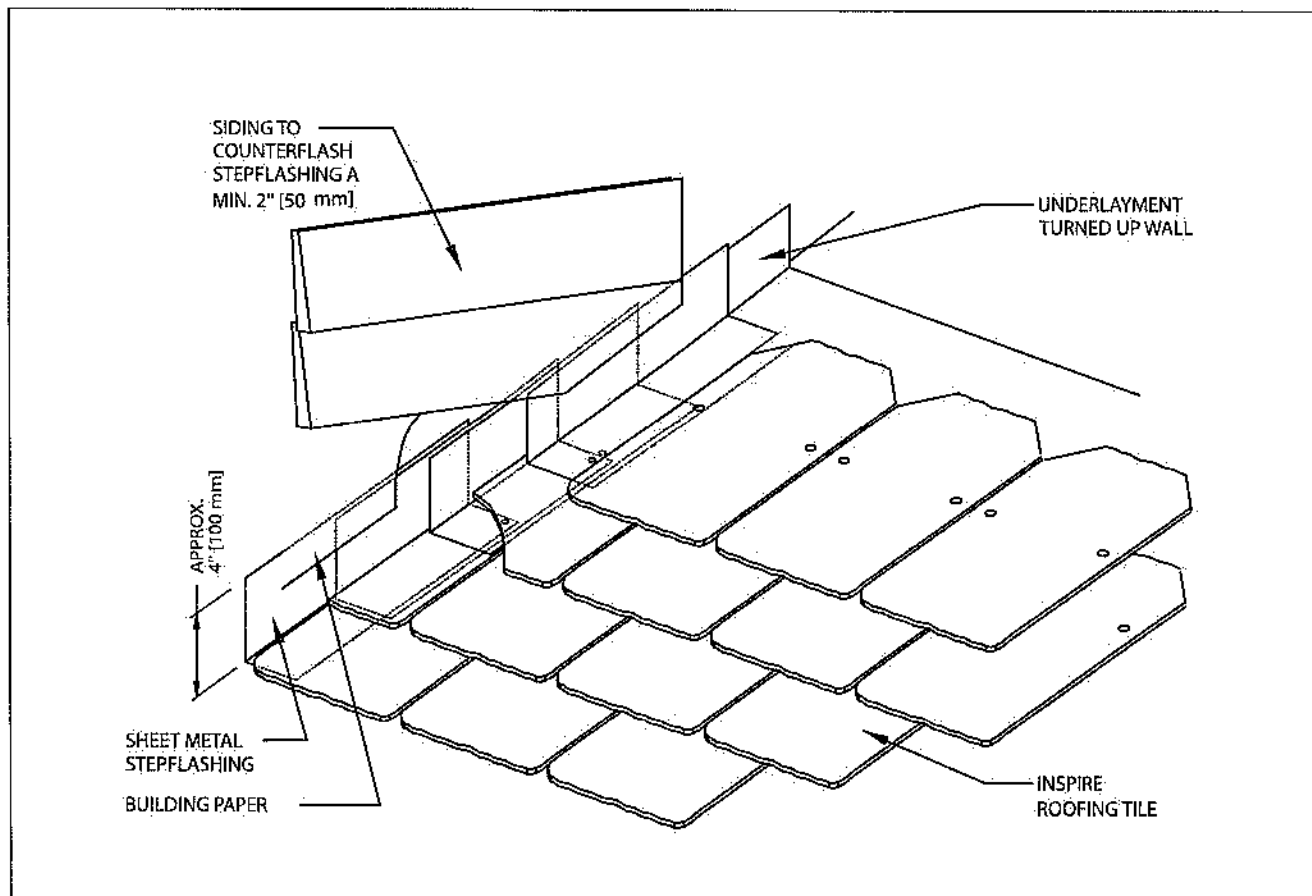
Apron (Roof to Wall) Flashing: Apron flashing is used when a roof terminates to a wall causing a course to be cut and face nailed. It is installed over the slates and behind siding or counter/cap flashing.

APRON FLASHING DIAGRAM



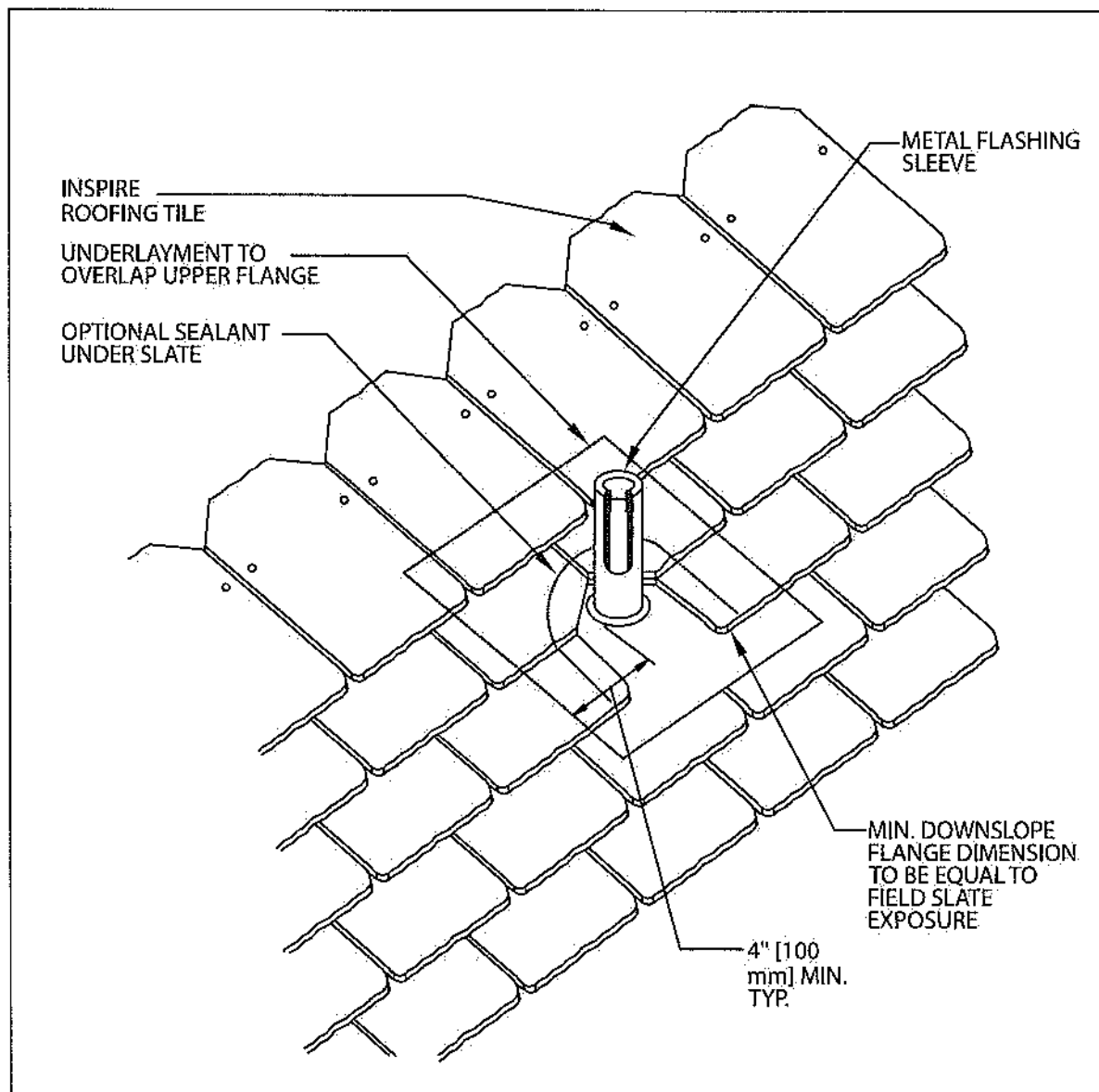
Step Flashings: When a pitched roof comes into contact with a vertical wall, individual pieces of metal flashing should be installed at the end of each slate to prevent water intrusion. Step flashings should extend under the uppermost row of the roof slate, at least 4" over the slate immediately below the metal. The vertical leg of the metal should be turned up a minimum of 4" and extend 4" on the slate with an optional 3/4" hem. Flashings should have a minimum length of 12" and must overlap a minimum of 2".

STEP FLASHING DIAGRAM



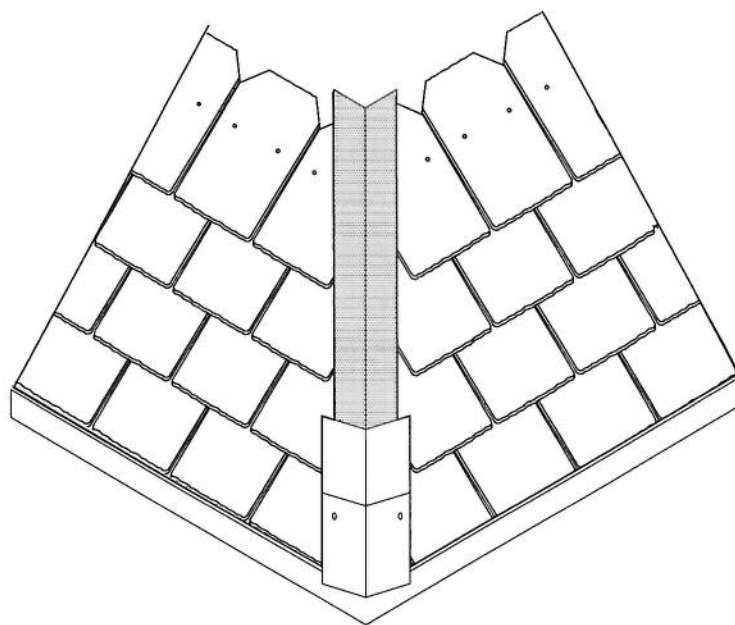
Vent, Pipe & Other Penetrations: Penetrations through the roof deck require a flat flange around the penetration. The flashing should be placed above the penetration and on top of the slate and below the penetration.

SOIL STACK DIAGRAM



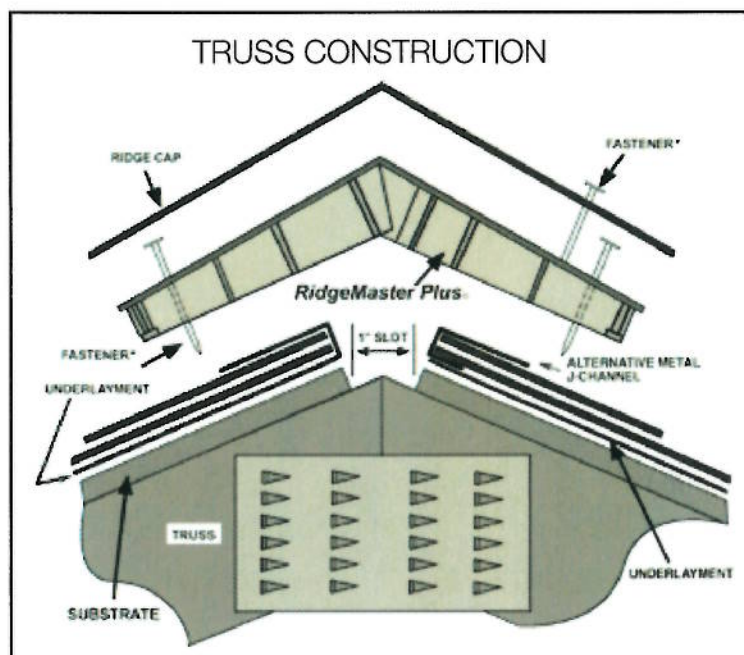
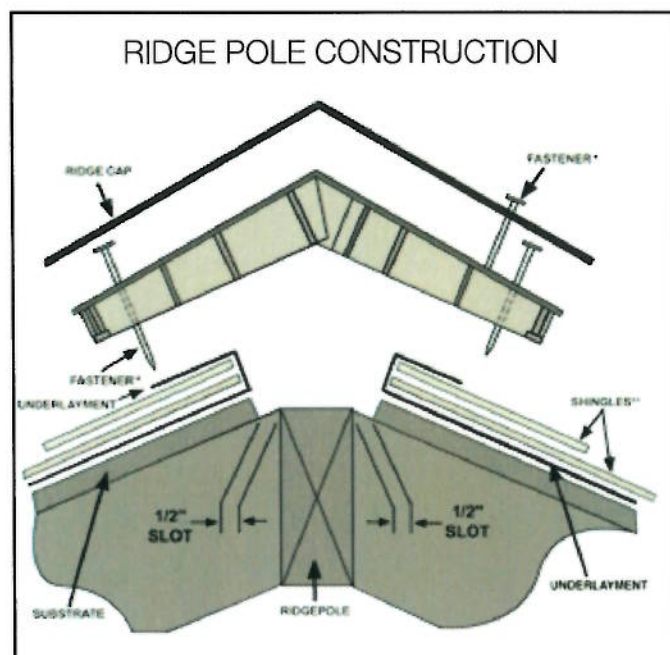
Hip and Ridge Detail:

- When pre-formed hip & ridge slates are used, nail in designated target area. Fasten hip slates with 2 fasteners (one on each side).
- Use a max exposure of 7.5".
- Chalk a straight line by placing one piece of hip at the eave and one near the peak, hold the chalk line at the edge of the slate on the top and bottom pieces. This will help keep the hip straight in the event of a crooked hip.
- Cover exposed heads of fasteners with an adhesive sealant compatible with the slate.
- Preformed hip and ridge slate require 3" length fasteners.
- Fastener must penetrate deck a minimum of 3/4".



Ridge Vent: During winter months ventilation is a key factor to remove moisture from the attic. Warm moist air inside a building travels up toward the attic. Problems occur when water vapor comes in contact with cold building materials and condenses. The structural elements of the attic will absorb moisture and over time may lead to rotting wood and/or mold. For balanced ventilation system split between the ridge and soffit, 1 square foot of net free area is required for every 300 square feet of attic floor space. It is required to have 1 square foot of ventilation for every 150 square feet of attic floor space if this balance cannot be achieved. Ventilation is necessary for extended life of the roof system. Inspire® by Boral Roofing Products will not warranty an un-vented roof and/or improperly vented roof system.

Below are diagrams of Roof Truss and Ridge Pole construction applications. We recommend using RidgeMaster Plus with 3" roofing nails.



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 US.

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 – as well as a Texas-based concrete block business, and Denver concrete and quarries operations.

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.

INSPIRE®
ROOFING PRODUCTS
by BORAL

