



Brava Spanish Tile

Installation Manual

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This document includes the recommended and suggested installation procedures for **Brava Spanish Tile.**

Brava Roof Tile is the manufacturer of Brava Spanish Tile and all other related roofing products.

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Overview

The information provided in this manual is for a guideline and a suggested method to install roofing products manufactured by Brava Tile.

As with all roofing materials, acceptable and proven practices should be followed. All application procedures should be done in accordance with local building codes in your area.

The information provided in this manual is strictly a guideline and does not imply responsibility for the final installation of the product. Brava Tile assumes no responsibility for methods of installation or the final results of such installation.

Brava Tile warrants its products for a 50 year period and applies to the product only and not the workmanship of the installed product. Roofing contractors should provide a separate warranty of their own.

Material for this manual has been compiled from various authoritative and professional sources. Many of the methods described and shown herein are sound, time – proven guidelines and standards of good roofing practice that meet the requirements of national and local building codes throughout the U.S. Each geographic area may employ “area practices” that are also sound and time-proven, which by exclusion does not mean to imply that proven area practices are unsatisfactory.

CAUTION

Color Blending

For better color blending, we suggest you unload the Brava Spanish Tile from all of the pallets. This applies for both solid and blended colors.

Caution

Take extra caution due to the fact that this product can be slippery!

Disclaimer

The Brava roofing products manufactured by Brava Tile are intentionally designed to replicate the appearance of natural roofing material. This manufacturing process contains a variation within all colors. Care should be exercised by the installer to mix this variation as randomly as possible.

Product Specifications

Profile	Brava Spanish Tile
Exposure	13.5"
Weight/Piece (lb.)	2.85
Pieces/Square	90
Lb./Square	256
Height	16.5"
Width	13"
Squares/Pallet	6.0
Pallets/Truck	24
Squares/Truck	144**
Fire Rating	Class A or C
Impact Rating	Class 4

Accessory	Dimensions	Wt./lbs
Eave Closure/Starter	11 3/4" Length 3" Width	0.6
Ridge Closure	11 3/4" Length 2 1/2" Width	0.5
Bull Nose/Hip Starter	17 1/2" Length 7 3/4" x 8 3/4" Width	3.5
Hip Ridge	17 1/2" Length 8 1/4" x 9" Width	3.2
Top Ridge	17" Length 10" x 10-3/8" Width	3.5
Rake Edge	16" Length 5 1/2" x 6 1/2" Width	2.9

Product Description

No special tools required

- Brava Spanish tiles can be hand nailed
- Brava Spanish tiles can be fastened with screws to achieve higher wind specs
- Brava Spanish tiles can be cut with a standard skill saw

Brava Spanish roof tile is manufactured from recycled products.

Tile specifications--

Weight	2.85 lb.
Length	16 ½"
Width	13"
Pieces/Square	90
Lbs./Square	257 lb.

Top View



Accessories

- Eave Closure/Starter
- Ridge Closure
- Hip
- Hip Starter/Bull Nose
- Top Ridge
- Rake

Fastener Requirements

Brava Spanish Tile should be installed with two corrosion resistant fasteners, such as stainless-steel type (304 or 316), hot-dipped zinc coated, copper or corrosion resistant ring shank roofing nails with a 3/8" diameter head and long enough to penetrate through the sheathing.

Caution should always be used to insure against over/under penetrations. In areas that experience high humidity or other severe climatic conditions, considerations should be given to using stainless-steel fasteners and high-grade accessories.

Underlayments

Ice and Water Shield

- Single layer of 36 mil rubberized asphalt on 4 mil polyethylene carrier sheet
- A 36" wide sheet in all valleys is recommended
- 1 row of 36" wide along all eaves, lap end joints 6" and side joints 3" extended 3' inside the plate line
- Apply around all dormers, roof projections, skylights, etc.
- Always refer to your local building codes

NOTE: Ice and water shield should not be installed over the felt.

Felts

- Asphalt saturated felt which meets requirements of ASTM D226
- Referred to as 30 lb. felt and without perforations
- Secured with ¾" long galvanized roofing nails
- For Class A Fire rating installation: One layer of GAF VersaShield® Fire-Resistant Deck Protection (ESR-2053) in addition to required self-adhered membrane.

NOTE: Minimum requirement on a solid deck is one layer of 30 lb. To insure better performance one may choose to use a higher performance underlayment. If you have questions regarding high performance underlayments, please call Brava Tile @ 319-338-5706. When installing over a solid tongue and groove deck 43 lb. felt is the suggested minimum.

Metals

Valleys

(Minimum recommendations)

- 16 oz. Copper
- 24 - 26 ga. Corrosion resistant metal
 - Stainless Steel*
 - Color Clad Steel*
 - Color Clad Aluminum*

Eaves, gables

- Eave Drip Starter Strips
- Gable Edge Strips

Roof Decking Materials

Solid Deck

- Minimum of 15/32" CDX plywood deck or equal

Roof Slope

- Minimum roof slope recommended for the application of Spanish tile is 4:12, meaning a 4-inch rise in the roof for every horizontal run of 12 inches.

Roof Venting

- For every 300 feet of attic floor space, you will need one (1) square foot opening in the roof. Fifty percent (50%) of this needs to be at the eave line. Venting is important and needs to be thought out thoroughly.

NOTE: If screening is involved, opening areas should be doubled.

Cold Weather Installation

- It is recommended that Spanish tiles not be installed in temperatures below 20° F. Special consideration should be given for cold weather installation regarding items such as ice and water shield or felt underlayment. **Be sure to follow the manufacturer's installation requirements for all other applications and to refer to local building code requirements.**

Note of Caution: The tiles can be slick and safety methods need to be enforced.

Storing the Product

For better and easier installation, the Spanish tiles need to be stored on a flat surface. The tiles can become twisted or bent when stored on an uneven surface. Twisted or bent tiles can cause an initial appearance concern and a possible problem with blowing snow and rain, and therefore should **NOT** be installed.

Vent Flashings

Normal type of stacks and flashings can be used. A lead stack vent flashing for plumbing pipes is recommended. Permanent types of materials should always be used.

Snow Guards

Due to the textured surface of the tiles, snow may slide off rather easily. The need for snow guards will increase in areas with above average snowfall. Be sure to follow the snow guard manufacturer's installation specifications for the correct spacing, and always refer to local building code requirements.

Debris Removal

In areas of hips and valleys where increased occurrences of cutting tile become necessary, for safety reasons and to keep the cuttings from stopping up the gutters and down spouts, it is recommended that these areas are swept off and the cuttings removed from the roof surface.

Fastening Pattern

All tiles will be secured with two fasteners, as per Brava Tiles' instructions. Two fasteners will be used on the pre-marked nail hole indicators for a 13.5" exposure.

Blending of Tiles

It is recommended that the installer load the roof with tiles out all the pallets, rather than from a single pallet to achieve the desired blending. Good blending is the responsibility of the installer.

Accessories

Eave Closure/Starter

Weight .6 lb.
Length 11 3/4"
Width 3"



Ridge Closure

Weight .5 lb.
Length 11 3/4"
Width 2 1/2"



Hip/Ridge

Weight 3.2 lb.
Length 17 1/2"
Width 8 1/4" x 9"



Hip Starter/Bull Nose

Weight 3.5 lb.
Length 17 1/2"
Width 7 3/4" x 8 3/4"



Top Ridge

Weight 3.5 lb.
Length 17"
Width 10" x 10 3/8"



Rake

Weight 2.9 lb.
Length 16"
Width 5 1/2" x 6 1/2"



Applications

Roof Preparation

Inspect all areas of the roof to be tiled to assure that:

- 1) Surface area is uniform, smooth, sound, clean and free of irregularities.

- 2) Even though metal flashing and other specialty flashings may not be the responsibility of the roofer, these must be in place prior to the installation.
- 3) Work by other trades, which penetrate the roof plane, is completed.

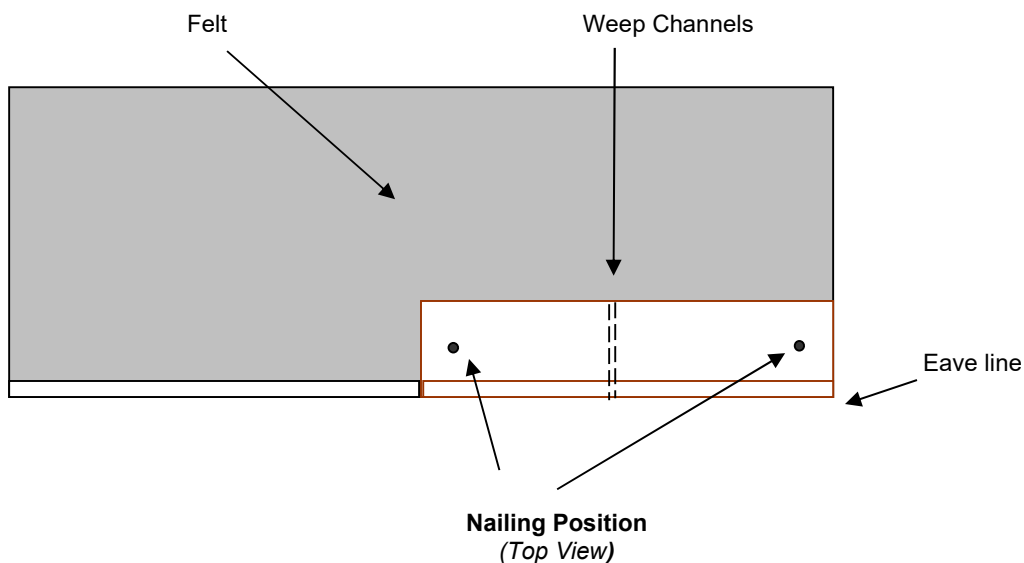
Underlayment

- 1) Install Ice and Water Shield at all eaves, valleys and around projections that are greater than 12"x 12" (recommended.)
- 2) Felt underlayment should **not** be placed under the ice and water shield, but should overlap the ice and water shield no less than 3". Side laps should be no less than 6".
- 3) Roll out a 36" wide strip of roofing felt starting at either end of the roof and lay parallel to the eave and nail securely.

Layout

Spanish tiles can be applied in a variety of patterns. The most common of which is a single-straight line course of tiles.

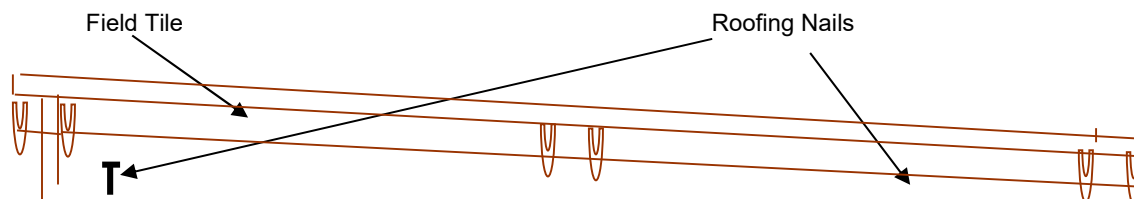
- 1) The starter course will be applied using the starter pieces. The starter pieces measure 11 ¼" x 3". The starter piece should be placed flush with the edge of the eave metal and fastened with two roofing nails. (See diagram below)

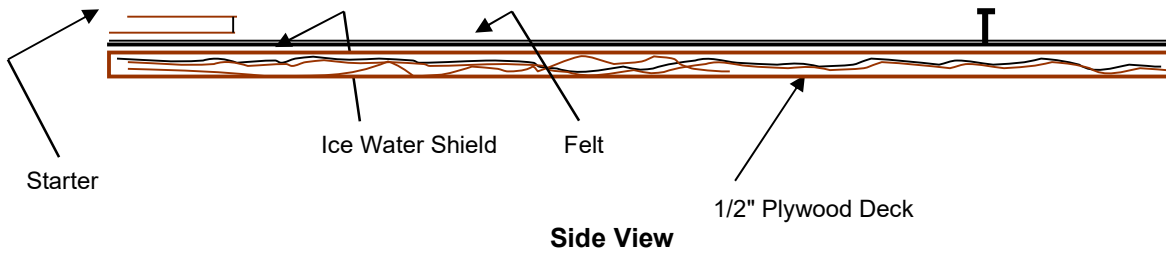


- 2) The laying of the tiles will be from right to left. After the first starter piece has been installed and the tile fastened, the next starter will need to be placed under a tile and the tile should be dry fit to the first piece of tile. It is important that the tiles fit properly within the designed rain channels. After the tiles have been dry fitted, mark the location of the second starter and secure. Follow these same procedures for the remaining starters. This will allow for a small space between the starters and a more uniform fit of the field tiles.

CAUTION: Do not secure the entire length of starters along the eave edge. By placing the starters tight against each other it may force the tiles to ride above each other.

- 3) Now start the first course, laying tiles from right to left. The first course of Spanish tiles should be nailed over the starters. (See diagram below).

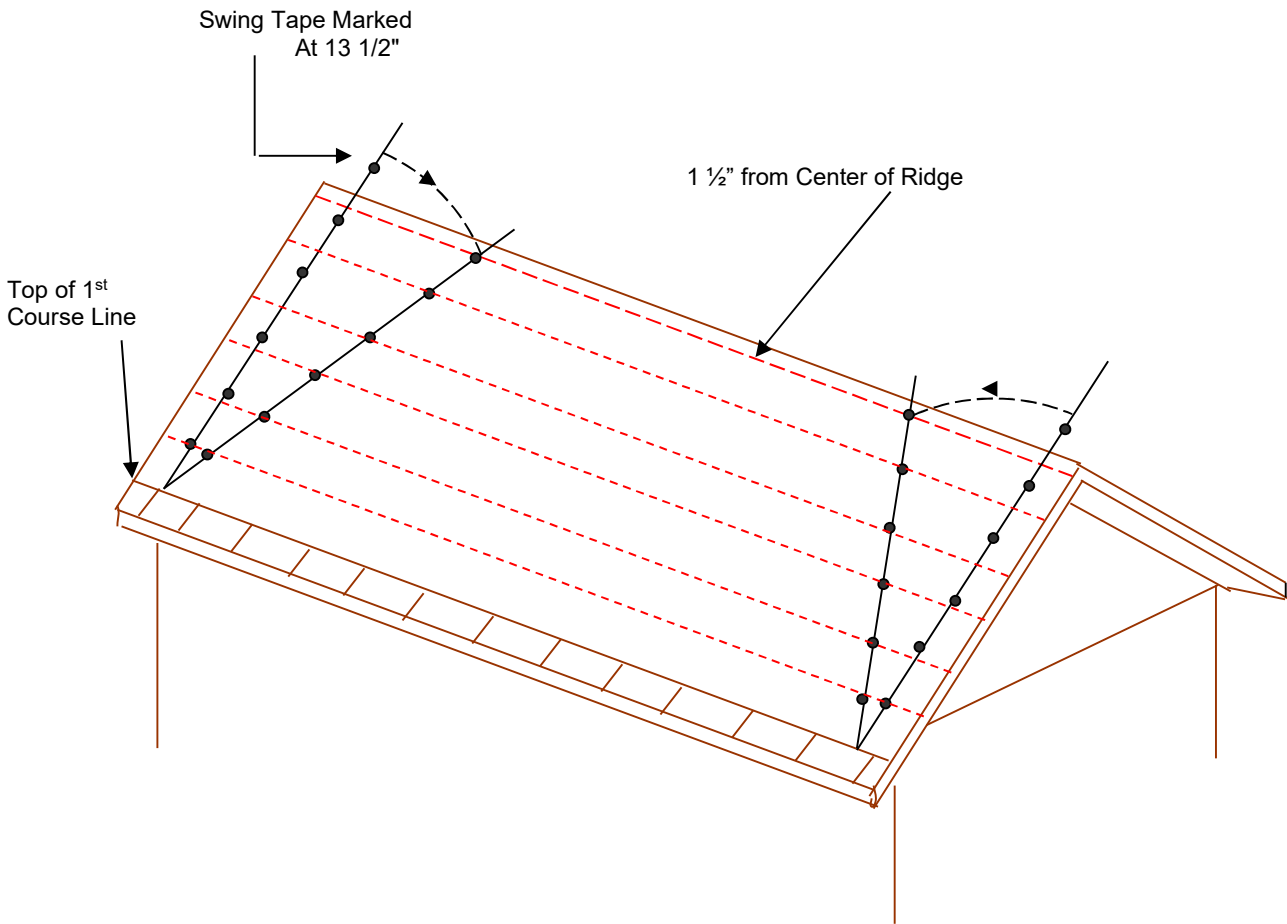




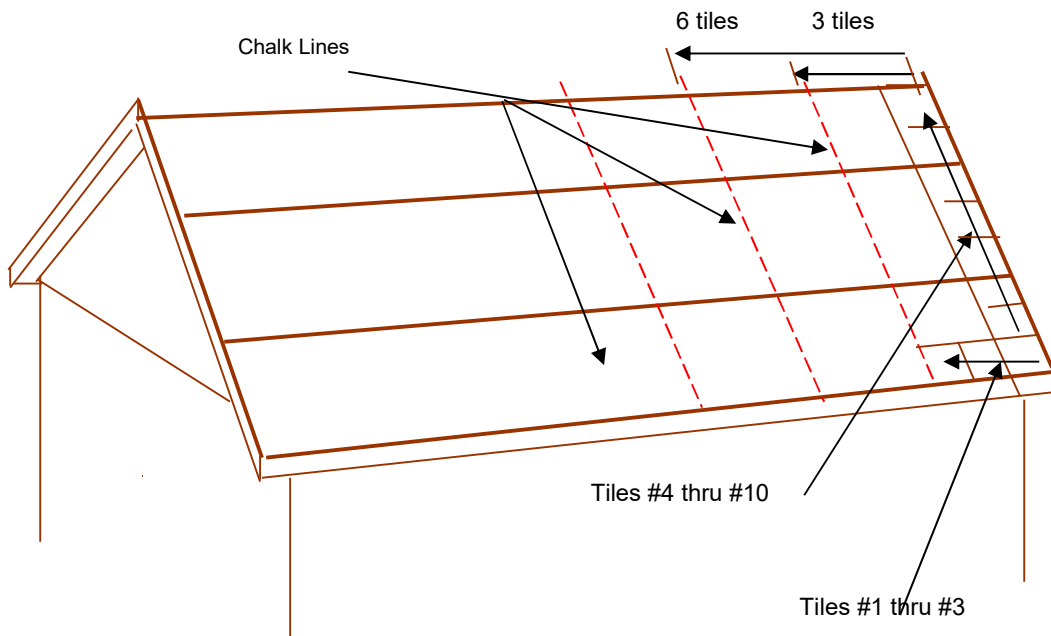
- 4) Field tile must be placed over the starter with the starter between the two bottom reinforced ribs of the field tile. (See above diagram)
- 5) Horizontal and vertical lines shall be chalked on the felt to guide application of the tiles to obtain an aesthetic installation.
- 6) Snap a chalk line at the top of the roof 1 ½" down from the center of the ridge.
- 7) With a tape marked every 13 ½", lay the tape vertically from the top of the first course to the line near the ridge at either end of the roof.
- 8) If a mark on the tape does not fall exactly upon the top line, move the tape right or left until the mark intersects the line, then mark the deck at every mark on the tape. Repeat these steps at the other end of the roof.
- 9) Snap lines between the marks on the deck. This will assure that all courses will be of equal exposure and minimum recommended headlap maintained.

Mark Tape as Shown Below

Number of Courses Above Eave Course	16 ½" Tile 13 ½" Exposure
1	1' 1 ½"
2	2' 3"
3	3' 4 ½"
4	4' 6"
5	5' 7 ½"
6	6' 9"
7	7' 10 ½ "
8	9'
9	10' 1 ½"
10	11' 3"
11	12' 4 ½"
12	13' 6"
13	14' 7 ½"
14	15' 9"
15	16' 10 ½"
16	18'
17	19' 1 ½"
18	20' 3"
19	21' 4 ½"
20	22' 6"
21	23' 7 ½"
22	24' 9"



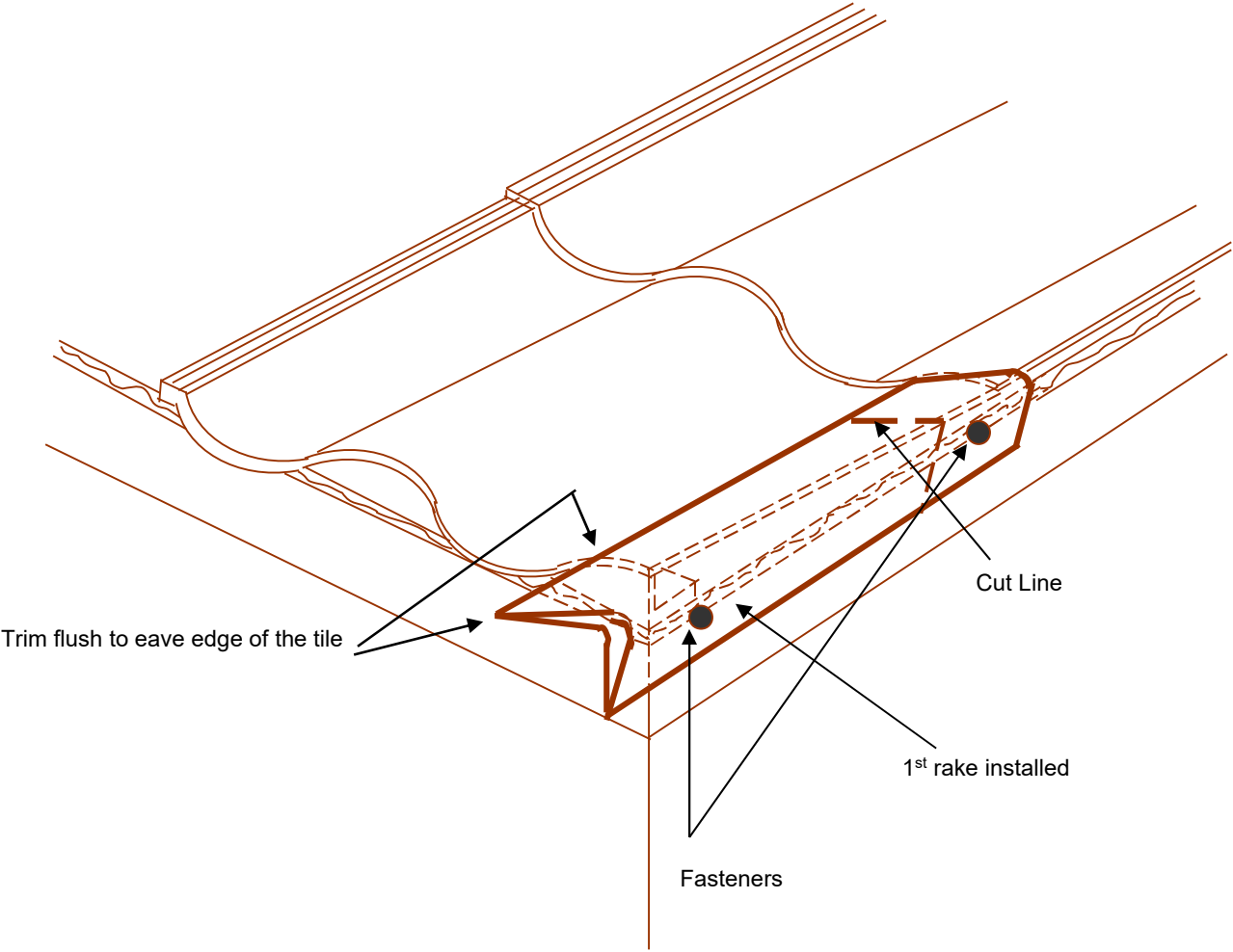
- 10) Vertical alignment must be planned to assure a symmetrical installation. For best results, it is recommended that the first three tiles be laid at the eave course. Measure the distance of the leading edge of the third tile back to the rake edge. Then mark this measurement at the ridge and chalk a vertical line. Repeat this procedure every third tile across the roof to maintain proper vertical alignment. (See diagram below)



11) Install first vertical run up the gable edge. Rake edge trim can be installed as the tile is laid along the gable edge or after the tile is in place.

a) Rake Installation

The rake trim is universal and will fit either right or left rakes. The rake edge trim should be placed so the edge of the rake trim butts against the nose of the next course of field tile. After installing the first course rake edge, trim the excess flush to the eave edge of the first course of tiles. Check to make sure the rake fascia is covered with underlayment or sealant. Be sure to use adhesive on the underside and the top edge of the rake tile. Secure the rake edge trim with two (2) non-corrosive ring shank nails or screws. Fasteners should be 1 1/4" from each end and 1" up from the bottom of the rake trim. (See diagram below). After the first rake edge piece has been installed and trimmed, use full length rake edges to finish to top ridge.





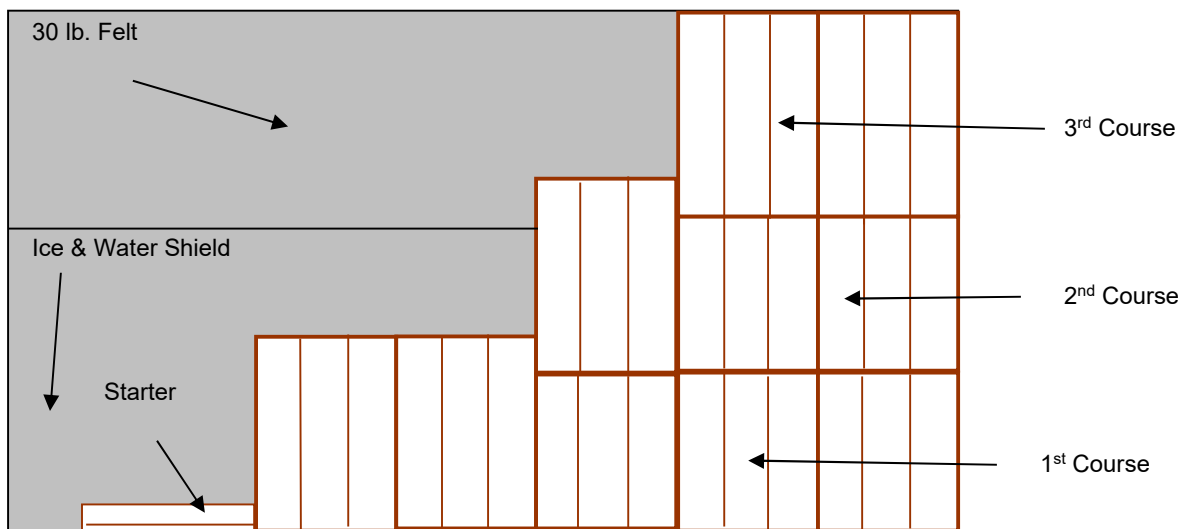
b) After the first rake edge piece has been installed and trimmed, use full-length rake edges to finish to top ridge.

c) At the top ridge, the rake trim from each edge should be mitered to be symmetrical and plumb. (See photo below).



Miter cut rakes to fit

12) Repeat steps 9 & 10. Follow diagram for course layout.

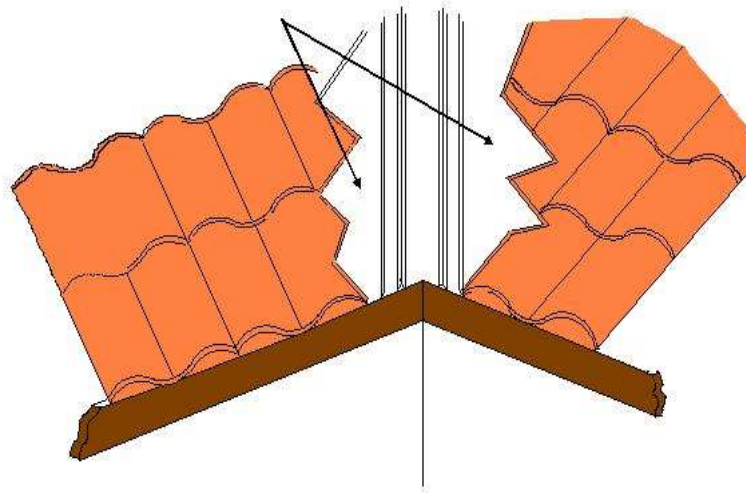


Valleys

Either an open or closed valley design can be used. Generally formed in 10' sections, valley flashings should be lapped 8" in the direction of the flow. The top of each section should be fastened with nails compatible with the flashing.

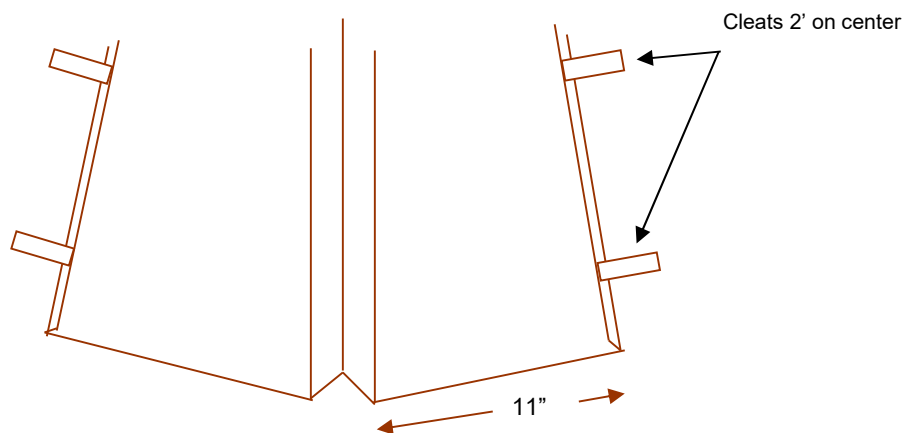
Open Valley Design

With an open valley design, leave a minimum 4" opening at the top of the valley, graduating $\frac{1}{2}$ " per 8 lineal feet down slope. For roof slopes of 4:12 or greater, valley flashing should be center crimped, painted, galvanized steel, aluminum, copper or stainless steel and extend a minimum of 11" on each side of the valley centerline. For roof slopes less than 4:12, valley flashing should extend no less than 14" each side. (See diagram below). Cut tiles flush to the 2" diverter.



Closed Valley Design

With a closed valley design, a single W crimp valley flashing may be used with a 28" stock with a minimum 2" center rib. Be sure to cut the tiles flush to the 2" diverter.



Flashings

Flashings should be used around all roof projections, such as walls, chimneys, dormers, parapets, vent pipes, skylights etc. Proven durable flashing materials are copper, lead, galvanized iron and stainless steel.

NOTE: When dissimilar metals are placed in contact with one another, galvanic action will result which can cause electropositive metals to deteriorate. One way this can be avoided is by placing strips of sheet lead between the two metals.

Base Flashings

Base flashings are used over or under the roof coverings and are turned up on the vertical surface.

- Base flashings should extend under the uppermost row of Brava Spanish tile the full depth of the tile or at least 4" over the tile immediately below the metal. The vertical leg of the metal should be turned up a minimum of 4" and extend 4" on the tile with a $\frac{3}{4}$ " hem.

Cap Flashing

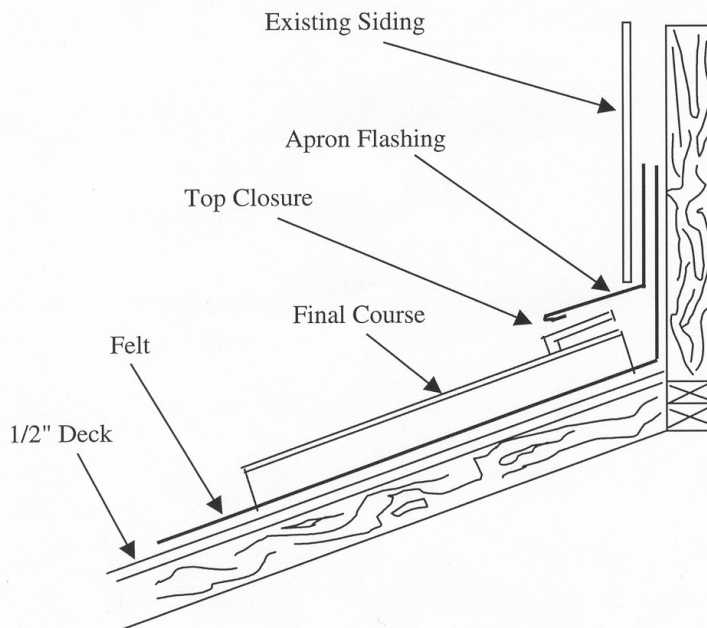
Cap Flashing (Counter flashing) is metal built into the vertical surface of a roof and bent down over the base flashing.

- Where base flashing is not covered by vertical siding, a cap flashing should be built into masonry joints a minimum of 2", extending down over the base flashing 4" with the edge bend back and up $\frac{1}{2}$ ".

Illustrations

The following illustrations show proper flashing procedures for Brava Spanish Tile roofs.

Headwall Flashing



Note: Apron flashing should be turned up a minimum of 4" vertically and a minimum of 4" onto the roof surface and a $\frac{3}{4}$ " hem.

Change of a Pitch Flashing

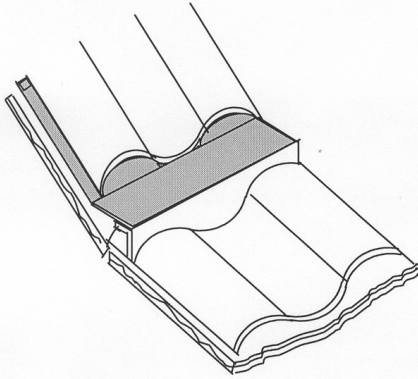


Fig. A

* The flashing is hemmed top & bottom

* The apron should cover the top of the closure

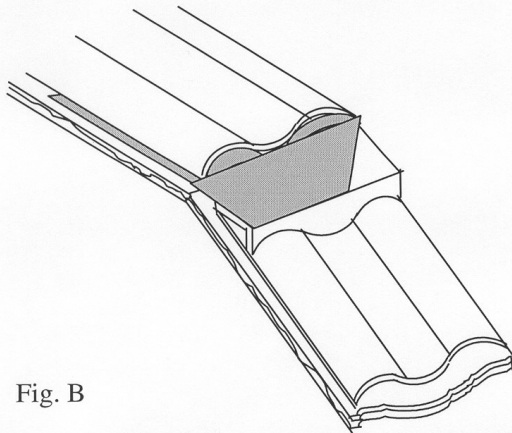
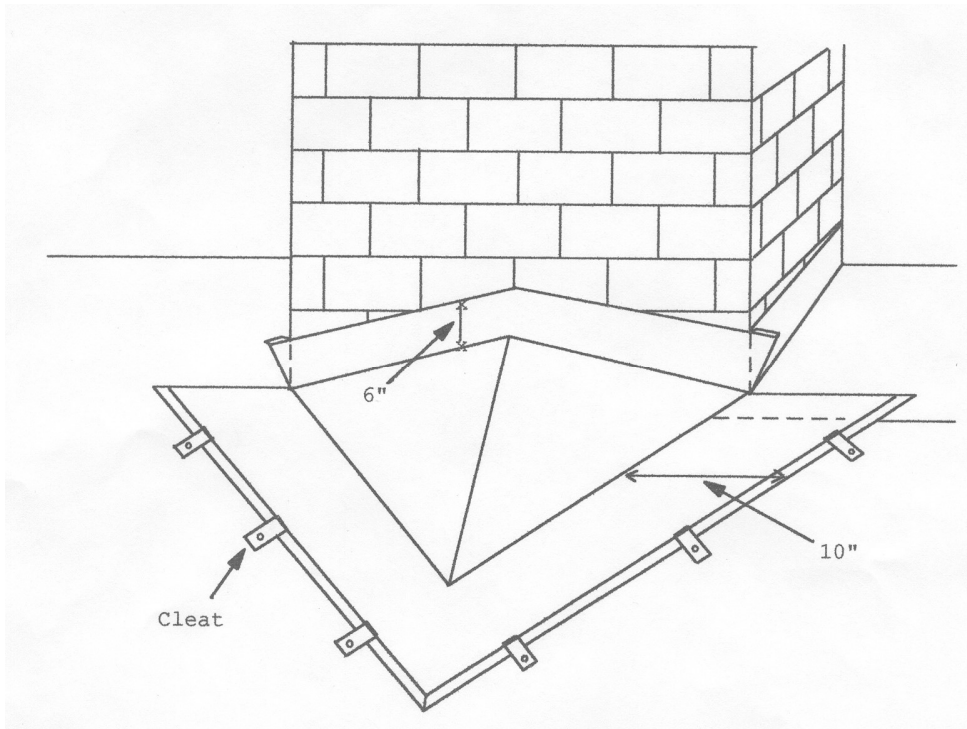


Fig. B

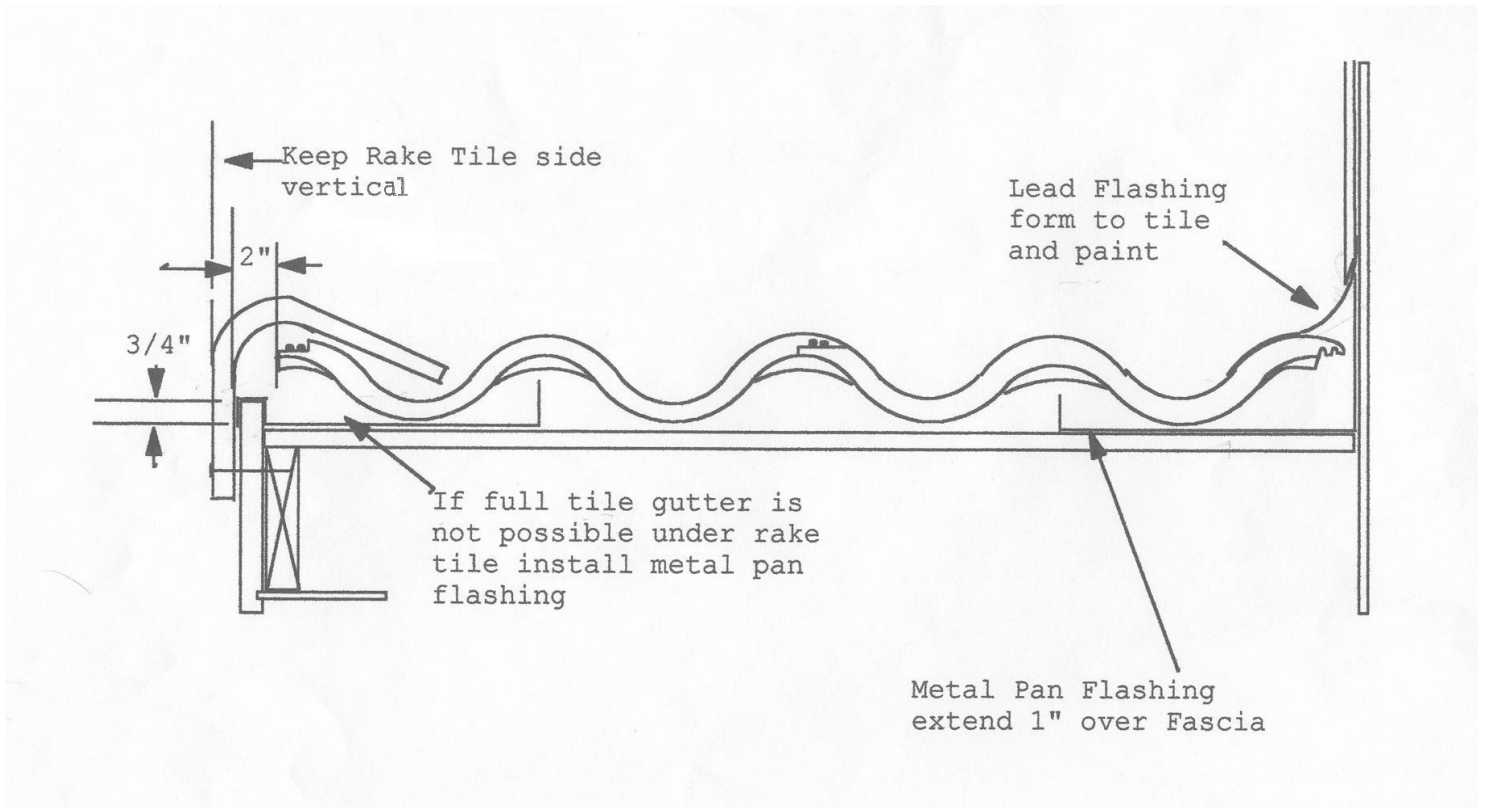
Saddle Flashing (Cricket)

If chimney is more than 30" in width, a saddle flashing is recommended to help divert rain and snow.

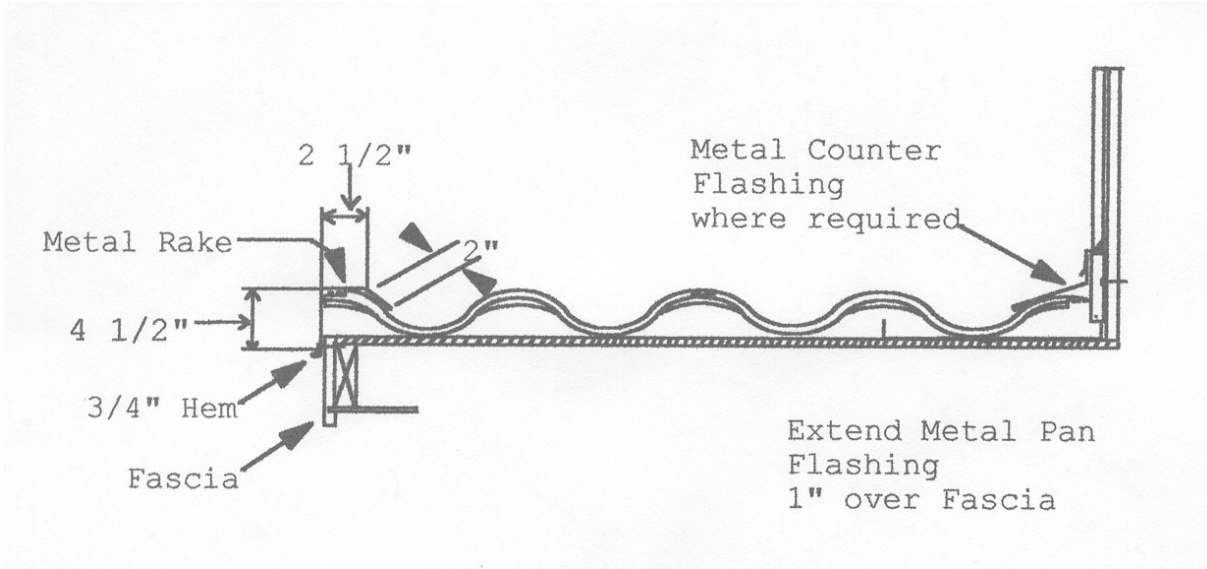


Metal Saddle flashing (cricket) is shown in place on back of chimney. All joints in the saddle flashing should be soldered. Saddle flashing must be turned 6" up the wall of the chimney. It is cleated to the roof deck at 18" centers.

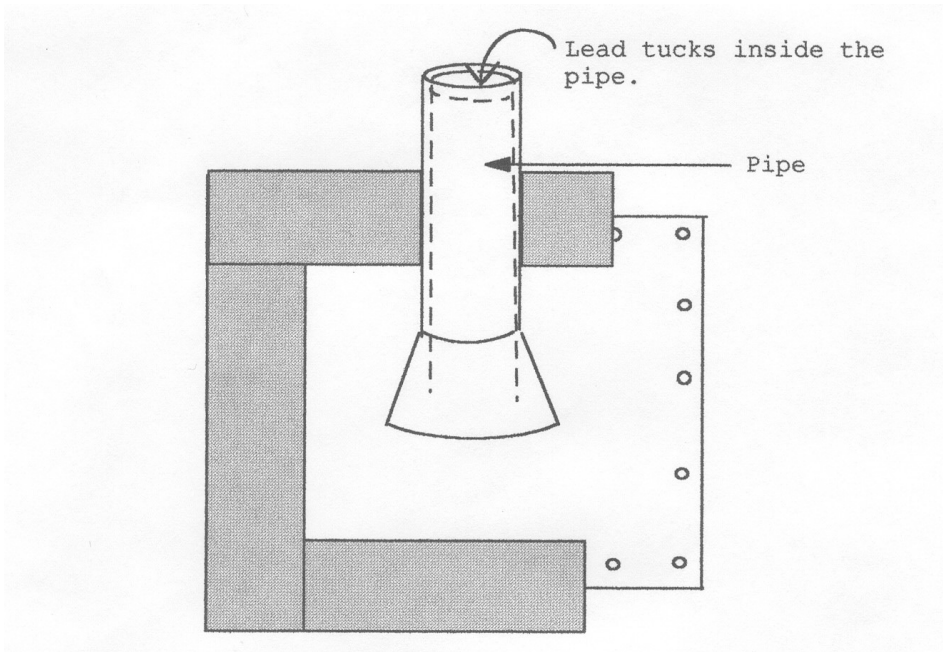
Key Rake Tile, Lead Flashing & Metal Pan Flashing



Metal Rake

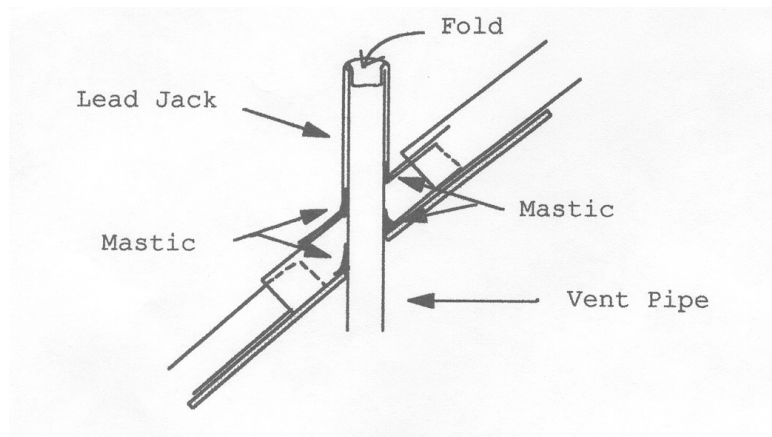


Soil Pipe



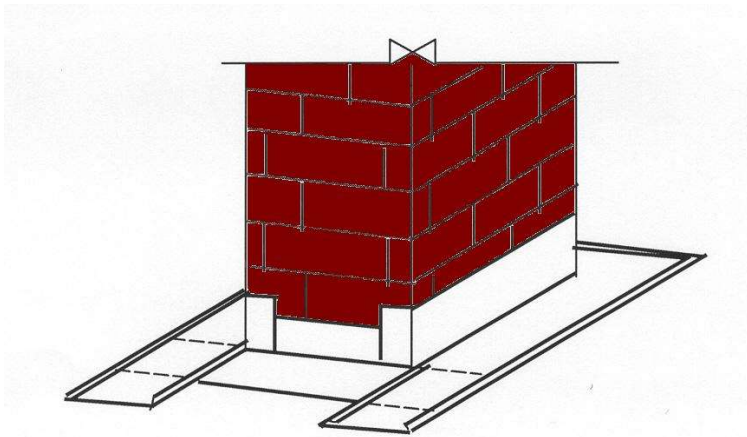
Vent Pipe roof flashing installation procedure:

- 1) Install lead stack over vent pipe and secure to with roofing nails.
- 2) Seal along edges of the lead flange with roof cement and membrane.
- 3) Cut the tile close to the stack and fill the void sealant.
- 4) Tuck lead inside the plumbing pipe or use a lead cap.

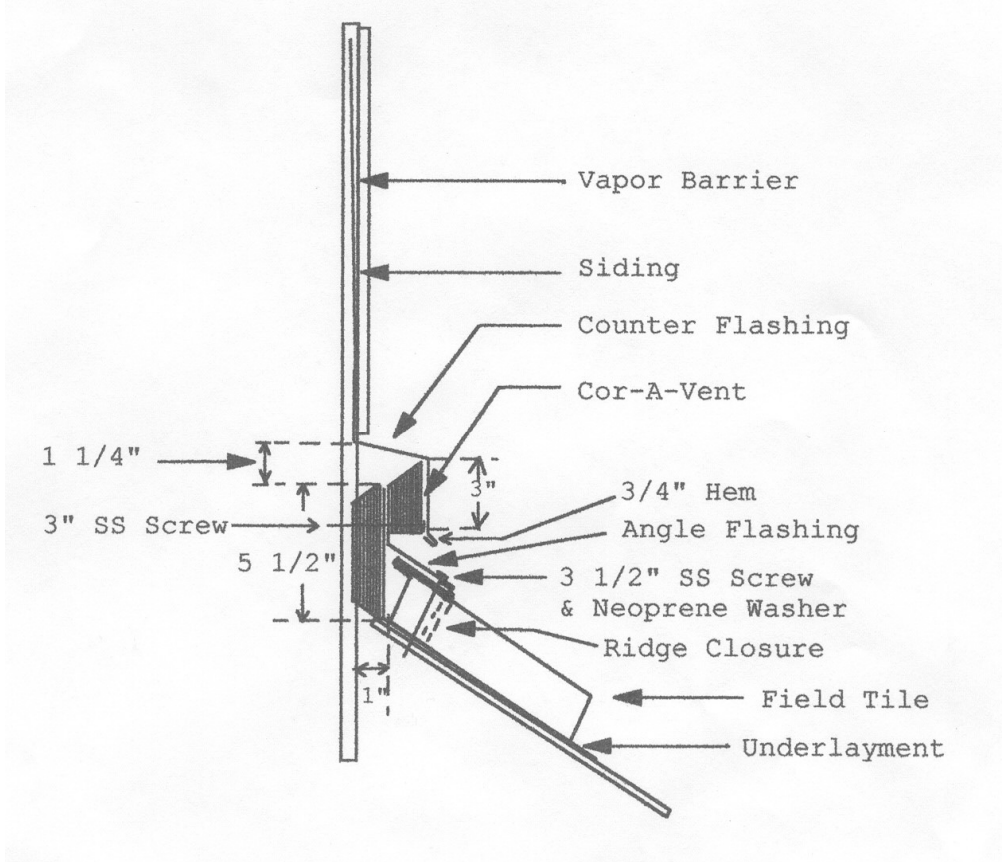


deck
plastic
with
fitted

Chimney Flashing



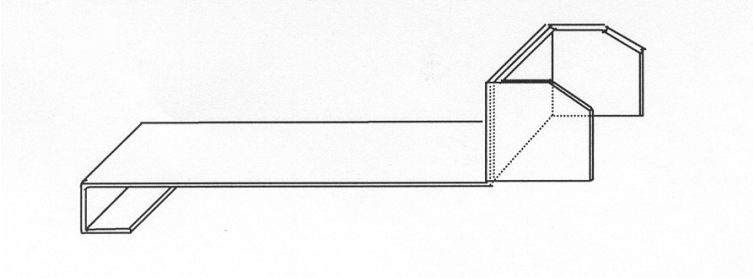
Continuous Headwall Vent



Note: Headwall vent provides 9 sq. inches net free area per linear foot.

Snow Guards

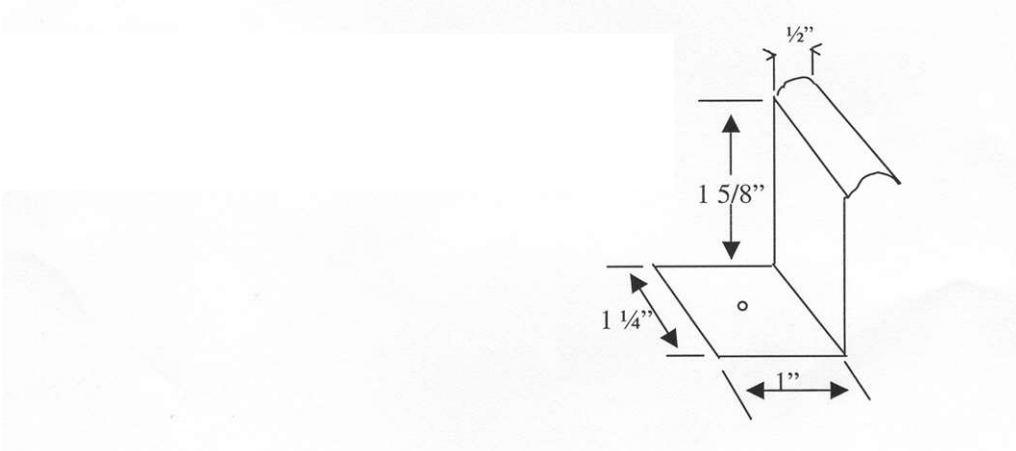
Snow Guards are recommended in areas of heavy snow to prevent snow and ice slides. If installed when tile is laid, they are held in place with a copper nail. When installed after the tile is laid, they are held in place by a hooked top.



Beginning at the eave, Snow Guards should be placed approximately 30" on center in staggered coursing at the top of each of the first six courses of tile.

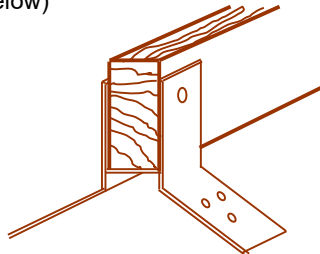
Hurricane Clips

Hurricane clips are used on roofs subject to high wind conditions. (optional)



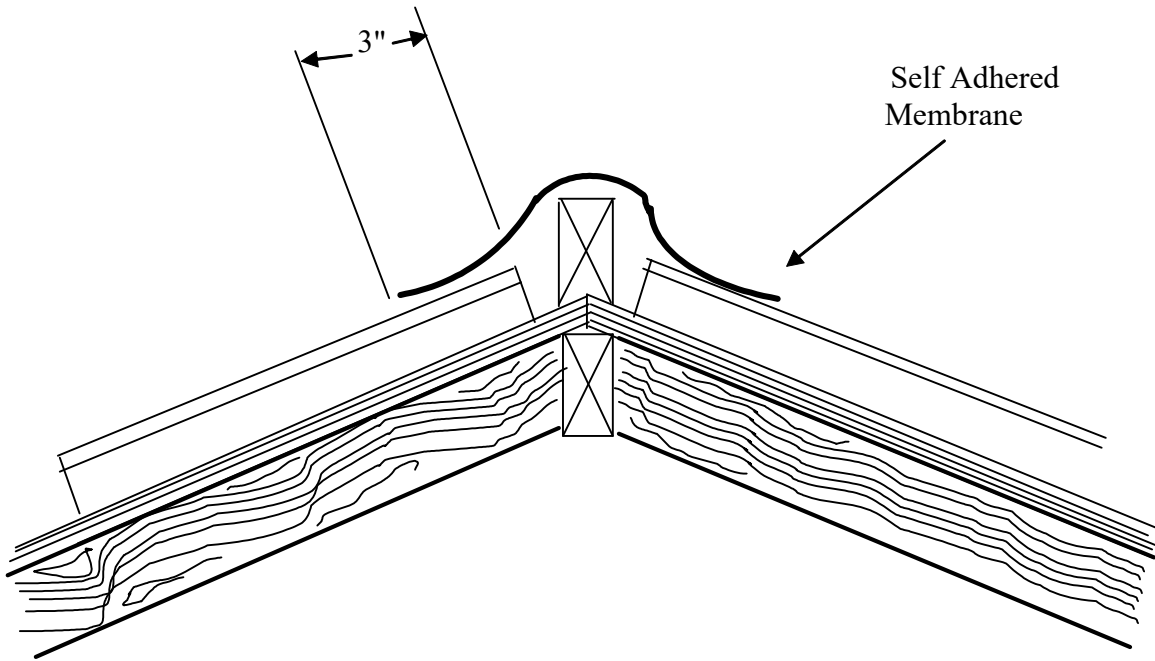
Hip & Ridge Detail

The hip and ridge nailer should be of sufficient height to maintain an even plane of the hip and ridge tiles. The height of the nailer will vary depending on the slope of the roof and should be 1 5/8" in nominal thickness. The use of a Ridge Bracket is recommended. (See diagram below)



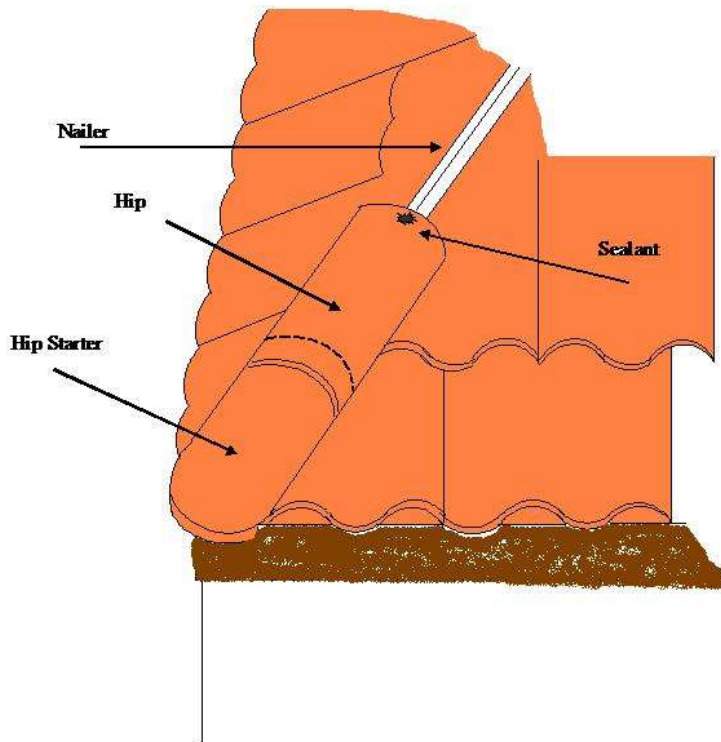
Note: An alternate method is to use steel ridge board brackets or minimum No. 22 gauge strapping.

- Trim the tiles to fit against the nailer as close as possible.
- Apply sealant where the tile intersects with the nailer.
- Hips to be sealed with a UV resistant material, preformed plastic or self-adhering flashing where tile meets the hip board



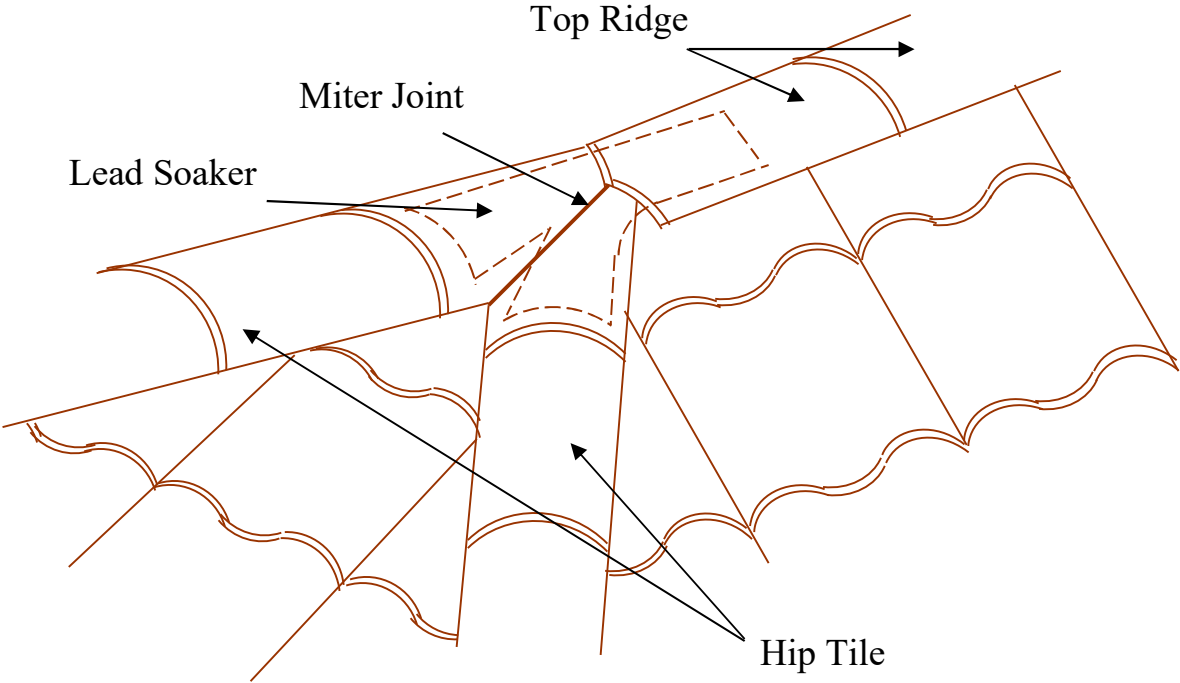
Hip Installation

The hip nailer should be held back 4" from the outside corner of the eave. The Hip Starter or Bull Nose should be nailed to the hip nailer with a corrosion resistant nail of a minimum of 1/2" to penetrate the nailer. A bead of sealant is recommended in the lap joint of each hip tile. The hip tiles are installed maintaining a 4" headlap.



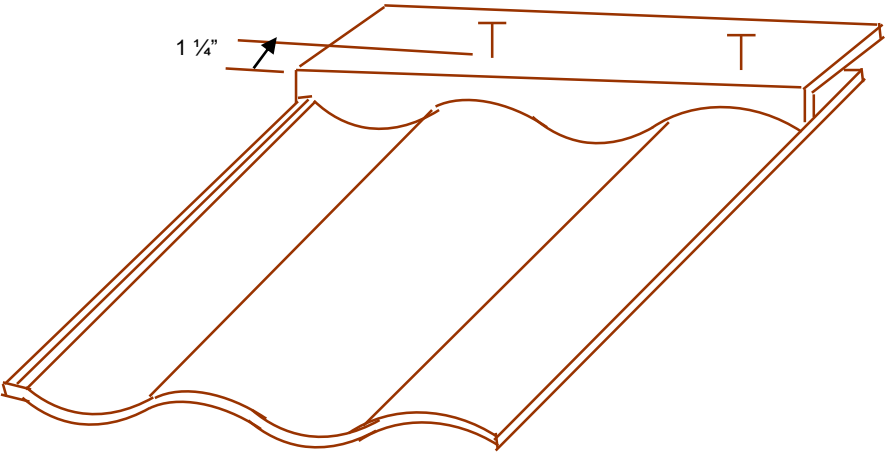
Hip Apex

At the apex of the hip, a lead soaker flashing is recommended under the mitered apex tile. The mitered joints in the apex should be sealed and painted to match.



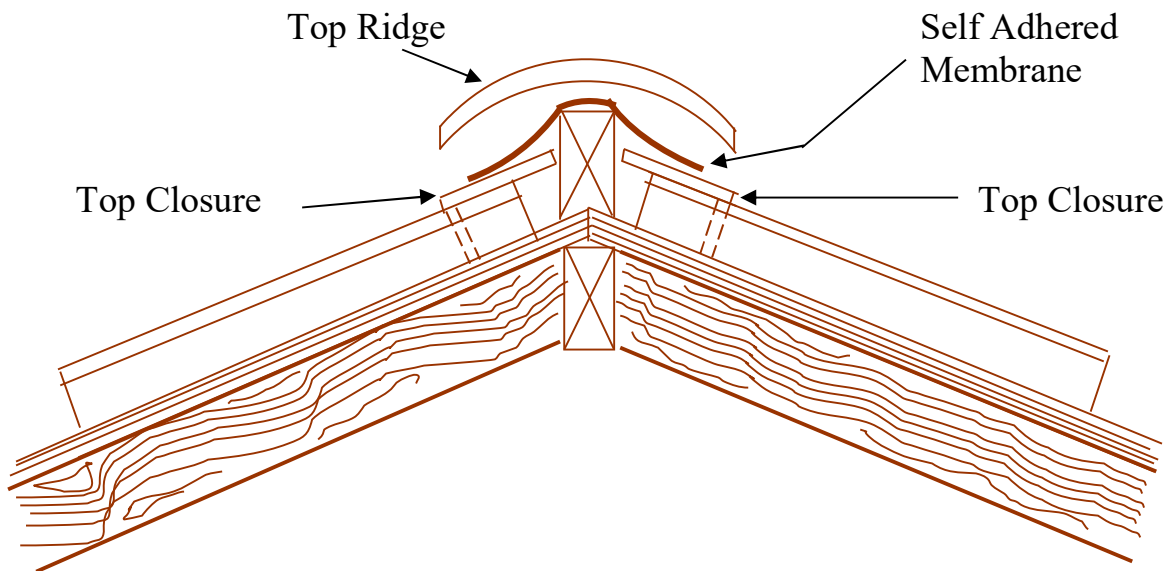
Top Closure Installation

The Top Closures are installed to close the tile at the top ridge and any vertical surface, i.e. chimneys, headwalls, parapet walls, dormers, curbs, etc. A minimum of a 3" corrosion resistant fastener is required to secure the Top Closure to the final course of tile. It is important to note that the location of the fastener should be applied over the high side of the barrel. The fastener should be located 1 1/4" back from the front edge of the Top Closure.



Top Ridge Installation

The Top Ridge tiles are installed maintaining a 3 ½" headlap. The Top Ridge should be secured to the nailer with one (1) corrosion resistant fastener long enough to penetrate the nailer a minimum of 1". A bead of sealant is recommended in the lap joint of each Top Ridge.



High Wind Specifications

Fastener Requirements

Brava Spanish Tile should be installed at a 13" exposure with two 3/8" head, 1/8" Dia., 2-1/2" ring shank roofing nail for 110 mph, or two #10 x 2-1/2" screws for 198.5 PSF design pressure.

Caution should always be used to insure against over/under penetrations. In areas that experience high humidity or other severe climatic conditions, considerations should be given to using stainless-steel fasteners and high-grade accessories.

Roof Decking Materials

Solid Deck

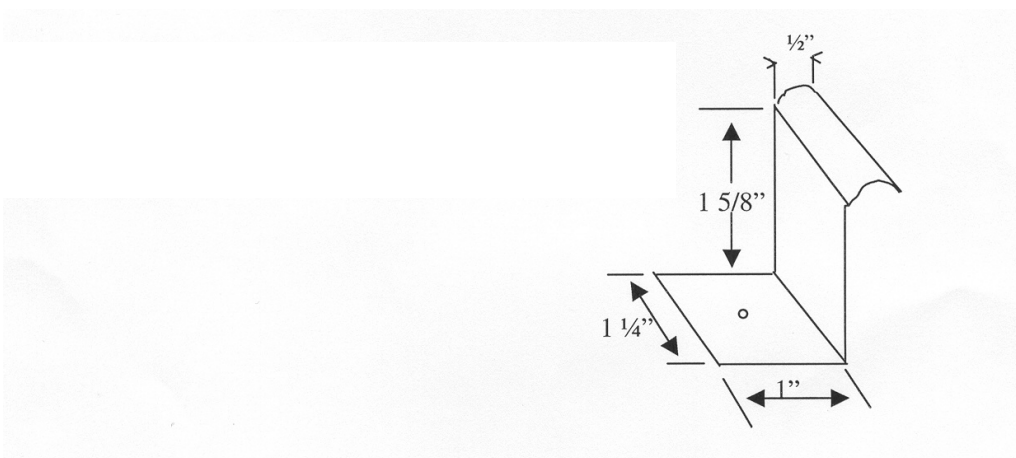
- Minimum of 1/2" plywood nailed at perimeter 6" on center, in the field 6" on center, and on seams 4" on center. Using an 8d x 2" galvanized ring shank common nail for 110 mph, or minimum of 1/2" plywood nailed at perimeter 4" on center, in the field 4" on center, and on seams 3" on center. Using an 8d x 2" galvanized ring shank common nail for 198.5 PSF design pressure.

Underlayment

- Install Ice and Water Shield at all eaves, valleys and around projections that are greater than 12"x 12" (recommended.)
- Felt underlayment should **not** be placed under the ice and water shield, but should overlap the ice and water shield no less than 4". Side laps should be no less than 6".
- Roofing felt 30# asphalt saturated organic felt paper nailed with 1 tin tab per nail 1-1/4" smooth roofing nail, at 6" oc on all seams and in the field 12" oc staggered 12".

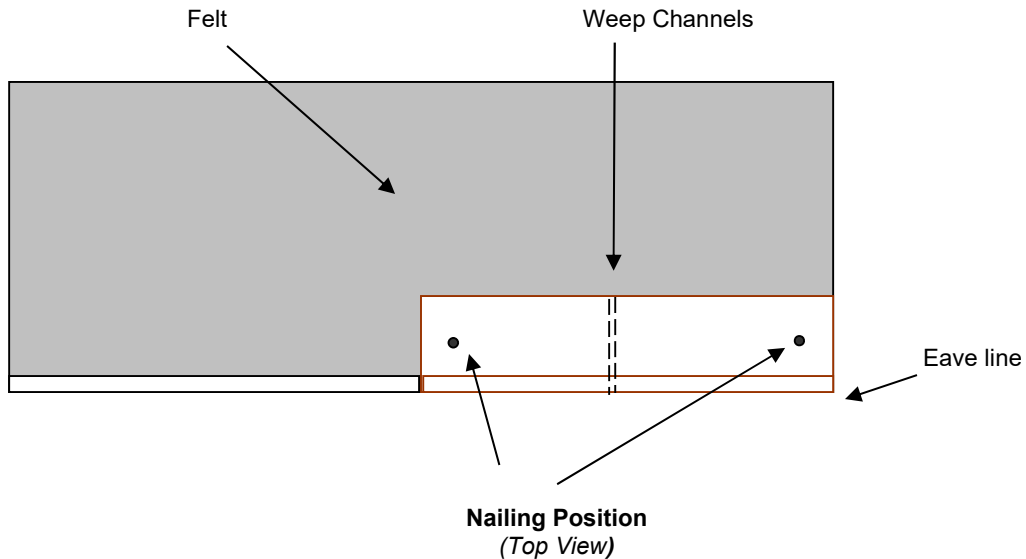
Hurricane Clips

Hurricane clips are used on roofs subject to high wind conditions. (optional)



Layout

1. Brava Spanish tile are to be laid in a staggered pattern from row to row, **no seams should line up**.
2. The starter course will be applied using the starter pieces. The starter pieces measure $11 \frac{3}{4}$ " x 3". The starter piece should be placed flush with the edge of the eave metal and fastened with two roofing nails. (See diagram below)

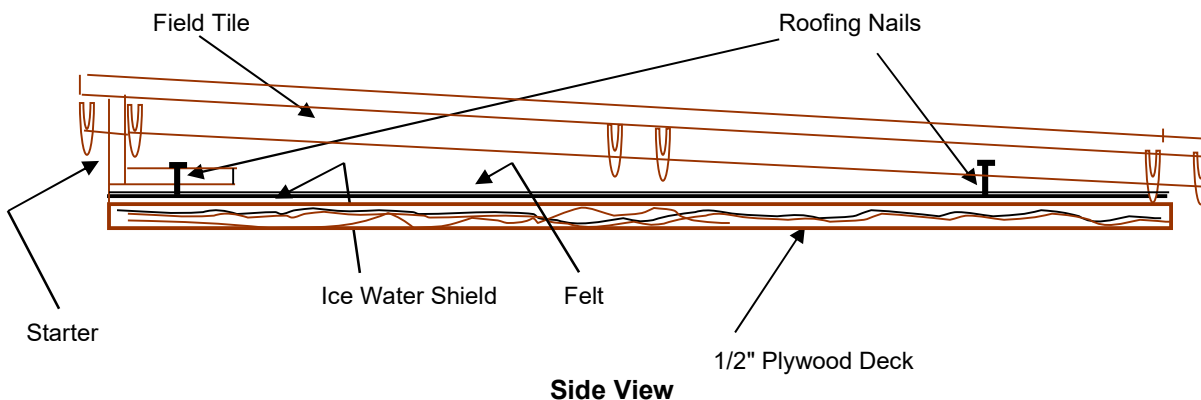


3. The laying of the tiles will be from right to left. After the first starter piece has been installed and the tile fastened, the next starter will need to be placed under a tile and the tile should be dry fit to the first piece of tile. It is important that the tiles fit properly within the designed rain channels. After the tiles have been dry fitted, mark the location of the second starter and secure. Follow these same procedures for the remaining starters. This will allow for a small space between the starters and a more uniform fit of the field tiles.

CAUTION: Do not secure the entire length of starters along the eave edge. By placing the starters tight against each other, it may force the tiles to ride above each other.

4. Now start the first course, laying tiles from right to left. The first course of Brava Spanish tiles should be nailed over the starters.

(See diagram below).



5. Field tile must be placed over the starter with the starter between the two bottom reinforced ribs of the field tile. (See above diagram).
6. Horizontal and vertical lines shall be chalked on the felt to guide application of the tiles to obtain an aesthetic installation.
7. Snap a chalk line at the top of the roof 1 ½" down from the center of the ridge.
8. With a tape marked every 13", lay the tape vertically from the top of the first course to the line near the ridge at either end of the roof.
9. If a mark on the tape does not fall exactly upon the top line, move the tape right or left until the mark intersects the line, then mark the deck at every mark on the tape. Repeat these steps at the other end of the roof.
10. Snap lines between the marks on the deck. This will assure that all courses will be of equal exposure and minimum recommended head lap maintained.

