

BRAVA

Spanish Barrel Tile Installation Guide

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Brava Technical Services, Training and Resources

Brava provides installation guidance for all products at https://www.bravarooftile.com/training/

Complete Level 1 Training and Access Resources and Support at https://www.bravarooftile.com/technical-services/. If you have any questions regarding Brava Roof Tile products and manufactured accessories, call **844-290-4196** and ask for Technical services. You can also contact us through our website at https://www.bravarooftile.com.

The information and instructions presented in this installation guide are based on Brava's best understanding, believed to be reliable and accurate. However, they are subject to updates and improvements as Brava and our partner installers continually gain knowledge and experience. Brava strives to offer comprehensive support and instructional materials for our Spanish-speaking community, but please note all our training, marketing, and instructional materials originate in English and are then translated into Spanish.

In the event of any discrepancy between English and Spanish language materials, we encourage you to contact Brava for clarification.

La información y las instrucciones presentadas en esta guía de instalación se basan en el mejor entendimiento de Brava, se consideran confiables y precisas. Sin embargo, están sujetas a actualizaciones y mejoras a medida que Brava y nuestros instaladores asociados adquieren conocimientos y experiencia continuamente. Brava se esfuerza por ofrecer un soporte integral y materiales instructivos para nuestra comunidad hispanohablante, pero tenga en cuenta que, como empresa principalmente de habla inglesa, todo nuestro entrenamiento, marketing y materiales instructivos se originan en inglés y luego se traducen al español. En caso de cualquier discrepancia entre los materiales en inglés y en español, le recomendamos que se comunique con Brava para aclaraciones y siempre consulte la versión en inglés como fuente principal.



Figure 1.01

1. Introduction

Brava Barrel Tile is manufactured from recycled materials and can be recycled again if the roof is ever replaced, making it sustainable and environmentally friendly.

Brava Barrel Tile has all of the qualities and beauty of traditional Barrel tiles, combined with the incredible benefits of a composite roofing material. When it comes to quality and craftsmanship, no one does it better.

Our composite roofing tiles are the perfect barrel clay tile alternative. Traditional barrel tile roofs are extremely heavy and require additional structural support. Our lightweight synthetic roofing material eliminates the need for costly structural support, may reduce the installation labor, and significantly decreases roof maintenance. Your new synthetic barrel roof will look amazing for a lifetime! Brava Barrel Tile is truly a revolutionary roofing product.

Field tiles are the primary component of the Brava Barrel Tile roof system. These tiles are manufactured using real Spanish barrel tiles as examples, defining color and contour. Additionally, Brava offers Eave Starters, Hip & Rake, Top Ridge, Bullnose, Ridge Closure, and optional Rake Edge accessories for best appearance at valleys and rakes. No special tools are required for installation and no additional structural support is needed.

This makes our product ideal for new construction and re-roofs, for both residential and commercial projects.

1.1 Brava Spanish Barrel Tile Training & Resources

Before installing Brava Spanish Barrel, verify local building codes and requirements. Use a minimum $^{15}/_{32}$" CDX plywood deck or an approved equivalent. **Do not install if material temperature is below 32°F.** Confirm proper flashing, Ice & Water Shield, and underlayment per code. Review the packing list, verify product specs, and blend colors as you load the roof. Check that the roof is square and plumb, and correct any major deviations. Review this entire installation guide thoroughly before beginning any work.

Access Training, Resources, and Service through the Technical Services Portal.

Click here or Scan

All crew members should complete the Level 1 Installation Training available on the Technical Services Portal before beginning installation. This training helps ensure proper installation practices, sets your team up for a smooth project, and supports eligibility for warranty coverage.

Brava Installation Training

Click here or Scan

These 30-minute online courses cover the Keys to Success for each roof system, equipping your crews with the knowledge they need for a smooth and successful installation.

Why Take Our Training?

Fewer Issues, Less Downtime: Crew training reduces errors and keeps projects on track.

Convenient Access: Training is available on both mobile and desktop devices.

Completion Verification: Completing the course also qualifies your company for our Preferred Contractor Program.

Sales and Ordering: The training is also helpful for sales and operations teams. Understanding product components and installation methods streamlines planning and ordering.

Bilingual Access: Available in English and Spanish.

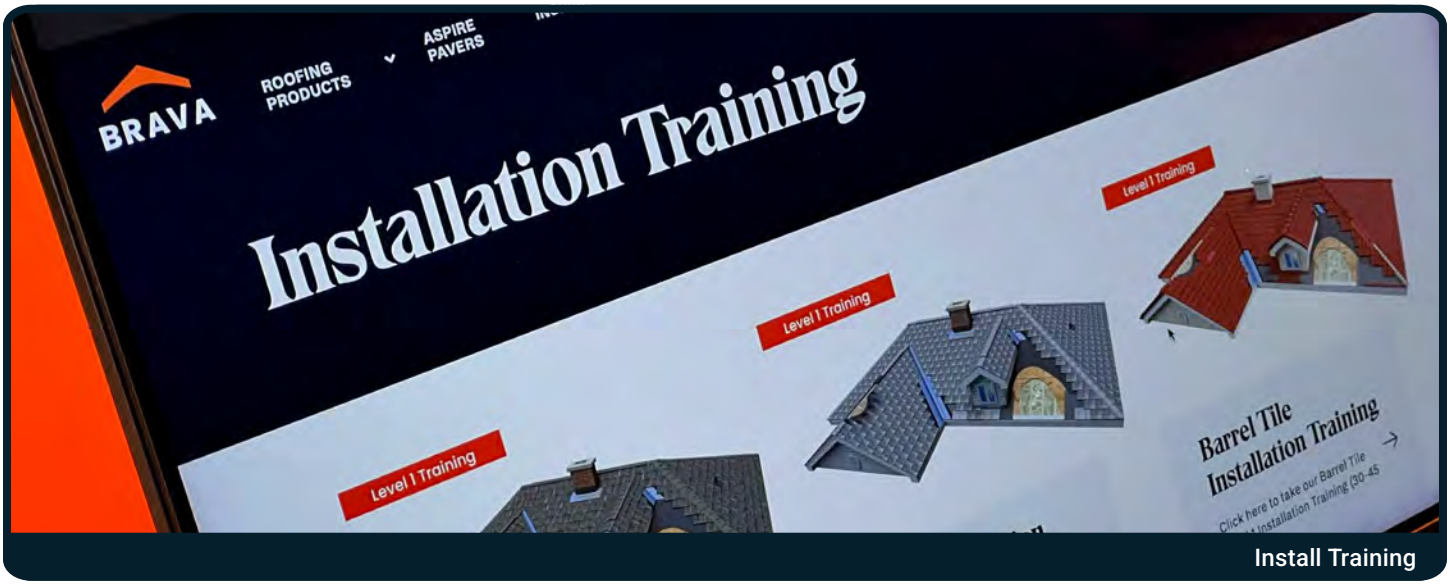
- **Look for the QR Codes at section headers to quickly bring you to our website and / or videos.**

Crew Connect

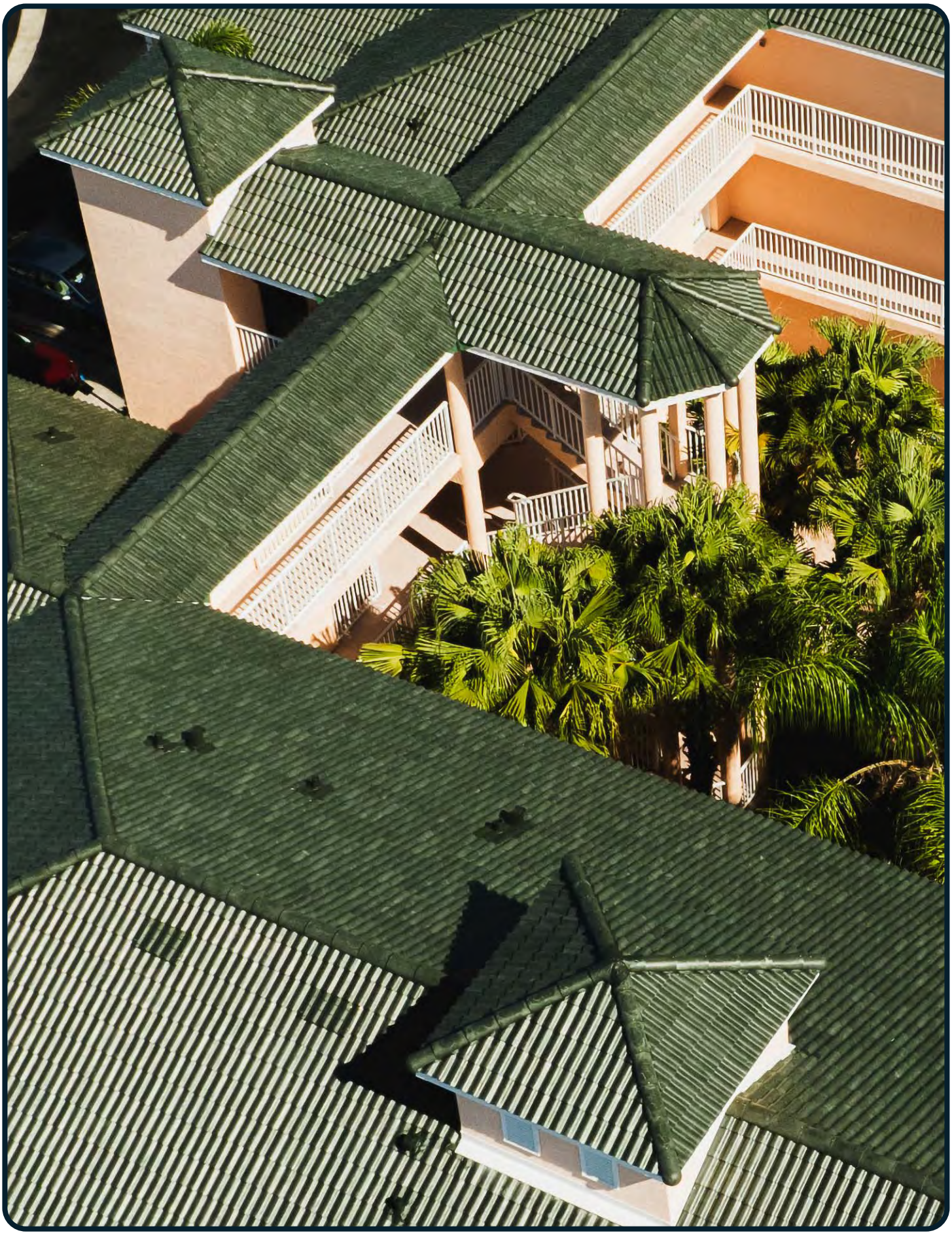
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Contractor Start Right Kit

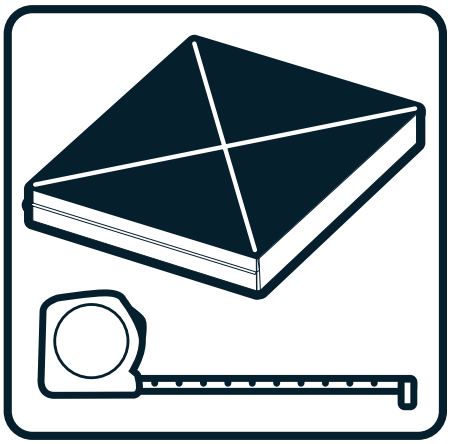
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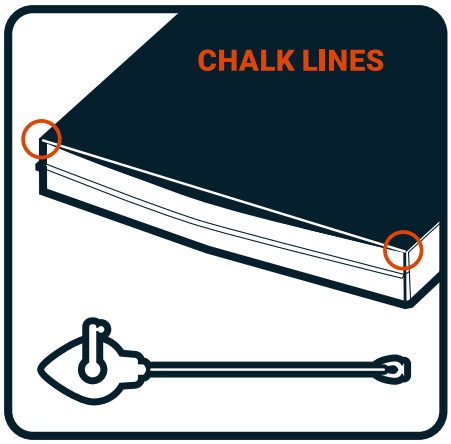
Install Training



1.2 Keys to Success



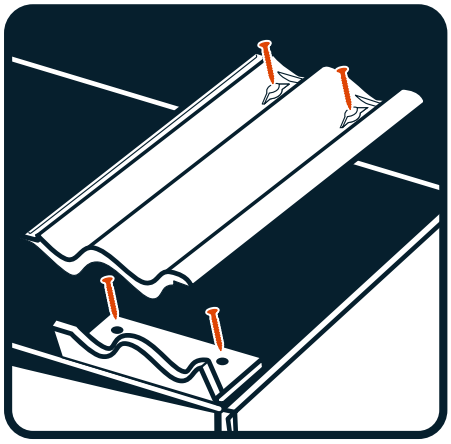
- Confirm/Correct Roof Square



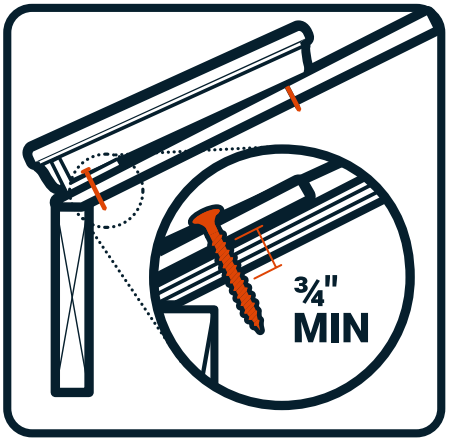
- Chalk Lines for Eave Starters and Field Tile



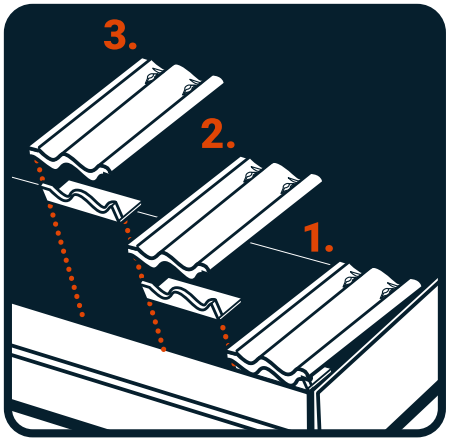
- No Smooth Shank Nails



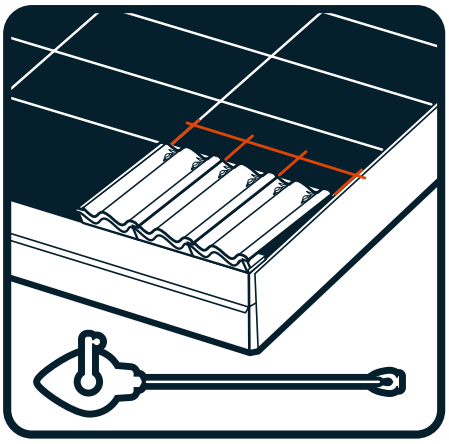
- 2 Fasteners per Tile



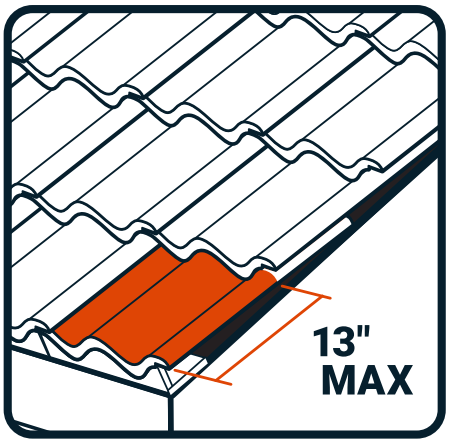
- ≥ 3/4" Fastener Penetration



- Dry Fit Eave Starters and First Course



- Install to Chalk Lines not for Exposure



- ≤ 13" Exposure



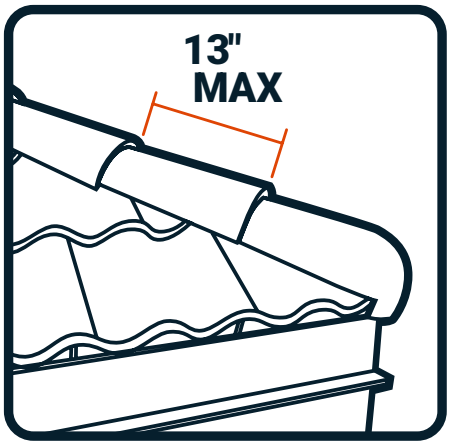
- No Exposed Fasteners

BRAVA SPANISH BARREL TILE NAILER HEIGHT

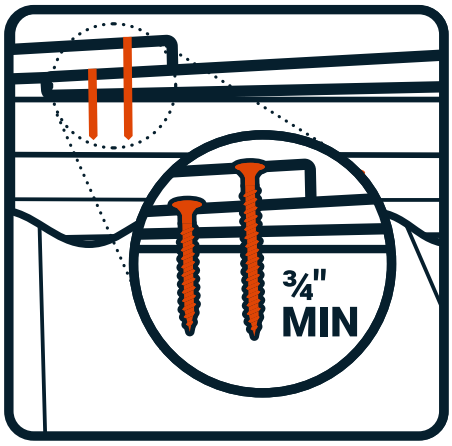
SLOPE	RIDGE NAILER	HIP NAILER
2:12	4¾"	4⅝"
3:12	4½"	4⅜"
4:12	4¼"	4¼"
5:12	4⅛"	4"
6:12	4"	3⅞"
7:12	3⅞"	3⅝"
8:12	3¾"	3½"
9:12	3⅝"	3¼"
10:12	3⅜"	3⅛"
11:12	3¼"	3"
12:12	3⅛"	2⅞"
13:12	3"	2¾"
14:12	3"	2⅝"
15:12	3"	2⅝"
16:12	3"	2⅝"



• 2 Fasteners per Cap



• ≤ 13" Cap Exposure



• ≥ 3/4" Penetration into Nailer

Roof Components and Specifications

Product material temperature should be above 32° F during installation.

Spanish Barrel Field Tiles



13" Width x 16 ½" Height x 2 ½" Thick
13" Maximum Exposure
Field Tiles are the primary component of the Brava Spanish Barrel Tile roof system and are used on all roof sections.

Eave Starter



11 ½" Width x 2 ¾" Height x 3" Depth
Designed to provide proper cant and provide a finished appearance at the eave. Each 10 pc/6 lb bundle provides 9.6 lineal feet of eave coverage.

Hip & Rake



17 ½" Length x 8 ¼" - 9" Width
This smaller radius trim is a universal cap for hips and rakes. Fits both left and right rake edges. If desired, Hip & Rake may also be used at ridges. When installed with 13" maximum exposure, each 5 pc/17.5 lb bundle provides 5.4 lineal feet of hip or rake coverage.

Top Ridge



17" Length x 10" - 10 ⅜" Width
This larger radius trim is used on ridges. The wider design is suitable for continuous ridge vent installation and will provide a bolder look at the ridge. When installed with 13" maximum exposure, each 5 pc/21 lb bundle provides 5.4 lineal feet of ridge coverage.

Bullnose



17" Length x 4 ½" Width x 4 ½" Height
Designed to be the first piece of trim to start hips and ridges. The bull nose/hip starter provides a professional finished look. Each 19.5 lb bundle contains 5 Bullnose.

Ridge Closure



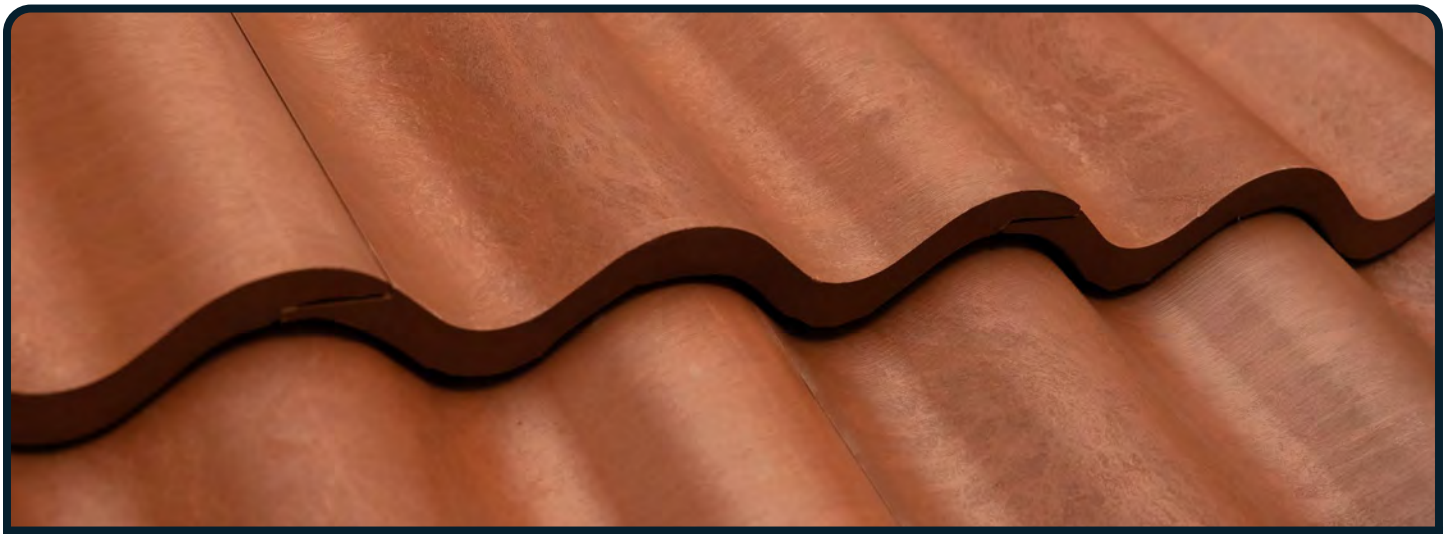
11 ½" Width x 1 ½" Height x 3" Depth
Used at ridges and headwall to close off the top of the tile and provide a finished appearance. Each 10 pc/5 lb bundle provides 9.6 lineal feet of ridge or headwall coverage.

Rake Edge (Optional)



17" Length x 4 ½" Width x 4 ½" Height
Alternative Rake Edge is an optional finishing touch used along the gables. The pieces are universal and will fit right and left sides. When installed at the maximum 13" exposure, each 5 pc/18.5 lb bundle provides 5.4 lineal feet of rake coverage.

Brava Spanish Barrel Tile Specifications



Field Tile

Dimensions

Length	16.5"
Width	13"
Thickness	2.5"
Maximum Exposure	13"

Weight

Lb./Piece	2.9
Lb./Square	281
Lb./Bundle	29
Lb./Pallet	1722

Packaging

Pieces/Bundle	10
Bundles/Square	9.7
Bundles/Pallet	57.5
Squares/Pallet	5.92

Testing & Performance

Weatherometer	ASTM G155
Class A Fire Resistance	ASTM E108 Class A with Tested Assembly*
Class C Fire Resistance	ASTM E108 Class C with Tested Assembly*
Impact Resistance	UL 2218 Class 4
Wind-Driven Rain	TAS 100
Wind Uplift	TAS 125*
Temperature-Cycling	ICC-ES AC07
Penetration	ICC-ES AC07

Code Compliance

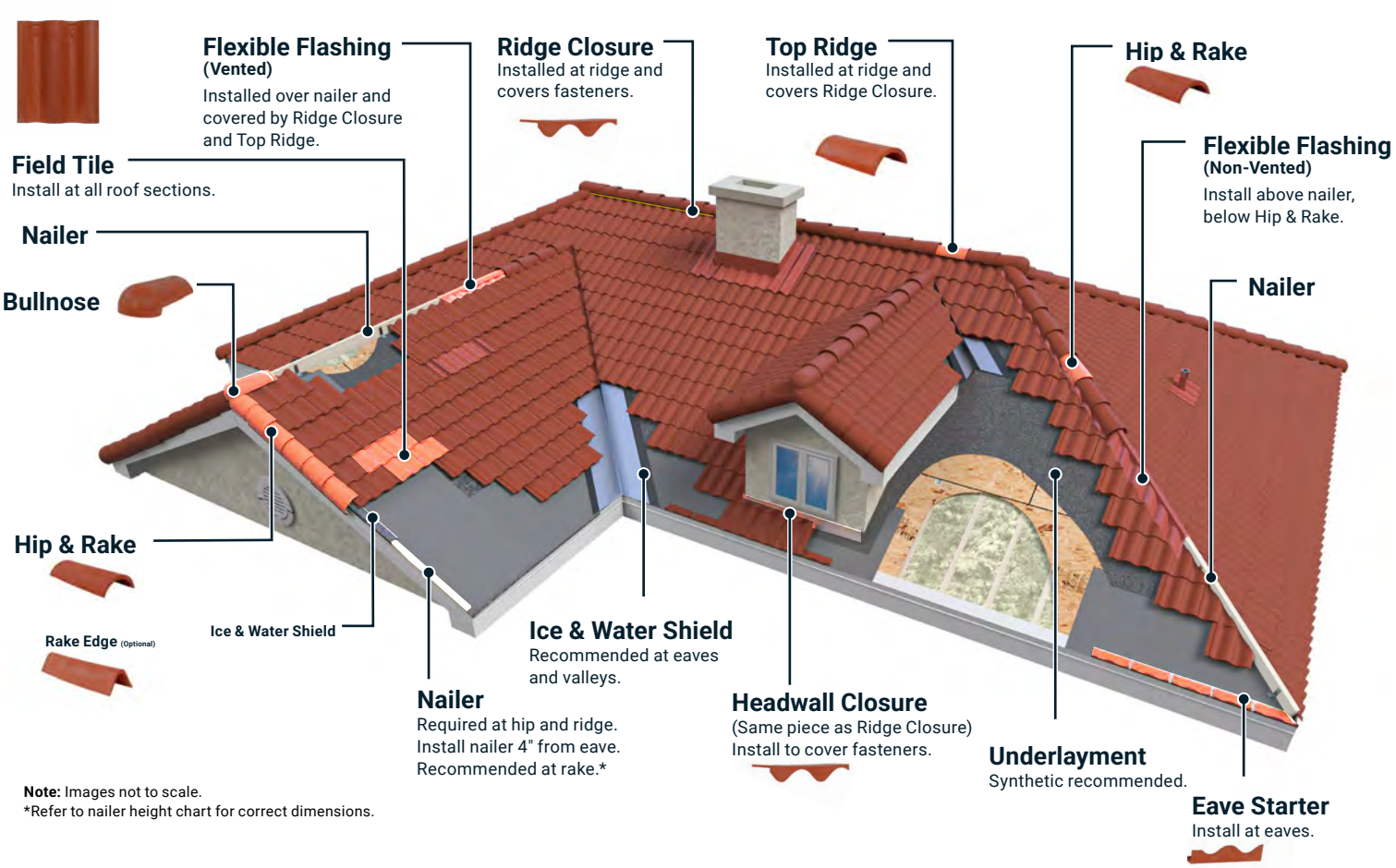
Miami-Dade Approved	Miami-Dade NOA
Florida Building Code Approval (FBC)	FL 41880
TDI Approval	Yes
Title 24 / Cool Roof Approval	Terra Cotta, French Clay, Weathered, Lake Forest colors only
International Building Code (IBC) Compliant	Yes
International Residential Code (IRC) Compliant	Yes
ICC AC07	Yes

NOTE: To achieve a Class A Fire Rating, Brava Spanish Barrel Tile must be ordered as Class A material and installed over a tested fire-resistant (FR) underlayment. At the time of publishing, the FR underlayment must be GAF VersaShield installed over a minimum ASTM D226 Type II underlayment.

**See Appendix A Wind Warranty Installation Requirements and Appendix F – Fire Rating*

Visit bravarooftile.com for any product and testing updates.

Brava Spanish Barrel Roofing System



Note: Images not to scale.
*Refer to nailer height chart for correct dimensions.

Hip & Ridge



1. Top Ridge
17" L x 10 ⅜" W



2.Hip & Rake
17 ½" L x 9" W



2.Rake Edge (Optional)
17" L x 4 ½" W



1.4 Safety

WARNING: Always use safety and personal protective equipment (PPE) per regional requirements and apply common safety practices when working on or around a roof.

Always keep the roof clean and free of items that can cause accidents.

WARNING: Tiles can be slippery when wet or dry.

To ensure safety and prevent gutters and downspouts from clogging, remove cuttings regularly from the roof surface.

2. Roof Preparation

2.1 Building Codes and Best Practices

Before installing Brava Spanish Barrel Tile check local building codes for roofing requirements. BRAVA recommends that installers follow regional and industry best practices. This includes, but is not limited to, city, county, state, and country codes. Additionally, weather phenomena, common practices, and aesthetic, architectural, and design requirements should be considered.

2.2 Slope

Brava Barrel Tile has a recommended minimum slope of 4:12. There is no recommended maximum slope, however, Brava Barrel Tile is designed as a roofing product and has not been extensively tested in vertical applications. When installed in extremely steep or vertical applications, special considerations may be necessary.

When installed on a 3:12 slope, a self-adhered waterproof membrane meeting ASTM D1970 (referred to as Ice & Water Shield hereafter) should be used on the entire slope. Brava considers installation on slopes lower than 3:12 to be decorative and special care should be taken regarding underlayment and waterproofing. Any section with a slope of less than 3:12 will fall outside the Brava Limited Lifetime Warranty.

- **Recommended Minimum Roof Slope – 4:12**
- **Warranty Minimum Roof Slope – 3:12**
  (with Ice & Water - see Section 2.6)

2.3 Exposure

Standard Exposure
Brava Barrel Tile can be installed at different exposures depending on application and code requirements. Ensure no fasteners are exposed on any visible surface.

The maximum installed exposure is 13" and Brava suggests a minimum exposure of 4" (See Figure 2.3.1).

- **Maximum Exposure: 13"**
- **Minimum Exposure: 4"**

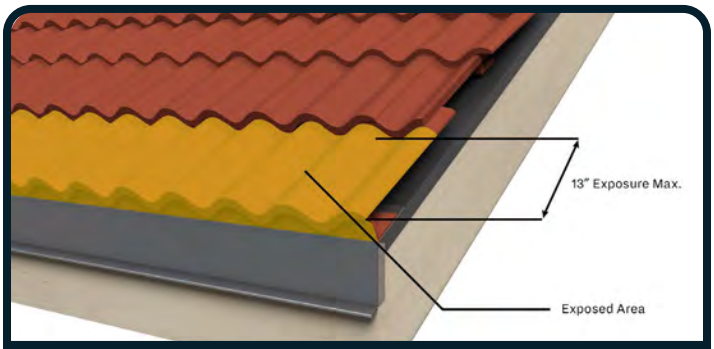


Figure 2.3.1 Exposure 13" max

Exposure for High Wind
Some building codes specify exposure for wind uplift. Ensure code and design requirements are met.

CAUTION: In high wind regions such as Florida, maximum exposure may be dictated by the building department. Verify code requirements when setting exposure. Using recycled materials can cause variation in final product dimensions. Take this variation into account to ensure code exposure requirements are met. To this end, it may be necessary to set exposure lower than the code maximum in some cases. Brava recommends setting exposure to end with a full tile at the ridge (See Appendix E – Swing Tape Method). This will usually set a slightly lower exposure and does not require additional material.

(See Appendix A – Wind Warranty Installation Requirements).

2.4 Eaves, Spacing, and Sidelap

Eave Spacing
Confirm roof square before installation. Correct any out of square conditions and ensure that the eave line is straight.

Install Eave Starters and the first course of Field Tile in a straight line. Snap a chalk line from corner to corner at the eave to ensure straightness.

Correct any inconsistencies at the eave before proceeding with installation.

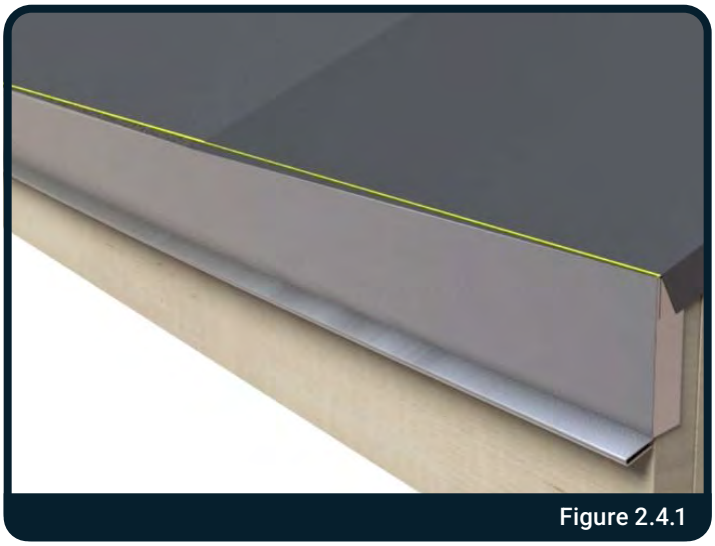


Figure 2.4.1

Snap a second chalk line 16" from the eave line to indicate the head of the first course of Field Tile.

Starting at the rightmost eave, position an Eave Starter flush with the marked line and secure with two corrosion-resistant fasteners.

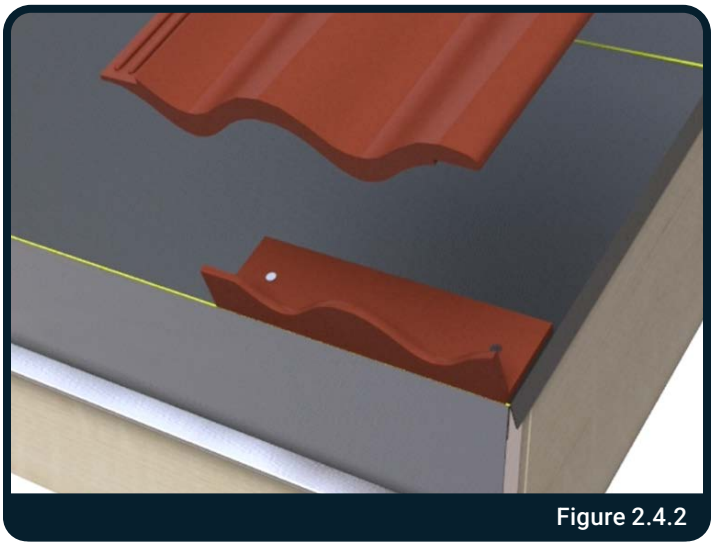


Figure 2.4.2

Place the first Field Tile on the Eave Starter and fasten it using two corrosion-resistant fasteners, ensuring that fasteners penetrate a minimum of ¾" into the deck or completely through the deck.

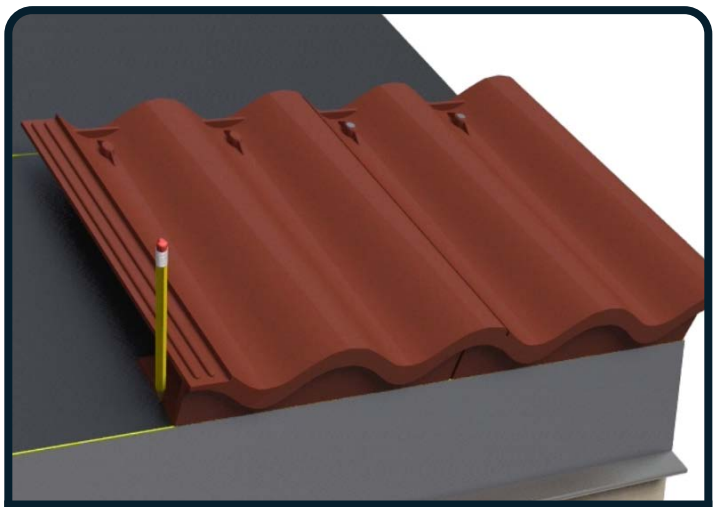


Figure 2.4.3

Dry fit the second Eave Starter with a tile to ensure proper fit in the rain channel, mark its location, and then fasten it into place.

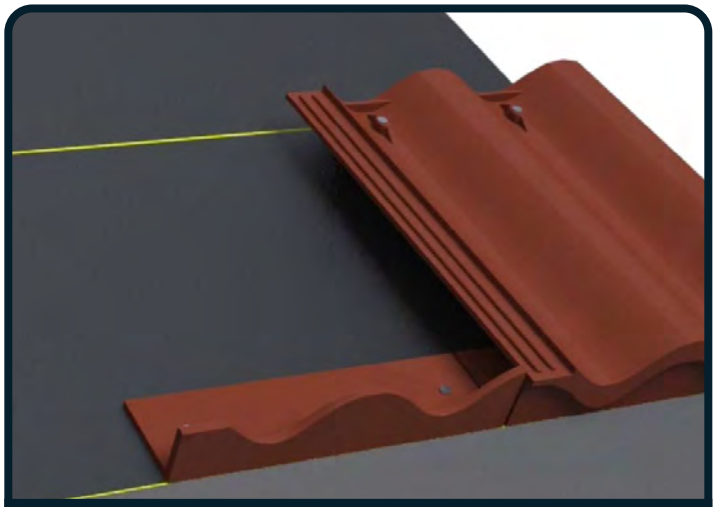


Figure 2.4.4

Continue installing Eave Starters along the eave, dry fitting with each Eave Starter/Field Tile pair and fastening tiles as you go.

CAUTION: Do not install the entire length of starters along the eave without dry fitting each pair. Not following the recommended steps may lead to misaligned courses, excessive gapping between tiles, and insufficient drainage.

2.4 Eaves, Spacing, and Sidelap

Eave Starter

When installing Field Tile at the eave, the two tile ribs should engage with the vertical closure section of the Eave Starter (Figure 2.4.5).

Take care not to lean on Eave Starter/Field Tile pair during installation. Use the eave reference line and Field Tile line to keep the first course of tile even and straight.

Side Lap

Each Field Tile is manufactured with a rain channel (visible from above) on the left and a matching cover lock (visible from below) on the right. These channels are engineered to fit together to establish spacing and provide sidelap between each tile. The design includes two (2) parallel ribs on each face. These ribs meet the channels on the adjacent tile with a tolerance allowing smooth installation (Figure 2.4.6).

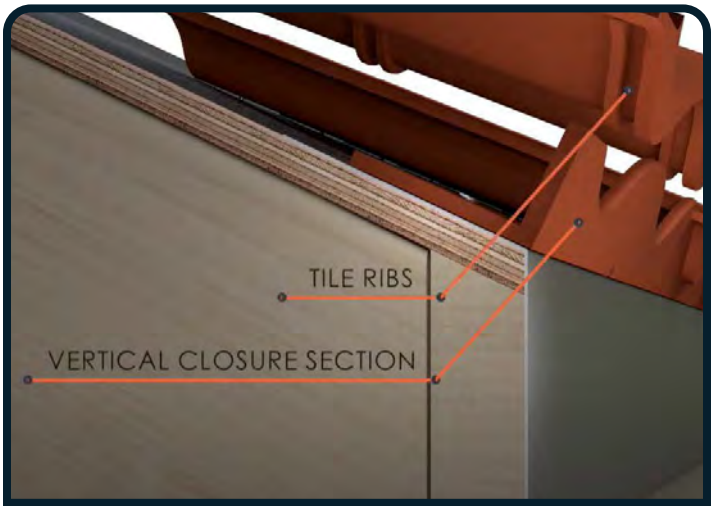


Figure 2.4.5

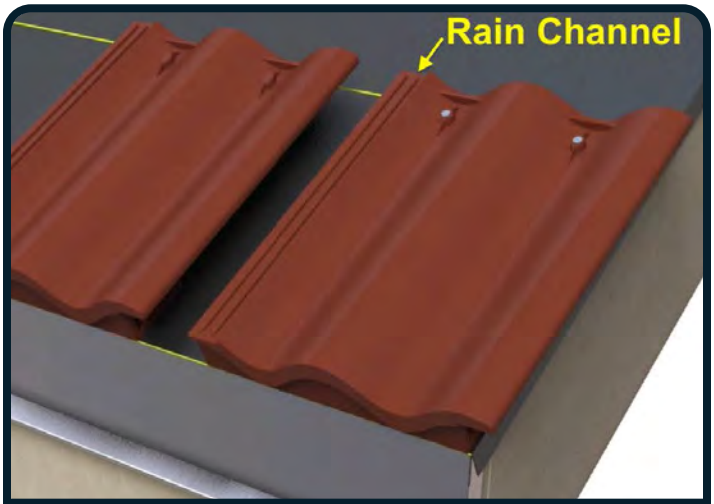


Figure 2.4.6

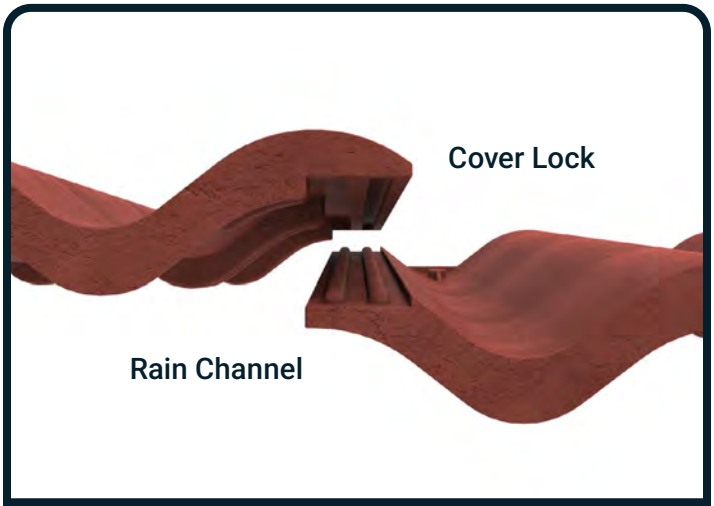


Figure 2.4.7



Figure 2.4.8

2.5 Roof Deck

CAUTION: Roof deck loss is one of the most common structural failures in hurricanes or high wind environments. Fastener spacing and size requirements for coastal construction are typically different than for non-coastal areas. Check your local codes. The highest uplift forces occur at roof corners, eaves, and ridge lines. Improved sheathing fasteners such as ring shank nails or screws increase the uplift resistance of the roof sheathing.

Solid Deck Sheathing

Brava requires that tiles be installed on solid plywood or Oriented Strand Board (OSB) sheathing. Sheathing must be smooth, flat, clean, and at least 15/32" thick for plywood or 7/16" for OSB. Plywood is recommended and provides higher fastener head pull-through resistance in high-wind environments.

Applicable codes may require plywood sheathing or a thicker roof deck. *For example, in Miami-Dade compliant counties, ≥ $^{19}/_{32}$" Plywood sheathing is required.*

Brava Spanish Barrel Tile must be installed on a roof deck that complies with IBC, IRC, and all regional or local codes. Check with your building official to confirm deck compliance. Ensure roof venting meets industry standards and code requirements.

Roof Venting

Appropriate attic ventilation is a key factor in preventing moisture problems and heat buildup, which can lead to issues like mold, rot, ice dams, and decreased energy efficiency. The U.S. Federal Housing Administration (FHA) recommends a standard of 1 square foot of ventilation for every 300 square feet of attic space. This balance between intake and exhaust ventilation helps create a natural airflow, keeping the attic temperature closer to the

Click here or Scan

Spanish Tile Roofing System Overview



Figure 2.5.1

outside temperature. Ensure roof venting meets industry standards and code requirements. Barrel Tile is compatible with many on and off ridge venting systems. Insufficient venting may lead to roof deck failure. Contact the roof vent manufacturer and refer to local building code when determining roof venting requirements.

- **Minimum Plywood Deck – 15/32" CDX**
- **Minimum OSB Deck – 7/16"**

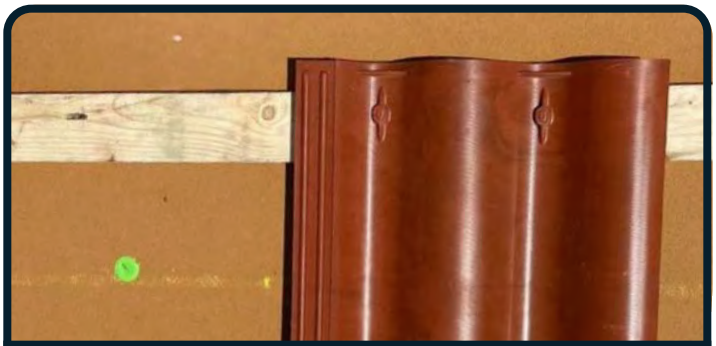


Figure 2.5.2

Battens
In some cases, using a batten system may speed up and simplify installation and provide straighter courses of tile. Brava does not require the use of battens for Barrel Tile (Figure 2.5.2). See Section 3.7 Nailers and Battens and Appendix E – Swing Tape Method for batten requirements and installation.

2.6 Underlayment

Install underlayment products according to the manufacturer's specifications and as required by applicable building code. Brava recommends finding a synthetic underlayment that matches the durability and warranty of Brava Barrel Tile. At a minimum, underlayment of not less than 30 lb. felt meeting ASTM D226 Type II should be used. When installed correctly, underlayment, flashing, and roof metal are designed to seal the roof from water intrusion. Ensure underlayment compliance with applicable codes and regional best practices. Using ASTM D1970 Ice & Water Shield for the whole roof is common and recommended in some climates. *(See Roof Venting in Section 2.5 – Roof Deck).*

In areas where the average daily temperature in January is 25° F or lower or where ice formation is possible along the eaves causing backup of water, a minimum ASTM D1970 self-adhering membrane shall be installed from the eave edge extending to a point not less than 24" inside the exterior wall line of the building. A minimum 36" wide self-adhering membrane is required in all valleys regardless of average daily temperatures or the possibility of ice formation. Additionally, a 36" strip of Ice & Water Shield is recommended at rakes.

- **Minimum Underlayment – 30# ASTM D226 Type II Felt**
- **Recommended Underlayment – Synthetic Underlayment and Ice & Water Shield**

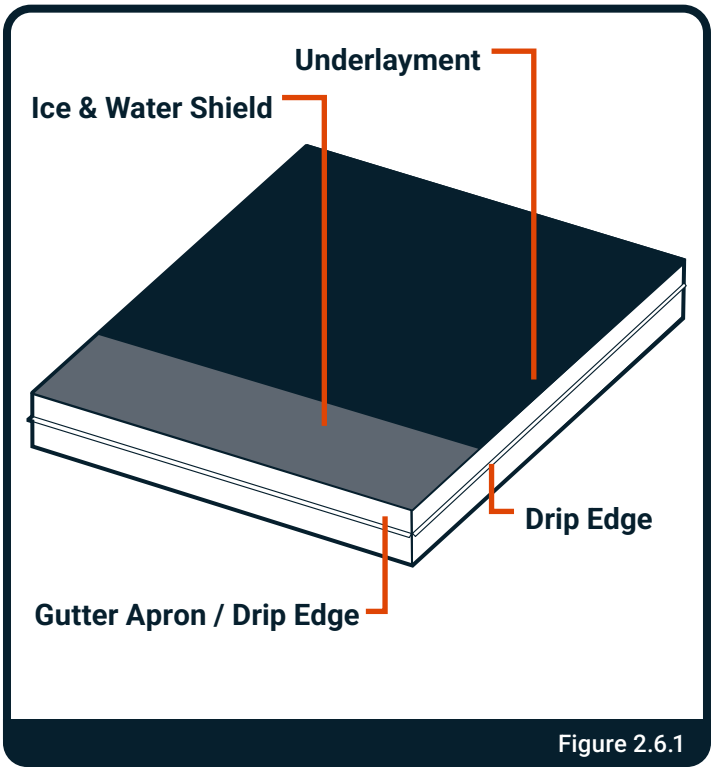


Figure 2.6.1

Low Slope Applications
When Brava Spanish Barrel is installed on a 3:12-4:12 slope or lower, a self-adhered waterproof membrane (Ice & Water Shield) is required on the entire slope. **See Appendix F – Fire Rating.*

Fire-Resistant (FR) Underlayment:
Brava Spanish Barrel Tile must be installed as a tested roof assembly to achieve the required fire rating. Class C assemblies use Brava One material with standard underlayment over minimum 15/32" CDX Plywood. Class A (WUI Compliant) assemblies require Brava Class A Spanish Barrel Tile material with a tested fire-resistant (FR) underlayment assembly, including GAF VersaShield FR Underlayment plus the required standard underlayment, over minimum 15/32" CDX plywood.

2.7 Fasteners

Standard Fasteners
All tiles and accessories should be installed with corrosion-resistant screws of sufficient length to penetrate no less than ¾" into the deck or completely through the roof deck. #8, #9, or #10 x ≥ 2" screws are required for best installation experience and highest wind resistance and warranty.



Figure 2.7.1 Screws

Stainless steel fasteners are recommended within 10 miles of a body of salt water. Always ensure fasteners are in compliance with building codes and design requirements and that corrosion protection is sufficient for regional conditions.

CAUTION: Fasteners should not be exposed beneath the exposure line or anywhere that is not covered and sealed. Figure 2.7.5

Two (2) fasteners must be used for all full tile and for cut tile when possible. It is acceptable to fasten a cut tile with only one (1) fastener if the cut tile is less than a half piece. Use approved adhesive to prevent shifting of the tile. (Figure 2.7.2).
Standard Fasteners – Two (2) ≥ 2" Screws



Figure 2.7.2

Fastener Locators
Each Field Tile and accessory has preformed fastener locators. Fastener locators aid installation by marking the fastener pad and indicate the lowest level that fasteners should be installed (Figure 2.7.3 and 2.7.4).

If it is necessary to place a fastener away from the locator due to installation requirements, flashing details, or valley metal, ensure that the installed tile is not damaged and that no fasteners are exposed on the finished roof.



Figure 2.7.3

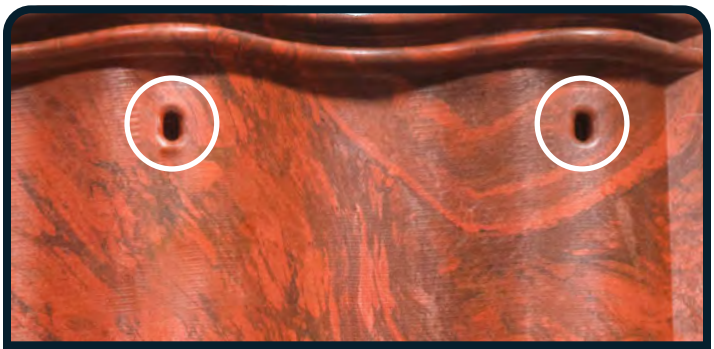


Figure 2.7.4

Fasteners for Hip & Rake, Top Ridge, and Rake Edge

Accessory caps may need longer fasteners due to the multiple layers of material and flashing/vent under the caps. If nailers are the correct height, the same screws used for Field Tile may sometimes be used. Brava recommends ≥ 3" screws for accessories to ensure fasteners penetrate a minimum $^{3}/_{4}$" into the deck (rakes) or nailer (hips, ridges, & rakes).

Hip/Ridge Fasteners: ≥ 3" Screws

Fasteners for High Wind

To be eligible for Brava's highest wind warranty, install all tiles with two (2) ≥#8 x ≥ 2" corrosion resistant screws.

See *Appendix A – Wind Warranty Installation Requirements.*

High Wind Fasteners:

Two (2) ≥#8 x ≥ 2" Screws



Figure 2.7.5 Exposed Fasteners

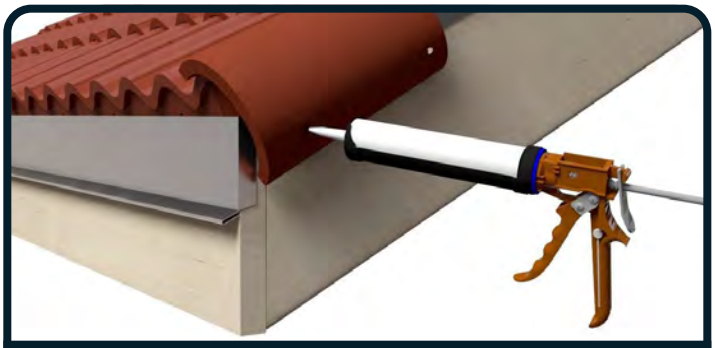


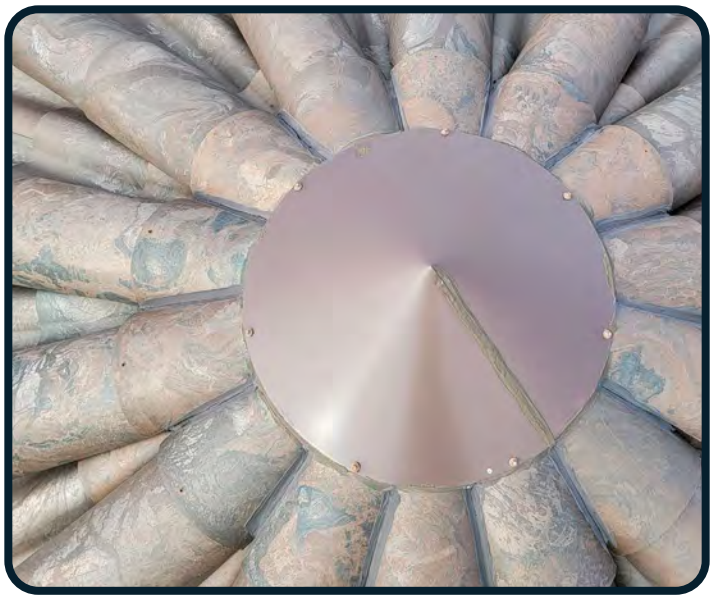
Figure 2.7.6 Seal Exposed Fasteners

Adhesives and Sealant

When required due to location or to avoid unwanted penetrations, a roofing adhesive or sealant may be used in some cases (Figure 2.7.6). Check with manufacturer for compatibility and usage guidelines. Brava Technical Services has tested and approved OSI Quad, Geocel 4600 Hybrid, ChemLink M1, and MasterSeal NP1 for use with Brava Roof Systems. Given that Brava Roof Systems are manufactured using a Recycled Polymer Composite, many conventional roof sealants and adhesives may not adhere effectively.

It is essential for installers to conduct a preliminary test with any adhesive or sealant on the current batch of Brava material to ensure adequate bonding and effectiveness prior to application.

OSI Quad, Geocel 4600 Hybrid, ChemLink M1 MasterSeal NP1



3. Getting Started

3.1 Measuring and Marking the Roof

Before installing Brava Barrel Tile Eave Starters, check for roof square and correct out of square conditions.

Chalk Lines

Eave Starters are installed at the eave edge as described in Section 2.4 - Eaves, Spacing, and Sidelap. Each Eave Starter should be installed individually after dry fitting and marking using the accompanying Field Tile. After the Eave Starters and first course of Field Tile are installed at the eave, use chalk lines to mark the roof using the desired exposure as the distance between each line. *(See Appendix E – Swing Tape Method).*

When setting exposure, check with your building official to ensure compliance with applicable codes. *(See Section 2.3 - Exposure).*

Vertical chalk lines are also recommended to maintain proper vertical alignment of the tile. One method is to lay the first three tiles 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.

If desired, battens may be installed at this stage but are not required.
(See Section 3.7 - Nailers and Battens).

CAUTION: Do not use red or blue chalk where it may remain visible after installation, as it can stain the tiles. Brava recommends using white marking chalk.

CAUTION: Tiles have a variance in length which is typical for barrel tile products, regardless of the material used. This variance is considered normal and within acceptable industry standards. When installing, use the top of the tile, setting on a batten or true to chalk lines, to install straight courses. Do not chase an exact exposure. Exposure may vary slightly as with traditional clay and concrete barrel tile. See figures below.



Figure 3.1.1



Figure 3.1.2

3.2 Roof Loading

For best results verify that the roof is loaded with the proper products in the correct locations using the provided jobsite packing list. Load bundles of tile and accessories on the roof – Starters at the eave, Field Tiles on the roof slopes, Hip & Rake at the hips and rakes, and Top Ridge at the ridges *(Figure 3.2.1)*.

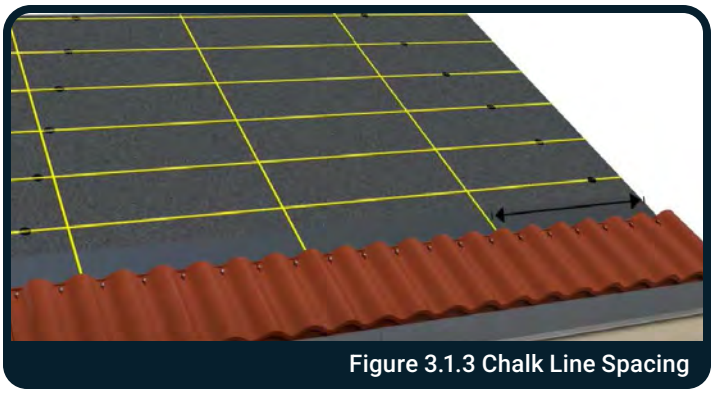


Figure 3.1.3 Chalk Line Spacing

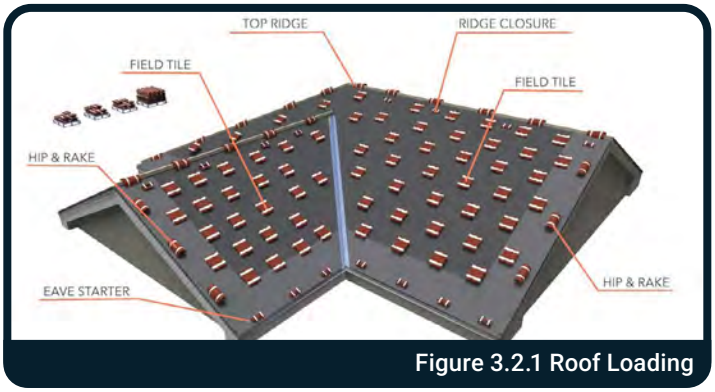


Figure 3.2.1 Roof Loading

3.3 Color Blending

Bundles should be selected from multiple pallets during roof loading to ensure proper color blending. Color blending is recommended for both solid and variegated colors (Figure 3.3.1). For best results, tiles from different bundles may be intermixed.



Figure 3.3.1 Blend bundles from different pallets



Figure 3.3.2 Color blend from different pallets

3.4 Material Inspection and Storage

Brava Spanish Barrel and accessories should be inspected before and during installation for conformity and fit. If any tiles are outside the manufacturer's specifications for dimensions, do not meet project needs, or have been damaged in shipping or storage, set them aside and do not install them.

Store materials on the pallet as shipped on a flat level surface. Pallets of material should not be stacked in a manner that deforms the tile. Cover material that will be stored for an extended period to protect it from environmental debris, paint, and masonry dust. Masonry work should be completed prior to installation of Brava material as masonry dust can be difficult to remove.

Use caution during loading, unloading, and storage to avoid damaging the material with construction vehicles or equipment. Use appropriate safety and lifting procedures and equipment when handling pallets of material.

CAUTION: Do not install nonconforming tiles. Once a roof section is installed, replacing individual tiles may not be practical.

3.5 Flashing

Flashing should be installed by a licensed professional using industry best practices and meeting all applicable codes. Proven durable flashing materials include copper, tin, lead, galvanized or painted steel, and stainless steel.

Each roof will be different but common areas which need flashing include places where the roof surface meets a wall (sidewall/headwall), valleys, penetrations, eaves, and rakes.

NOTE: When dissimilar metals are placed in contact with one another, galvanic action can result causing electro-positive metals to deteriorate. One solution for this is to place strips of lead sheeting between the two metals.

While Brava provides some common usage information regarding flashing and roof metal details, these parts of the roof assembly are not manufactured by Brava and do not fall under Brava's warranty. Refer to SMACNA resources for roof flashing recommendations and requirements and check with your local building official to ensure compliance with applicable codes.

3.6 Valley Metal

Valley metal should be installed by a licensed professional using industry best practices. Open or Closed valleys may be used with Brava Barrel Tile and should be selected depending on building specifications, application, and the desired aesthetic. 24–26-gauge corrosion- resistant flashing is recommended. Proven durable valley metals include copper, tin, lead, galvanized or painted steel, and stainless steel. Check with your local building official to ensure compliance with applicable codes.

Recommended Valley Metal: 24–26-gauge corrosion resistant flashing

Open Valleys

For Open Valleys, a minimum 4" opening at the top of the valley is recommended using a “Double W” style flashing with a 2 ½" center crimp. Do not place fasteners within 5" of the center line.

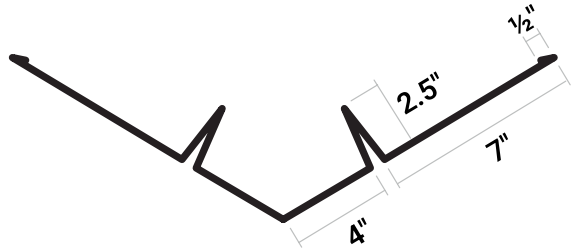
With an “Open Valley” design, special consideration should be given to final finish. When cut at valleys and rakes, Spanish barrel tile opening will be visible. A “Double W” flashing may be used to cover exposed openings on cut Field Tiles *(Figure 3.6.6 A - 3.6.6 B)*.

W-Style Center Crimp - 2 ½"
Double W-Style Crimp - 2 ½"

Closed Valleys

For Closed Valleys, a “W” style flashing may be used with a 2 ½" center crimp. Leave a minimum 3/16" gap between the tiles at the valley for thermal expansion *(Figure 3.6.4)*.

Recommended: Closed Valleys - W Metal with 2 ½" Center Crimp

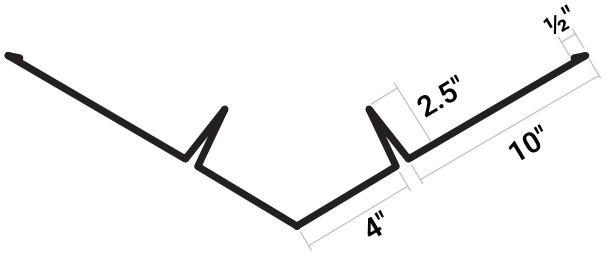


"Double W” style valley metal option for open valleys
Minimum Metal Stock Width: 33"

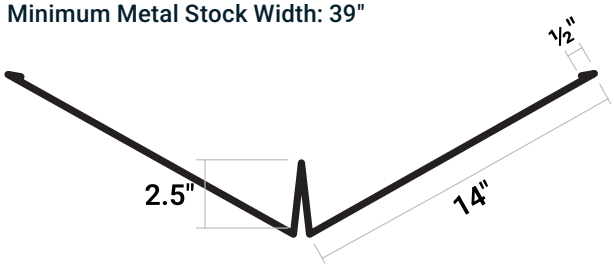


"W” style valley metal option for closed valleys
Minimum Metal Stock Width: 28"

Figure 3.6.6 A - ≥ **4:12 Slopes**



"Double W” style valley metal option for open valleys
Minimum Metal Stock Width: 39"



'W” style valley metal option for closed valleys
Minimum Metal Stock Width: 34"

Figure 3.6.6 B - < 4:12 Slopes

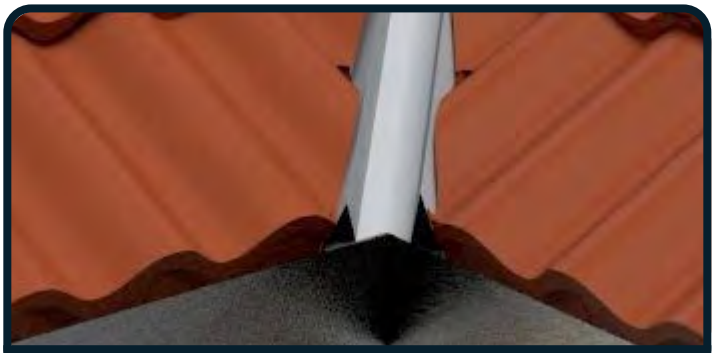


Figure 3.6.1 Open Valley Example with minimum 2 1/2" center crimp

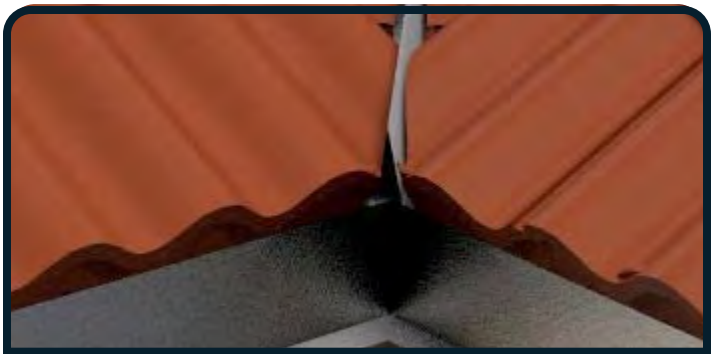


Figure 3.6.4 Closed Valley

3.7 Nailers and Battens

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Nailers

When installing Brava Barrel Tile, nailers should be used on all hips and ridges. Nailers are recommended at the rake but are not required. Wood or metal nailers may be used when meeting code and design requirements. Use the Nailer Height Table below to select the correct height. If metal nailers are used, round down to the lower height available.

BRAVA SPANISH BARREL TILE NAILER HEIGHT

SLOPE	RIDGE NAILER	HIP NAILER
2:12	4¾"	4⅝"
3:12	4½"	4⅜"
4:12	4¼"	4¼"
5:12	4⅛"	4"
6:12	4"	3⅞"
7:12	3⅞"	3⅝"
8:12	3¾"	3½"
9:12	3⅝"	3¼"
10:12	3⅜"	3⅛"
11:12	3¼"	3"
12:12	3⅛"	2⅞"
13:12	3"	2¾"
14:12	3"	2⅝"
15:12	3"	2⅝"
16:12	3"	2⅝"

Nailer Installation

Nailers should be installed with brackets or fasteners at no more than 24" on center spacing. Nailers installed at a hip should be cut back 4" from the eave for best fit and aesthetic *(Figure 3.7.1)*.



Figure 3.7.1

At rakes, nominal 2" x 2" treated lumber is usually appropriate. If a batten system is used, the rake nailer should match the height of the batten system *(Figure 3.7.2)*.

Battens

Battens are not required for Brava Spanish Barrel Tile but may be used to facilitate straight and even courses and allow for quicker installations.



Figure 3.7.2

Battens should be no less than nominal 1" x 2" treated lumber or other code approved products. Battens should be no more than 4' long with a minimum ½" gap between battens for drainage. Direct to deck battens are recommended ensuring tile fasteners penetrate minimum ¾" into the roof deck. Some synthetic and engineered battens are available with built in drainage and may be used if meeting code requirements *(Figure 3.7.3)*.

Batten Installation

To install battens, use the swing tape method to determine desired exposure. Installation of first course batten is optional. Eave Starters should be installed flush to the eave line. Measure up from first course to begin chalking lines. *(See Appendix E - Swing Tape Method)*. Install Battens at chalked lines.

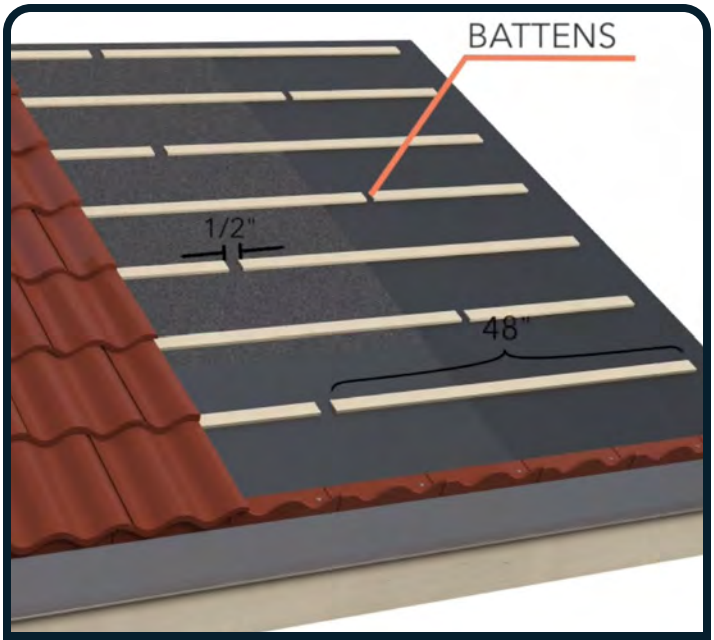


Figure 3.7.3

4. Brava Spanish Barrel Installation Instructions

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4.1 Starter and Field Tile Installation

Material should be stored covered to protect it from environmental and jobsite debris. Masonry work should be completed and cleaned prior to installation of Brava material.

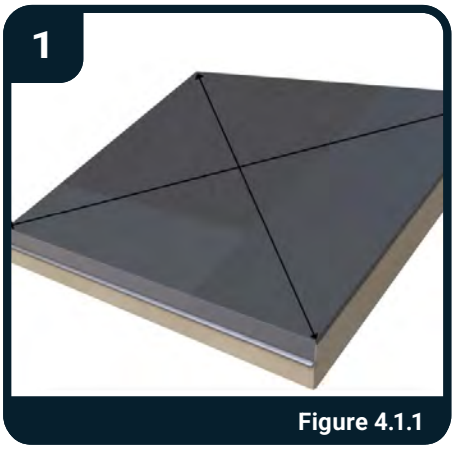


Figure 4.1.1

Before Installation,
Check the Roof Square and correct any out-of-square conditions.

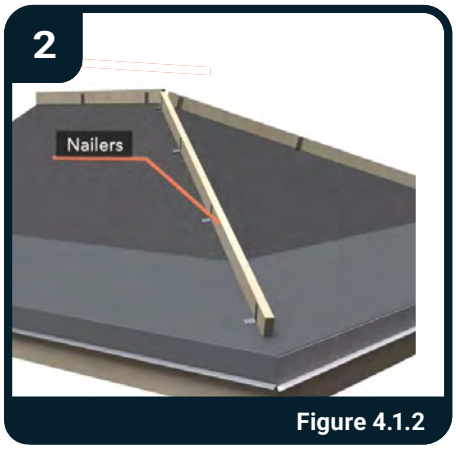


Figure 4.1.2

Install Hip and Ridge Nailers (required) and Rake Nailers (optional) before Field Tile Installation.
(See Section 3.7 – Nailers and Battens).

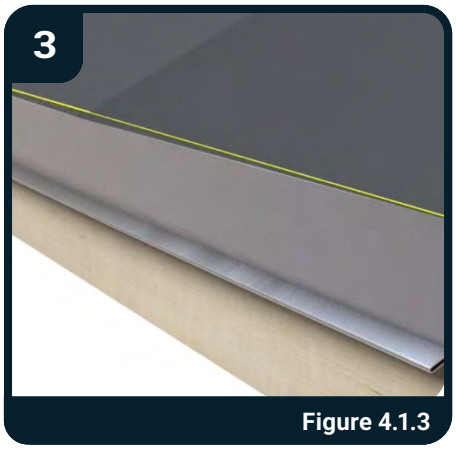


Figure 4.1.3

Snap a Chalk Line at the Eave from corner to corner.
Correct any eave inconsistencies before starting. Eave Starters must be installed to a straight line for correct installation of the Field Tile. *(See Section 2.4 – Eaves, Spacing, and Sidelap).*

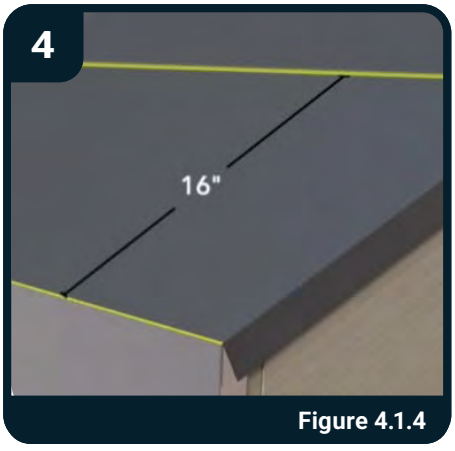


Figure 4.1.4

Snap a Chalk Line 16" up from the eave line for the head of the first course of Field Tile.

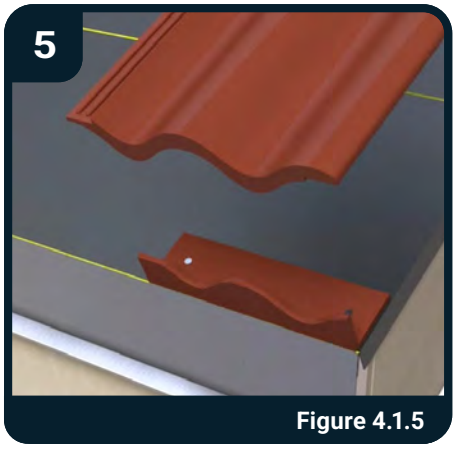


Figure 4.1.5

Install the first Eave Starter aligned to the eave reference line.

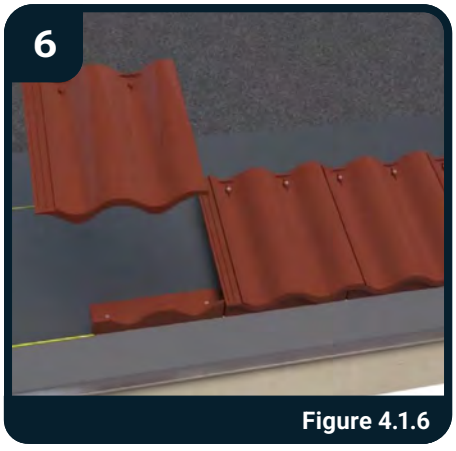


Figure 4.1.6

Install the First Course of Field Tile with Eave Starters aligned to the eave reference line.
Each Field Tile/Eave Starter pair should be installed together.

DO NOT install Eave Starters without dry fitting and installing Field Tile. Fasten Field Tiles, Eave Starters, and Accessories with corrosion-resistant screws of sufficient length to penetrate 3/4" into or completely through the deck. (See Section 2.4 – Eaves, Spacing, and Sidelap.)

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Figure 4.1.7

Install the first Field Tile –
Ribs underneath the Field Tile should engage with the vertical closure section of the Eave Starter.

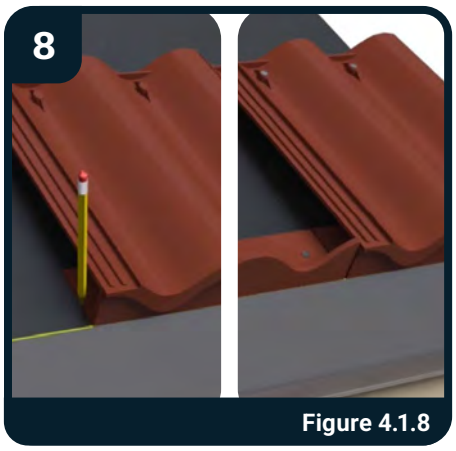


Figure 4.1.8

Dry fit the next Field Tile on the next Eave Starter and position the pair, fitting it with the previously installed Field Tile/Eave Starter pair and the chalk lines. Mark the location and fasten the Eave Starter.



Figure 4.1.9

Install the Field Tile.
Repeat process of installing each Eave Starter/Field Tile pair.

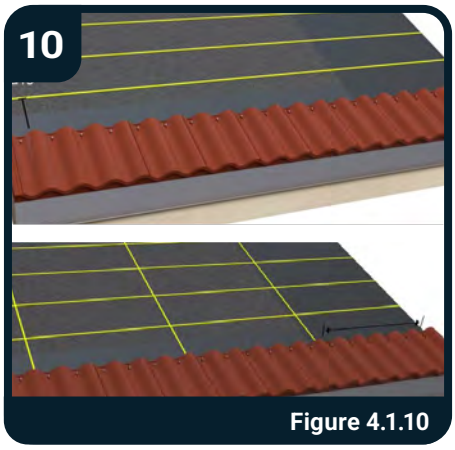


Figure 4.1.10

Snap Horizontal and Vertical Chalk Lines using the specified exposure for the project not to exceed 13". Or use the Swing Tape Method to end at the ridge with a full tile. *(See Section 3.1 – Measuring and Marking the Roof and Appendix E – Swing Tape Method).*

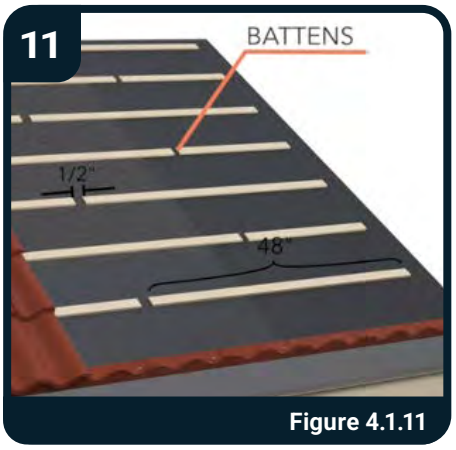


Figure 4.1.11

Optional – Install Battens
Battens should be a weather-resistant material meeting application and code requirements. Allow for drainage between battens using ≤ 48" battens with a ≥ 1/2" gap between each.

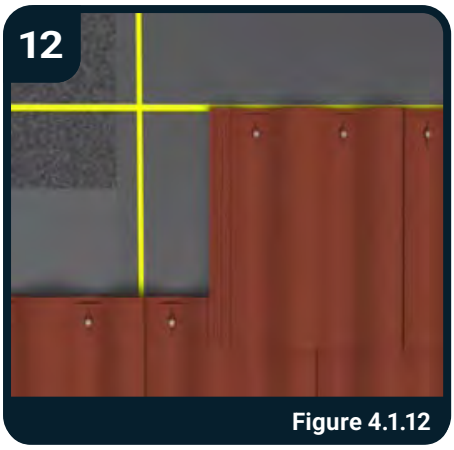


Figure 4.1.12

Install Field Tile courses
from right to left using chalk lines or battens to maintain straight courses. Keep the top of the tiles aligned with the batten or chalk line.

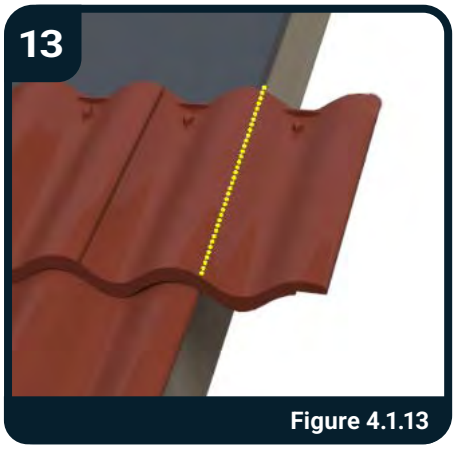


Figure 4.1.13

To install with an Offset Seam dry fit the first tile of every other course at the rake with half of the tile overhanging. Mark the tile and cut it before installing, alternating between full and half tiles up the rake edge.

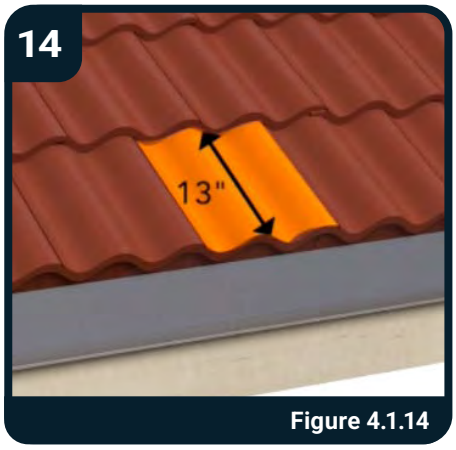


Figure 4.1.14

Ensure exposure is ≤ 13" and meets code and application requirements
(See Section 2.3 – Exposure)

4.2 Valley and Rake Installation

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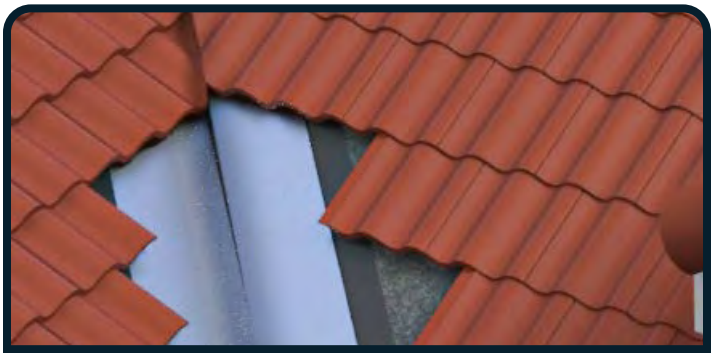


Figure 4.2.1 Closed Valley

When it is necessary to cut tiles and accessories at valleys, rakes, and other details, make straight even cuts. When possible, place the factory edge to the outside.

Valley Installation

At Valleys, install underlayment, a 36" strip of ASTM D1970 Ice & Water Shield and Metal Valley Flashing according to building code, industry best practices, and design specifications. Flashing should extend 11" in each direction from the valley centerline for slopes 4:12 or greater and 14" in each direction for slopes less than 4:12 *(Figures 3.6.6 A and 3.6.6 B)*.

Nailers

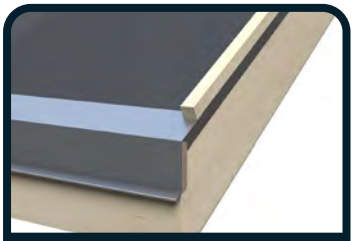


Figure 4.2.2

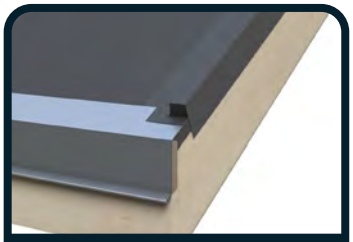


Figure 4.2.3

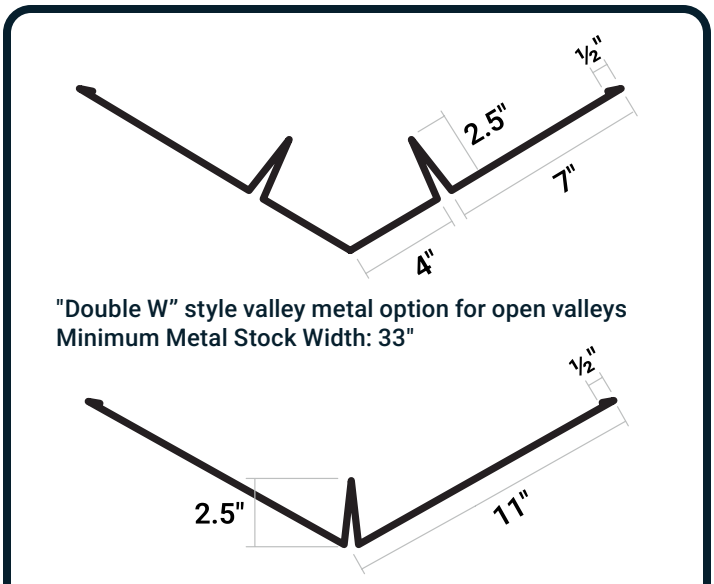


Figure 3.6.6 A - **≥ 4:12 Slopes**

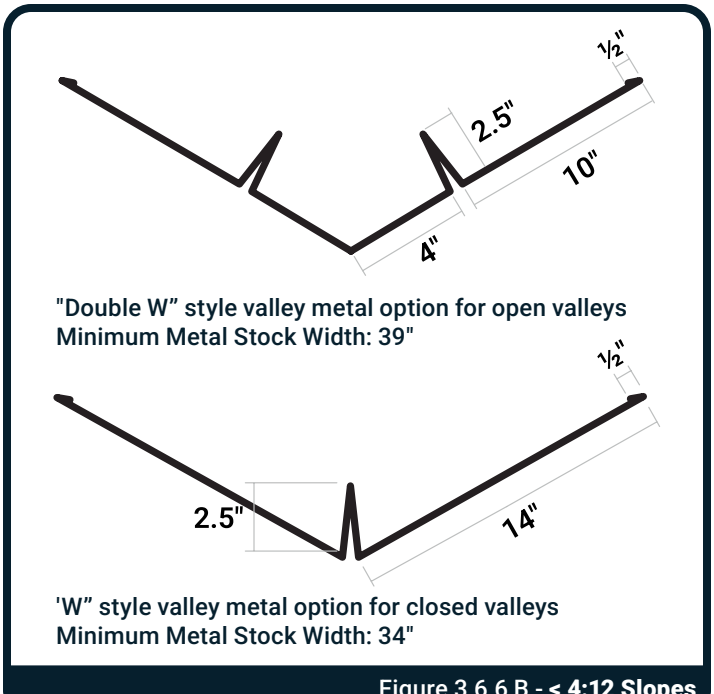


Figure 3.6.6 B - **< 4:12 Slopes**

Rake Installation

Nailers are recommended at the rake and should be cut to size depending on application. Nominal 2" x 2" lumber is usually appropriate, but height may vary depending on roof design and layout. *(Figure 4.2.3)*

Tile Installation at Valleys

Cut Tiles before they are installed, dry fitting and marking for an even line up the valley. Install Field Tile along the crimps leaving a minimum $^{3}/_{16}$" gap between the tiles and crimp(s) for expansion.

Click here or Scan



Figure 4.2.4

Dry Fit and Mark Hip & Rake. Measure the overhang and mark the distance from the top of the Hip & Rake piece.



Figure 4.2.5

Cut the first Hip & Rake. Ensure the factory edge is flush with the visible face of the first course of Field Tile.

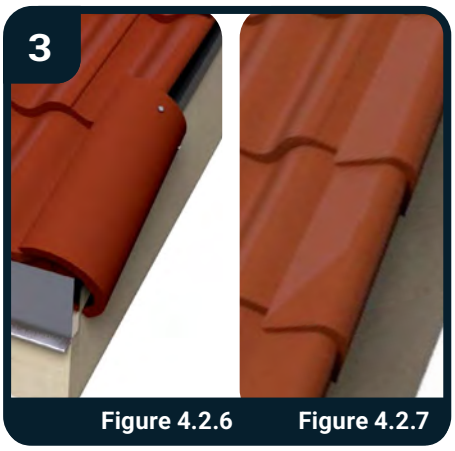


Figure 4.2.6 Figure 4.2.7

Alternative installation methods. Start with full Hip & Rake or use optional Rake Edge.

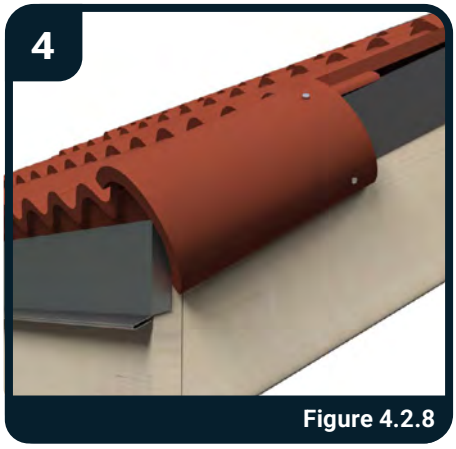


Figure 4.2.8

Fasten with 2 fasteners. Use two fasteners, one in the fascia board and one in the nailer (or roof deck), as shown in Figure 4.2.8. In high-wind regions, an extra fastener may be added at the lower end of the Hip & Rake, as depicted in Figure 4.2.11.



Figure 4.2.9

Install Full Hip & Rake Pieces. Proceed up the remaining rake using fasteners and sealant.
Note: If a rake nailer is not used, the top fastener must be a minimum 4 ½" length to meet penetration requirements.



Figure 4.2.10

Ridges and Transitions. Miter the Hip & Rake, Top Ridge, and Bullnose at ridges and transitions to complete the installation.

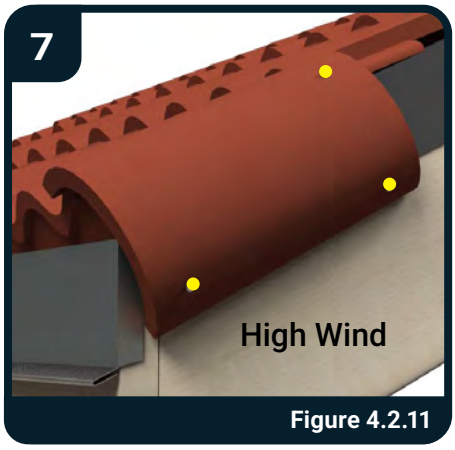


Figure 4.2.11

Fastened with 3 fasteners. Three fasteners used; two in the fascia board and one in the nailer (or roof deck) as shown in Figure. Use sealant on exposed fasteners.

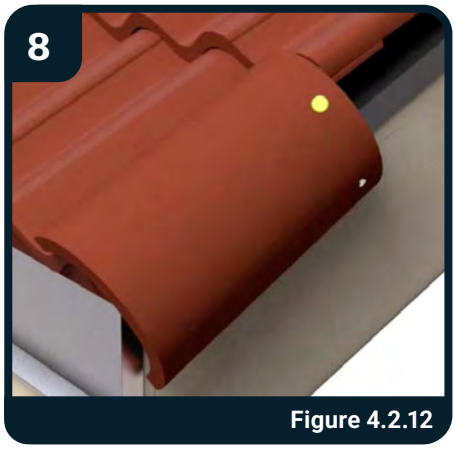


Figure 4.2.12

Fastened with 2 fasteners. Two fasteners used; one in the fascia board and one in the nailer (or roof deck) as shown in Figure.

NOTE: #8, #9, or #10 x ≥ 2" screws are required for best performance and installation experience. Fasteners should penetrate a minimum of 3/4" into the nailer. **Avoid exposed fasteners when possible.** In high wind areas or for desired appearance, an additional fastener should be used at the lower end of the Hip & Rake or Top Ridge. Use a color-matched sealant over any exposed fasteners.

4.3 Hip and Ridge Installation

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Hip and Ridge

At hips and ridges, adjust the layout to allow for larger pieces secured with two mechanical fasteners; when small pieces are unavoidable, use at least one mechanical fastener and approved adhesive in the rain channel to prevent shifting.

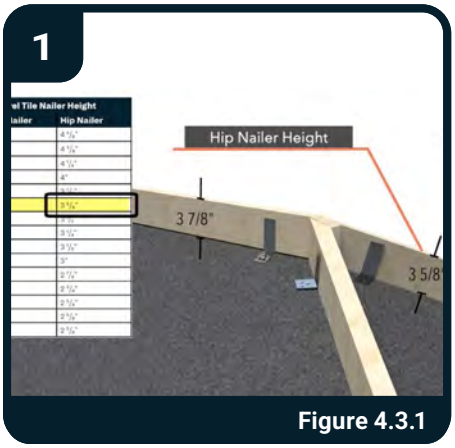


Figure 4.3.1

Determine Nailer height for hips and ridges from the nailer height chart. Rip wood nailers to the specified height, or select the nearest shorter manufactured metal nailer size. (*See Section 3.7 – Nailers and Battens).* Miter nailers at intersections for optimal fastener hold.

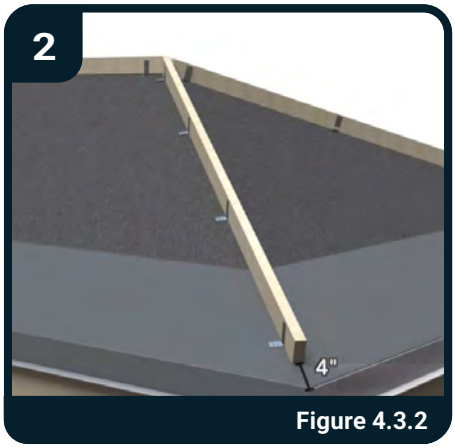


Figure 4.3.2

Install Hip and Ridge Nailers using code-approved wood or metal hip and ridge nailers, fastened at a maximum of 24" o.c., holding hip nailers back 4" from outside corners. Nailers should be installed before Field Tile installation.

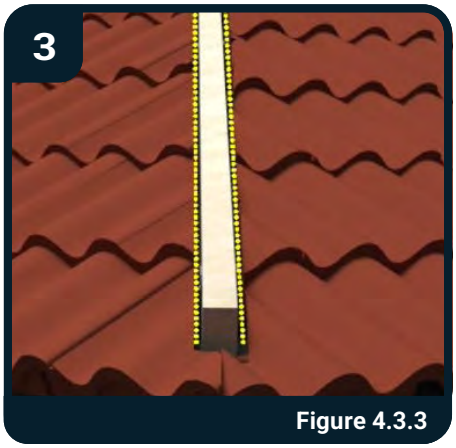


Figure 4.3.3

Trim Field Tiles, leaving a 3/16" gap at the hip and ridge nailers for expansion and contraction.

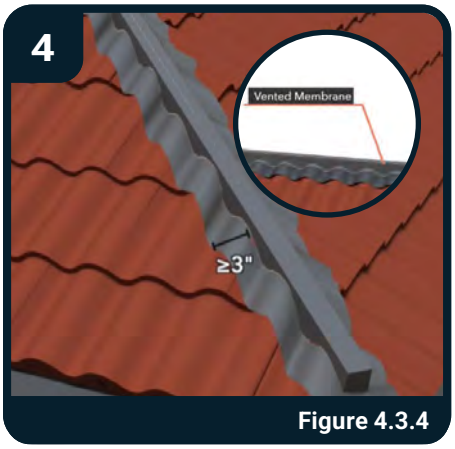


Figure 4.3.4

Install a UV-resistant flashing over the hip nailers and any unvented ridge nailers. Flashing should extend at least 3" over the tile in each direction and conform to the tiles. If venting at the ridge, a ridge vent may be installed according to the manufacturer's guidance.

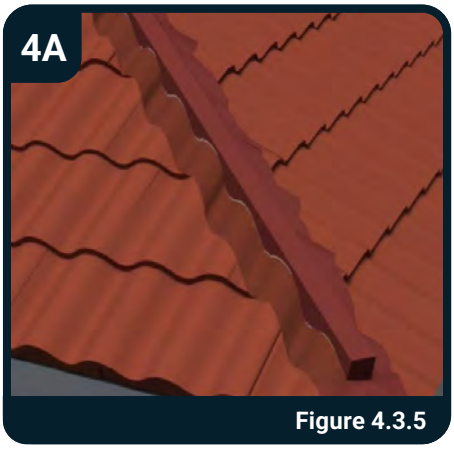


Figure 4.3.5

Flashing and ridge vents may be painted to match the tile if compatible and consistent with the manufacturer's guidance.

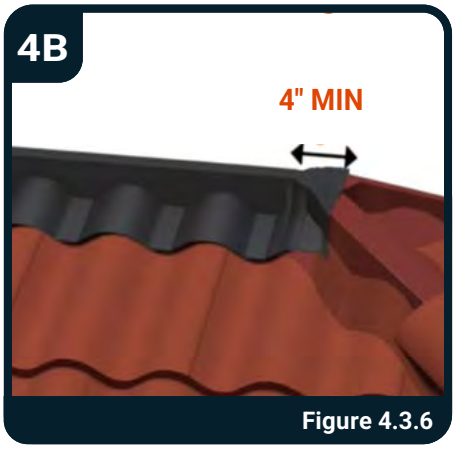


Figure 4.3.6

At intersections, ensure a minimum lap of 4" of vented and unvented flashing or comply with the flashing manufacturer's guidance, whichever is greater.

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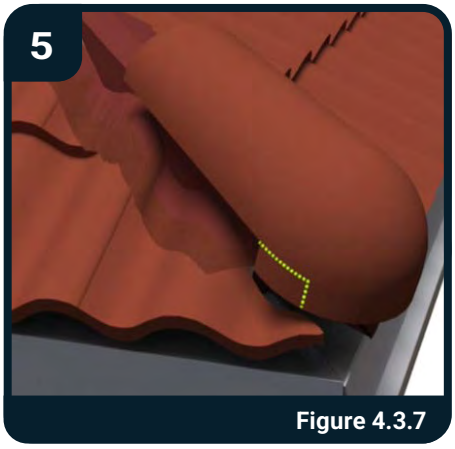


Figure 4.3.7

Begin Hips with a Bullnose trimmed for the desired fit.

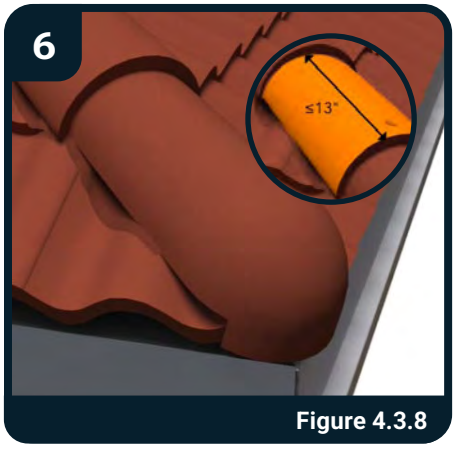


Figure 4.3.8

Install the Bullnose and Hip & Rake up the hip using corrosion-resistant fasteners at the locators. Match the exposure of the Field Tile with a maximum exposure of 13".

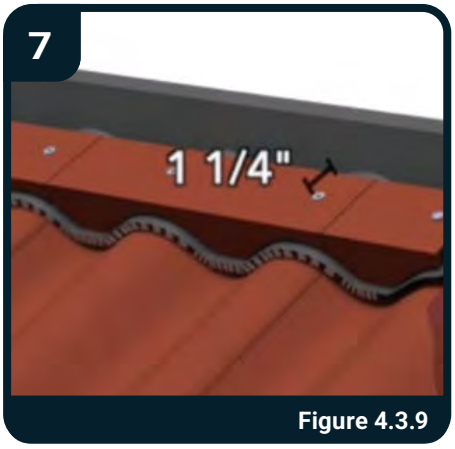


Figure 4.3.9

Install Ridge Closures, placing fasteners 1 ¼" from the top edge into the high side of the barrel. Avoid exposed fasteners.

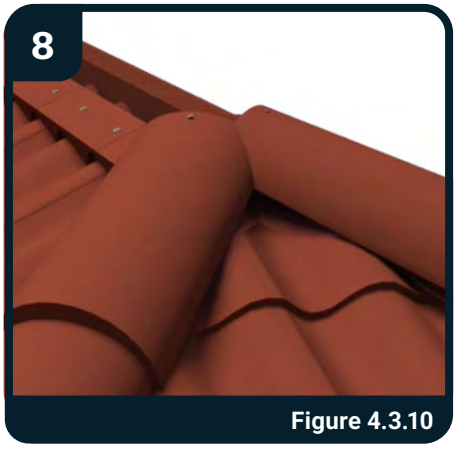


Figure 4.3.10

Miter/Trim Hip & Rake and Top Ridge at joints and intersections. Seal with flashing at the joint and paint to match if desired.

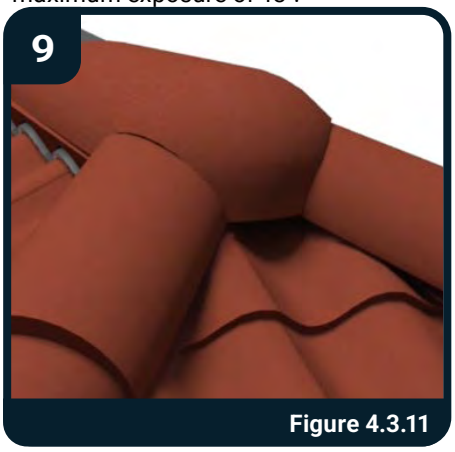


Figure 4.3.11

Begin Ridges with a Bullnose or Top Ridge trimmed for the desired fit and appearance.

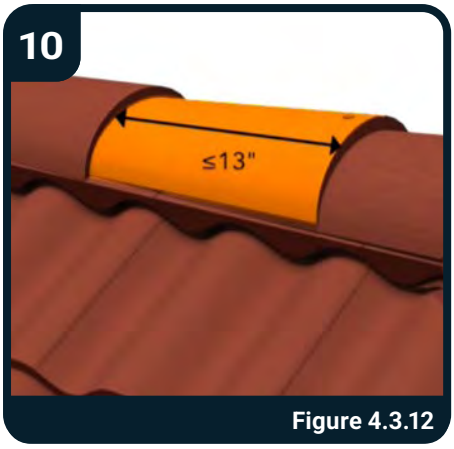


Figure 4.3.12

Install Bullnose and Top Ridge using corrosion-resistant fasteners at the locators. Match the exposure of the Field Tile and Hip & Rake with a maximum exposure of 13".

NOTE: #8, #9, or #10 x ≥ 2" screws are required for best performance and installation experience. Fasteners should penetrate a minimum of ¾" into the nailer. **Avoid exposed fasteners when possible.** In high wind areas or for desired appearance, an additional fastener should be used at the lower end of the Hip & Rake or Top Ridge. Use a color-matched sealant over any exposed fasteners.



Figure 4.3.13

Metal or flexible flashing may be installed covering the miter joint.



Figure 4.3.14

Alternate Top Ridge Installation

4.4 Penetrations and Chimney Flashing

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Installation at Penetrations

Flashing should be installed by a licensed professional using industry best practices and meeting all applicable codes. *See Section 3.5 Flashing.*

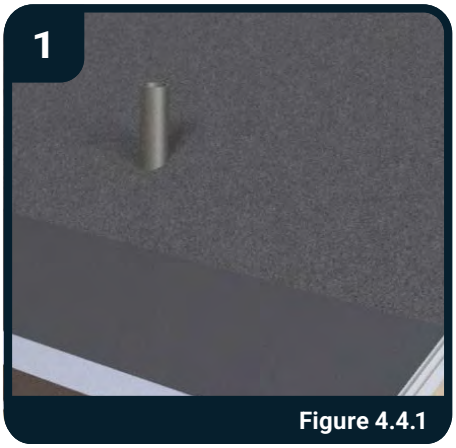


Figure 4.4.1

Waterproof all penetrations
with Ice & Water Shield.

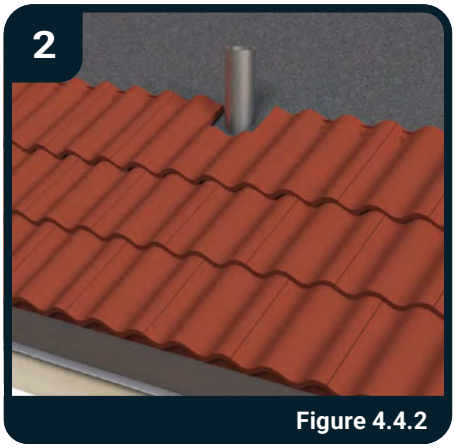


Figure 4.4.2

Install Tiles
below and up to the penetration.

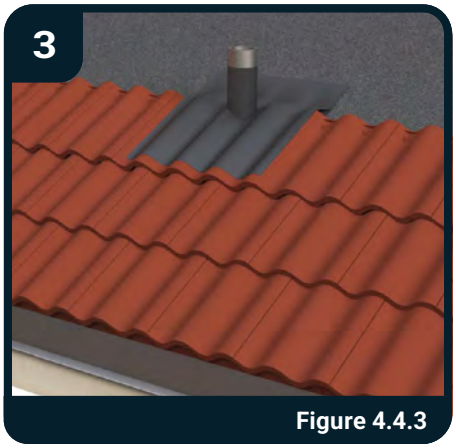


Figure 4.4.3

Install a flashing sleeve
over the penetration.

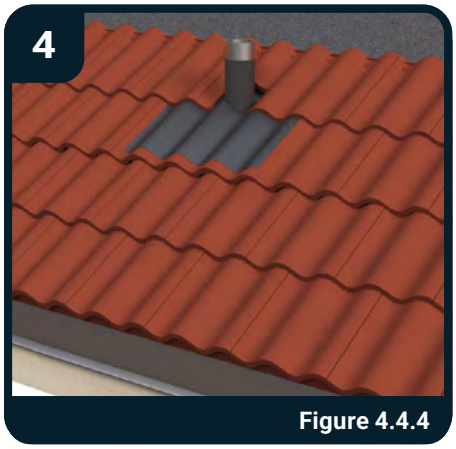


Figure 4.4.4

Cut Tiles to fit neatly around penetration and fasten.
Ensure no exposed fasteners.
Do not place fasteners within 5" of the penetration.

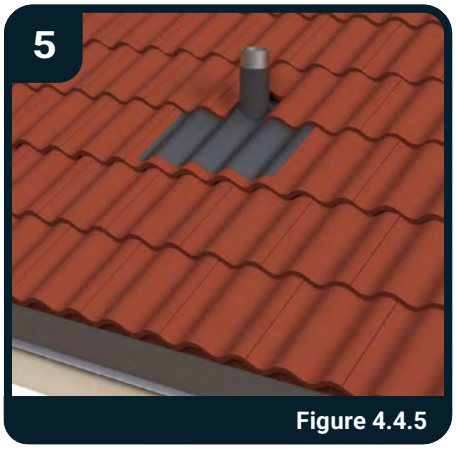


Figure 4.4.5

Install next course of Tiles over the flashing sleeve.

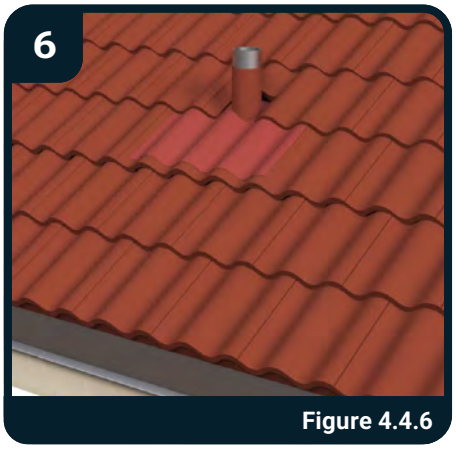


Figure 4.4.6

Continue installing following courses.

4.4 Penetrations and Chimney Flashing

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Installation at Chimneys

Refer to SMACNA and other Tile Roofing Installation flashing resources and consult a roofing professional familiar with regional code and environmental best practices for all flashing installations.

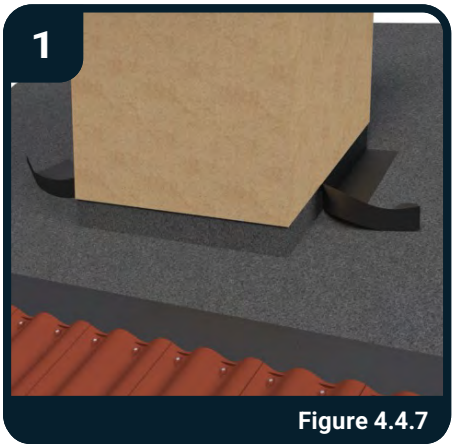


Figure 4.4.7

Cut and Fit Lead/Flexible Flashing at the base of the chimney: Measure the chimney base perimeter. Cut flashing to size, ensuring it extends at least 4" up the chimney and at least 6" onto the roof. Cut the flashing into sections to fit each side of the chimney as shown in *Figure 4.4.7*.

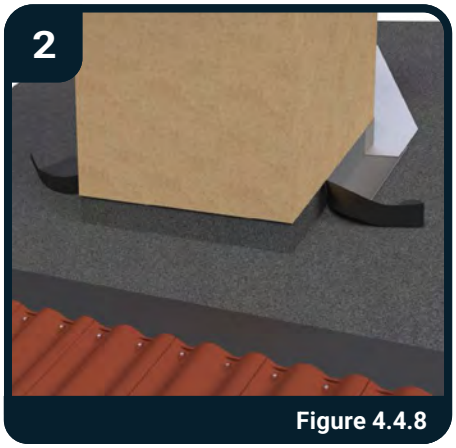


Figure 4.4.8

Install Pan Flashing and Cricket (as required): Fasten the pan flashing, starting from the bottom. If step flashing is used, overlap each piece by at least 3". Avoid attaching the flashing directly to the chimney to allow for thermal movement as depicted in Figure 4.4.8.

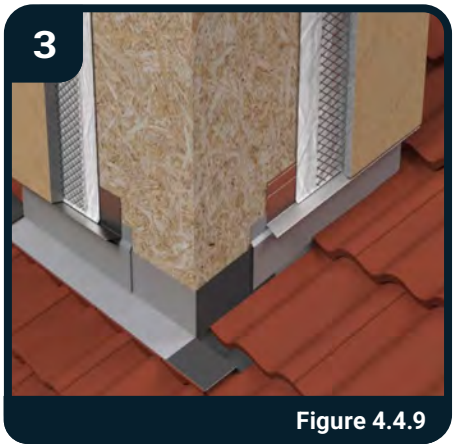


Figure 4.4.9

Apply Counter Flashing according to code and industry best practices. Insert the counter flashing into a reglet cut above the base flashing and secure. Ensure the top of the counter flashing fits snugly into the reglet cut and seal.



Figure 4.4.10

Seal the Flashing:
Use an approved roofing sealant to seal the edges of both the base and counter flashing, focusing on overlaps and corners. Verify the sealant's compatibility with your flashing materials as shown in Figure 4.4.10.

Install Field Tile and Ridge Closures up to the Chimney.



Figure 4.4.11

Install an Apron Flashing and conform the Lead/Flexible Flashing to the tiles: For the sections where flashing must lap over the barrel tiles, ensure the flashing extends far enough to cover the top of tiles or closures by at least 3" as depicted in Figure 4.4.11.

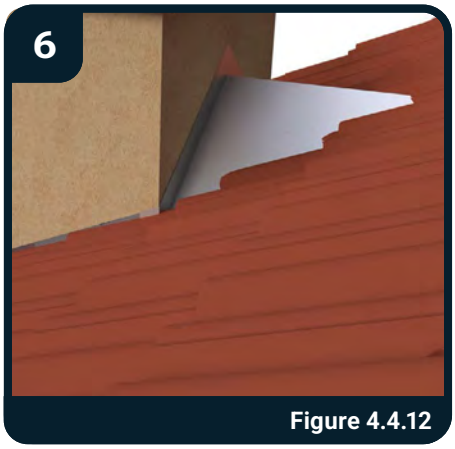


Figure 4.4.12

Install Barrel Tiles Around the Chimney: Fit the barrel tiles around the chimney, cutting them as necessary to ensure a proper fit.

Final Inspection and Sealing: Inspect flashing and tiles for secure fastening and sealing.



4.4 Penetrations and Chimney Flashing

Brava Barrel Tile Chimney / Penetration Flashing – Pan Type

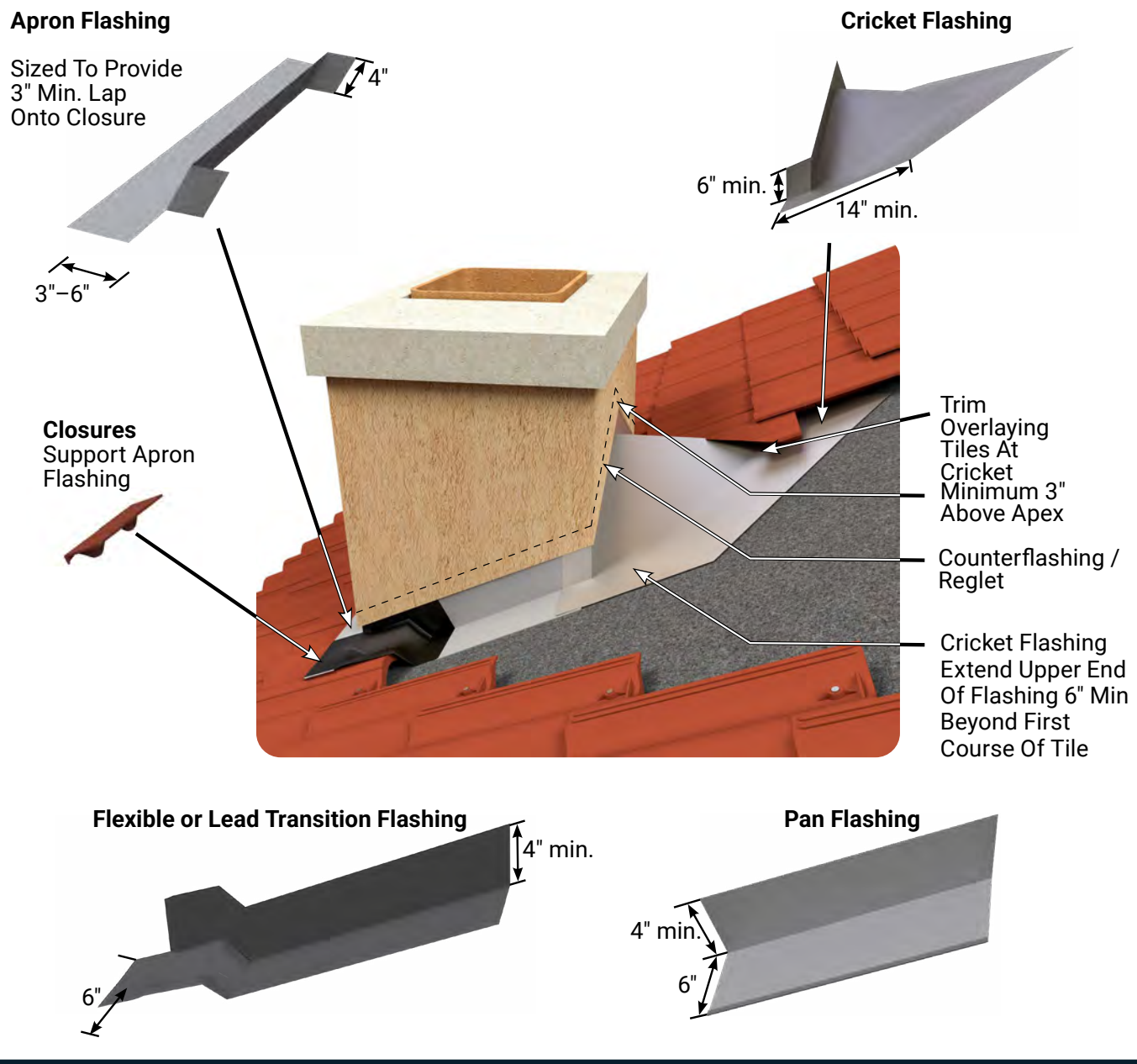


Figure 4.4.13

1. Chimney and Penetration flashing dimensions may vary according to local weather conditions, chimney size and location, slope of the roof, and other factors.
2. Dimensions shown are recommended minimums and are intended to be approximate to allow for reasonable tolerances due to field conditions and area practices. Verify code compliance and regional industry best practices.
3. A backer or saddle flashing may be used for chimneys and penetrations less than 30" in width.
4. A diverter or cricket flashing is required for chimneys and penetrations greater than 30" in width.
5. Self-adhered underlayment (ASTM D1970) should be installed around penetrations and turn up the chimney/penetration wall a minimum of 4".

Appendices

Appendix A – Wind Warranty Installation Requirements

Use the table below to determine installation requirements and associated wind warranty eligibility. Warranty eligibility requires meeting all published installation instructions. To register your warranty and view the full document, go to:

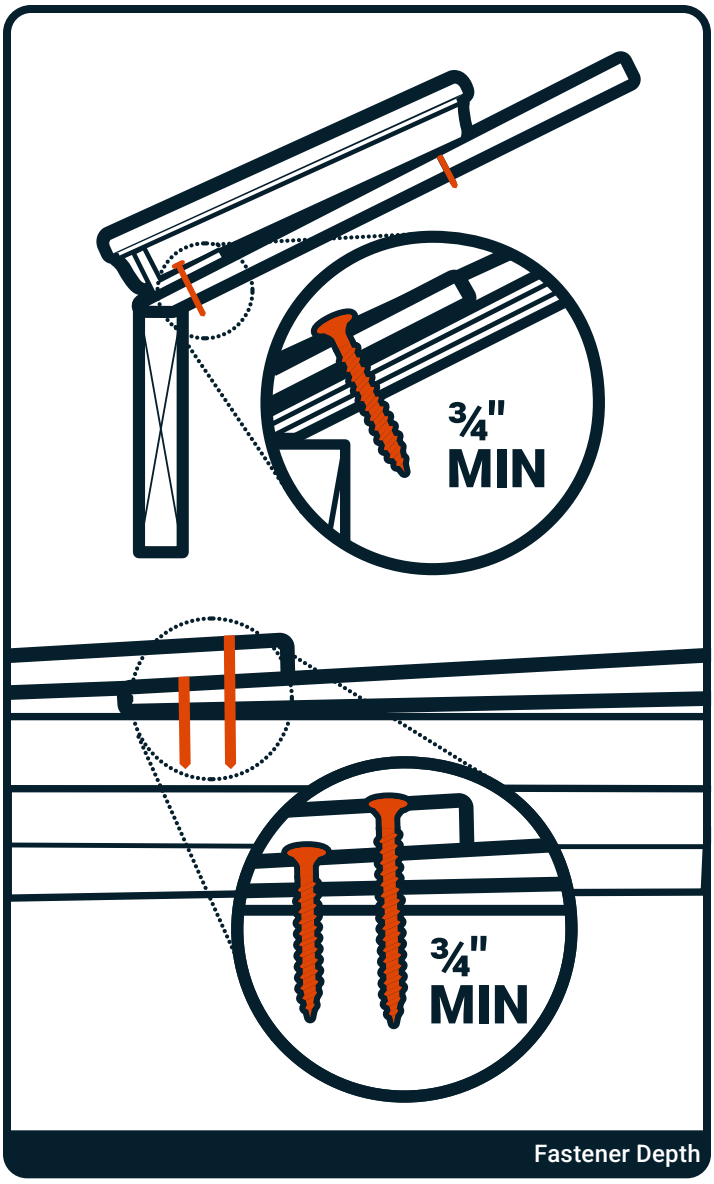
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Building Code requirements may be different than warranty requirements.

Ensure compliance with applicable codes prior to installation.

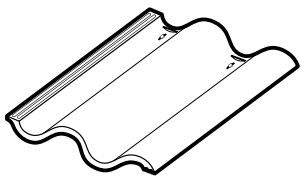
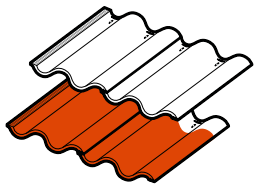
CAUTION: In high wind regions such as Florida, maximum exposure may be dictated by the building department. Verify code requirements when setting exposure. Using recycled materials can cause variation in final product dimensions. Take this variation into account to ensure code exposure requirements are met. To this end, it may be necessary to set exposure lower than the code maximum in some cases. Brava recommends setting exposure to end with a full tile at the ridge

(See Appendix E – Swing Tape Method). This will usually set a slightly lower exposure and does not require additional material.



Fastener Depth

Table 1 - BRAVA Spanish Barrel Tile - Wind Warranty Matrix

TILE		Deck Requirements*	Fastener Requirements*	Maximum Exposure	Warranty Eligibility
	STANDARD	 15/32"+ Plywood  7/16"+ OSB	 (2) #8 x ≥ 2" Screw High Wind Installation	≤ 13" 	130MPH 

* Fasteners must be of sufficient length to penetrate 3/4" into the sheathing or completely through the sheathing. When a fastener gauge or length is specified, a longer or larger fastener may be acceptable depending on code, application, or availability. Brava requires two (2) fasteners per tile for all roofing products. Screw drive head type may vary.

Appendix B – Install Accessories

Any accessories or products used in conjunction with Brava Barrel Tile should be installed according to the manufacturer's guidelines and in compliance with the applicable code and industry/regional best practice. Brava Barrel Tile, underlayment, and flashing should remain intact and undamaged. Consult a roofing professional to ensure the completed roof system remains sound and watertight. For questions on specific applications, contact your Brava Technical Support Specialist.

Roof Vents
When installed according to manufacturer's specifications, many common roof and ridge vents are compatible with Brava Spanish Barrel Tile. Vents may be installed and used as with other barrel tile products. Ridge vents, and off ridge vents are available
(See Section 2.5 – Roof Decking).

> **CAUTION:** Insufficient venting may lead to roof deck failure. Consult vent manufacturer and building code for attic venting requirements.

Snow Guards
Due to the nonporous surface of the tile, snow may slide off easily. The need for snow guards will increase in areas with above average snowfall. Follow the snow guard manufacturer's installation guidelines and use correct spacing. Check with your building official to ensure compliance with applicable codes. Installation of Snow Guards should be during tile installation in most cases.

Solar
Follow the manufacturer's guidelines for installation of any solar mounts or equipment and check with your building official to ensure compliance with applicable codes. Solar mounts should be installed during installation of Brava Barrel Tile. Retrofit installation of these systems has limitations.

> **CAUTION:** Installing additional systems and fasteners into a roof system increases the risk of leaks. Ensure all accessories and fasteners are sealed.

Appendix C – Cleaning and Maintenance

Due to construction dust and other environmental factors, cleaning may be necessary to maintain color and aesthetic.

Masonry Dust: Cutting of concrete, stone, masonry, brick, and other jobsite materials may leave a layer of fine dust on building materials stored on site or installed. This dust can affect the appearance of Brava Roof Tile. Keep stored materials covered and remove any dust appropriately after the work is completed.

Evaporation Residue: In high altitude and very dry conditions, the Residue of Evaporation (ROE) from rain can accumulate and cleaning may be desired to restore original color.

Cleaning: Consult with a professional and take appropriate safety precautions when working on or around a roof. Brava recommends the use of soapy water with a mild detergent and a cloth, brush, or push broom with soft or medium bristles. Simple Green, diluted to manufacturer's specifications, has been tested and approved by Brava Technical Support. If necessary, a power washer may be used at a low pressure setting, angling the spray down the slope of the roof, while ensuring that the nozzle is not too close to the roof.

What to avoid:
- High pressure washers or close contact with spray nozzles
- Acid based cleaners
- Cleaners not recommended for plastics
- Strong abrasives

Maintenance and Foot Traffic: Avoid walking on the roof whenever possible. Excessive or careless roof traffic may cause damage. When maintenance or other needs require accessing the roof, use caution as it can be slick when wet or dry.

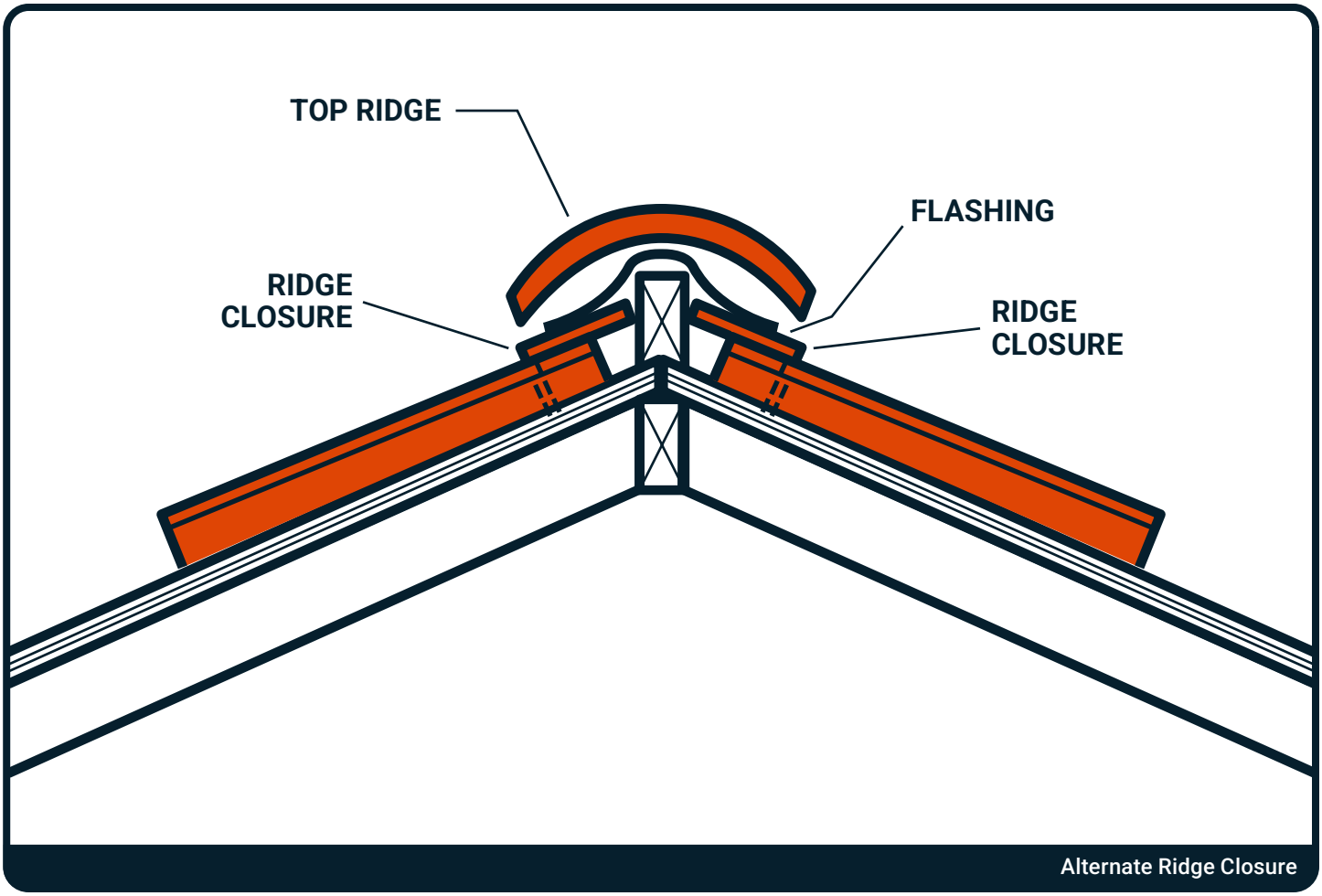
> **CAUTION**: Do not use high pressure washers, snow blowers, heaters, or other power equipment on the roof.

If you have a specific maintenance question, contact **Brava at (844) 290-4196.**

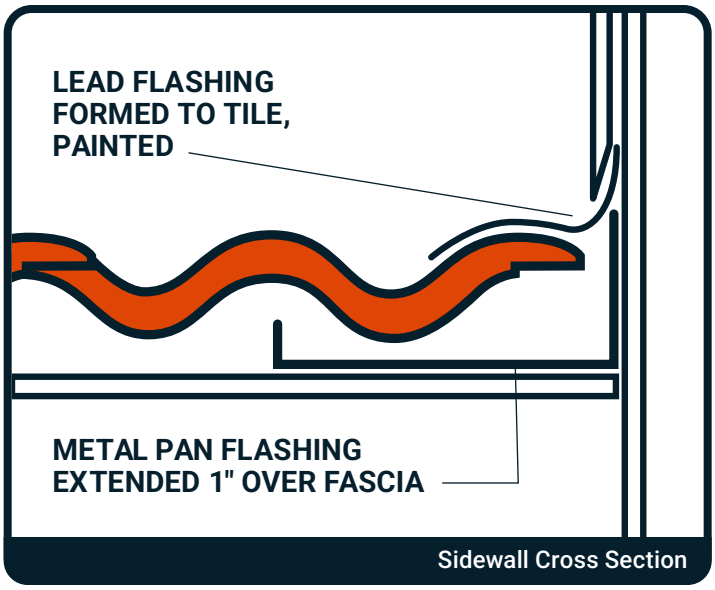
Appendix D – Drawings & Details

Alternate Ridge Closure Installation

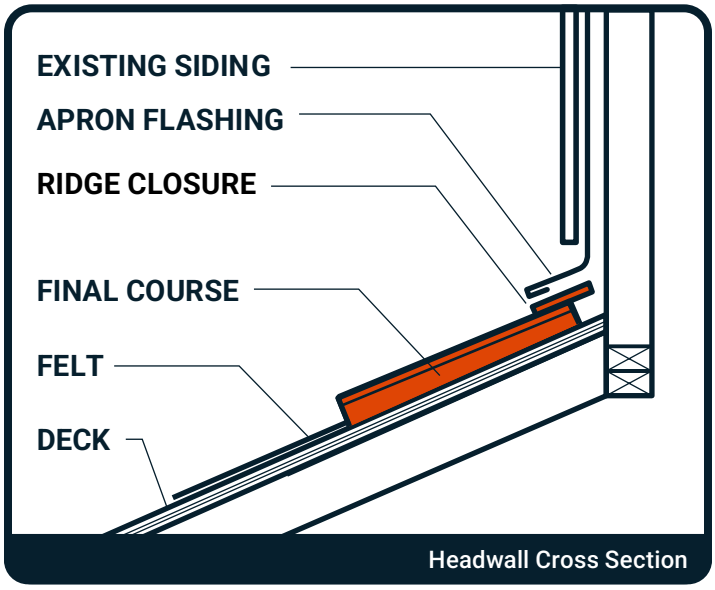
If desired, flashing or ridge vent may be adhered to the installed Ridge Closure instead of to the tile before the Ridge Closure is installed. Flashing may be painted to match if consistent with the manufacturer's guidance.



Alternate Ridge Closure



Sidewall Cross Section



Headwall Cross Section

Appendix E – Swing Tape Method

The swing tape method is not required but may be used to maintain all course exposure consistent from eave to ridge. This allows all courses to have the same exposure as the first and prevents a "short course" at the ridge, which may not be desired.

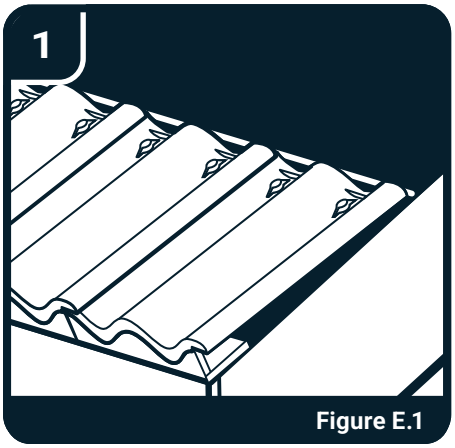


Figure E.1

Install Eave Starters and first course of Field Tile to set bottom line.

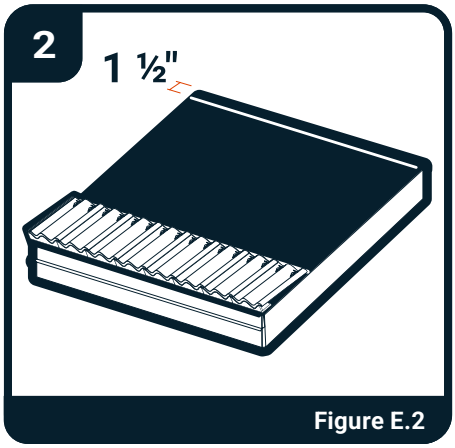


Figure E.2

Snap a line 1 ½" from the ridge.

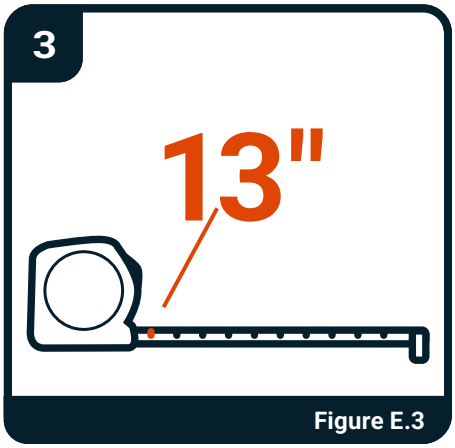


Figure E.3

Mark maximum acceptable exposure on tape measure. Maximum exposure is 13" for Brava Spanish Barrel Tile but may be further restricted by application and code requirements. For this example, mark the tape at every 13" interval. 13", 26", 39", etc.

See Section 2.3 for more information

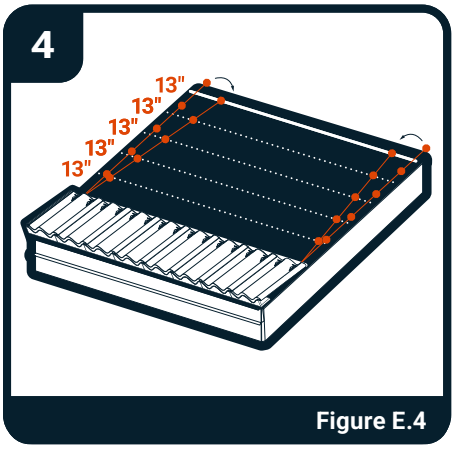


Figure E.4

Using a layout tape or a marked tape measure, measure straight to the ridgeline. Swing the tape to the left or right until a mark aligns with the top-row chalk line.

If using layout tape, fasten the tape. If using a marked tape measure, mark the underlayment at each mark on the tape measure.

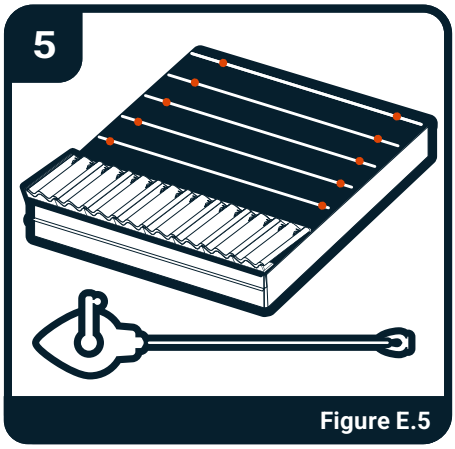


Figure E.5

Repeat this process at the other end of the roof.

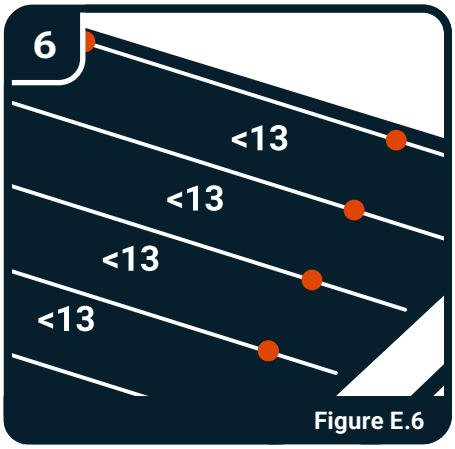


Figure E.6

Snap lines between the arrows or marks on the underlayment.

NOTE: The measurements used in this section are used as an example. Exposure should be set based on product specs, design requirements, aesthetic preferences, and applicable code.

Alternative Measuring Method
An alternative method is to measure the distance of the slope, divide by the maximum desired/required exposure, and determine the number of courses. This number then can be divided out of the total inches of the roof slope to determine the exposure setting to complete with a full Tile.

Begin by completing steps 1 and 2 of the swing tape method. Measure from the starter course line to the ridge line in inches to determine Slope Distance. Divide the Slope Distance by the Maximum Exposure and round up to the nearest whole number to determine the number of Courses needed. Then divide the Slope Distance by the number of Courses needed. This will give you the Set Exposure at which to chalk lines.

Use the chart below if the decimal inches are not simple fractions.

Decimal Inches	Fractional Inches
.125"	1/8"
.25"	1/4"
.375"	3/8"
.5"	1/2"
.625"	5/8"
.75"	3/4"
.875"	7/8"

Appendix F – Fire Rating

Established testing and rating standards for fire resistance of roof systems include ASTM E108, UL 790, and CAN/ULC-S107. These methods categorize roof systems as Class A, B, or C, with Class A offering the highest level of fire resistance and Class C providing basic protection against light fire exposures. While there are some differences, the standards and methods used are comparable and often can be used interchangeably depending on country, state, and other code requirements. Brava roof systems have been tested to achieve ASTM E108 Class A or Class C ratings. A fire rating is not always mandatory; consult with your local building department to confirm fire resistance requirements, which can vary based on regional risk factors and specific building types or uses.

Brava One is the proprietary composite formulation used for all Brava roof systems. This material has excelled in extensive third-party testing to validate product performance under various environmental conditions. These performance standards include durability and resiliency against wind uplift, wind-driven rain, hail impact, UV, and fire.

CLASS C with standard underlayment: Brava One roof systems are tested and rated as Class C over standard underlayments.

CLASS A with FR underlayment: Class A (WUI Compliant) assemblies require Brava Class A Spanish Barrel Tile material with a tested fire-resistant (FR) underlayment assembly, including GAF VersaShield FR Underlayment plus the required standard underlayment, over minimum 15/32" CDX plywood. To achieve a Class A fire rating, a tested assembly must be used as listed in Brava's Code Evaluation Report. This configuration ensures Brava systems meet rigorous safety standards while providing flexibility in fire resistance options and maximizing production and ordering efficiency.

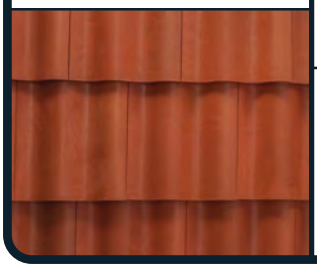
Fire-resistant (FR) underlayment is a protective layer installed beneath the roof system to provide an additional barrier against fire. It is typically made of materials designed to resist high temperatures and prevent the spread of flames. Some FR underlayments may meet standard underlayment requirements. Confirm system requirements are met.

Tested Assembly
For a Brava product to achieve its designated fire rating, it must be installed using the specific underlayment with which it was tested. This ensures the roofing system qualifies as a tested assembly, meaning that the complete roof system, including the Brava product and the approved underlayment, has been evaluated together for fire resistance. Installing any other underlayment could invalidate the fire rating because it would no longer match the tested and certified combination.

To review the available tested assemblies and underlayment options refer to our code and testing documents below.


Click here or Scan

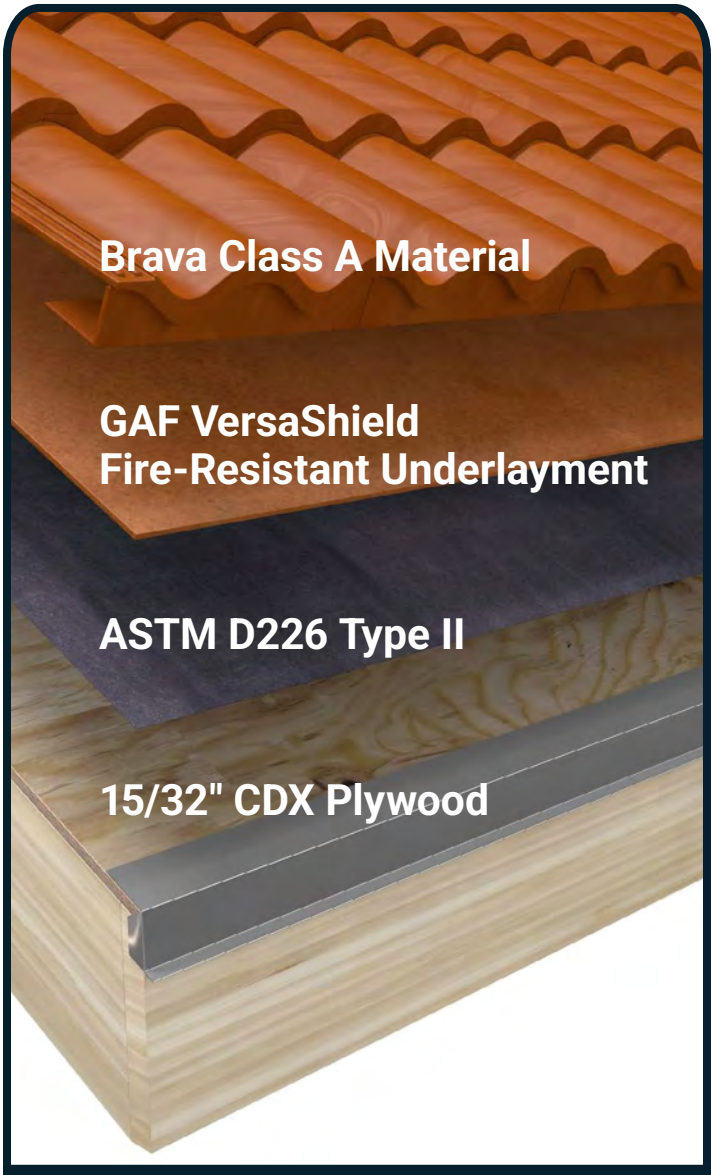
TESTED ASSEMBLY TABLE

Brava Spanish Barrel Tile				
	Class A	Brava Class A	Minimum 15/32" Exposure 1 Plywood	**Tested Fire-Resistant Underlayments:** • GAF VersaShield FR Underlayment + Standard Underlayment (see below)
	Class C	Brava One		**Standard Underlayments:** Minimum ASTM D226 Type II 30# Asphalt Felt

Always verify code compliance source documentation and system components meet building code criteria and ensure building officials and inspectors have access to the Code Evaluation Report from which these tables were extracted. These tables and illustrations are not intended to replace source code compliance and testing documents.



Class C Assembly



Class A Assembly

BRAVA

Spanish Barrel Tile Installation Guide

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