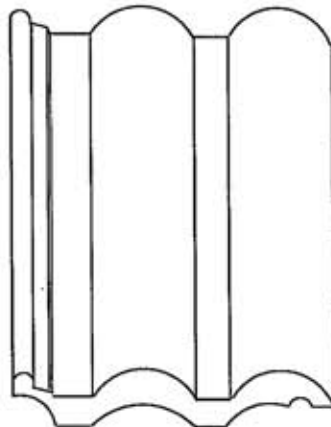


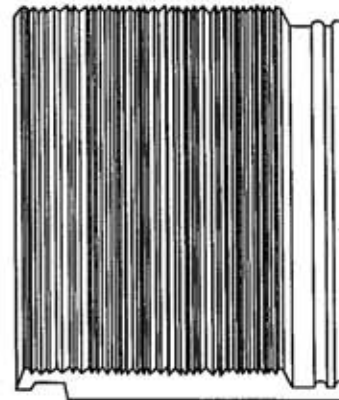
COMPLIES WITH 2006-IBC, 2006-IRC, 1997-UBC CODES
AND ICC EVALUATION REPORT ESR-2778 (JULY 2008)

WORLD'S FINEST ROOFING TILE ENDURES THROUGH GENERATIONS

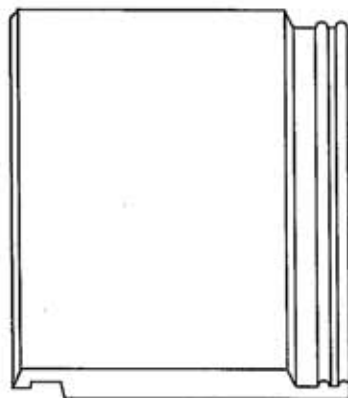
BARTILE STANDARD PROFILE OPTIONS



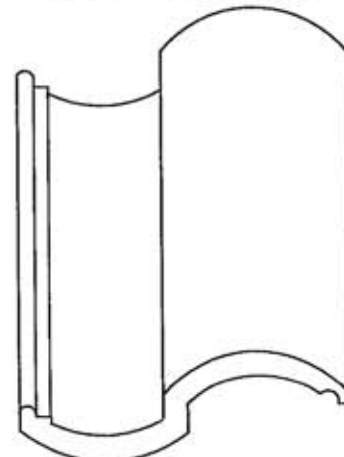
EUROPEAN



SPLIT-TIMBER



NEW ENGLAND SLATE



SIERRA MISSION

This Installation Aid is Intended to Inform the Installer of Various Options, and Factory Recommendations. It is NOT INTENDED to Replace Local Codes and Practices, but Rather to Provide General Information. Consult Your Local Building Inspector for Specific Information Relative to a Local Code Question. The Installer Shall be Responsible for the Installation and Adherence to the Code Requirements.

IMPORTANT NOTICE TO USER

This installation specification and guide has been produced to aid the specifier, owner/installer, and roofer in the installation of BARTILE products. Every effort has been made herein to adhere to general code requirements. However, it must be explicitly understood by the user that it is his responsibility to understand and comply with the “then current” building codes, local jurisdiction requirements and climatic conditions applicable to this project.

Within these pages are various alternative methods for the installation of BARTILE. The installer must choose which method is practical for each installation as he must be responsible for the performance of the system as a whole. Local practices vary and it should be understood that this booklet should not be interpreted to be the only “proper” way to install a BARTILE roof, but in fact contains various proven installation techniques. BARTILE does not certify nor warrant any particular installation method or process. The BARTILE product warranty is limited to the furnishing of replacement BARTILE shingles for those which in the course of normal use, decompose or wear out during a period of 75 years. Breakage, color variance, and acts of God and normal weathering are excluded. See the text of the printed BARTILE limited 75 year warranty for details.

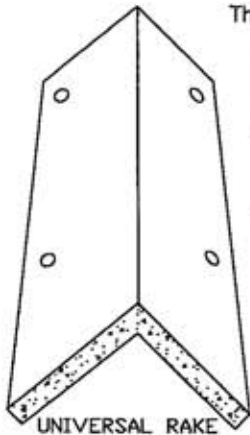
This Installation Aid is Intended to Inform the Installer of Various Options, and Factory Recommendations. It is NOT INTENDED to Replace Local Codes and Practices, but Rather to Provide General Information. Consult Your Local Building Inspector for Specific Information Relative to a Local Code Question. The Installer Shall be Responsible for the Installation and Adherence to the Code Requirements.

PAGE 2

Installation Specifications and Guide

STANDARD TRIM UNITS

UNIVERSAL RAKE

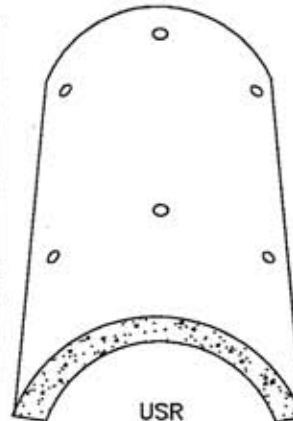


The (UR) is the Standard Gable Finish for SPLIT-TIMBER, NEW ENGLAND SLATE, and EUROPEAN Profiles. Rakes Fasten on Either Side With Two Nails. The First and Last (UR) Must be Cut to Fit. Butt the Small End to Match Up With the Top Edge of Each Course of Field Tile.

NOTES:

Use 16d Galv. Nails.
Lap Rakes Approx. 3 in.
Tab Laps For High Wind
(Over 80 MPH)

UNIVERSAL SPANISH RIDGE/RAKE/HIP

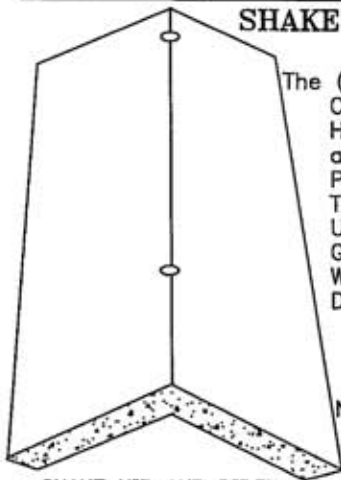


The (USR) is the Standard Gable and Ridge Finish for SIERRA MISSION Profile, and Ridge Finish for European Profile. Nail Through Top Holes When Used as a Ridge, and Through Side Holes When Used as a Rake. The First and Last Rake Must be Cut to Fit.

NOTES:

Use 16d Galv. Nails.
Lap Trim Approx 3 in.
Tab Laps For High Wind
(Over 80 MPH)

SHAKE HIP AND RIDGE

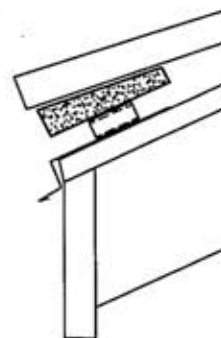


The (SH) is Normally Used to Cover Both Ridges and Hips, for SPLIT-TIMBER and NEW ENGLAND SLATE Profiles. The Cut Field Tile, Beneath the Hip Units, May either be Grouted, or be Covered With Flashing Tape if Desired. Use two Nails.

NOTES:

Use 16d Galv. Nails.
Lap Trim Approx. 3 in.
Tab Laps For High Wind
(Over 80 MPH)

EAVE TILE RISER

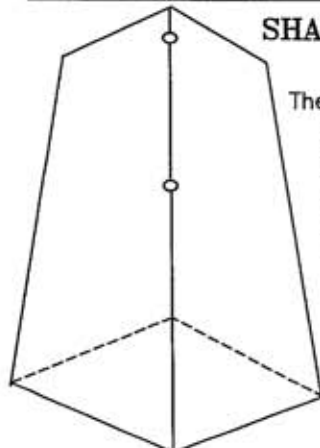


The Eave Tile Riser is the Premium Option to Properly Elevate the 1st (Starter) Course of any of Our Flat Tile Profiles. It Includes 12" of Ventilated Batten to Support the Tile. Each Tile Riser Covers 12" of Eave. Eave Tile Risers are made in Colors and Styles to Match the Field Tile and Trim Tile Ordered.

NOTES:

Use Two 8d Galv. Nails, Fastened Through Tile Riser and Ventilated Batten to Roof Sheathing.

SHAKE HIP STARTER

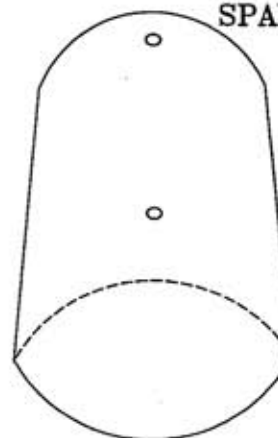


The (SS) is Normally Used as the First Hip Unit in Each Hip Unit Line, at the Eave Edge. The Bull Nose Design Provides a Desirable Finish to The Hip Trim Unit Line.

NOTES:

Use 16d Galv. Nails.
Lap Trim Approx. 3 in.
Tab Laps For High Wind
(Over 80 MPH)

SPANISH OVAL HIP STARTER



The (UOS) is Designed to be Used as the First Hip Unit in Each Hip Line, at the Eave Edge Starting Point. The Bull Nose Design Provides a Desirable Finish to the Hip Trim Unit Line.

NOTES:

Use 16d Galv. Nails.
Lap Trim Approx. 3 in.
Tab Laps For High Wind
(Over 80 MPH)

SHAKE HIP STARTER

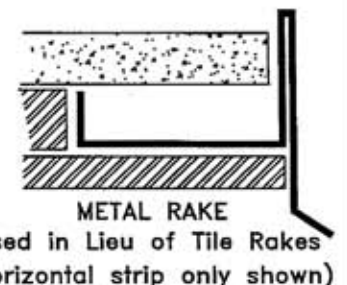
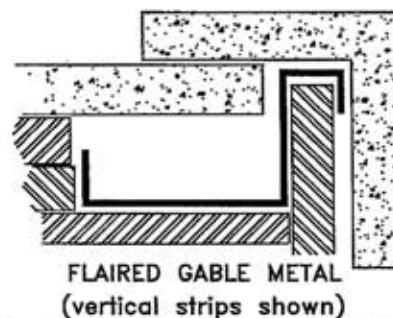
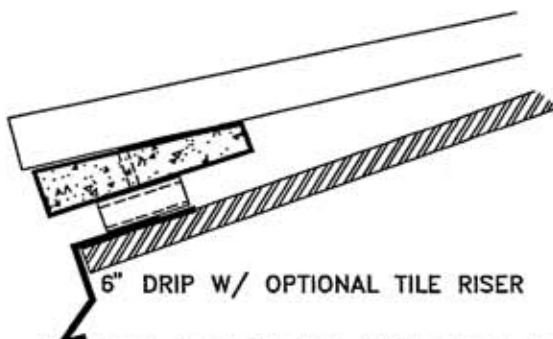
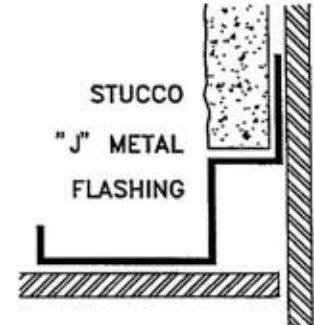
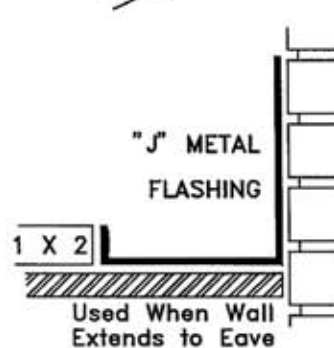
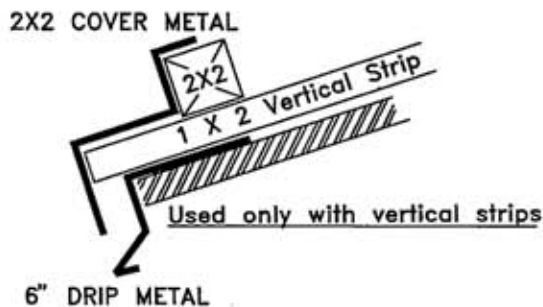
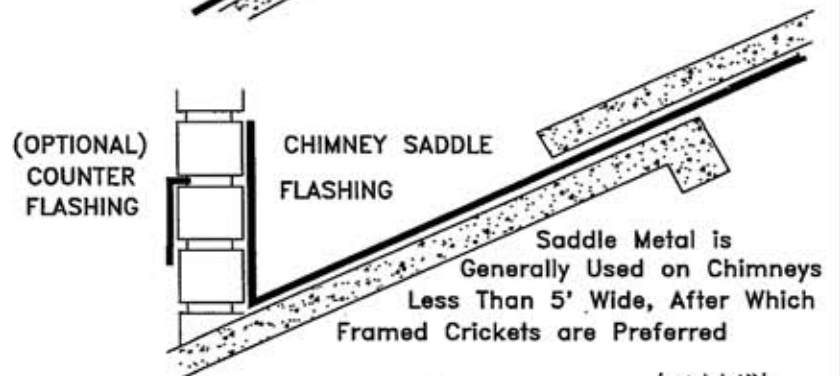
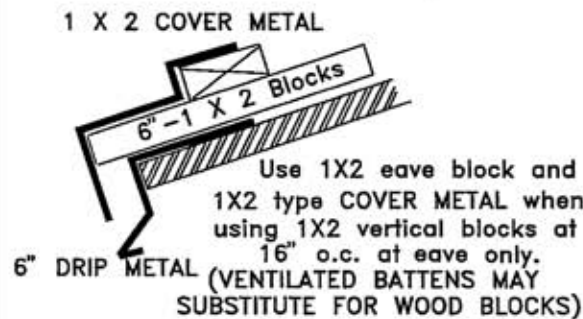
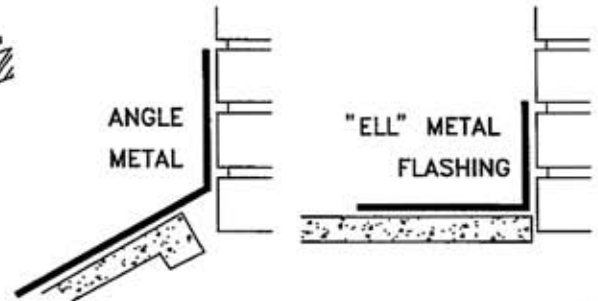
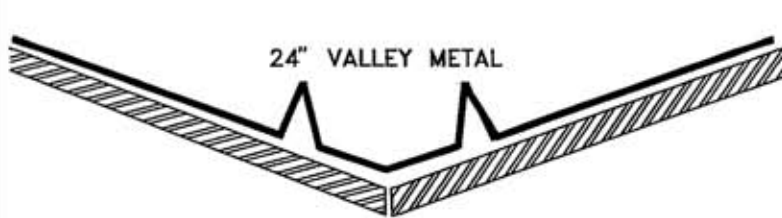
UOS

BARTILE

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1942

Installation Specifications and Guide

STANDARD BARTILE SHEET METAL PRODUCTS

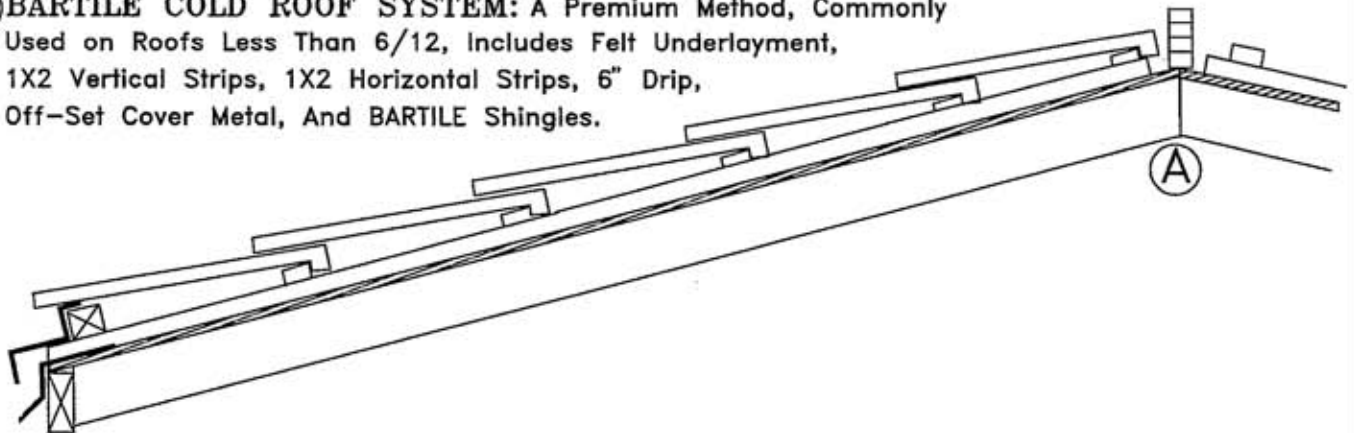


Aluminum is stocked in White, Royal Brown, and Classic Cream. Lead is available in 2.5 lb. sheet.

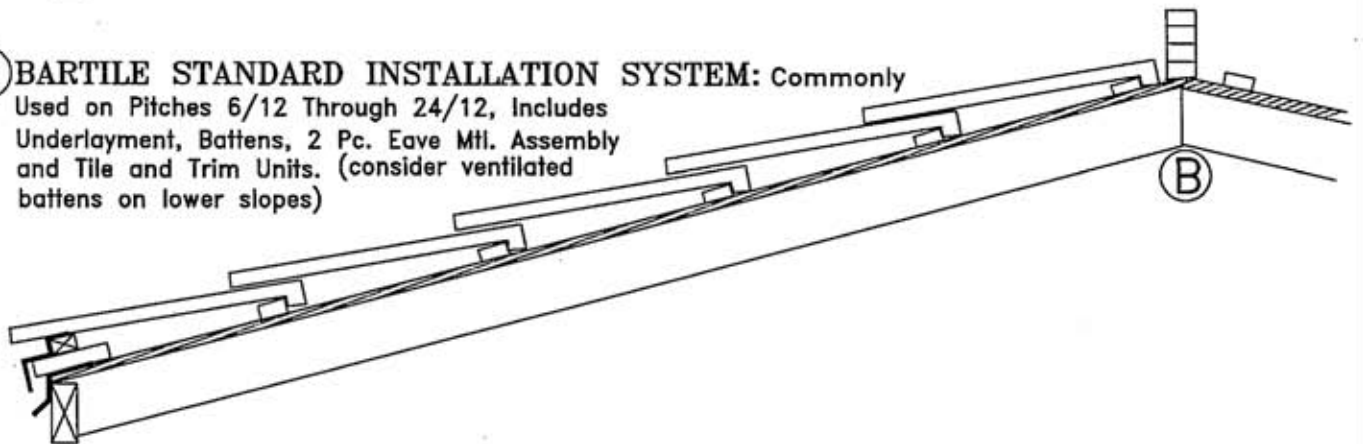
The Standard Metal is Galvanized Iron. Optional Colored Metal is Readily Available, as Well as Copper. Aluminum is stocked in White, Musket Brown, Bronze, Charcoal, Pebblestone & Royal Brown. 2.5# Lead also Stocked. BARTILE also fabricates custom shapes for unique situations and special needs. PAGE 4

BASIC FIELD TILE INSTALLATION OPTIONS

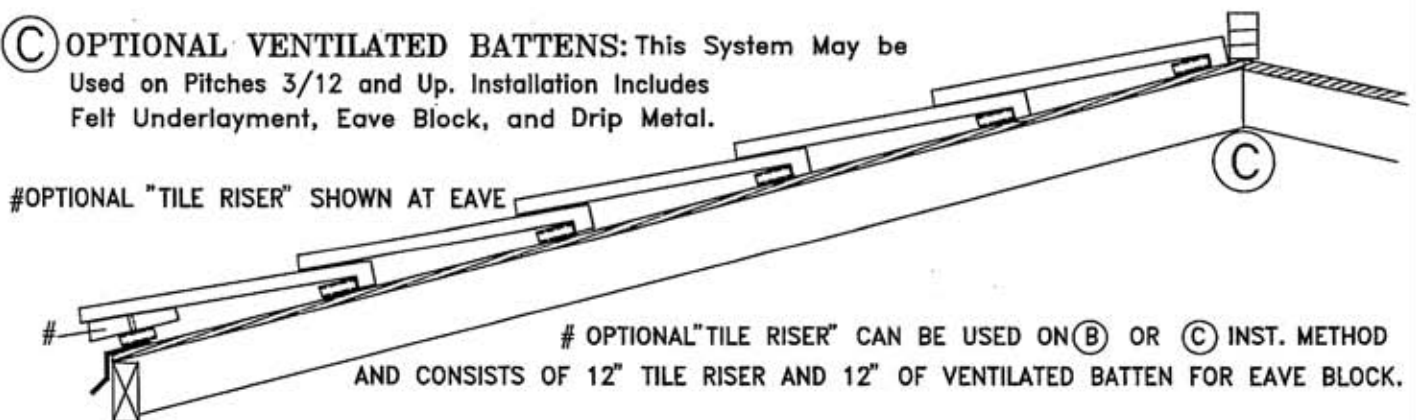
- (A) BARTILE COLD ROOF SYSTEM:** A Premium Method, Commonly Used on Roofs Less Than 6/12, Includes Felt Underlayment, 1X2 Vertical Strips, 1X2 Horizontal Strips, 6" Drip, Off-Set Cover Metal, And BARTILE Shingles.



- (B) BARTILE STANDARD INSTALLATION SYSTEM:** Commonly Used on Pitches 6/12 Through 24/12, Includes Underlayment, Battens, 2 Pc. Eave Mtl. Assembly and Tile and Trim Units. (consider ventilated battens on lower slopes)



- (C) OPTIONAL VENTILATED BATTENS:** This System May be Used on Pitches 3/12 and Up. Installation Includes Felt Underlayment, Eave Block, and Drip Metal.



#OPTIONAL "TILE RISER" SHOWN AT EAVE

OPTIONAL "TILE RISER" CAN BE USED ON (B) OR (C) INST. METHOD AND CONSISTS OF 12" TILE RISER AND 12" OF VENTILATED BATTEN FOR EAVE BLOCK.

NOTES ON NAILING: BARTILE ULTRALITE Requires Each Tile to be Nailed. BARTILE Standard Wt. Requires (3 TILE) Periphery Nailing. (Includes Hips, Ridges, Rakes, and Eaves). On Pitches 2/12 To 5/12 (No Field Nailing Required), 6/12 To 9/12 (Nail 50%), 10/12 up (Nail each tile) The Nailing Requirements Under Severe Weather Conditions May Call For Additional Fastening.

BARTILE BATTEN LAYOUT

- * 1. Begin With 6" 1x2 Eave Blocks (On 16" Centers), Eave Strip, Ridge Nailers, and 1st and Last Strip.
2. Measure Distance (in Inches) Between 1st and Last Batten, Then Divide by 12 (for 3" Headlap).
3. If the Resulting Number is not Even, ROUND UP, and Divide into the same total distance (in inches)
4. The Number Generated by This Formula is the Average Dimension Between Each Strip (round to 1/8")
5. If Preferred, an Alternate SWING TAPE Method can be used. (use 12" Spacing on Swing Tape).

* First course is measured
From Front of Eave Block
to Back of 1st Strip

NOTE: 1st. Course for SHAKE and SLATE is 13 1/2",
EUROPEAN (13 1/4"), and SIERRA MISSION (12 1/2")
Last Course is 1 1/4" Below Ridge Board.

*(Shown is the Preferred Eave Detail, Which
uses a 1x2 cover metal, mounted
over a 1x2 strip, which bridges
over 6 in. 1x2 blocks. Eave
Tile Risers May be Used
at the Eave, if desired
as an Option).

CONSIDER VENTILATED BATTENS

* PREFERRED EAVE DETAIL
6 in. Drip Metal
1x2 Cover Metal Mounted Over
1x2 strip, Over 1x2 6 in. Blocks
(Alternate to 12" DRIP over 2x2)
See Page 4 for Eave Options.

‡ ADDITIONAL NOTE:
Some "RENAISSANCE" Profiles
Require a Maximum Spacing
of 10 1/2" per Course
IE: COTTAGE (STAGGER), OLD MISSION
MANCHESTER AND NEWCASTLE

NOTE:

A Chalk Line Should Always be Used
To Place Batten Strips Straight.

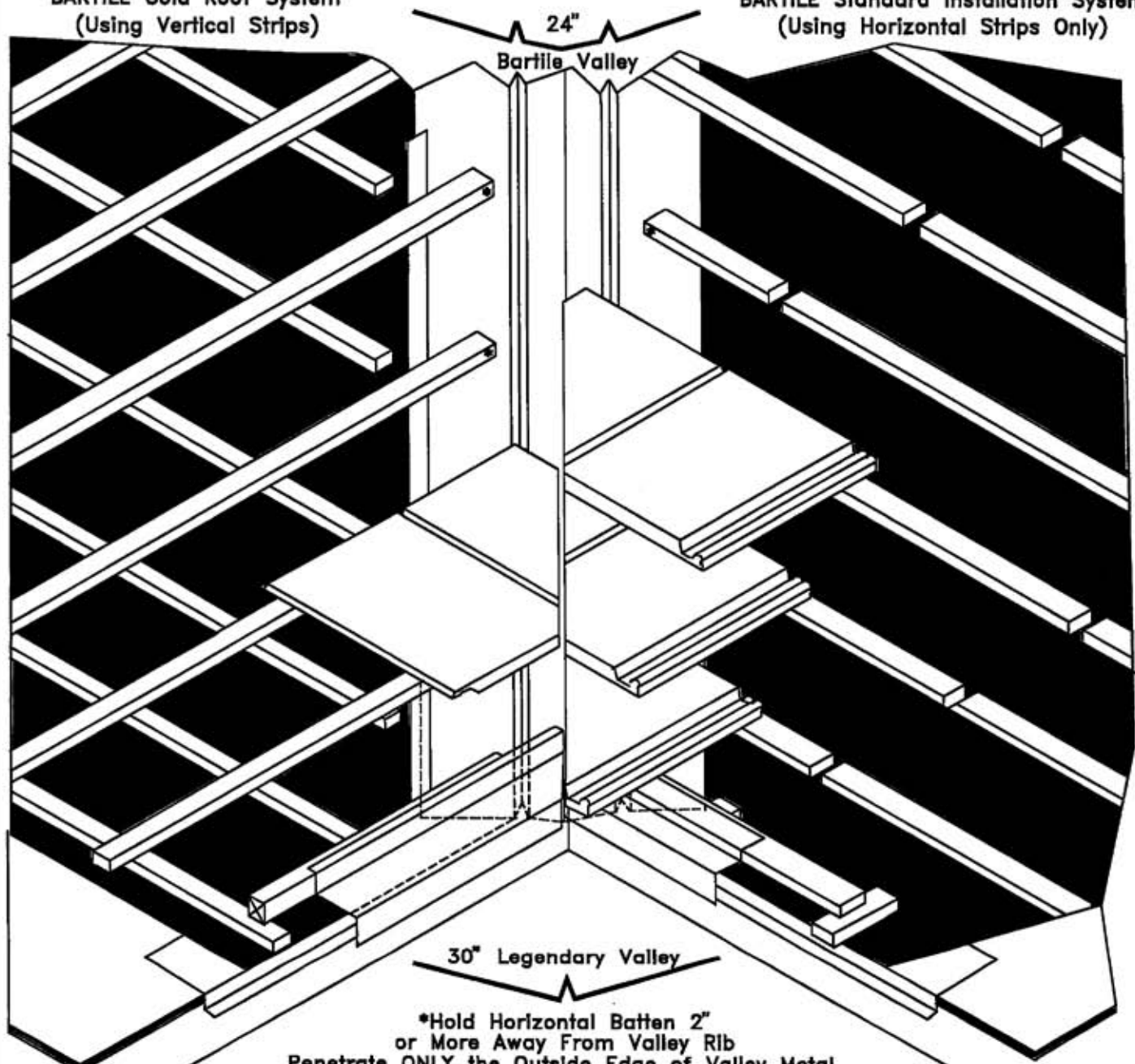
GENERAL CONSIDERATIONS:

- A. Each Slope Should be Calculated Independently.
- B. Maximum Course Dimension is 12 1/4" ‡ See Notes
- C. On a Hip End (HIPS CONVERGING AT TOP) Use 12 1/4"
After The Standard First Course Dimension.
- D. ALWAYS USE TOP EDGE OF STRIP FOR PLACEMENT ON LINE.

VALLEY METAL AND INSTALLATION

BARTILE Cold Roof System
(Using Vertical Strips)

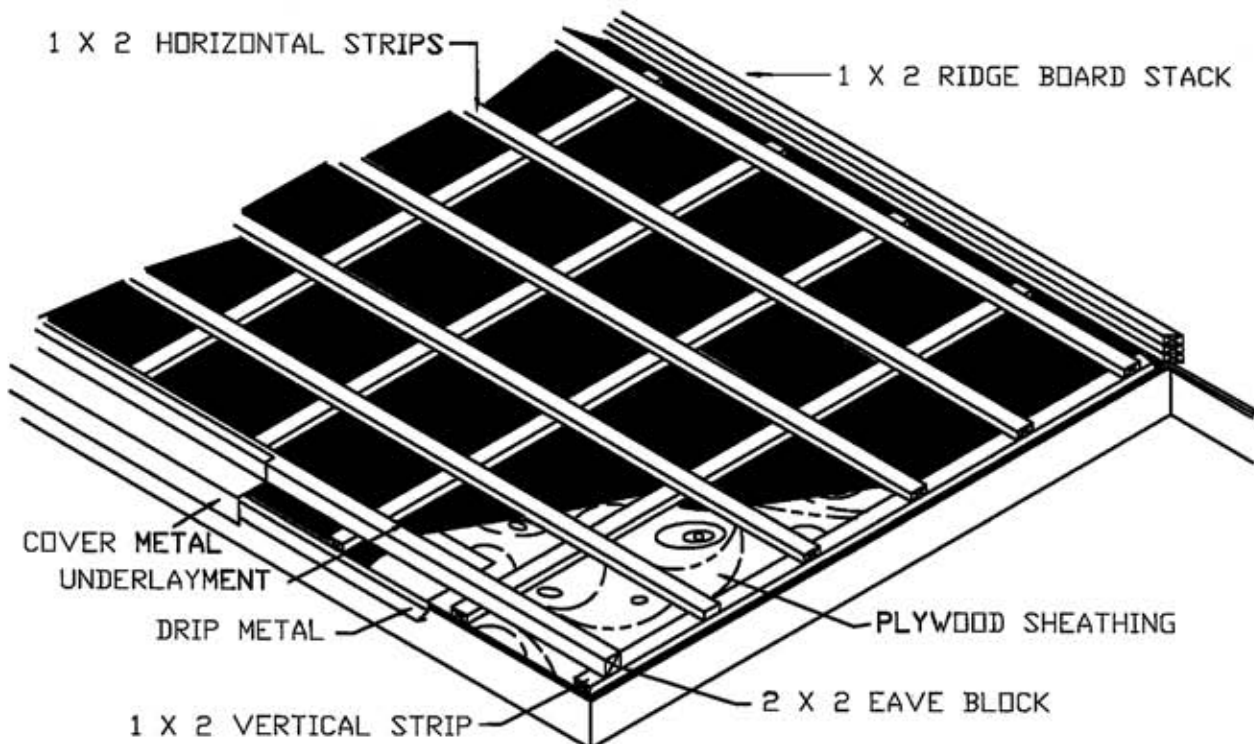
BARTILE Standard Installation System
(Using Horizontal Strips Only)



NOTES:

Underlayment may be sealed to drip Metal and woven at valley. (or run bleeder sheet at valley)
In ice and snow climates, valley metal should be set in mastic. Lap valley metal sections 6" min.
Use code approved underlayment, according to the climatic conditions applicable to the job.
Avoid penetrating valley metal while nailing tile. (use mastic instead) Avoid using small pieces.
BARTILE recommends a closed valley (as shown), but an open valley is acceptable. (where deemed appropriate). Do not block valley metal channel, nor drainage next to ribs in any way. PAGE 7

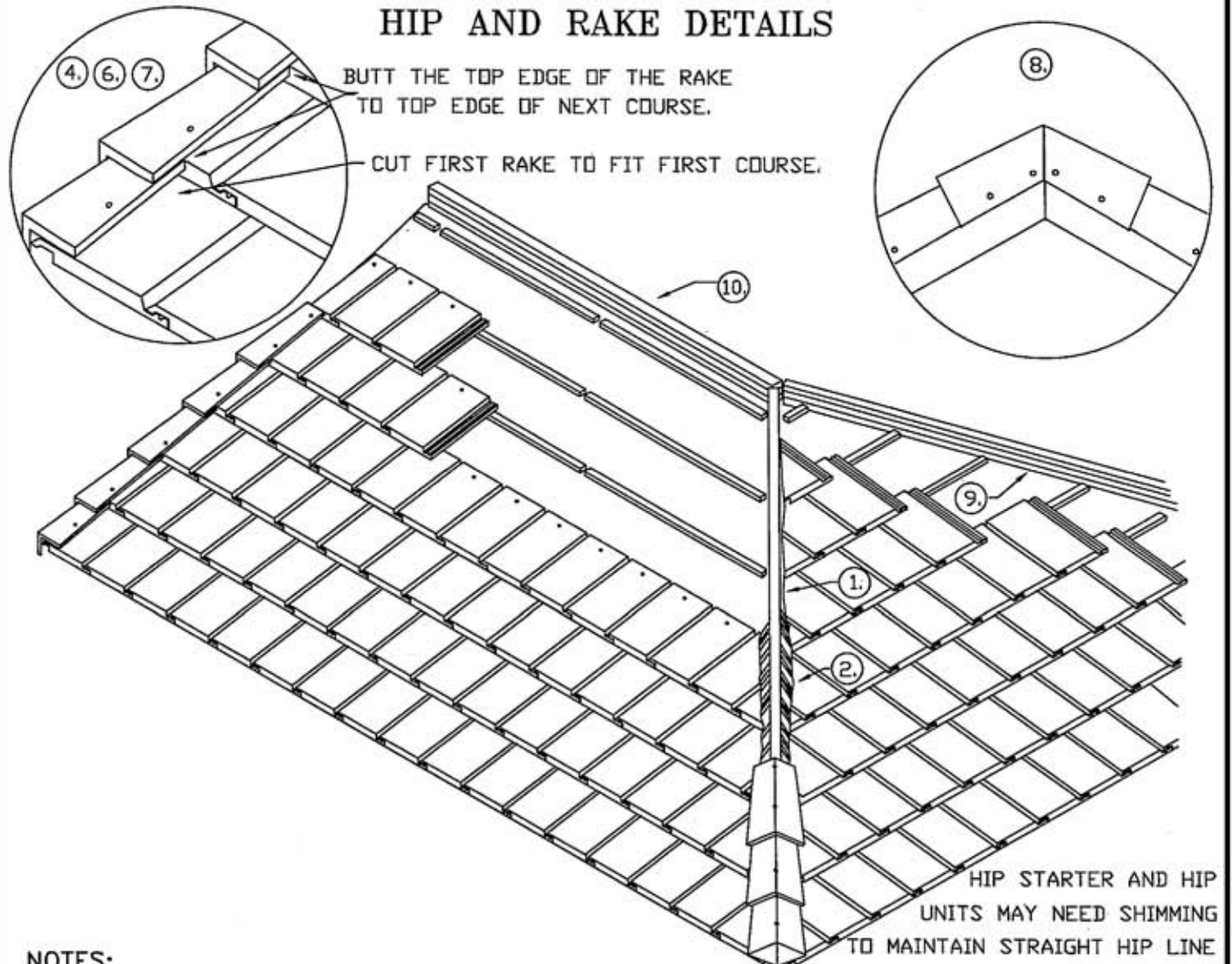
BARTILE Exclusive Cold Roof System



The BARTILE COLD ROOF SYSTEM Incorporates Both Vertical and Horizontal Strips, an Eave Cold Air Intake, and a Ridge (Warm Air) Exhaust. The Underlayment Area Stays Cooler in the Summer, and Reduces Ice Buildup at the Eave Area in the Winter by Disipating Attic Heat Below the Tile, and Exhausting it Through The Ridge Vent. The Tile Surface Therefore Remains Cooler, Which Reduces Snow Melt and Eave Ice Buildup Below the Heated Zone. The Vertical Strip System also Prevents Potential Underlayment Moisture From Collecting Behind the Horizontal Strips. The BARTILE COLD ROOF SYSTEM is Recommended for Slopes Under 6/12 and in Areas of Heavy Snow Buildup, and is Considered the Highest Functional Achievement in Tile Roofing.

NOTE The use of Ventilated Horizontal Battens will provide similar benefits. Use 1X2 Cover Mtl, 6" blocks W/bridging 1X2 @ eave, not 2X2 as shown

HIP AND RAKE DETAILS

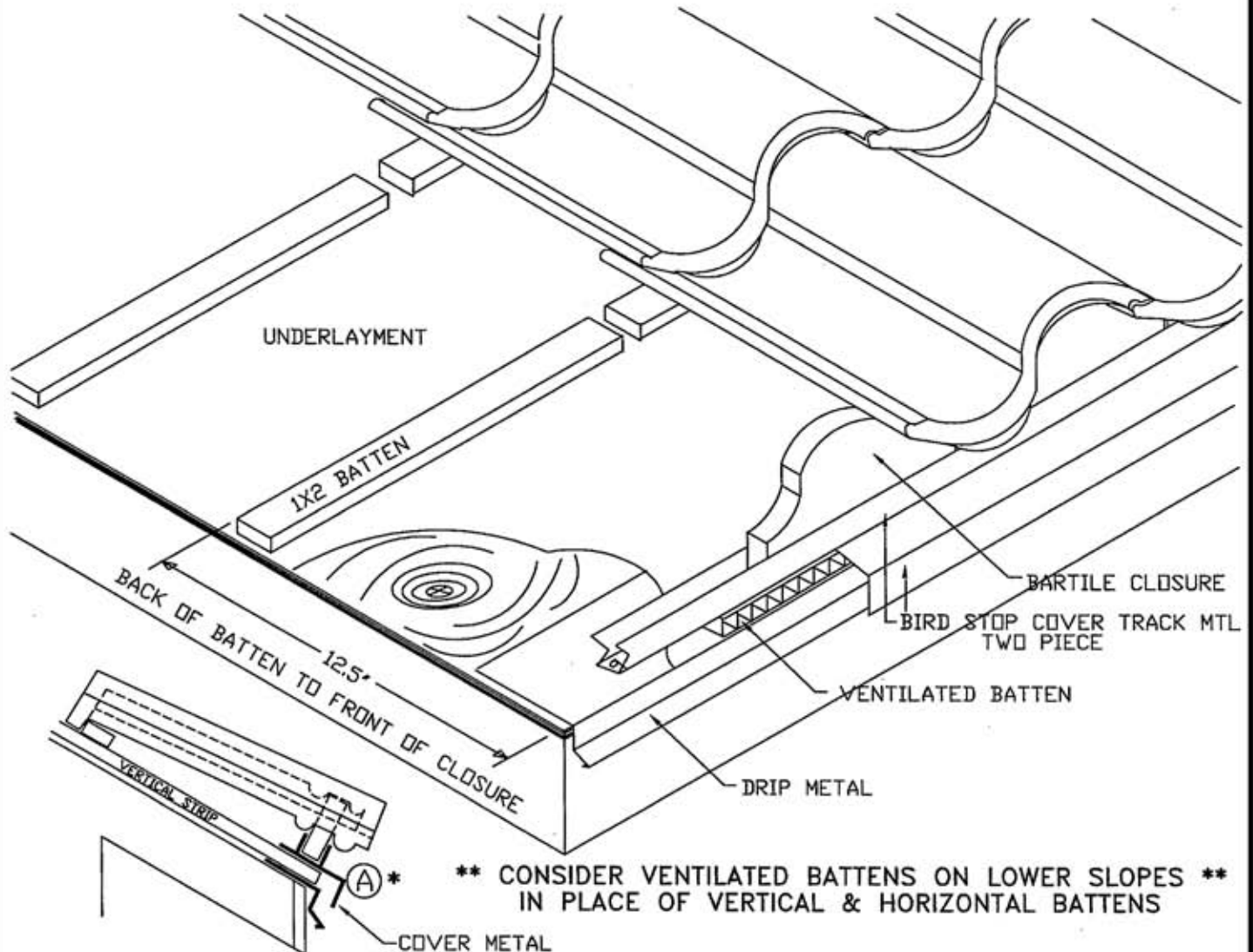


NOTES:

1. The Field Tile Must be Cut, (Mitered) to Fit Against the Hip Nailer Board.
2. Hip Cuts may be Grouted (Shown), or Covered With Flashing Tape, if Desired.
3. Hip Units are Nailed With Two 16d Galv. Nails. (One Nail is Exposed)
4. For Flat Tile, Every Other Course Must Start With a Cut Half Tile. (Half Bond)
5. Universal Rake Units Cover Either Side, Nail Through Either Side. (Not Top Hole)
6. First Rake Must be Cut to Fit the First Course of Tile. (Drill as Required)
7. Each Rake Covers One Course of Tile. Butt into Top Edge of Next Course.
8. The Last Rake Units at Crown Must be Mitered Together. (Drill as Required)
9. Hip Nailer Boards are Usually a Stack of 1x2 Strips 4 or 5 High, as Required.
10. Ridge Nailer Boards are Usually 3 to 5 Strips High, as Required.

****EUROPEAN AND SIERRA MISSION TILE ARE LAID STRAIGHT BOND, NOT OFF-SET.****
(Lay 5 Tile Wide, From Eave to Ridge, Verify Straight, Then Repeat)

SIERRA MISSION PROFILE EAVE DETAIL



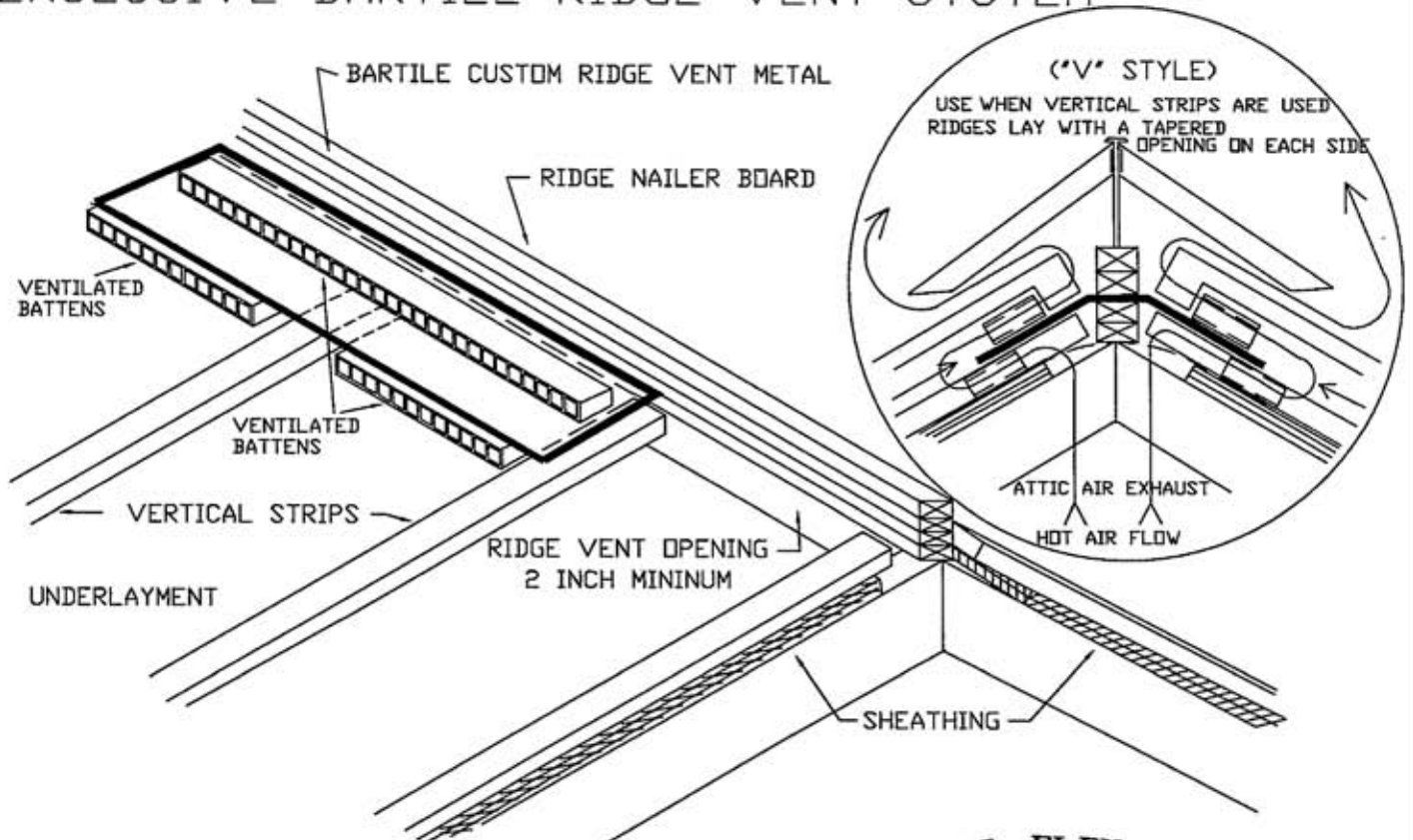
(A) *If 1x2 Vertical Strips are Used, a Cover Track Metal (A) is Installed, at the Eave, on Top of the Verticals, With a Space as Shown.

NOTES:

The Eave Closure Will Lock Between The Tile and Closure Track.
On Steeper Pitches, Cement the Closure into the Track With Adhesive.
DO NOT Block the Valley Drainage with the Closure Assembly, Leave Open.
The Closures are Furnished to Match The Tile Color, The Track is Galvanized or Optional Colored Metal, Copper, etc to Match Eave Metal.

* OLD MISSION Profile Requires 11" 1st Course With Balance at 10.5" Maximum.
SIERRA MISSION, OLD MISSION & EUROPEAN are Laid in Straight Vertical Rows
Lay 5 Tile Wide, From Eave to Ridge, Verify Straight, Then Repeat

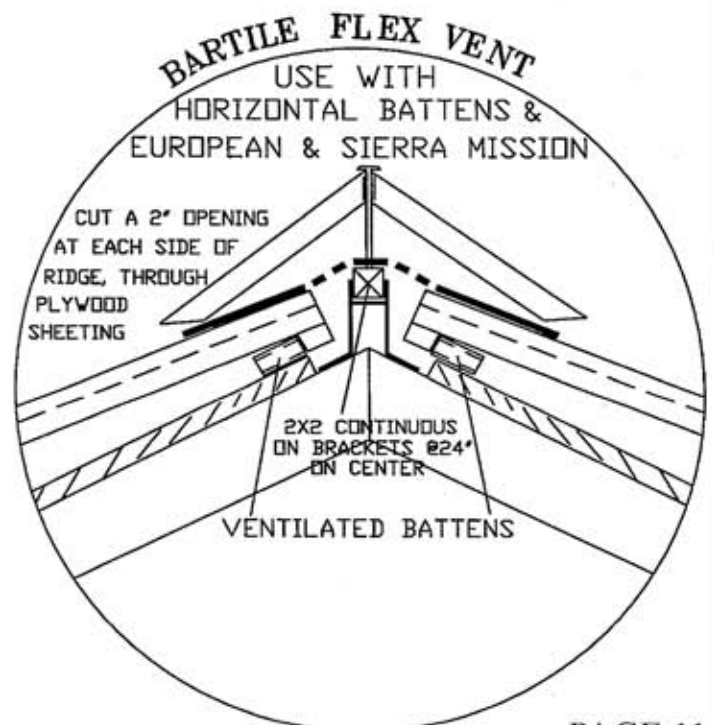
EXCLUSIVE BARTILE RIDGE VENT SYSTEM



The Exclusive BARTILE RIDGE VENT Consists of a 2" Slot or Opening at the Ridge, Covered by a Metal Shield, Which Prevents Intrusion by Water or Blowing Snow.

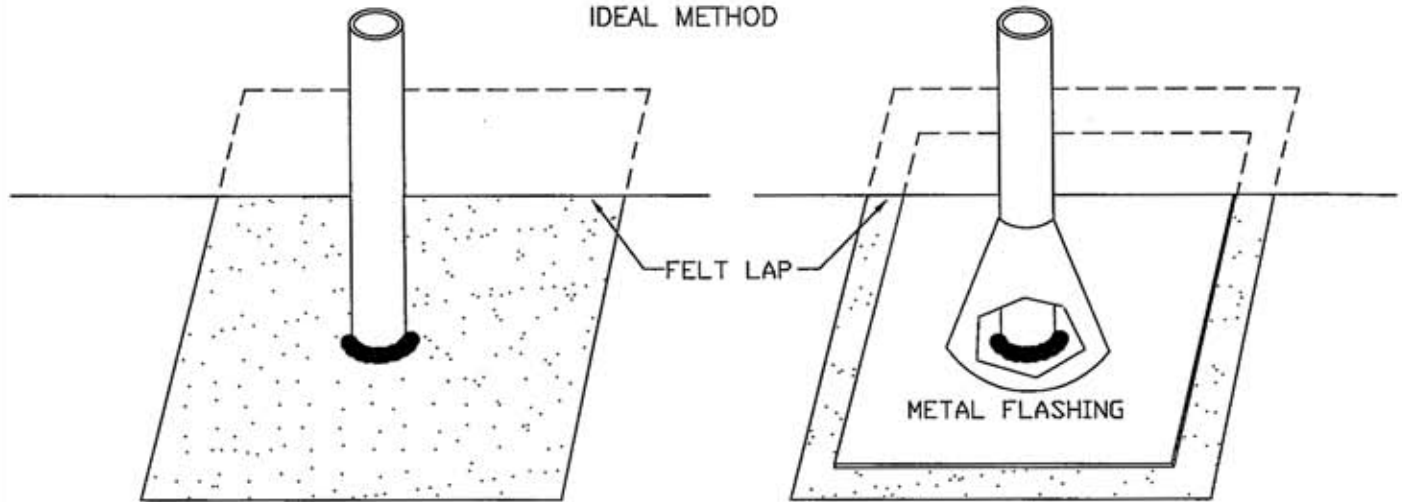
BARTILE COLD ROOF SYSTEM

Escaping Warm Attic Air Rises Naturally and Draws Cooler Air Through Soffit Vents into the Attic. The Air Moving Through the Air Space Below the Tile, in a Venturi Effect, Draws Cool Air Through the Eave Intake and Cools the Tile and Underlayment. This Reduces Ice Buildup in Winter and Keeps the Attic Cooler in the Summertime. The Process is Self-Initiating and Self Sustaining and Needs no Power. An Optional Screen May Be Secured Under the Vertical Strips and Ridge Nailer. Do not Block Ridge Openings.



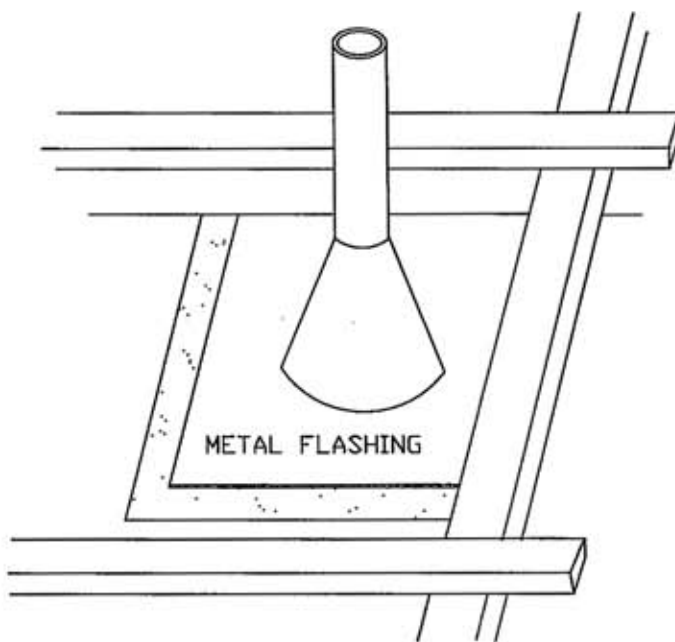
PIPE FLASHING DETAILS

IDEAL METHOD

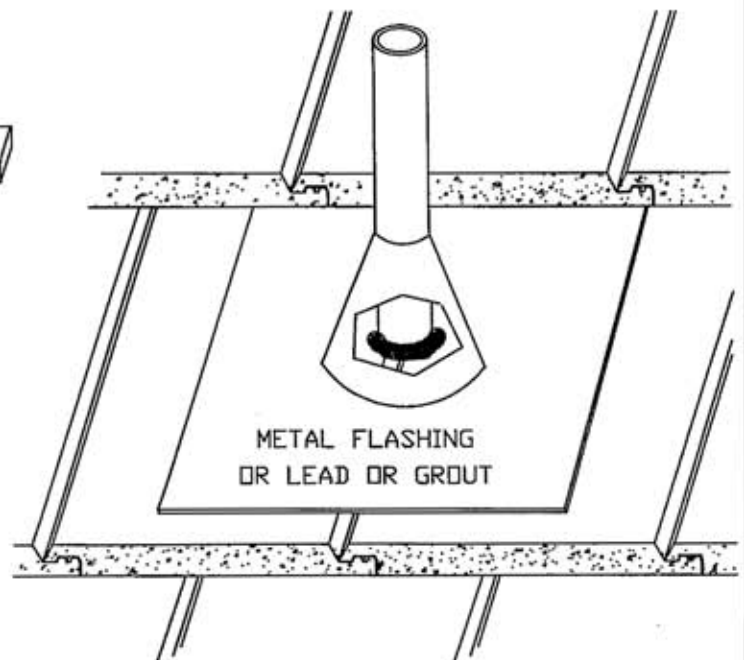


1. Hammer-fit a Felt Gasket to Pipe. Seal Gasket to Pipe With Mastic.

2. (Optional) Install a Base Flashing Lap Under Horizontal Felt Lap, and Seal.

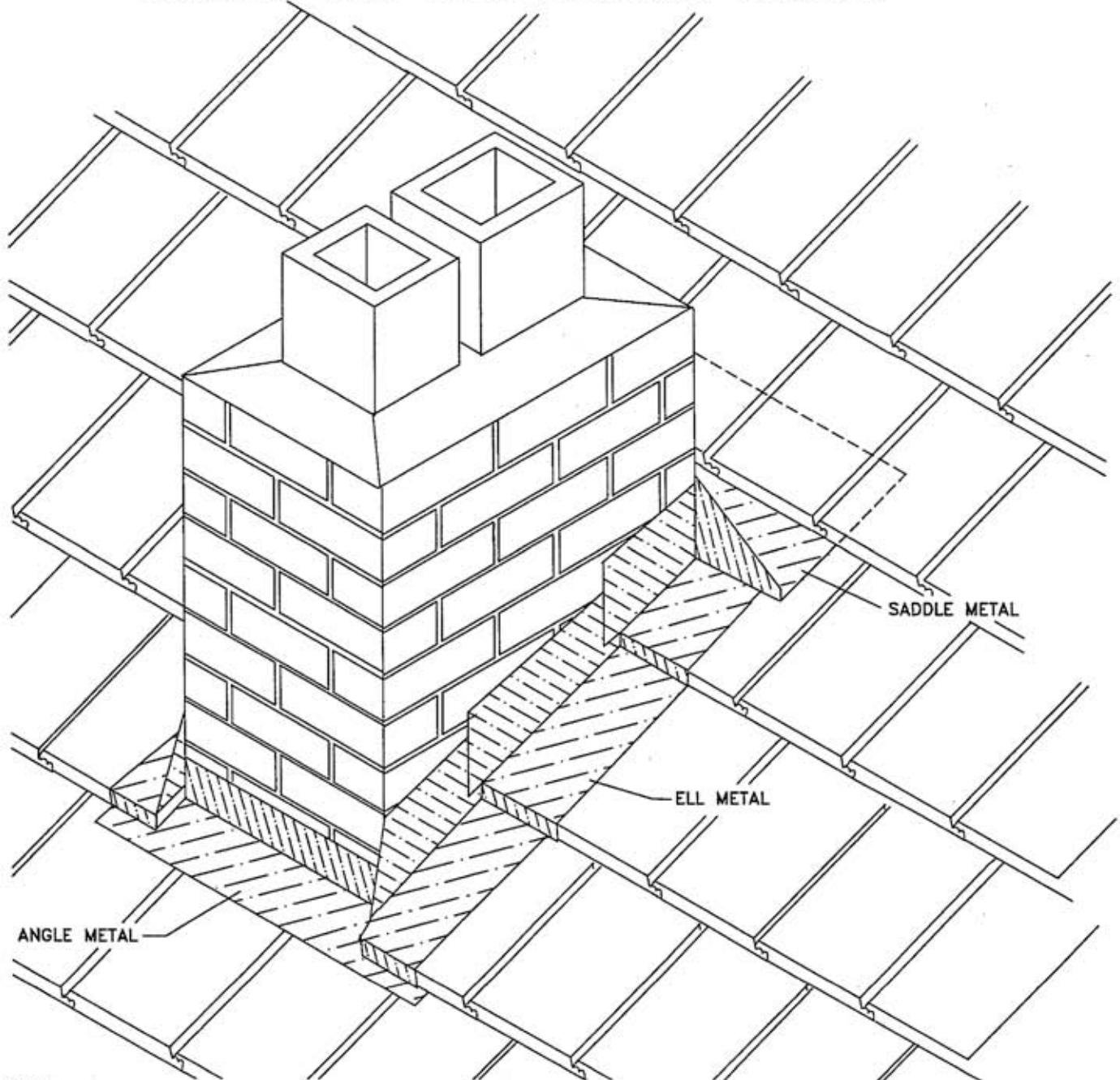


3. Set Vertical and Horizontal Battens as per Normal Layout for Tile. Pipe May Interrupt Batten, if so Shim or Block as Needed.



4. Cut Tile to Fit Around Pipe; Mastic the Space Around Pipe; Then Set the Pipe Flashing in a Bed of Mastic. Be Certain to Lap Flashing With Tile. Use Lead Flashing or Grout for Round Tile.

CHIMNEY AND WALL FLASHING DETAILS



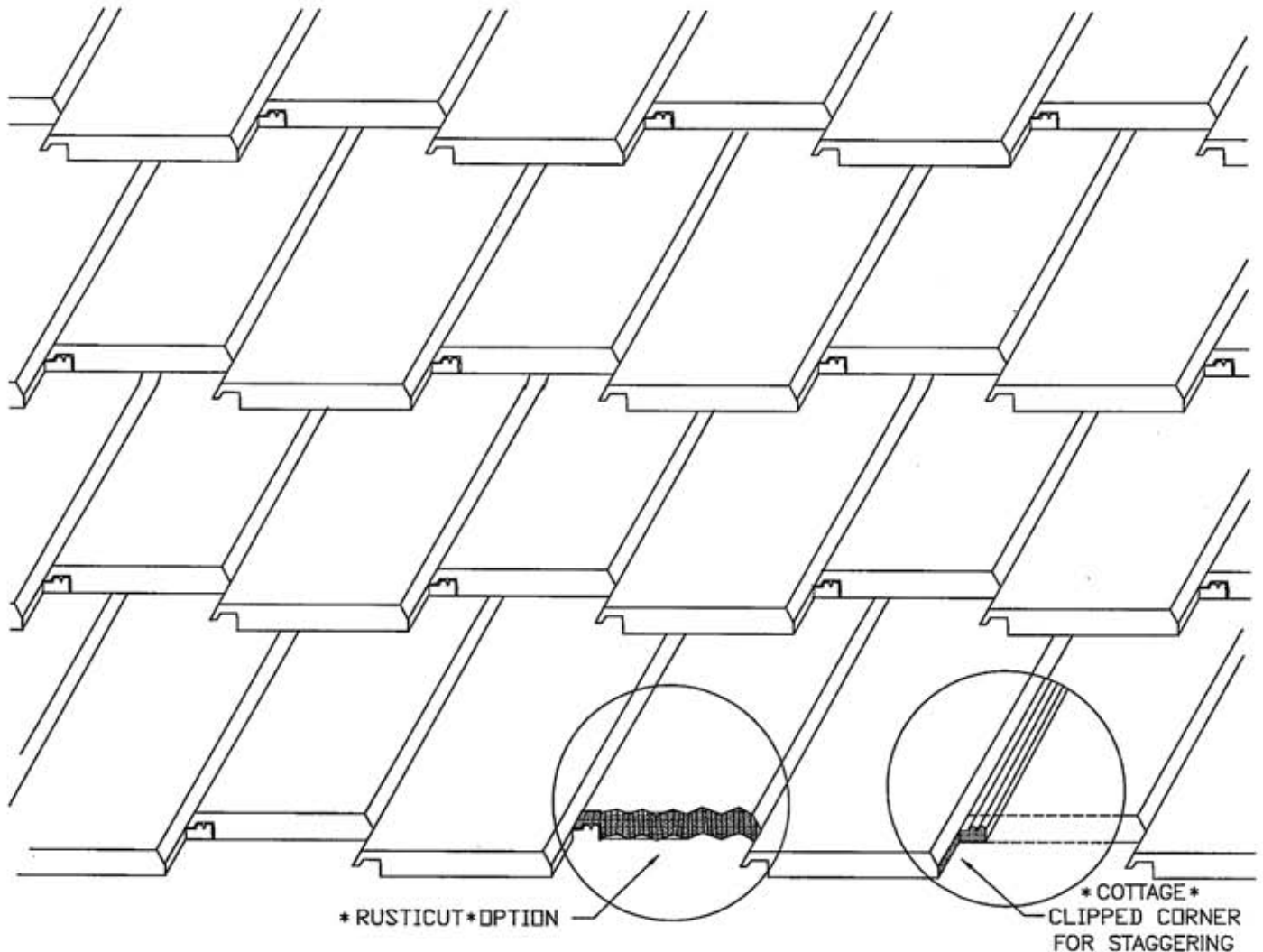
NOTES:

Roll the Underlayment up the wall about 6" on all sides. Seal water tight. Leave a 2"-4" space between Battens and walls, for drainage. Install metal as shown, attaching only to wall, and seal. Counterflashing may be used.

When wall terminates at or near eave, "J" METAL may be the preferred side wall flashing. Cut the sidewall tile within 1/2" of wall and seal with mastic. The EUROPEAN and SIERRA MISSION Profiles may require lead or grout flashings at the tile level, with metal underneath the tile. It is recommended that the "L" METAL be cut into 16" lengths, and the bottom 1" be cut and bent to cover the bottom edge of the tile.(as shown) Note how ANGLE METAL extends 3" beyond wall and SADDLE METAL extends 6" beyond wall on each side, then is bent over at flange.

See page 4 for metal details and options.

STAGGERED INSTALLATION DETAILS (COTTAGE and RUSTICUT OPTIONS)

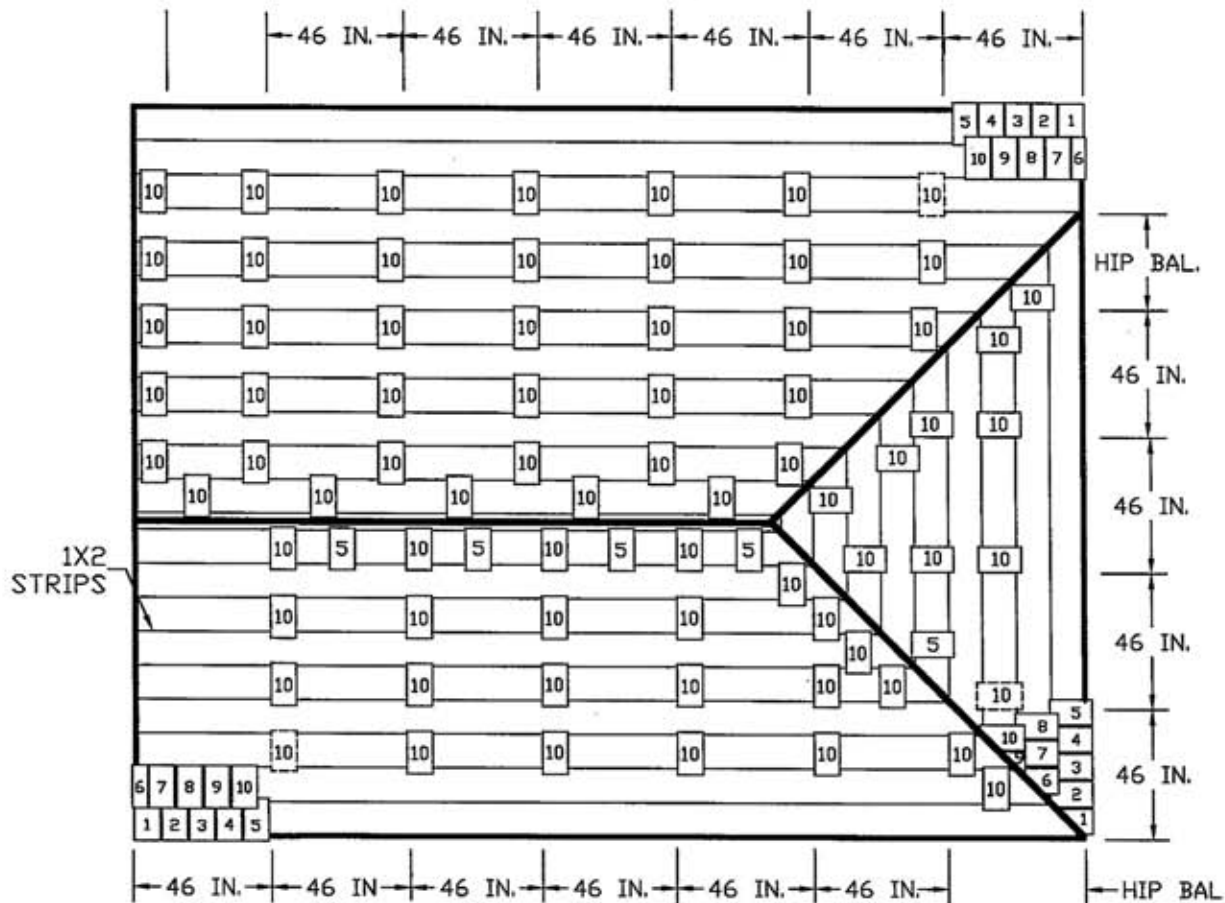


BARTILE "OLD WORLD VINTAGE", "SPLIT-TIMBER", & "NEW ENGLAND SLATE" are Available With Modifications of Holes and Corners (COTTAGE) Option, and an Irregular Edge (RUSTICUT) or "RUFF-CUT" Option. These Options Simplify the Installation for a Uniquely Beautiful Roof.

NOTES:

- For COTTAGE Installation, 1st Batten is 12.5", Balance are 10.5" Maximum.
- Every Other Field Tile is Raised 1.75" Above the Batten and Nailed to the Batten. (Unnotched)
- The COTTAGE SERIES Tile are Ready to Install Without Further Modification.
- The COTTAGE SERIES Requires 12% addl. Tile & Horiz. Battens & Adds Aprox. 12% Weight.
- The RUSTICUT Option Does Not Alter the Spacing or Weight.
- The RENAISSANCE SERIES Offers a Virtually Unlimited Range of Colors, Blends, and Textures.
- Trim Units, Underlayment, and Metal are Generally Unaffected by Staggering of Field Tile.

RECOMMENDED ROOF STOCKING LAYOUT



SAFETY BARTILE IS SHIPPED STRETCH WRAPPED, ON SINGLE SIDED PALLETS *
NOTICE NEVER STAND ON ELEVATED SHIPPING PALLET * NEVER LIFT PALLET ABOVE
 PEOPLE * NEVER UNLOAD A SUSPENDED PALLET * ALWAYS UNLOAD OUTSIDE
 AND TOP ROWS FIRST, KEEP PALLET LOAD BALANCED AND IN CENTER *
 NEVER STACK TILE IN AN UNSECURE MANNER ON THE ROOF * THE CUSTOMER
 MUST ACCEPT RESPONSIBILITY FOR THE SAFE HANDLING OF PALLETS AND TILE

4. Illustrated, is the SPLIT-TIMBER/NEW ENGLAND SLATE Stacking Procedure, the

NOTES ON STACKING BARTILE:

1. The Tile are Generally Stocked in Stacks of 10 Pieces per Stack.
2. Each Stack of 10 Tile Will Cover Two Courses, Five Tile Wide.
3. Skipping the First Strip, Place Each (10 Tile) Stack on Every Two Strips.
4. Illustrated, is the "SPLIT-TIMBER"/"NEW ENGLAND SLATE" Stacking Procedure, the SIERRA MISSION and EUROPEAN Designs Lay in the Opposite Direction.
5. Stack Extra Tile at Hips, Valleys, and Rakes to Allow For Cut Tile and Waste.
6. Place the Stacks in Vertical Rows, Unless Interrupted by Pipes, Hips and Valleys.

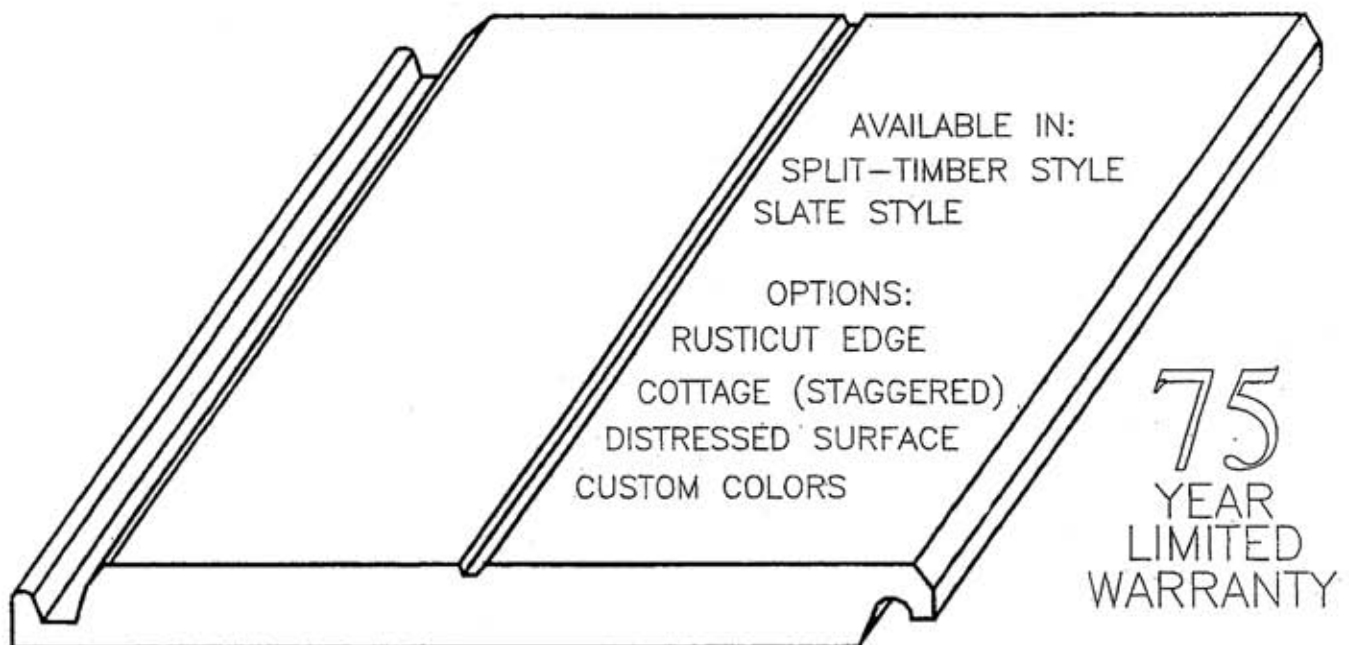


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Installation Specifications and Guide

U.S.PATENT NO. 6,233,895

The Strongest—Most Durable—Easiest to Install
Flat Concrete Roof Tile on the Market.
Exceeds CODE Requirements by a Wide Margin



LEGENDARY PROFILE

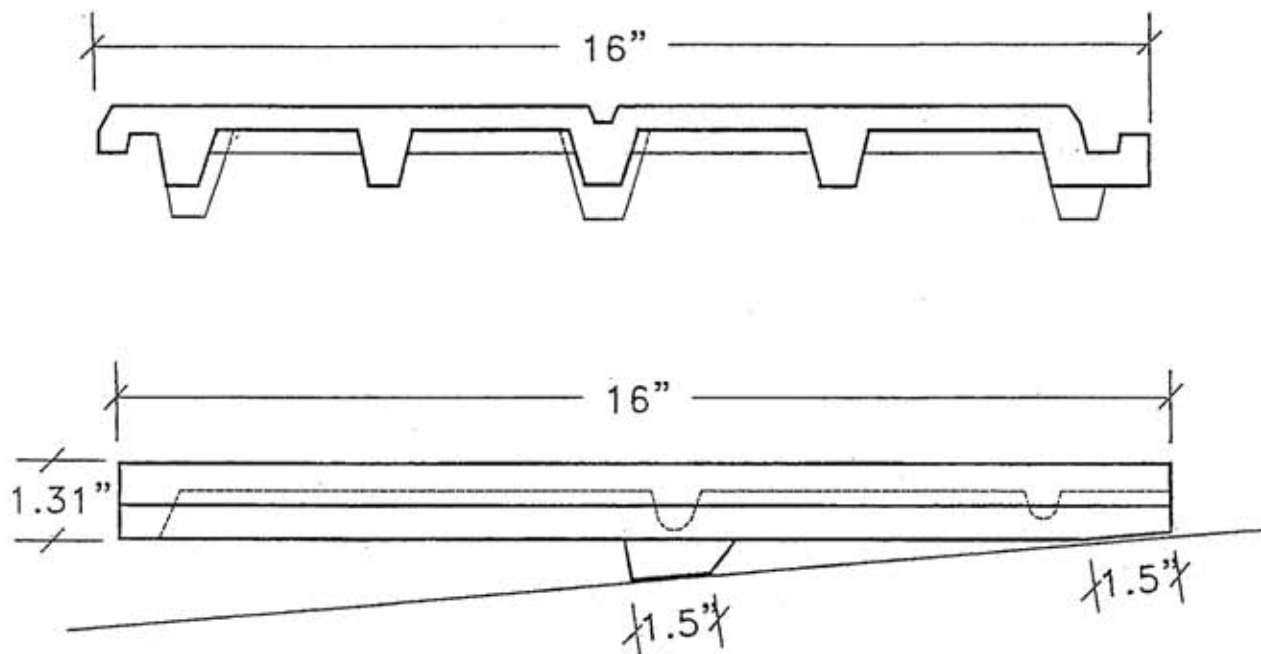
A Beautiful Roof Tile, so INNOVATIVE, so SIMPLE
and INEXPENSIVE to Install, That Ordinary
Roofing Products Pale by Comparison.

IDEAL FOR CHURCHES, HOTELS, RESTAURANTS, SHOPPING
CENTERS, SKI RESORTS, APARTMENTS, COMMERCIAL BUILDINGS
CONDOMINIUMS, HOMES, SEVERE CLIMATE INSTALLATIONS, ETC

APPROX. INSTALLED WT.:ULTRALITE 7.5 LBS/SQ.FT.—STD WT.10.5 LBS/SQ.FT.

LEGENDARY ULTIMATE ROOF TILE

The HIGH-STRENGTH Tile With a COLD ROOF SYSTEM Built in.



LEGENDARY ULTIMATE ROOF TILE has FREE AIR FLOW, Eave to Ridge, Between the Tile and Underlayment, to Remove HEAT BUILDUP Naturally, Through Convection Air Movement. This Important Innovation Reduces Ice Buildup in Winter, and Keeps the Building Cooler in the Summer.

Note that there are 8 Deck Bearing Points on each tile, to Distribute the Live Load, and Reduce Underlayment Scuffing.

Installation Specifications and Guide

WHEN TO USE BATTEN STRIPS:

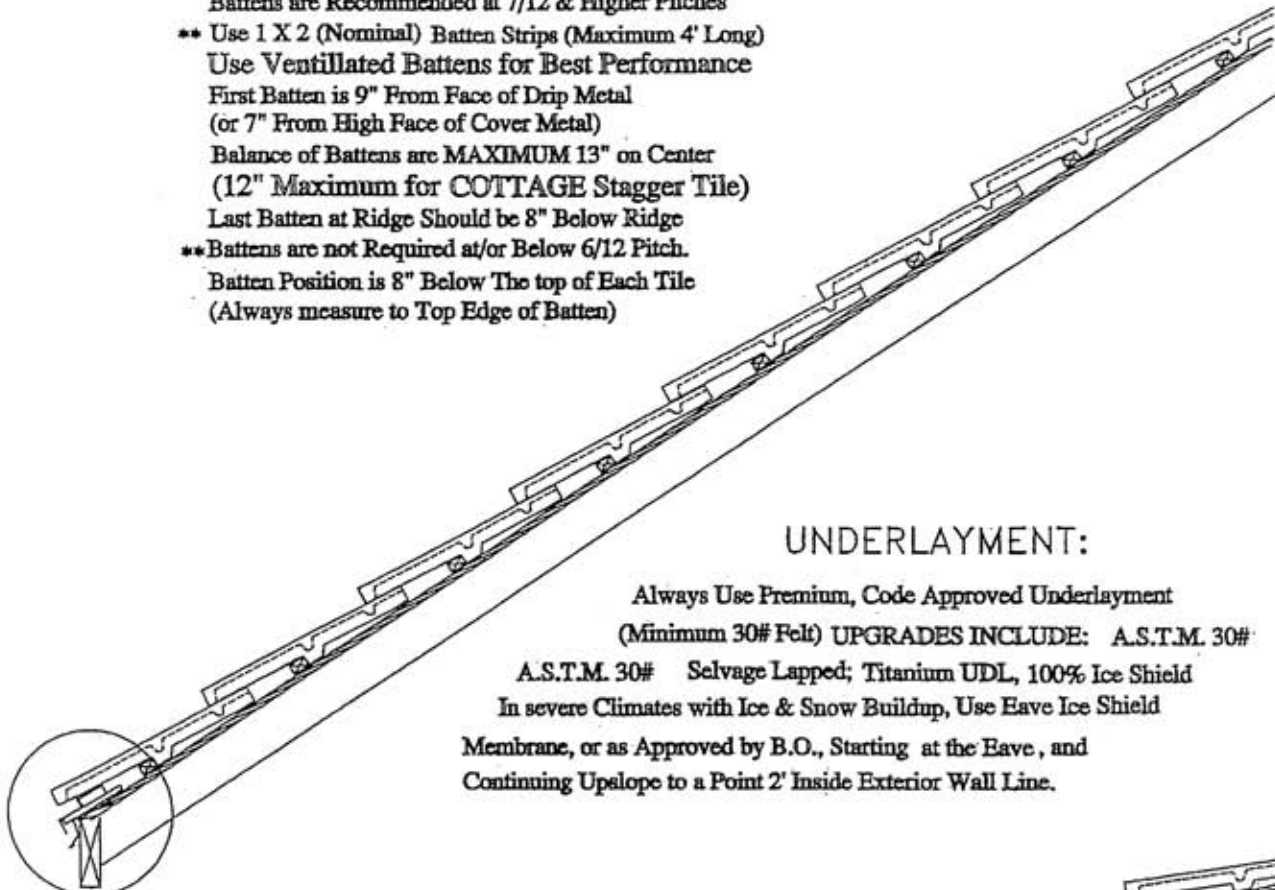
- Battens are Recommended at 7/12 & Higher Pitches
- ** Use 1 X 2 (Nominal) Batten Strips (Maximum 4' Long)
Use Ventilated Battens for Best Performance
- First Batten is 9" From Face of Drip Metal
(or 7" From High Face of Cover Metal)
- Balance of Battens are MAXIMUM 13" on Center
(12" Maximum for COTTAGE Stagger Tile)
- Last Batten at Ridge Should be 8" Below Ridge
- ** Battens are not Required at/or Below 6/12 Pitch.
- Batten Position is 8" Below The top of Each Tile
(Always measure to Top Edge of Batten)

UNDERLAYMENT:

Always Use Premium, Code Approved Underlayment
(Minimum 30# Felt) UPGRADES INCLUDE: A.S.T.M. 30#
A.S.T.M. 30# Salvage Lapped; Titanium UDL, 100% Ice Shield
In severe Climates with Ice & Snow Buildup, Use Eave Ice Shield
Membrane, or as Approved by B.O., Starting at the Eave, and
Continuing Upslope to a Point 2' Inside Exterior Wall Line.

FASTENING REQUIREMENTS:

Pitches at/or Below 6/12: Nail Each Tile With 1 Nail.
Pitches 7/12 and higher: 2 Nails Per Tile or Batten & 1 Nail Per Tile.
SEVERE SNOW CLIMATES: 2 Nails Per Tile or Batten & 1 Nail At Any Pitch.
Nails Shall be Per UBC 15-D-1/2, 2 1/2" in Length.
In Designated High Wind Areas: Fasten Nose of Eave Tile With Wind Clip.
Fasten Standard Weight & Light Weight Tile in The Same Manner.



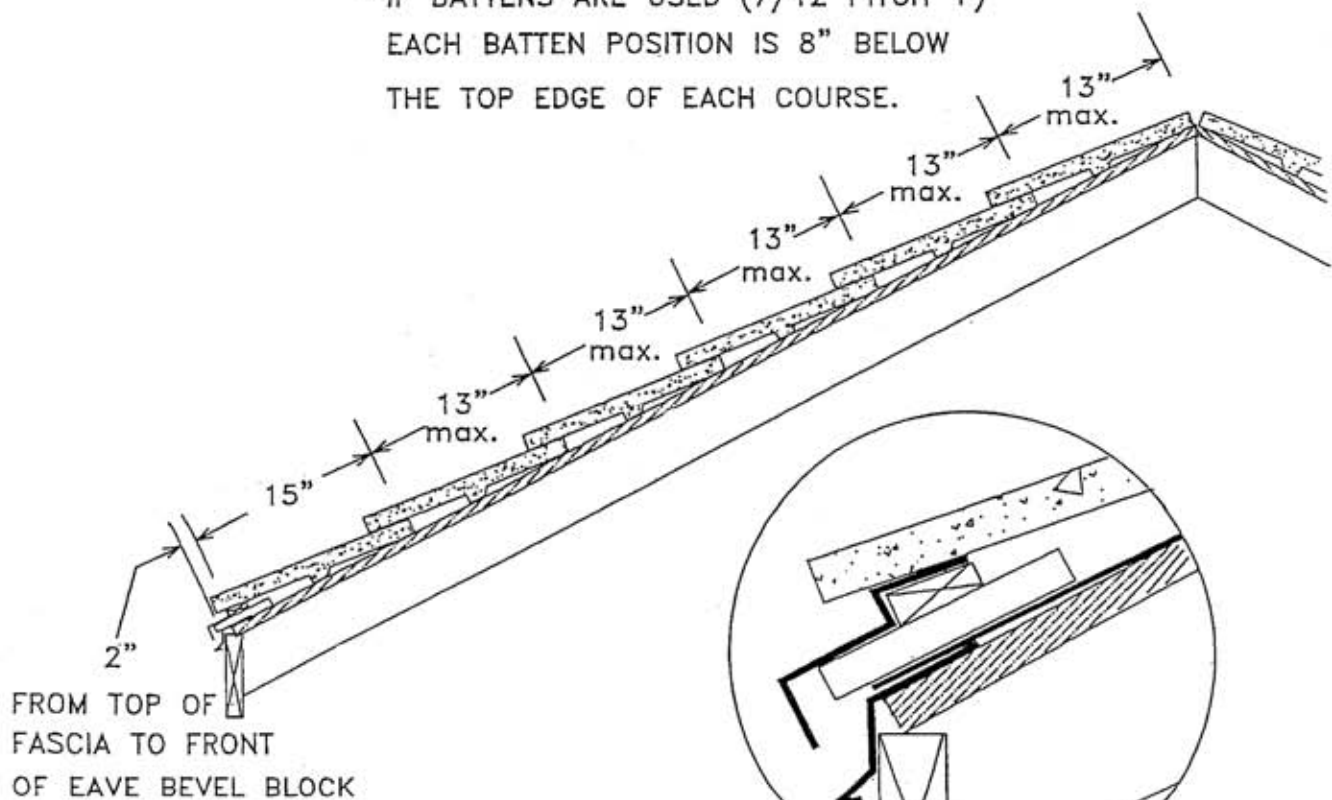
Eave Detail 7/12 & Higher

Eave Detail 6/12 & Lower

TILE COURSE LAYOUT

TILE SHOULD BE LAID IN STRAIGHT, UNIFORM COURSES (MAXIMUM 13") ON CENTER, LAID TO A CHALK LINE FOR EACH COURSE.

****IF BATTENS ARE USED (7/12 PITCH +)**
EACH BATTEN POSITION IS 8" BELOW
THE TOP EDGE OF EACH COURSE.



**** COTTAGE CUT TILE REQUIRE 12"
MAXIMUM PER COURSE LAYOUT TO
MAINTAIN MINIMUM 3" COURSE OVERLAP**

U.S.PATENT NO. 6,233,895

LEGENDARY TILE STACKING LAYOUT

