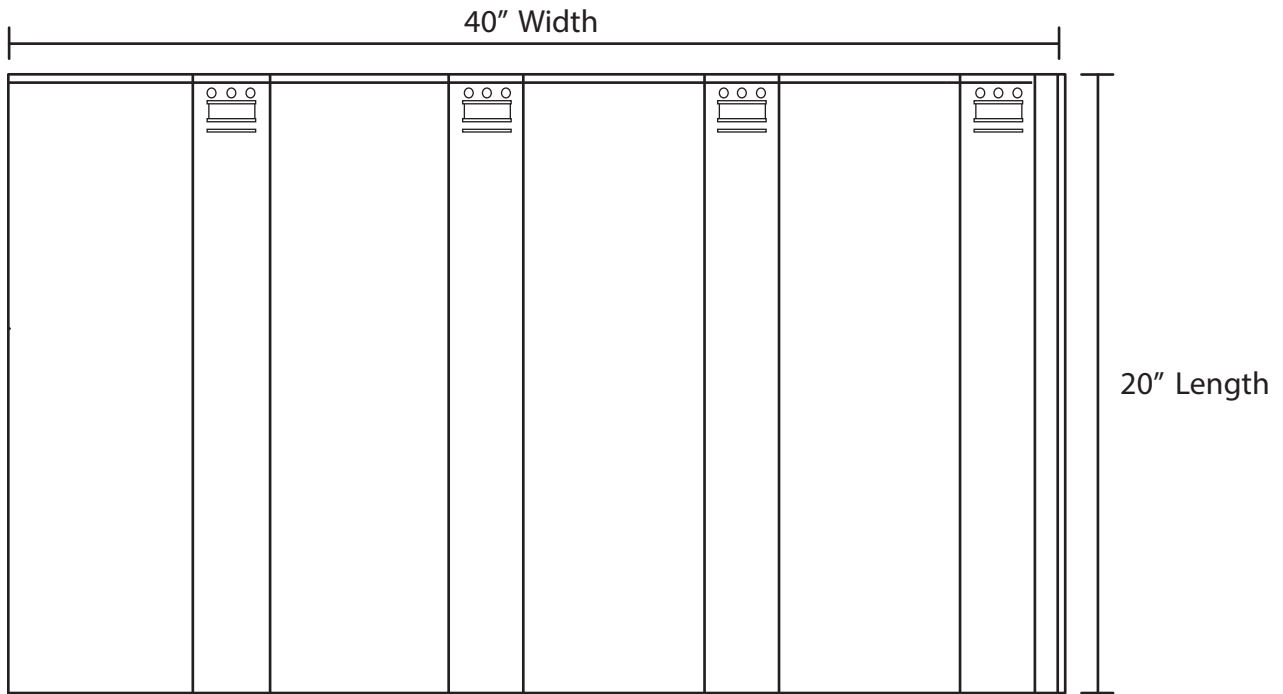
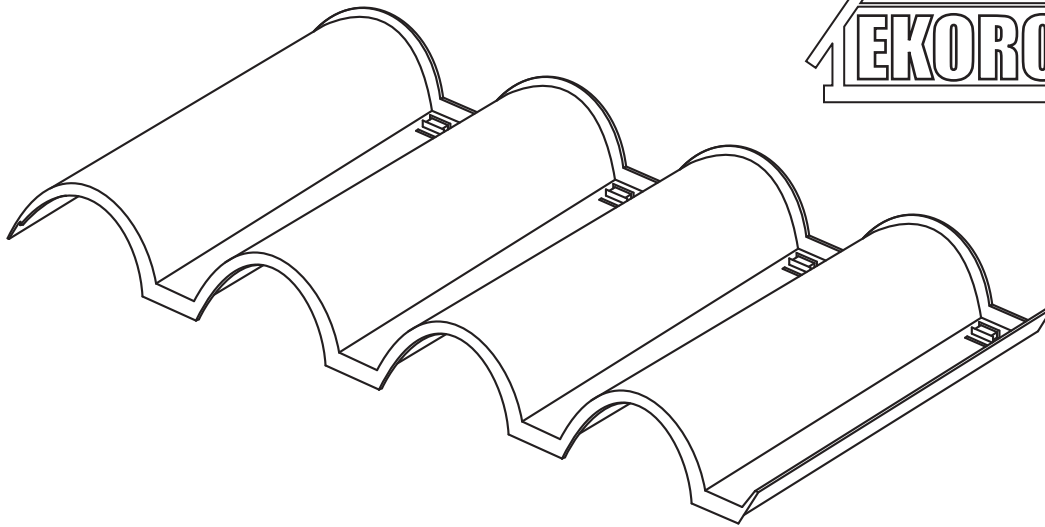


# Ekorooft Dimensions

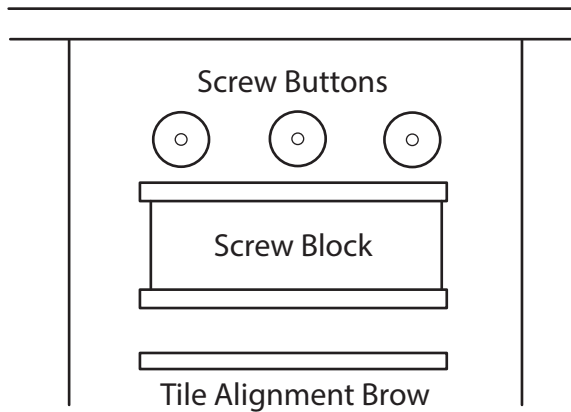
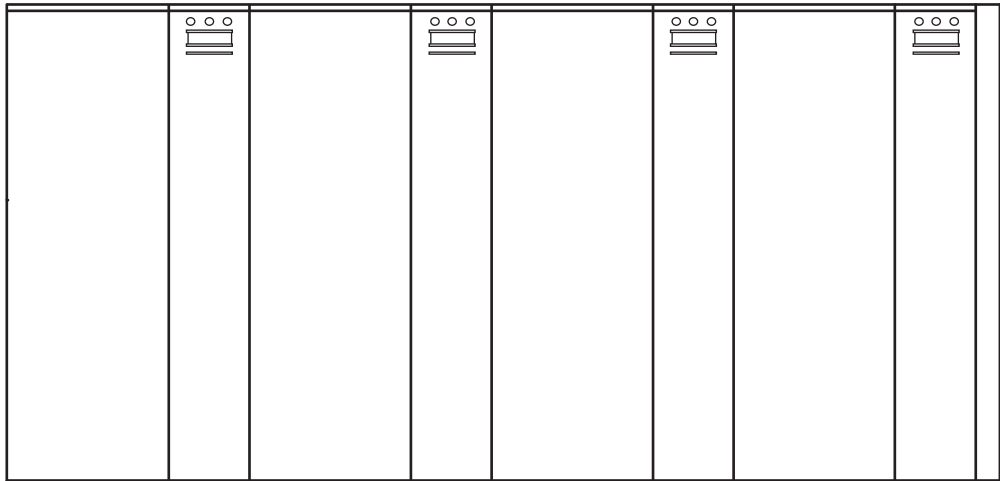


Weight per Panel: 3 kg / 6.61 lbs  
Area per Panel 800 in<sup>2</sup> / 5.55 ft<sup>2</sup>  
Panels per Square: 20 (including overlap, for a 100 ft<sup>2</sup> covered area)  
Weight per Square 59.96 kg / 132.2 lbs

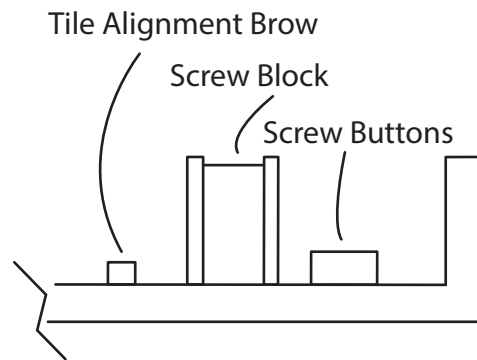
drawings not to scale

# Ekorooftile Features - Top View Detail

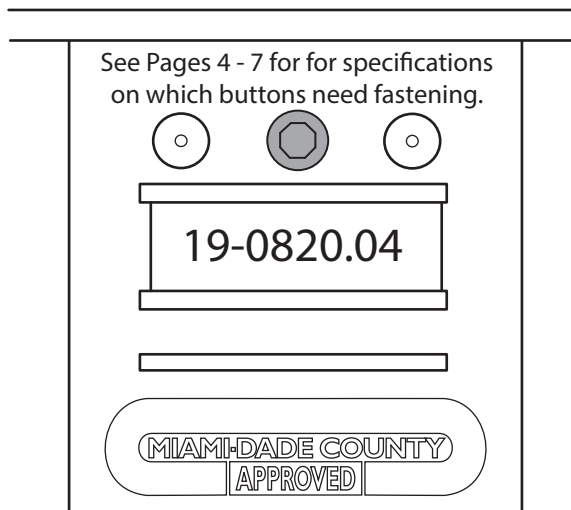
Top View of Tile



Top View



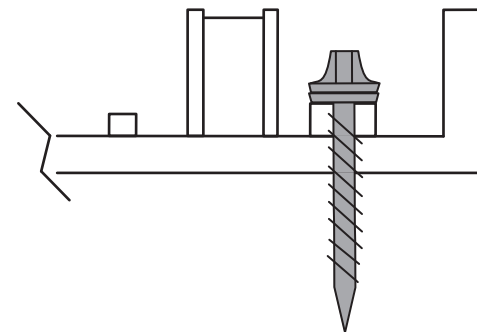
Side View



See Pages 4 - 7 for for specifications on which buttons need fastening.

19-0820.04

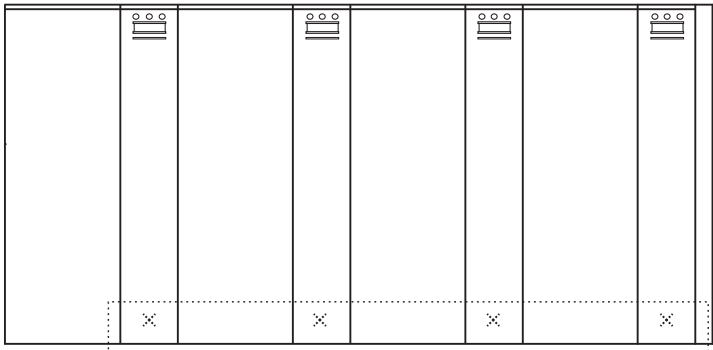
MIAMI-DADE COUNTY  
APPROVED



drawings not to scale

# Starter Row Detail

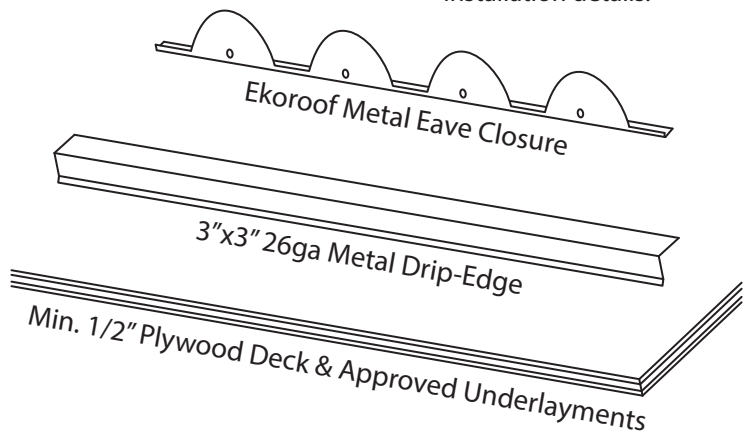
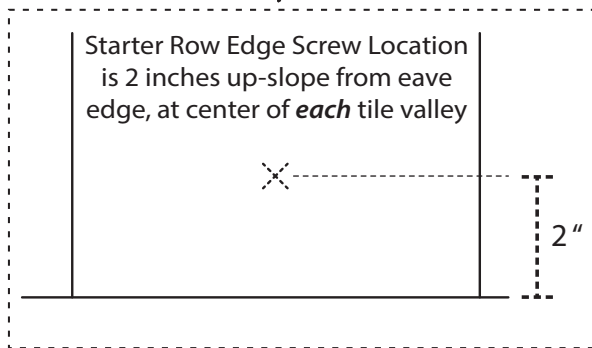
Top View of Tile



Starter Row Edge Fastener is #10-12 wood point, Corrosion-Resistant Screw with washer, & Hex or Concealor type head, 2" in length.

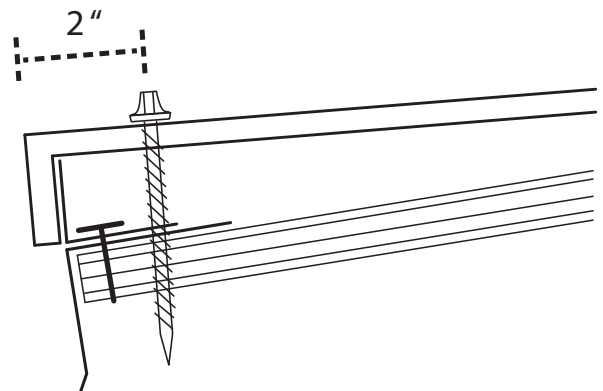
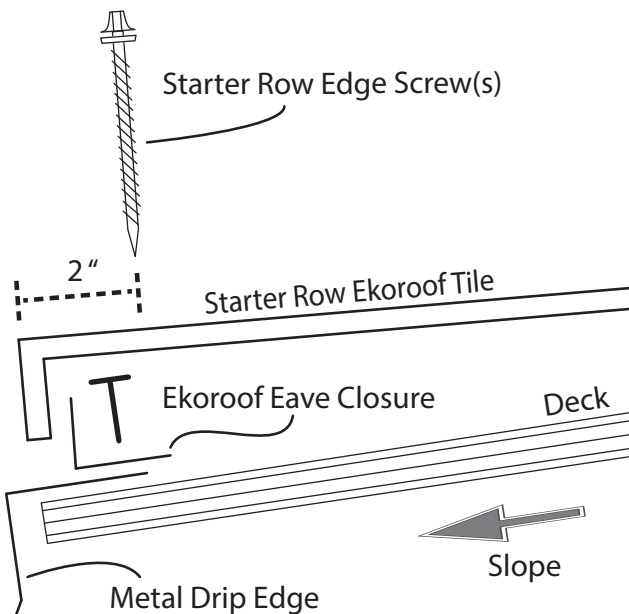
It is installed 2" up-slope from the eave edge of tile. Exposed fasteners should be color-matched to tile for aesthetics.

See Page 8 for for eave closure installation details.

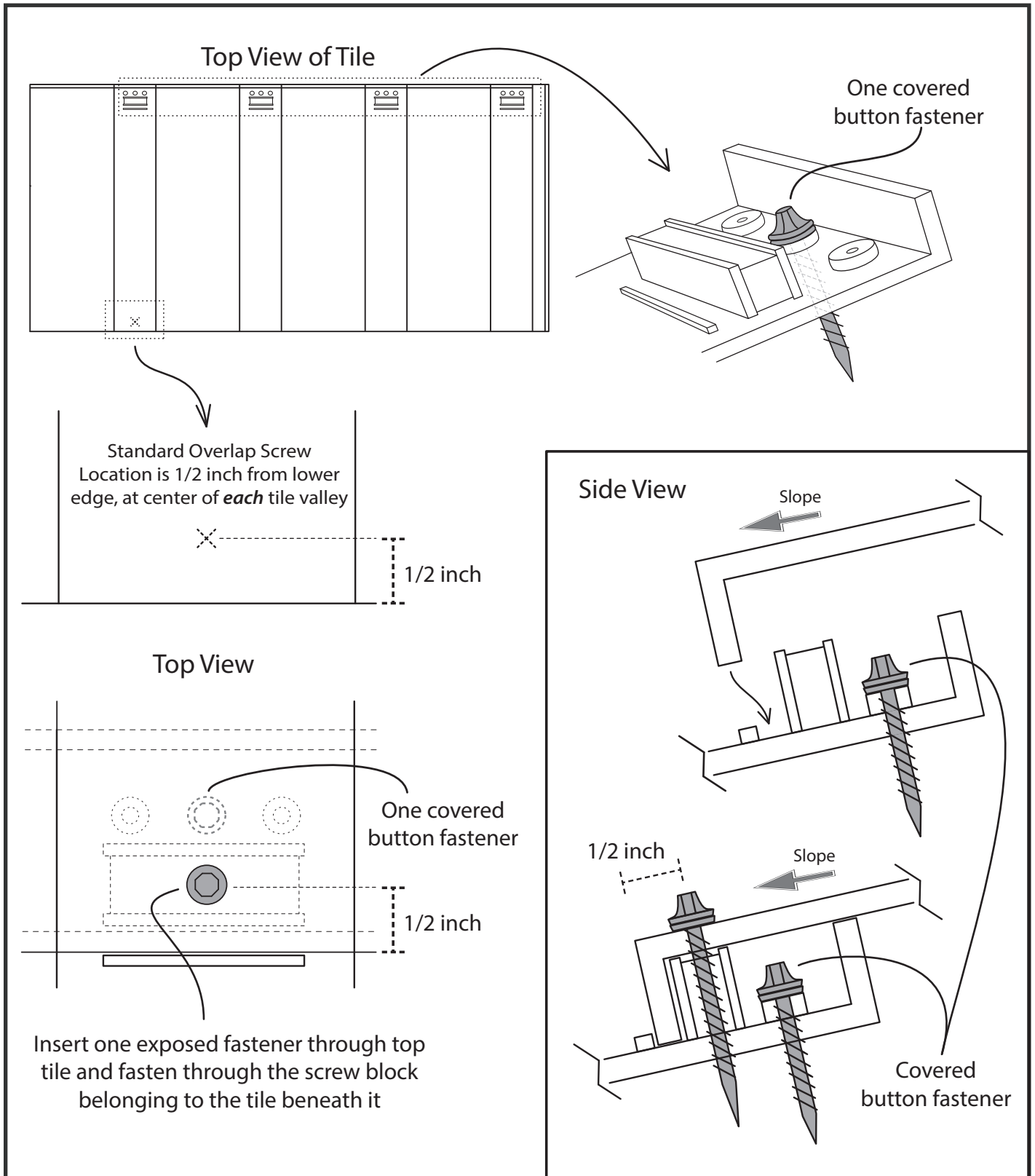


Side View

Installed

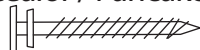


# Ekorooft Tile Attachment Method 1 - 86 PSF

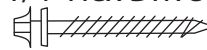


Main Fastener is #10-12 wood point, Corrosion Resistant Screw with washer, & Hex or Concealor head, of sufficient length to penetrate the deck at least 3/16". Contractor must verify on-site to ensure compliance with minimum deck penetration requirement. Exposed fastener should be color-matched to tile for aesthetics.

Concealor / Pancake Head

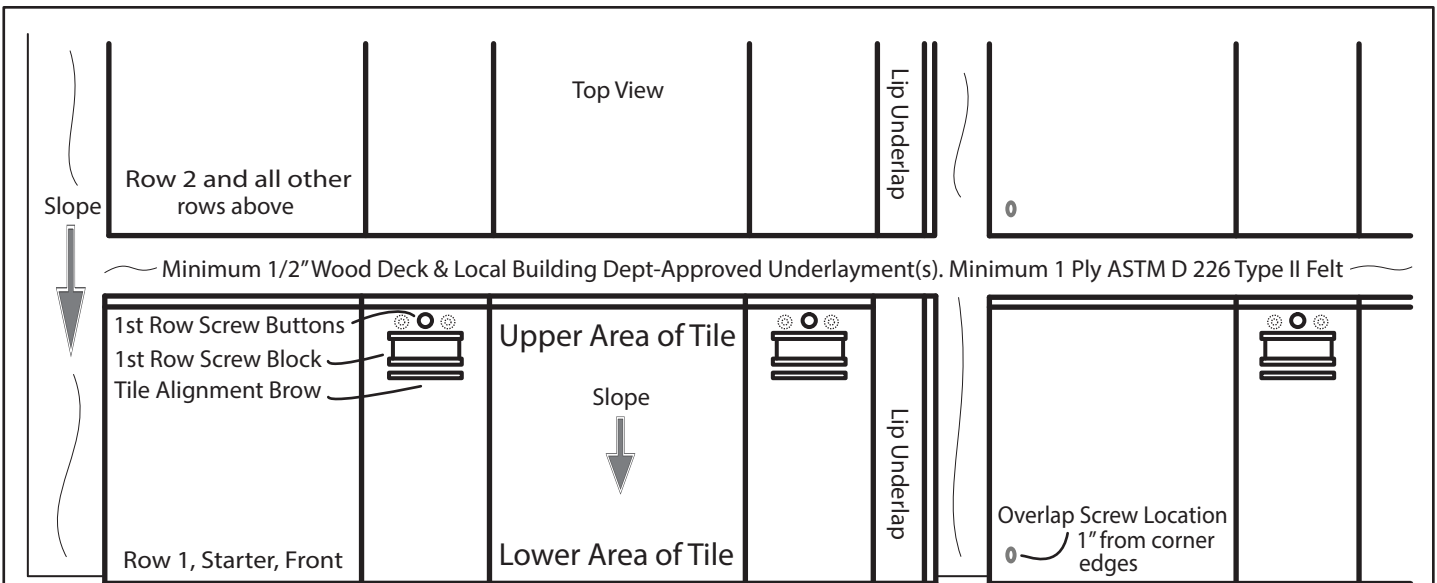


1/4" Hex Drive

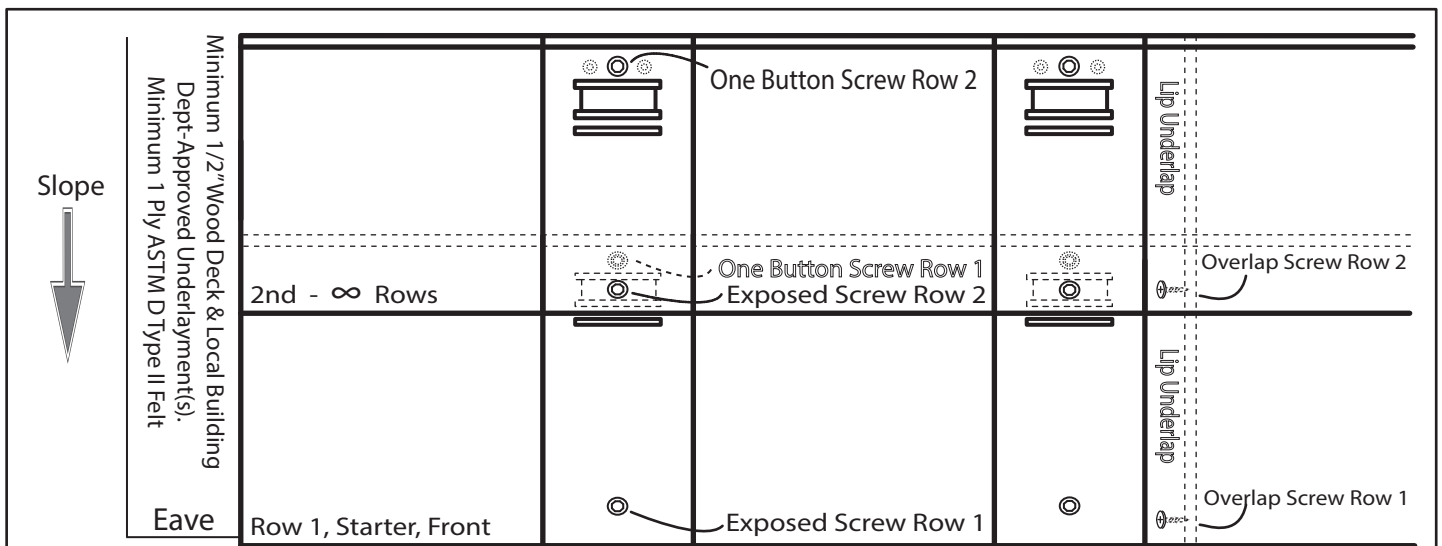


drawings not to scale

# Ekoroof Tile Method 1 Installation Procedures - 86 PSF



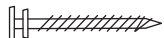
1. Install starter row by fastening tile to deck, using metal eave closures as a guide and utilizing specified screws, penetrating tile and passing 3/16" through deck. Avoid penetrating valleys or flashings when fastening. You may offset fasteners to avoid wood joints, valleys, flashings, drip edge, and eave closure metals or other conditions, as needed by using the additional buttons or flat area of tile at the tile valley. Screws at lower area of tile, at starter row are located 2" higher than the edge of the tile.
2. Overlap subsequent rows using alignment brow as a guide, then fasten as shown below. When using a standard overlap, the exposed fasteners are placed 1/2" from lower edge, as shown in page 4 to penetrate through screw block belonging to tile beneath it, along with underlayments and passing 3/16" through wood deck. You may increase the overlap from the standard 1 3/4" up to 4" for aesthetics or conditions, making sure to adjust the placement of lower area screws to penetrate through screw block of tile beneath it.
3. Use 1" long, #10-13 Concealor or Pancake Head screw for side overlaps. Location of screw is 1" from each corner edge on lower left corner of tile



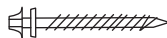
Main Fastener is #10 wood point, Corrosion Resistant & Approved Screw with EPDM washer & Hex or Concealor/Pancake head, of sufficient length to penetrate 3/16" past the deck. Exposed screws should be color-matched to tile for aesthetics.

Side overlap screw is 1" minimum, 1 1/2" maximum, #10-13 Corrosion Resistant & Approved Screw with 1/4" Hex or Concealor/Pancake Head, color-matched to tile for aesthetics.

Concealor / Pancake Head

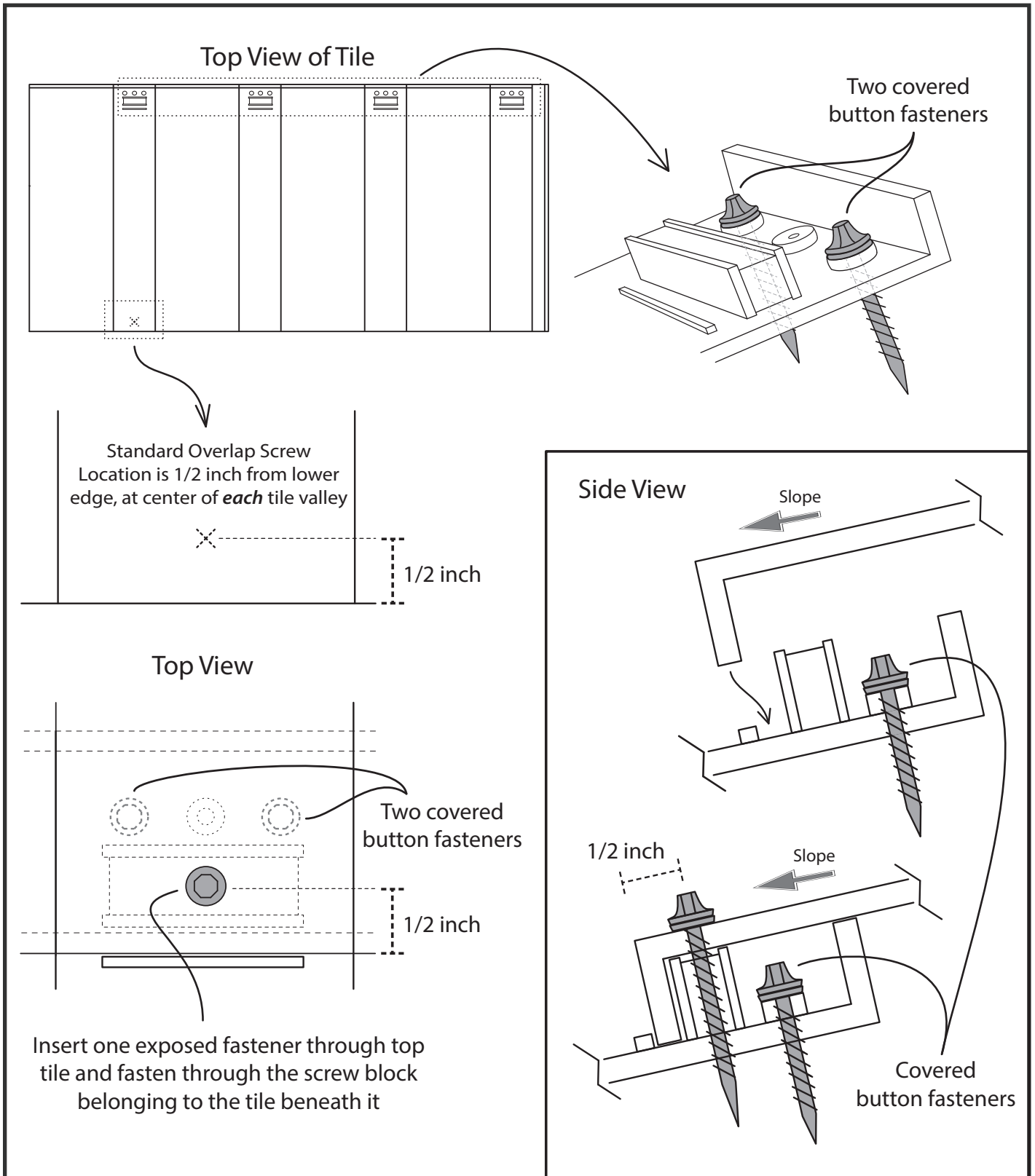


1/4" Hex Drive



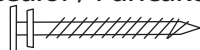
drawings not to scale

# Ekoroof Tile Attachment Method 2 - 146 PSF

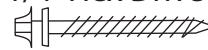


Main Fastener is #10-12 wood point, Corrosion Resistant Screw with washer, & Hex or Concealor head, of sufficient length to penetrate the deck at least 3/16". Contractor must verify on-site to ensure compliance with minimum deck penetration requirement. Exposed fastener should be color-matched to tile for aesthetics.

Concealor / Pancake Head

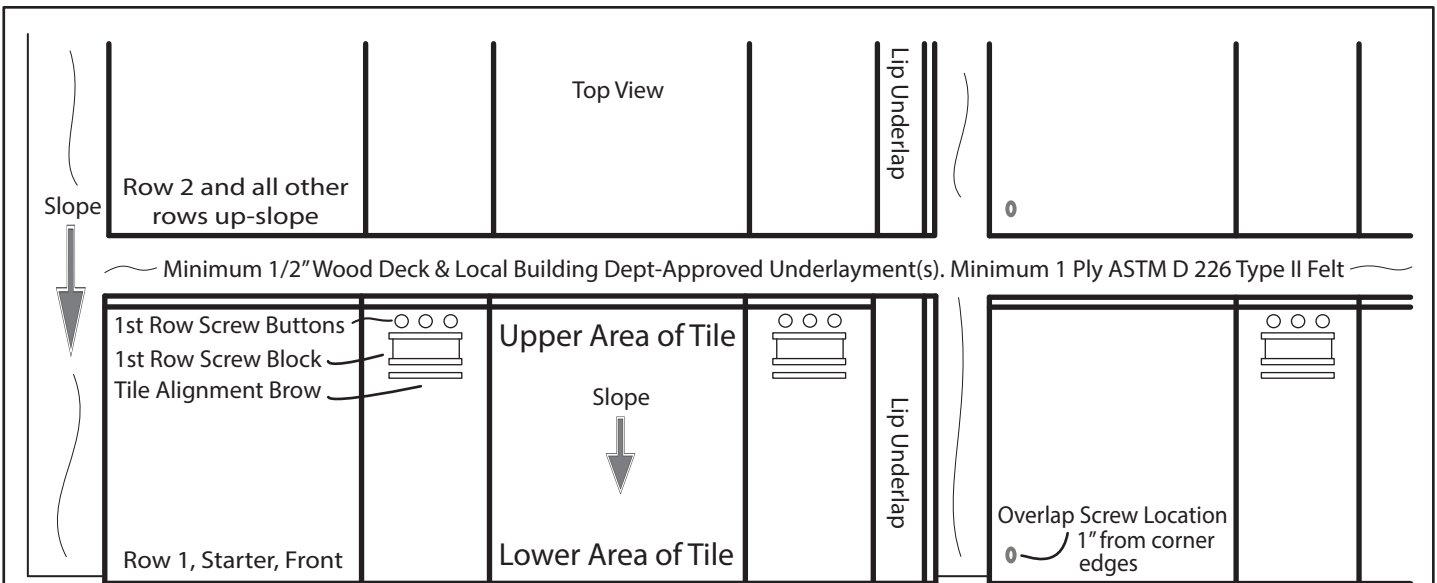


1/4" Hex Drive

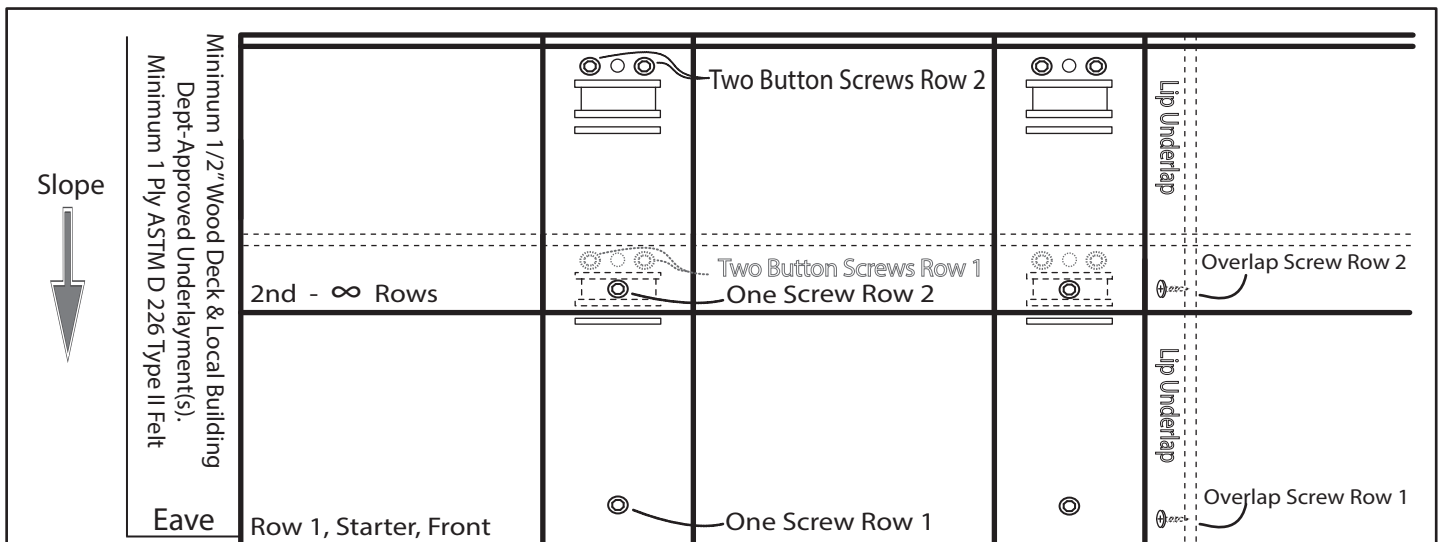


drawings not to scale

# Ekoroof Tile Method 2 Installation Procedures - 146 PSF



1. Install starter row by fastening tile to deck, using metal eave closures as a guide and utilizing specified screws, penetrating tile and passing 3/16" through deck. Avoid penetrating valleys or flashings when fastening. You may offset fasteners to avoid wood joints, valleys, flashings, drip edge, and eave closure metals or other conditions, as needed by using the additional buttons or flat area of tile at the tile valley. Screws at lower area of tile, at starter row are located 2" higher than the edge of the tile.
2. Overlap subsequent rows using alignment brow as a guide, then fasten as shown below. When using a standard overlap, the exposed fasteners are placed 1/2" from lower edge, as shown in page 6 to penetrate through screw block belonging to tile beneath it, along with underlayments and passing 3/16" through wood deck. You may increase the overlap from the standard 1 3/4" up to 4" for aesthetics or conditions, making sure to adjust the placement of lower area screws to penetrate through screw block of tile beneath it.
3. Use 1" long, #10-13 Concealor or Pancake Head screw for side overlaps. Location of screw is 1" from each corner edge on lower left corner of tile



Main Fastener is #10 wood point, Corrosion Resistant & Approved Screw with EPDM washer & Hex or Concealor/Pancake head, of sufficient length to penetrate 3/16" past the deck. Exposed screws should be color-matched to tile for aesthetics.

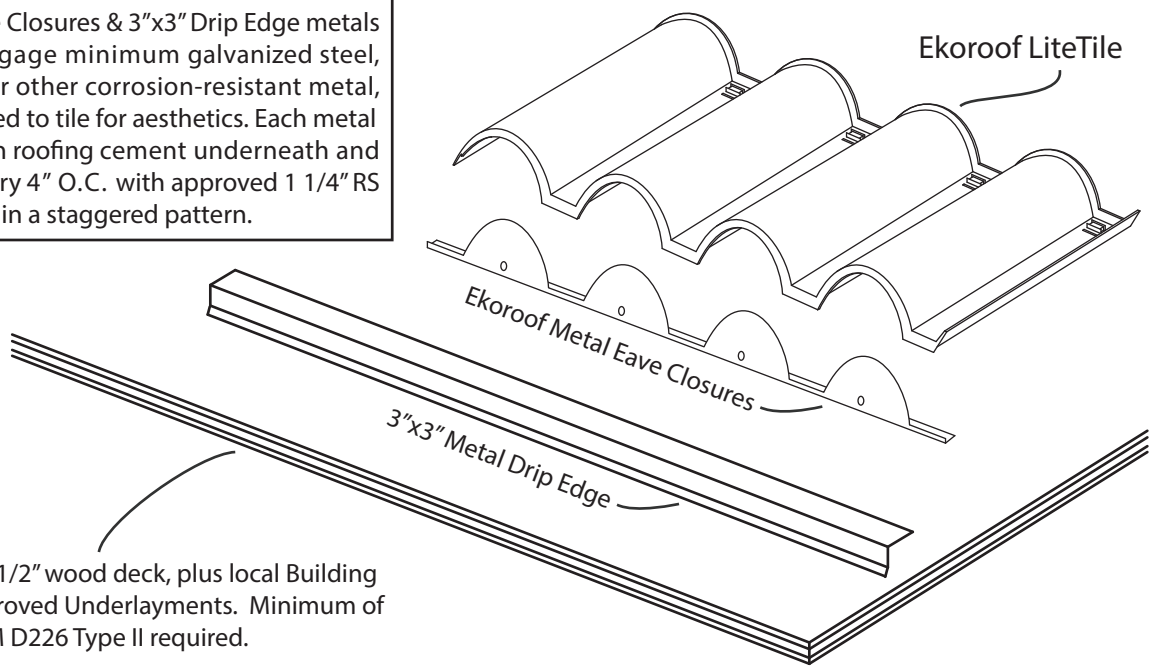
Side overlap screw is 1" minimum, 1 1/2" maximum, #10-13 Corrosion Resistant & Approved Screw with 1/4" Hex or Concealor/Pancake Head, color-matched to tile for aesthetics.



drawings not to scale

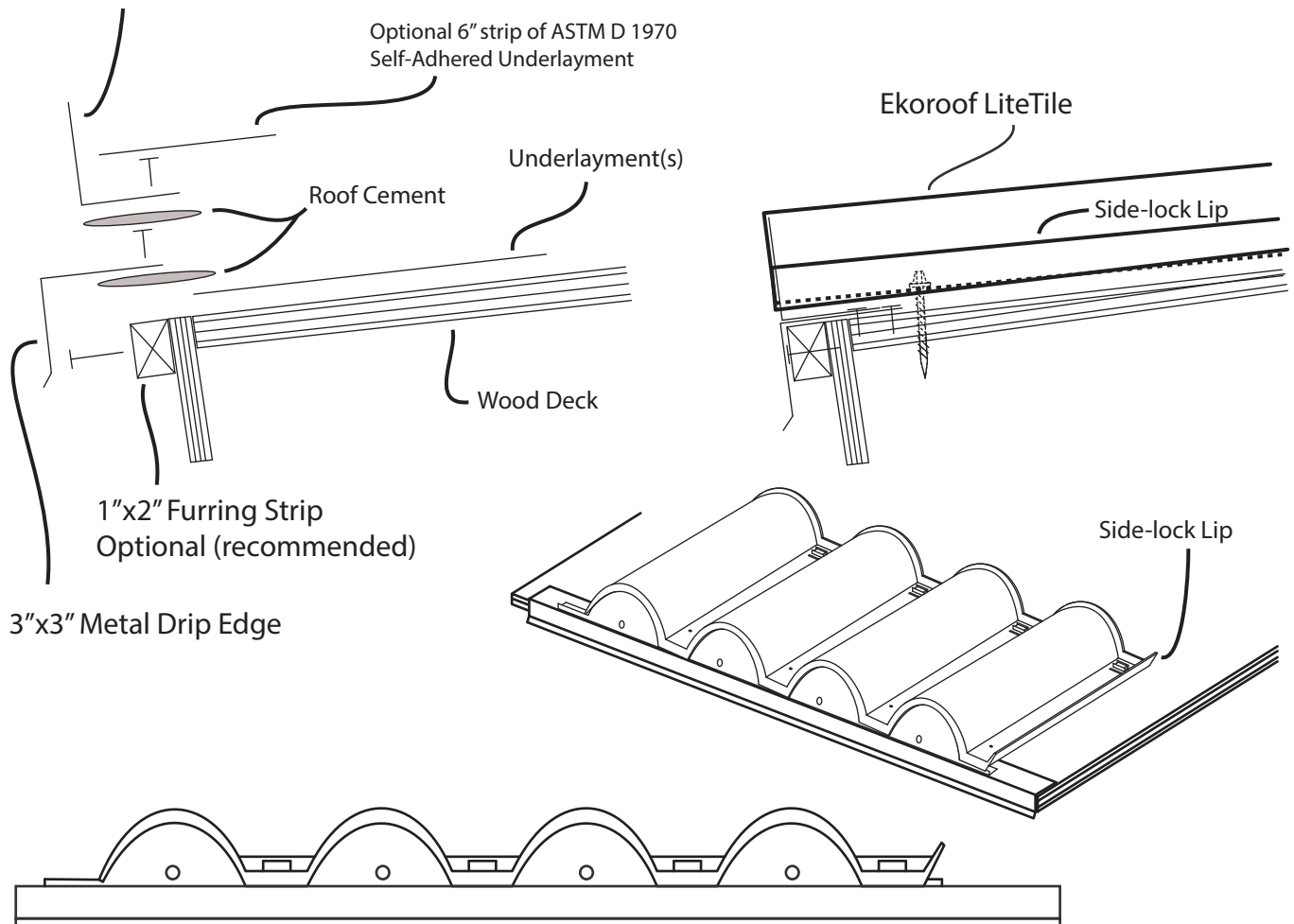
# Ekorooftile Eave Closure Installation Detail

Ekorooftile Eave Closures & 3"x3" Drip Edge metals are each 26 gage minimum galvanized steel, galvalume or other corrosion-resistant metal, color-matched to tile for aesthetics. Each metal is sealed with roofing cement underneath and fastened every 4" O.C. with approved 1 1/4" RS roofing nails in a staggered pattern.



Minimum 1/2" wood deck, plus local Building Code-Approved Underlayments. Minimum of 1 ply ASTM D226 Type II required.

## Ekorooftile Metal Eave Closure

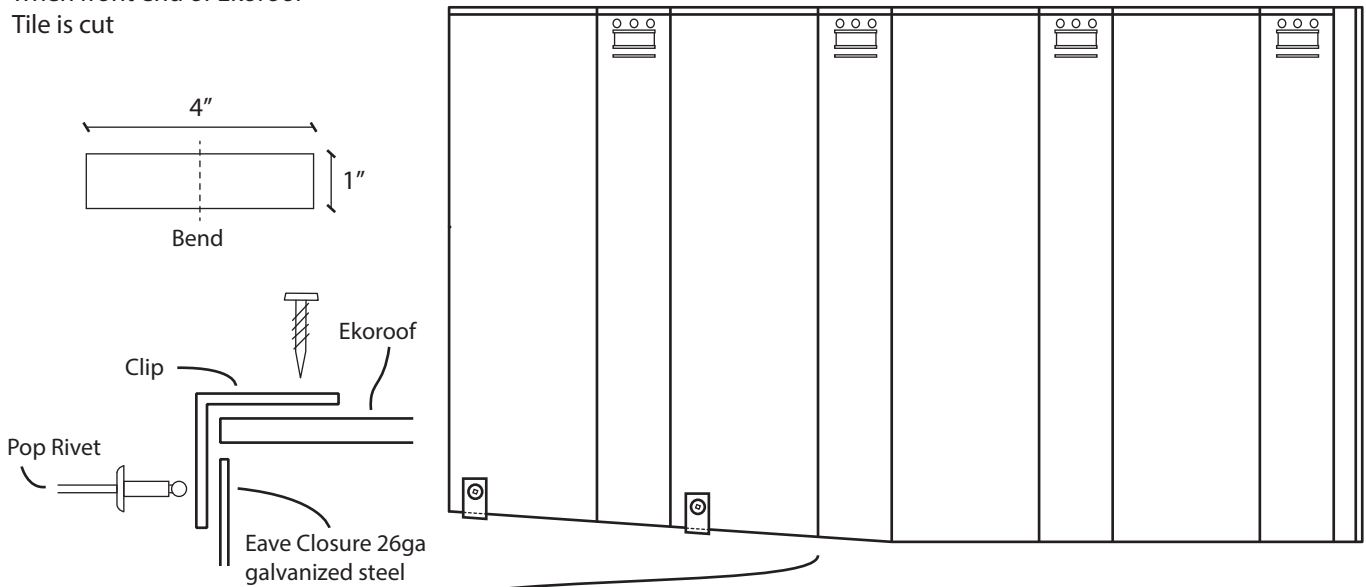


drawings not to scale



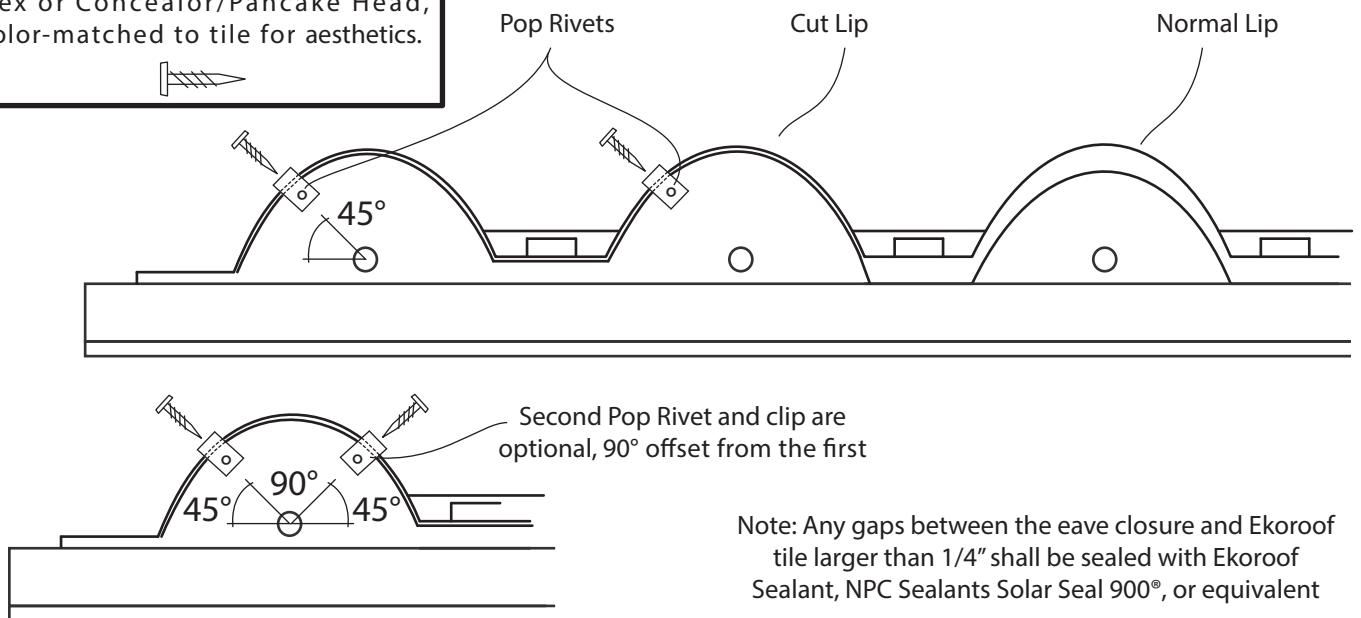
# Ekorooftile Eave Closure Installation Detail - Pop Rivet Method

Alternate Method for fastening Eave Closure when front end of Ekorooftile is cut



You may at times need to cut the front end of the Ekorooftile for conditions. Doing so will cause the loss of the front lip that holds in the metal eave closure. Conditions that would necessitate this modification include, but are not limited to, an angled eave, roof end, or angled transition to a flat roof or cricket, sometimes occurring at a valley, where the eave closure can additionally not be fastened to the deck. When there is no lip to hold the eave closure in place, a 90° 4" x 1" wide clip of 26ga galvanized steel can be cut and pop riveted to the eave closure, and fastened to the Ekorooftile panel with a 1" Ekorooftile Fastener. The clip/rivet should be used on each high point of the tile that is missing a lip, and should be installed at a 45° angle from the weep hole in the eave closure, color matched for aesthetics.

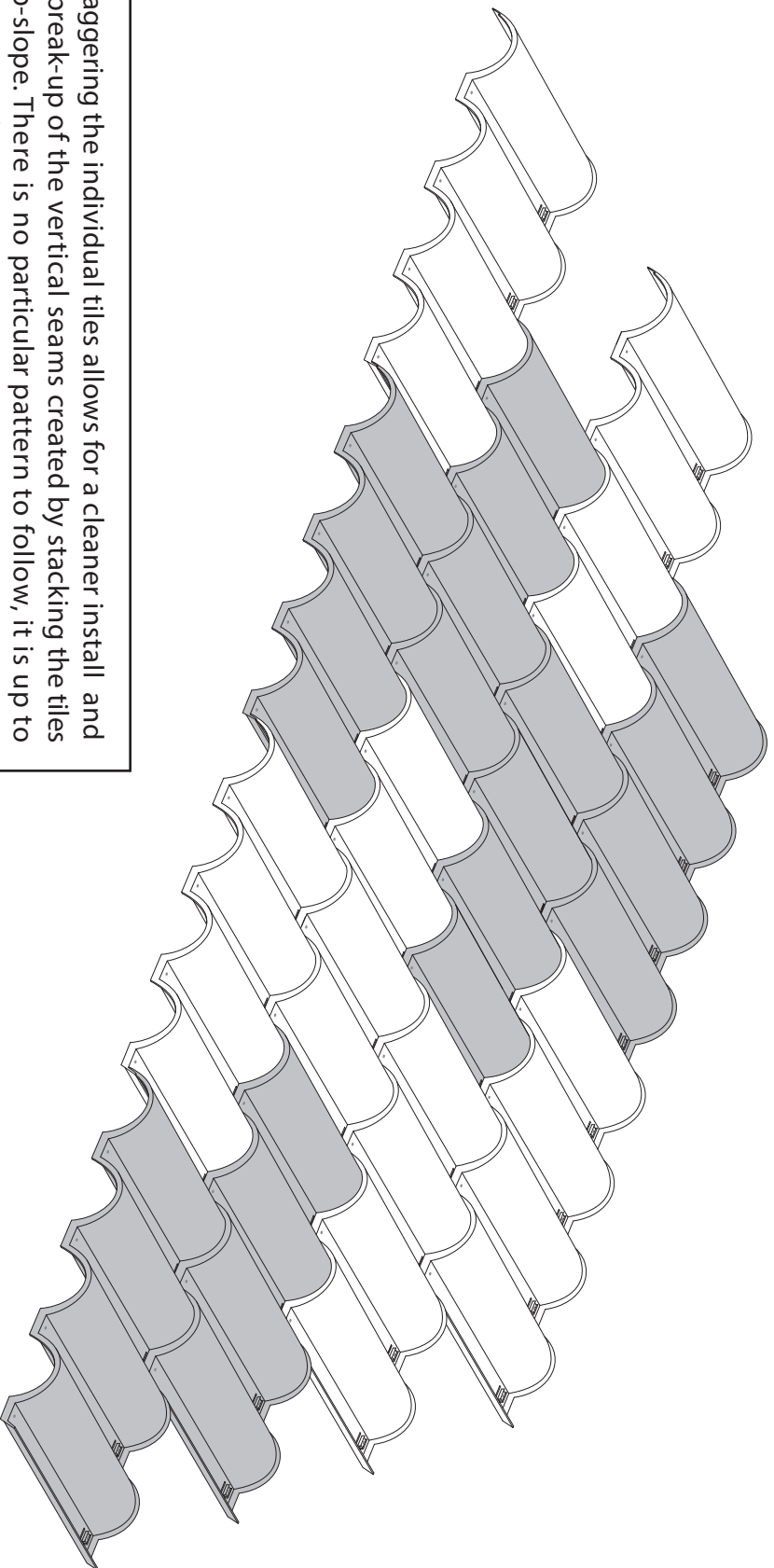
Fastener is 1" #10-13 Corrosion Resistant & Approved Screw with 1/4" Hex or Concealor/Pancake Head, color-matched to tile for aesthetics.



Note: Any gaps between the eave closure and Ekorooftile larger than 1/4" shall be sealed with Ekorooftile Sealant, NPC Sealants Solar Seal 900®, or equivalent

drawings not to scale

## Ekorooftile Installation Pattern

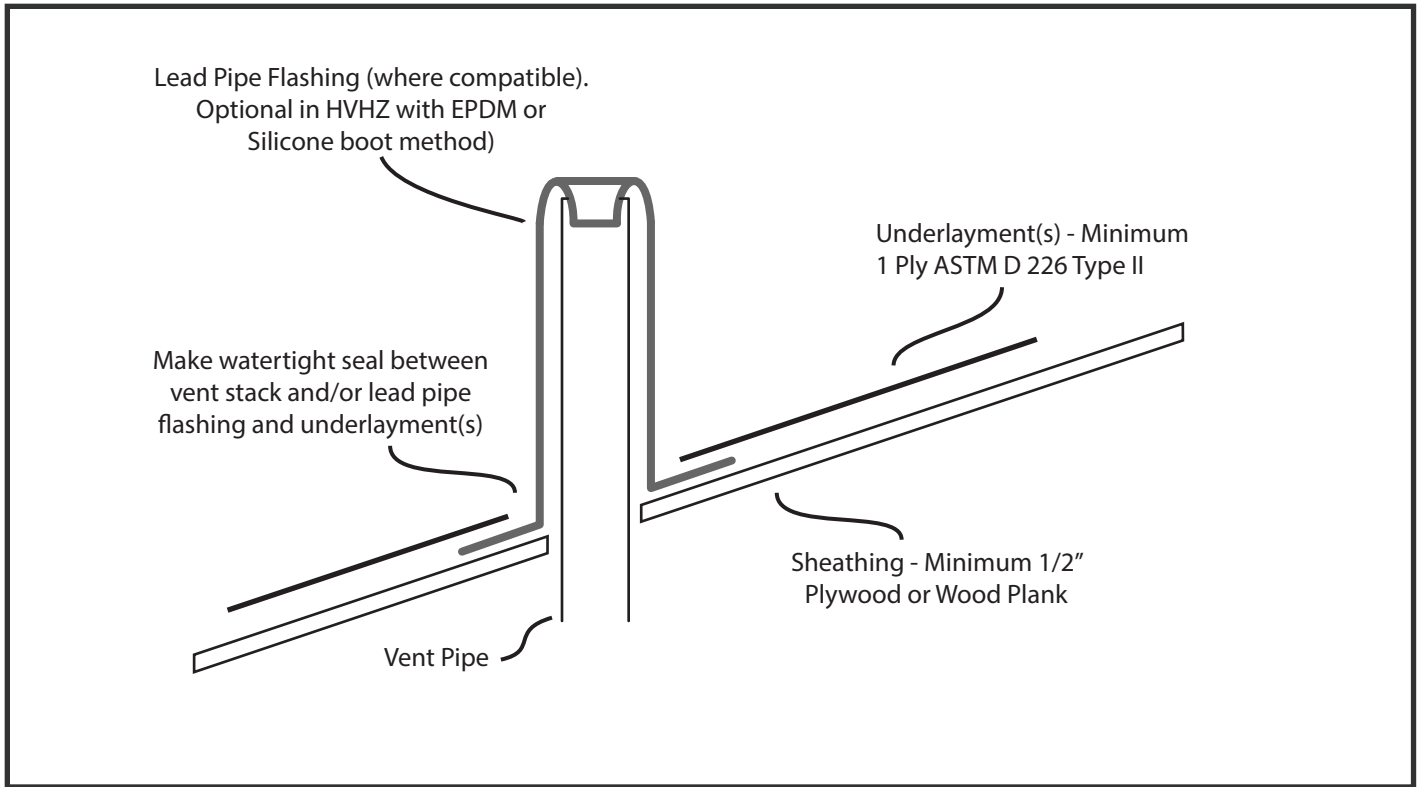


Staggering the individual tiles allows for a cleaner install and a break-up of the vertical seams created by stacking the tiles up-slope. There is no particular pattern to follow, it is up to installer preference.

You may increase the overlap for aesthetics or site conditions, from standard 1.75" up to 4", but be sure to adjust the location of the exposed fastener to always penetrate the screw block on the tile beneath, as shown in pages 4 and 6 of this manual.

drawings not to scale

# Ekorooftile Roof Penetration Detail



## EPDM or Silicone Pipe Boot Method

**Note: This Method for use within HVHZ**

Also note: This method is to be used with gas vents, goosenecks, roof jacks, APV vents, or other types of vent stack penetrations through roof deck and Ekorooftile covering, also including Solar Power Panel or other equipment rack or attachment penetrations. For ease of installation, all non-round penetrations should be substituted with equivalent and approved round pipes when possible, provided flow or function are not affected.

Lead Flashing Optional when using Silicone or EPDM Boot

Hose clamp, if required by boot manufacturer

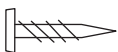
EPDM or Silicone Vent Pipe Flashing

Sealant

Ekorooftile

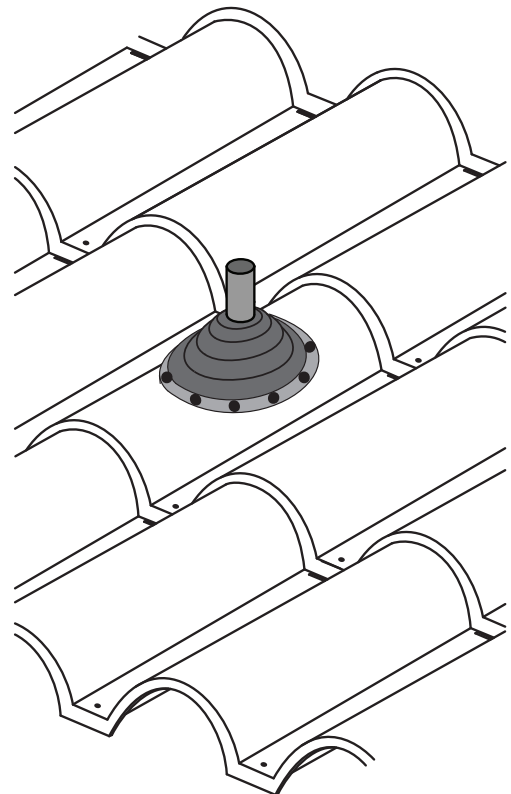
Do not penetrate underlayment(s) or sheathing. If penetrating deck cannot be avoided due to vent location, such as in a low point of tile, use 2" main Ekorooft fastener, color-matched for aesthetics.

Fastener is 1" #10-13 Corrosion Resistant & Approved Screw with 1/4" Hex or Concealor/Pancake Head, color-matched to tile for aesthetics.



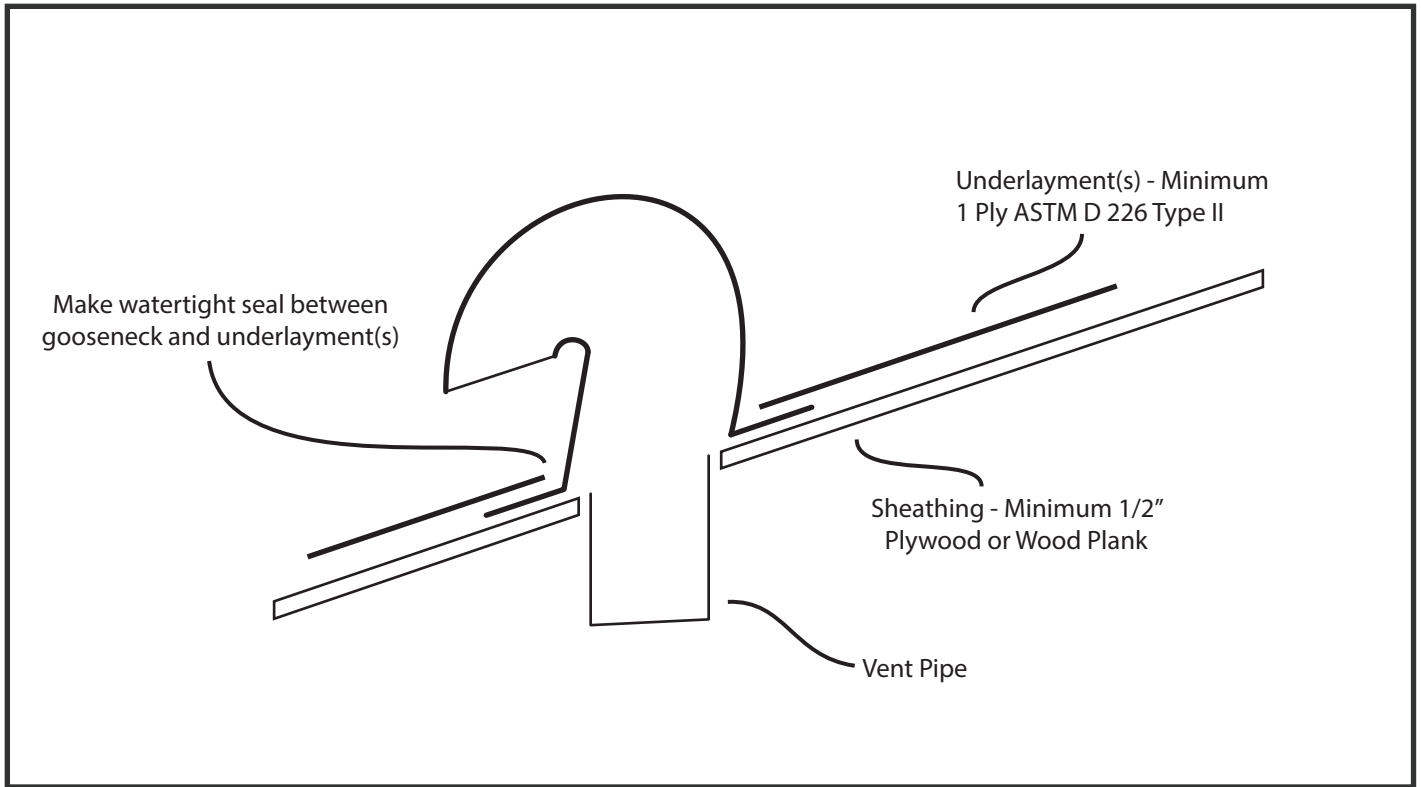
Apply a full bead of sealant at joint of boot flashing with lead pipe flashing & joint with Ekorooftile. Sealant type is Ekorooft Vent Pipe Flashing Sealant, NPC Sealants Solar Seal 900® or equivalent.

Boot base fasteners shall be applied 4" O.C.



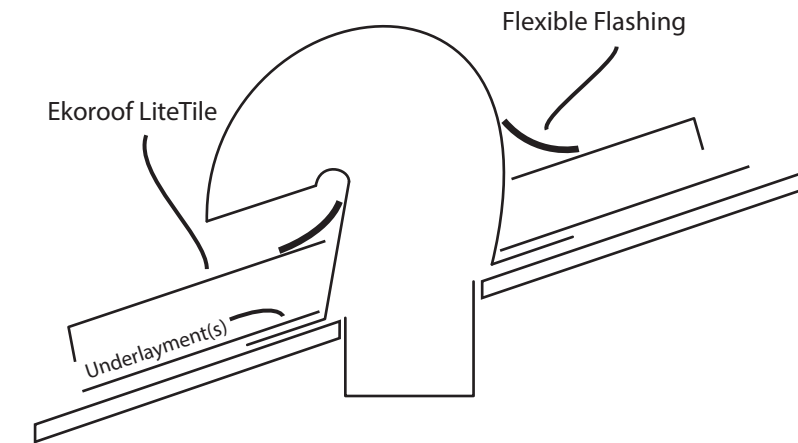
drawings not to scale

# Ekorooftile Gooseneck Penetration Detail



## Flexible Flashing Method

Note: This Method for use within HVHZ  
 Also note: This method is to be used with rectangular penetrations such as skylights and vents.



Recommended flexible flashing brand is DEKS® brand KwikFlash® with aluminum mesh

Do not penetrate underlayment(s) or sheathing. If penetrating deck cannot be avoided due to vent location, such as in a low point of tile, use 2" main Ekorooftile fastener, color-matched for aesthetics.

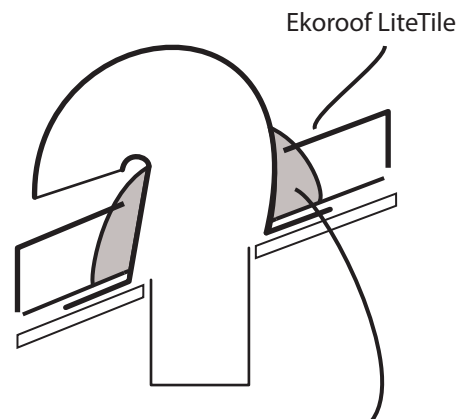
Fastener is 1" #10-13 Corrosion Resistant & Approved Screw with 1/4" Hex or Concealor/Pancake Head, color-matched to tile for aesthetics.



Ensure Ekorooftile is dry and clean of oils, dust and dirt and apply the self-adhered flashing beginning down-slope and overlapping as needed, up-slope in shingle fashion. Ensure flashing extends 4" away from the base of the penetration and at least 2" vertically on the item to be flashed. Fasten perimeter with a 1" wide aluminum termination bar fastened every 6" O.C.

## Mortar Method

Note: Not approved for HVHZ



Fully seal gooseneck to Ekorooftile using Roofing Mortar color-matched to tile for aesthetics

drawings not to scale

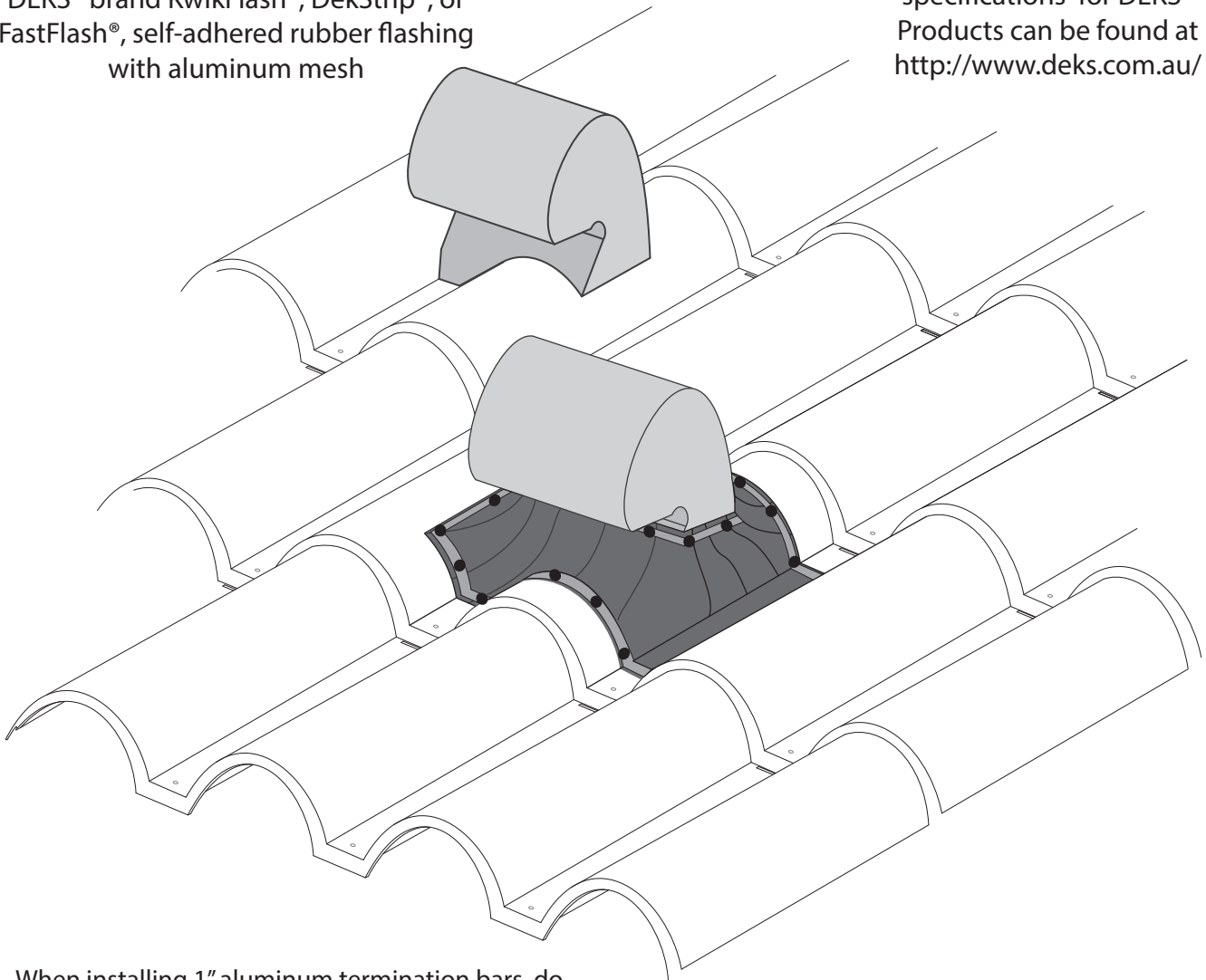
# Ekorooftile Gooseneck Penetration Detail

## Flexible Flashing Method

Note: This Method for use within HVHZ  
Also note: This method is to be used with rectangular penetrations such as skylights and vents.

Recommended flexible flashing is DEKS® brand KwikFlash®, DekStrip®, or FastFlash®, self-adhered rubber flashing with aluminum mesh

Instructions, details, and specifications for DEKS® Products can be found at <http://www.deks.com.au/>



When installing 1" aluminum termination bars, do not penetrate underlayment(s) or sheathing.  
If penetrating deck cannot be avoided due to vent location, such as in a low point of tile, use 2" main Ekorooft fastener, color- matched for aesthetics.

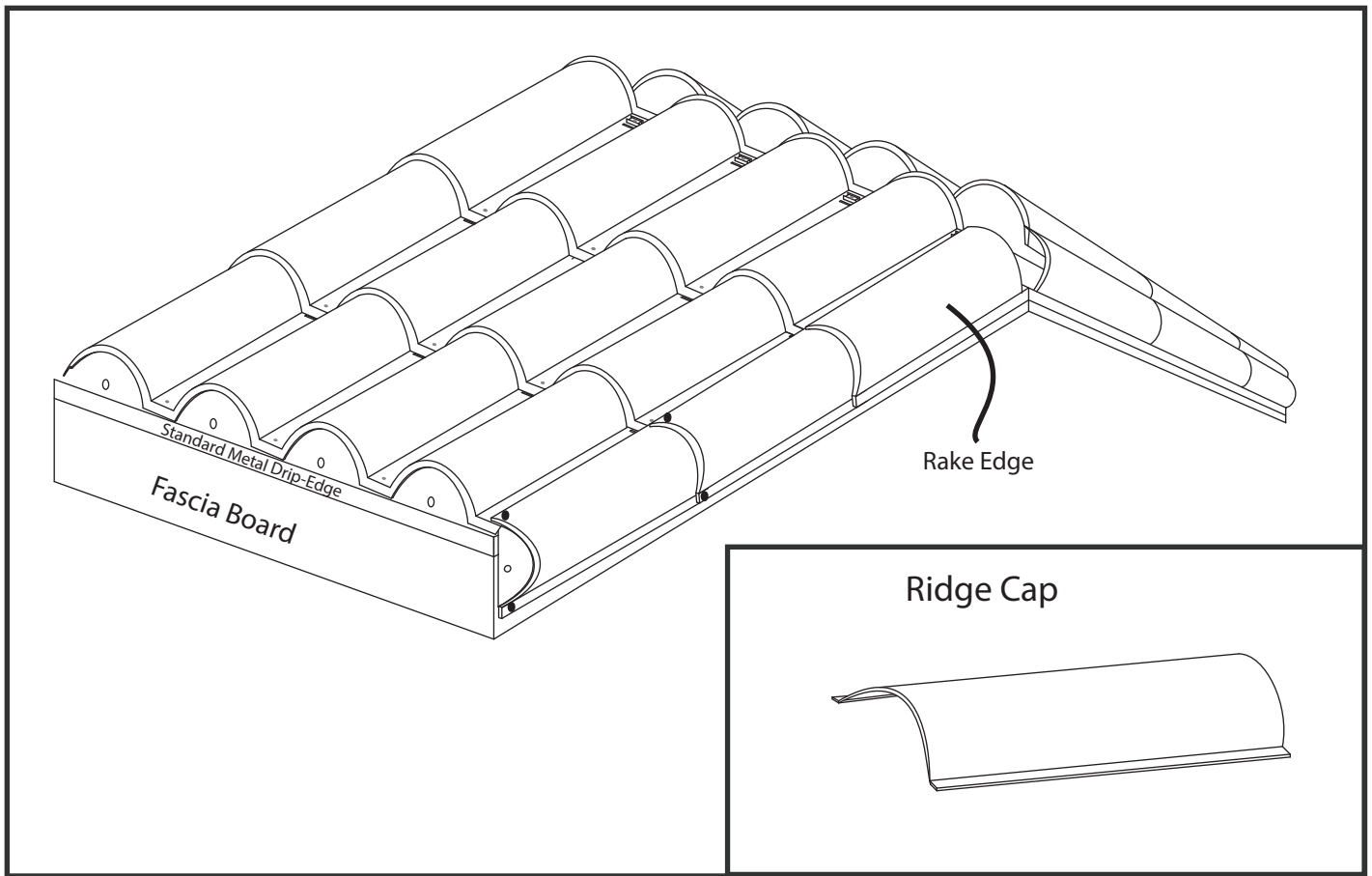
Fastener is 1" #10-13 Corrosion Resistant & Approved Screw with 1/4" Hex or Concealor/Pancake Head, color-matched to tile for aesthetics.



Ensure Ekorooftile is dry and clean of oils, dust and dirt and apply the self-adhered flashing beginning down-slope and overlapping as needed, up-slope in shingle fashion. Ensure flashing extends 4" away from the base of the penetration and at least 2" vertically on the item to be flashed. Fasten perimeter with a 1" wide aluminum termination bar fastened every 6" O.C.

drawings not to scale

# Ekoroof Tile Ridge Installation Detail - Mortar Method

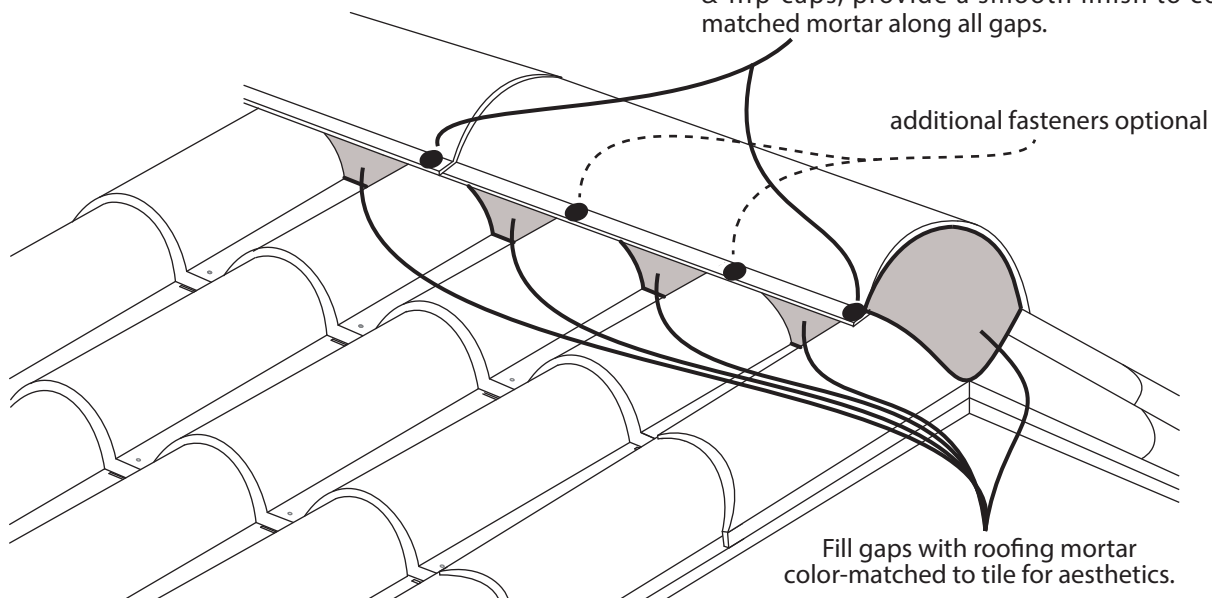


Ridge Fastener is #10 wood point, Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, 1 1/2" long, attaching the ridge to the tile, color-matched for aesthetics.

Concealor / Pancake Head  

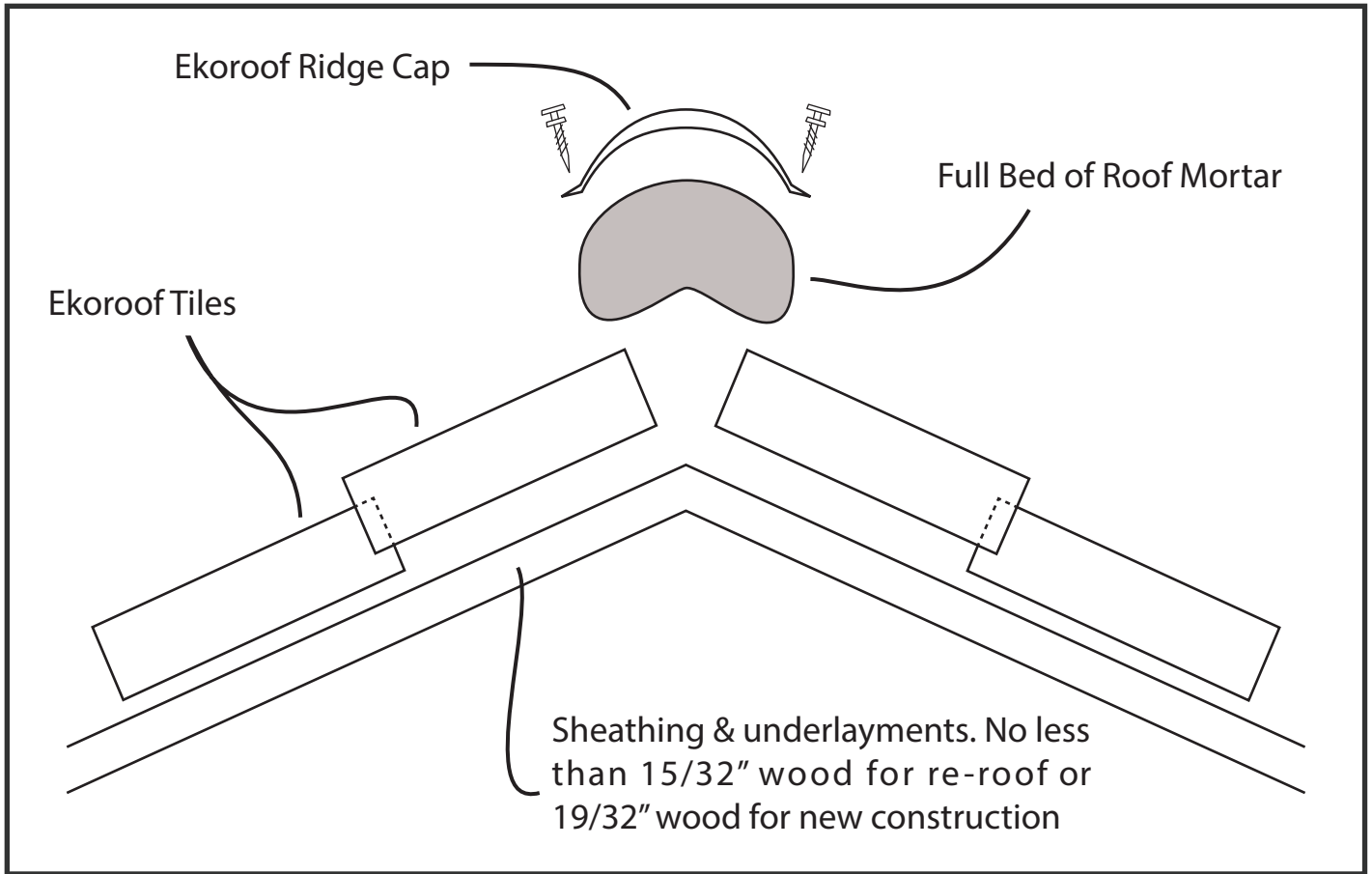

1/4" Hex Drive  


Apply a full bed of mortar at the ridge & hip junctions then attach the caps to the tiles as specified in the diagram. Each ridge cap is fastened at all corners with at least one fastener as shown. Additional fasteners may be used at each contact point with tile, if desired. After fastening ridge & hip caps, provide a smooth finish to color-matched mortar along all gaps.



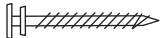
drawings not to scale

# Ekorooftile Ridge Installation Detail - Mortar Method Cont.

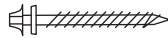


Ridge Fastener is #10 wood point, Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, 1 1/2" long, attaching the ridge to the tile, color-matched for aesthetics.

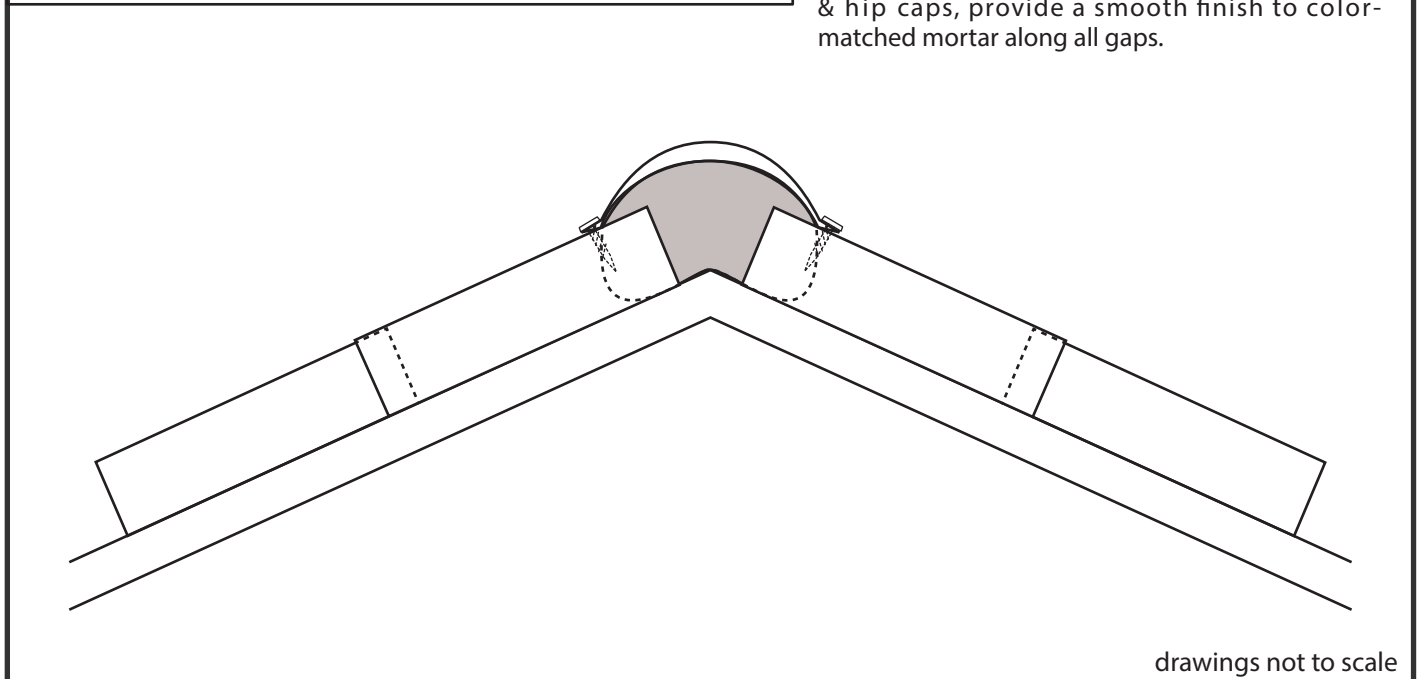
Concealor / Pancake Head



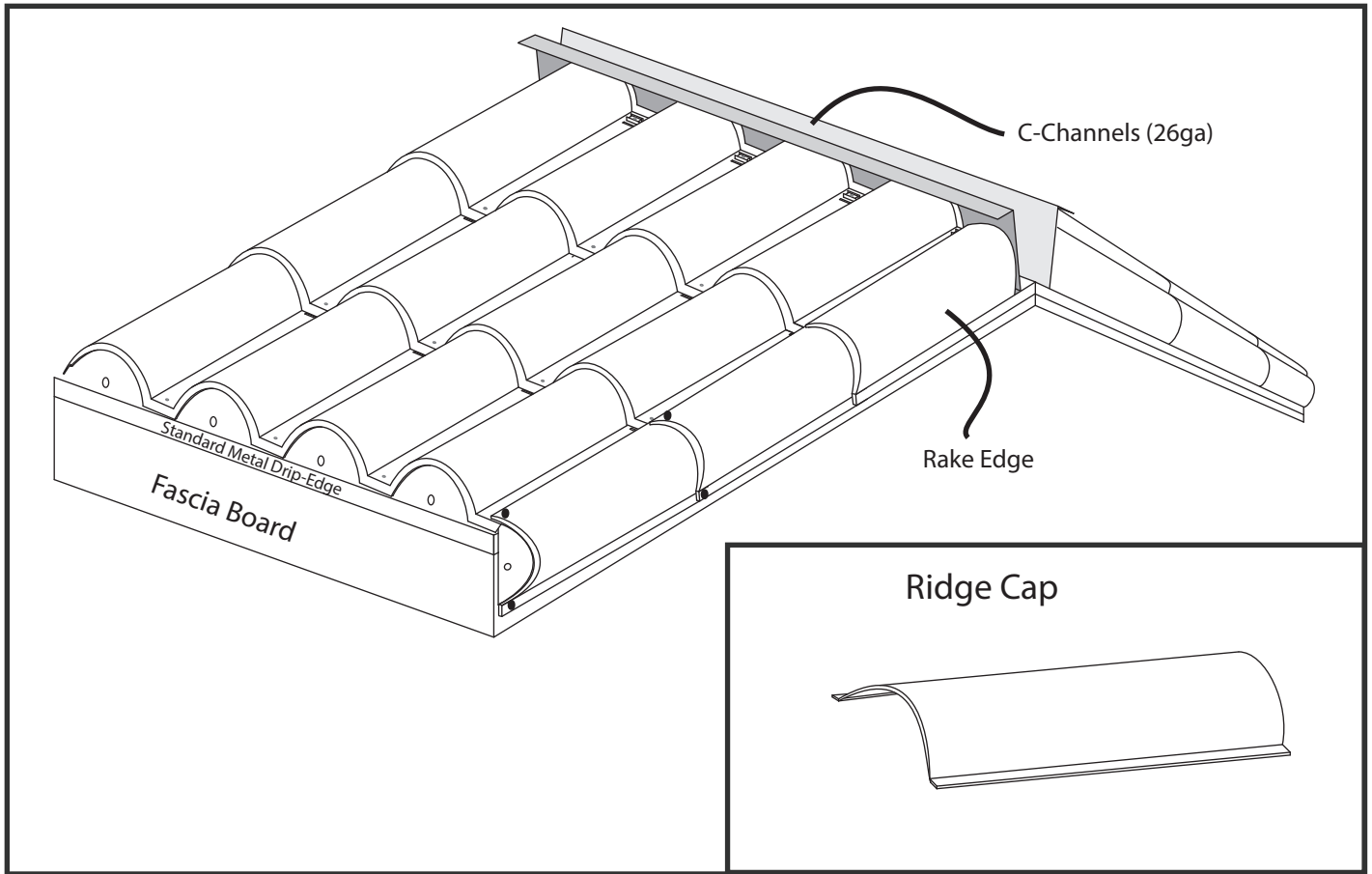
1/4" Hex Drive



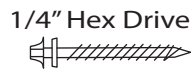
Apply a full bed of mortar at the ridge & hip junctions then attach the caps to the tiles as specified in the diagram. Each ridge cap is fastened at all corners with at least one fastener as shown. Additional fasteners may be used at each contact point with tile, if desired. After fastening ridge & hip caps, provide a smooth finish to color-matched mortar along all gaps.



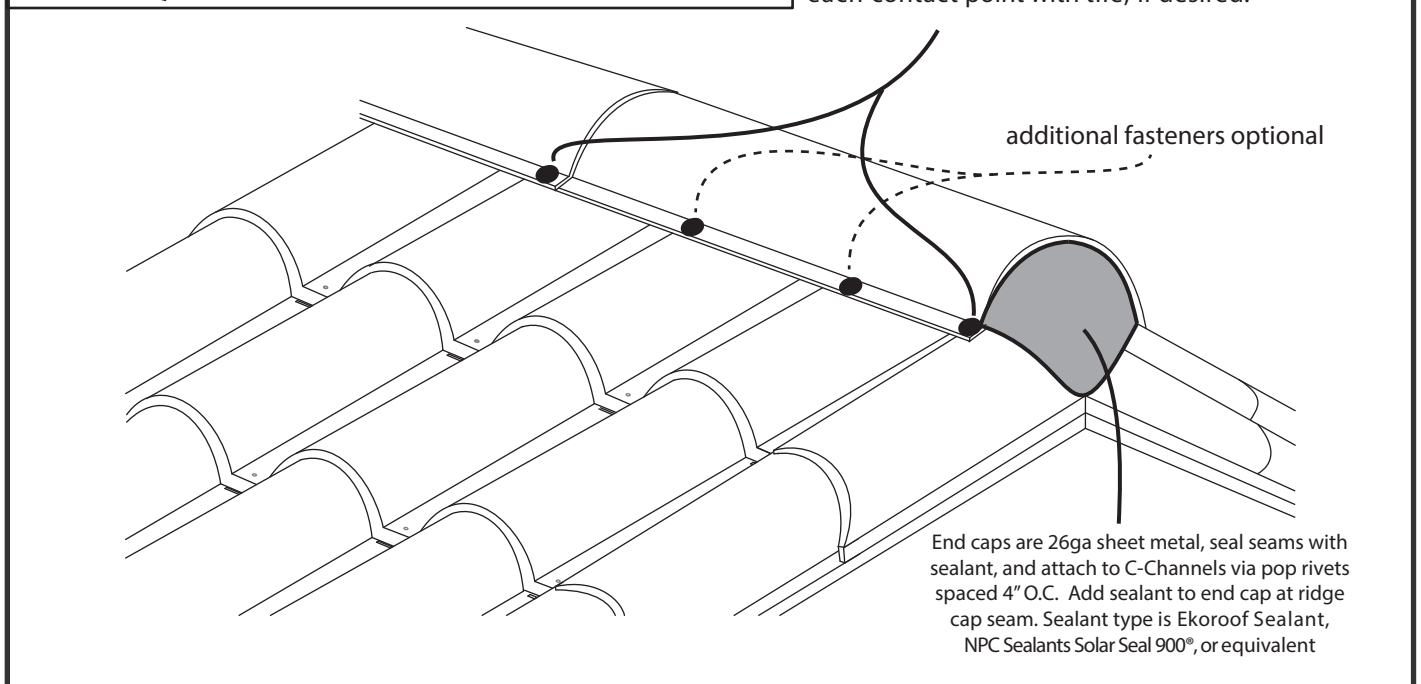
# Ekorooftile Ridge Installation Detail - C-Channel Method



Ridge Fastener is #10 wood point, Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, 1 1/2" long, attaching the ridge to the tile, color-matched for aesthetics.

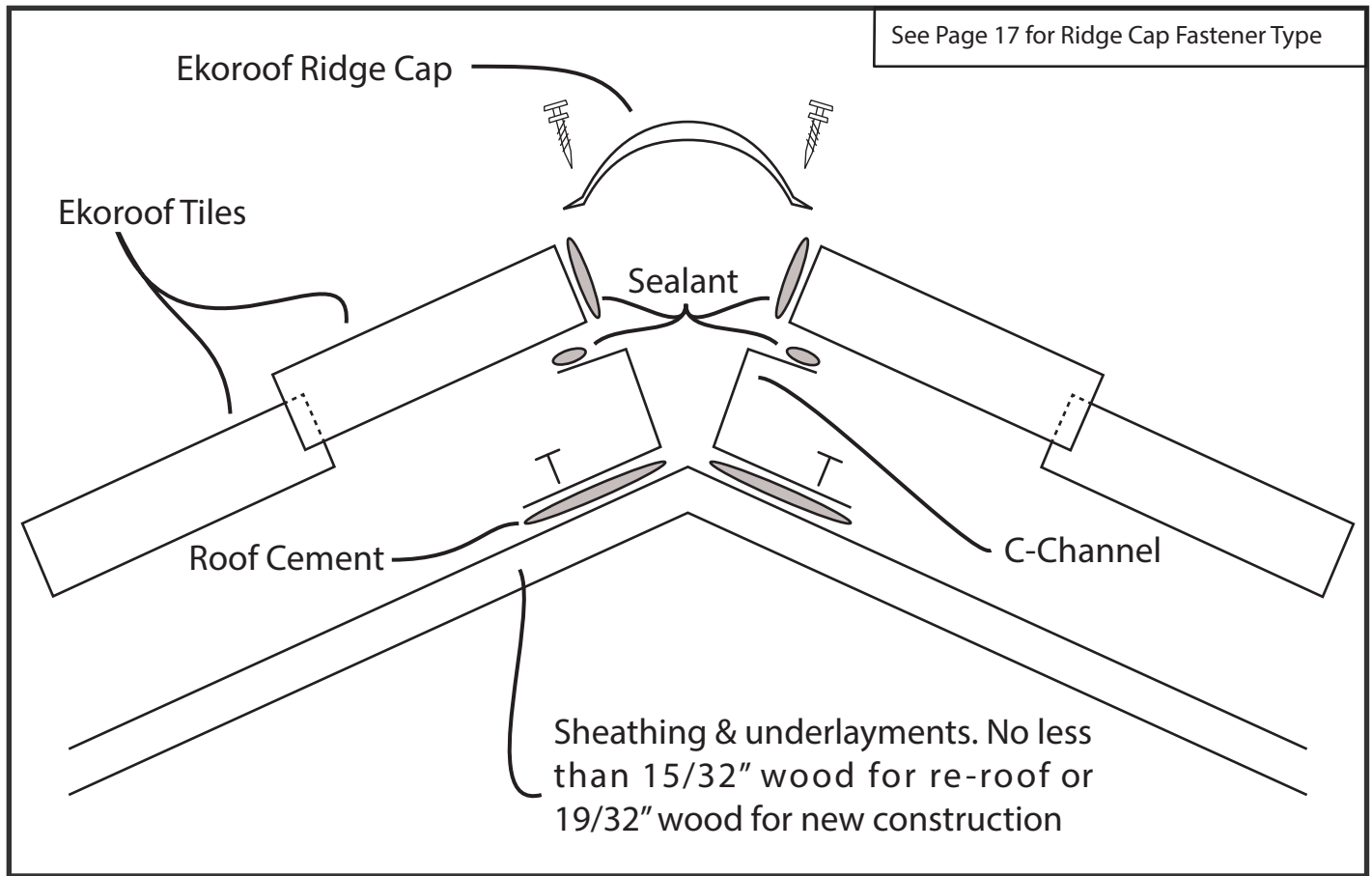


Install C-Channels at the top of the ridge, then fasten Ekorooftile panels abutting the inner part of the channel. Ekorooftile tiles may be cut to fit. Fasten ridge cap by penetrating through top lip of C-Channel. Additional fasteners may be used at each contact point with tile, if desired.



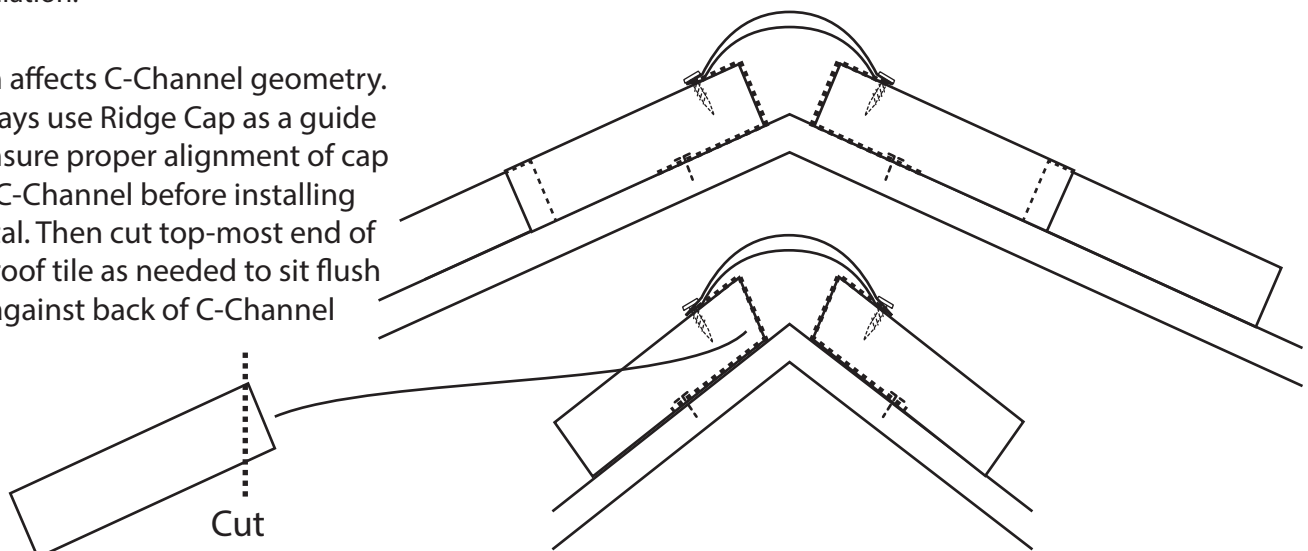


# Ekorooftile Ridge Installation Detail - C-Channel Method Cont.



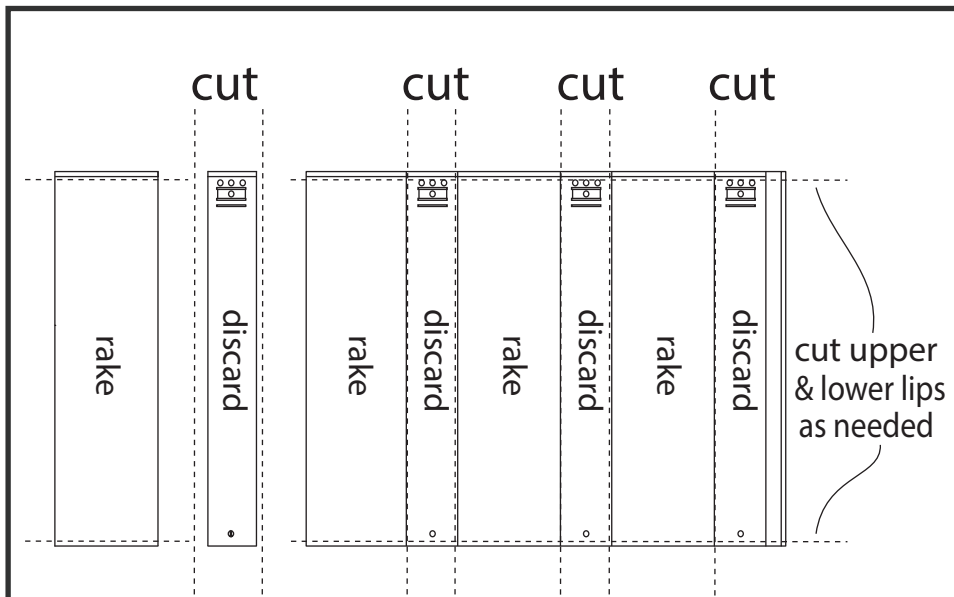
Apply roofing cement to bottom of C-Channels and mark the necessary spacing by using the Ekorooftile Ridge Cap as a guide, then permanently install at the top of the ridge by fastening at lower edge every 4" O.C. with approved 1 1/4" RS Roofing Nails. Fasten Ekorooftile LiteTile panels abutting the inner part of the channel, and seal with sealant described below at the abutment point. Add a bead of sealant to the top lip of the C-Channel and fasten ridge cap by penetrating through top lip of C-Channel and high point of Ekorooftile tile beneath it. Additional fasteners may be used at each contact point with tile, if desired. All C-Channel overlaps shall be 6" minimum, and sealed. Sealant type is Ekorooftile Sealant, NPC Sealants Solar Seal 900®, or equivalent. This detail also covers Hip installation.

Pitch affects C-Channel geometry. Always use Ridge Cap as a guide to ensure proper alignment of cap & C-Channel before installing metal. Then cut top-most end of Ekorooftile tile as needed to sit flush against back of C-Channel



drawings not to scale

# Ekorooftile Rake Forming and Installation Detail



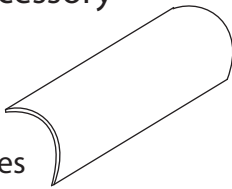
In following with Ekorooftile's vision of reducing waste, each rake accessory can be formed from our tiles.

Rather than discarding tiles that have been cut to fit the valleys, hips & details on your roof, they can be used to form rake accessories. This practice not only reduces the amount of material that you must order, but also cuts down on waste going to landfills.

Rakes are also available pre-made.

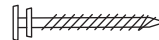
## Rake Accessory

Each tile will form four rake accessories

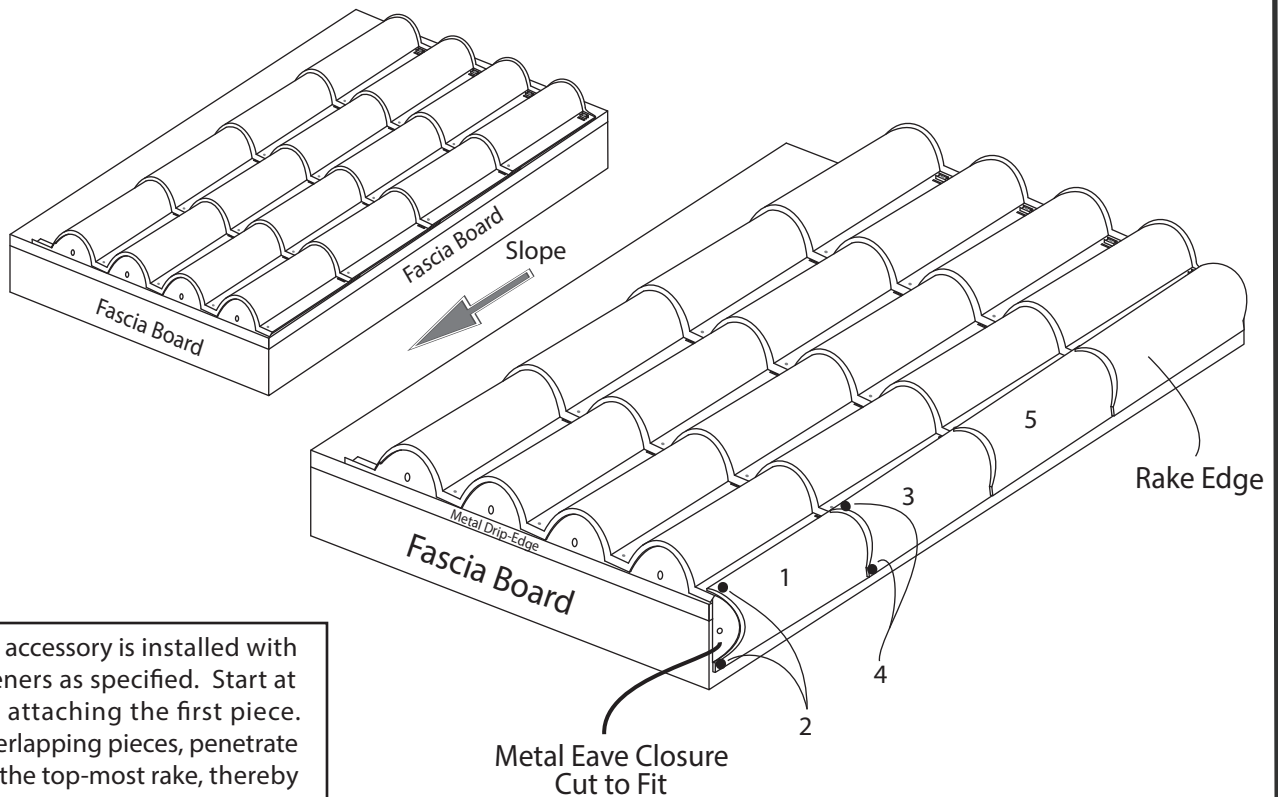
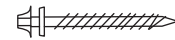


Rake Fastener is #10 2" wood point, Corrosion Resistant & Approved Screw with EPDM washer & Hex or Concealor head, 2" long, fastening the rake to the fascia. Screws should be color-matched to tile for aesthetics.

Concealor / Pancake Head



1/4" Hex Drive

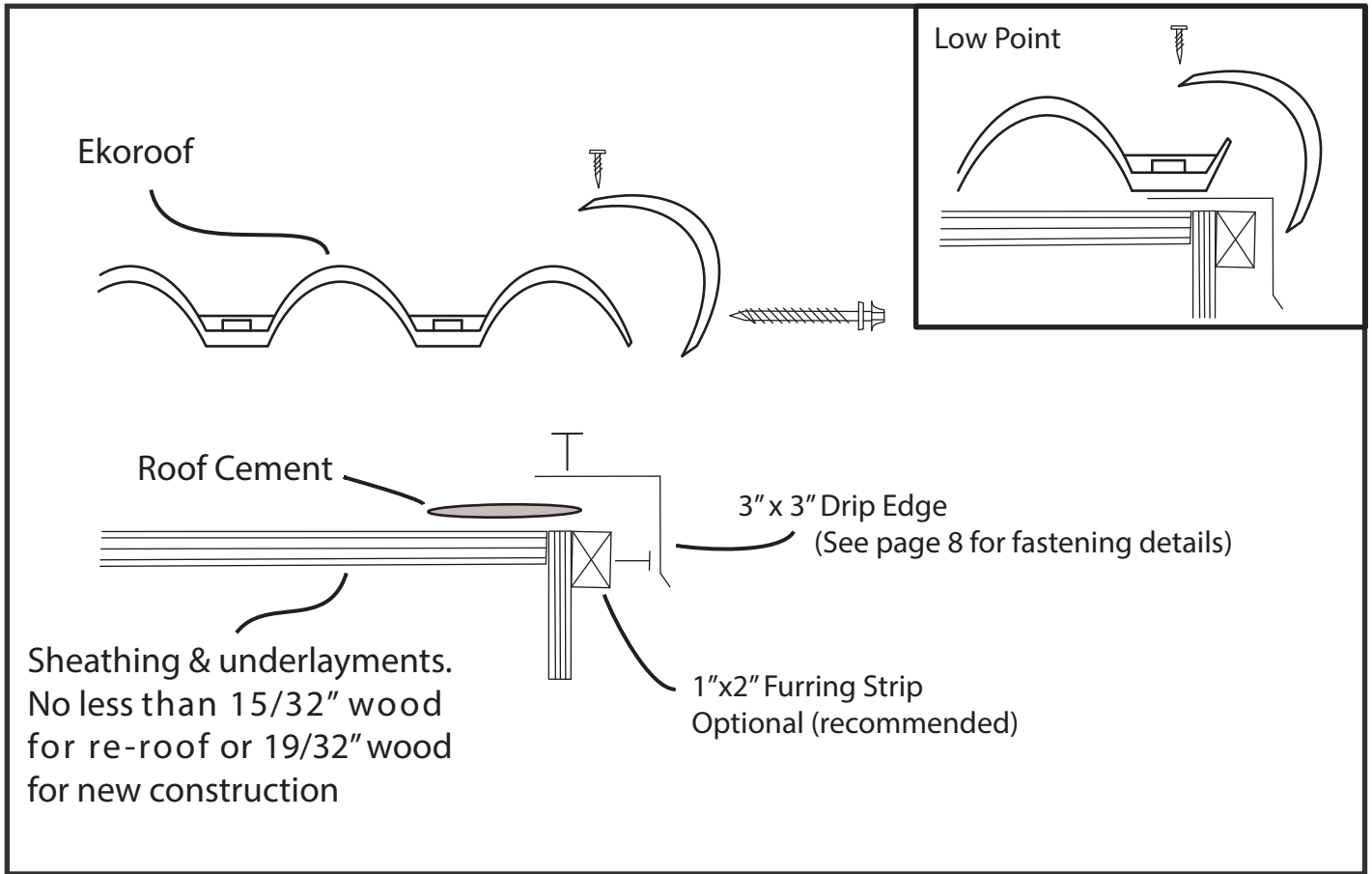


Each rake accessory is installed with four fasteners as specified. Start at the eave, attaching the first piece. When overlapping pieces, penetrate through the top-most rake, thereby attaching the piece beneath it.

Additional fasteners may be used, as needed.

drawings not to scale

# Ekorooftile Rake Installation Detail - Without C-Channel

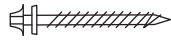


Rake Fastener for attaching the Rake to Ekorooftile or second Rake is #10-13 1" long wood point, Corrosion Resistant & Approved Screw. Rake fastener for attaching the rake to the fascia board is #10 2" long wood point Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, color-matched for aesthetics.

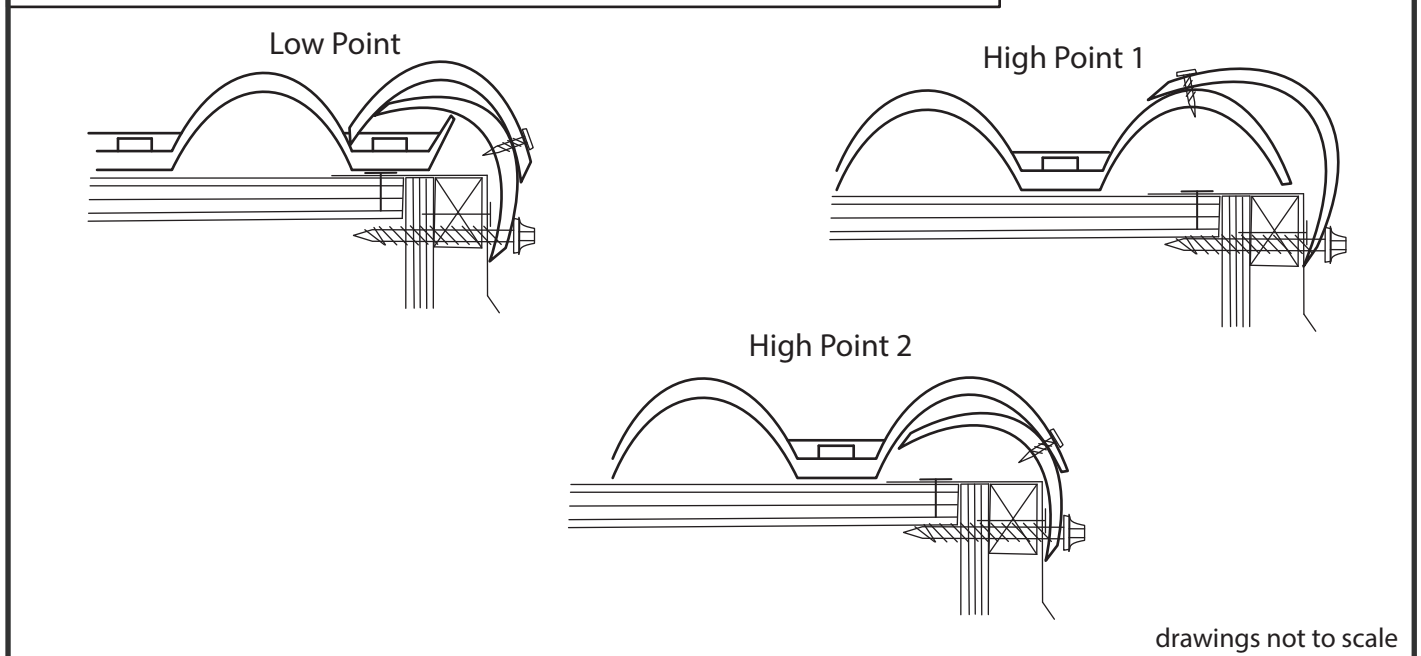
Concealor / Pancake Head



1/4" Hex Drive



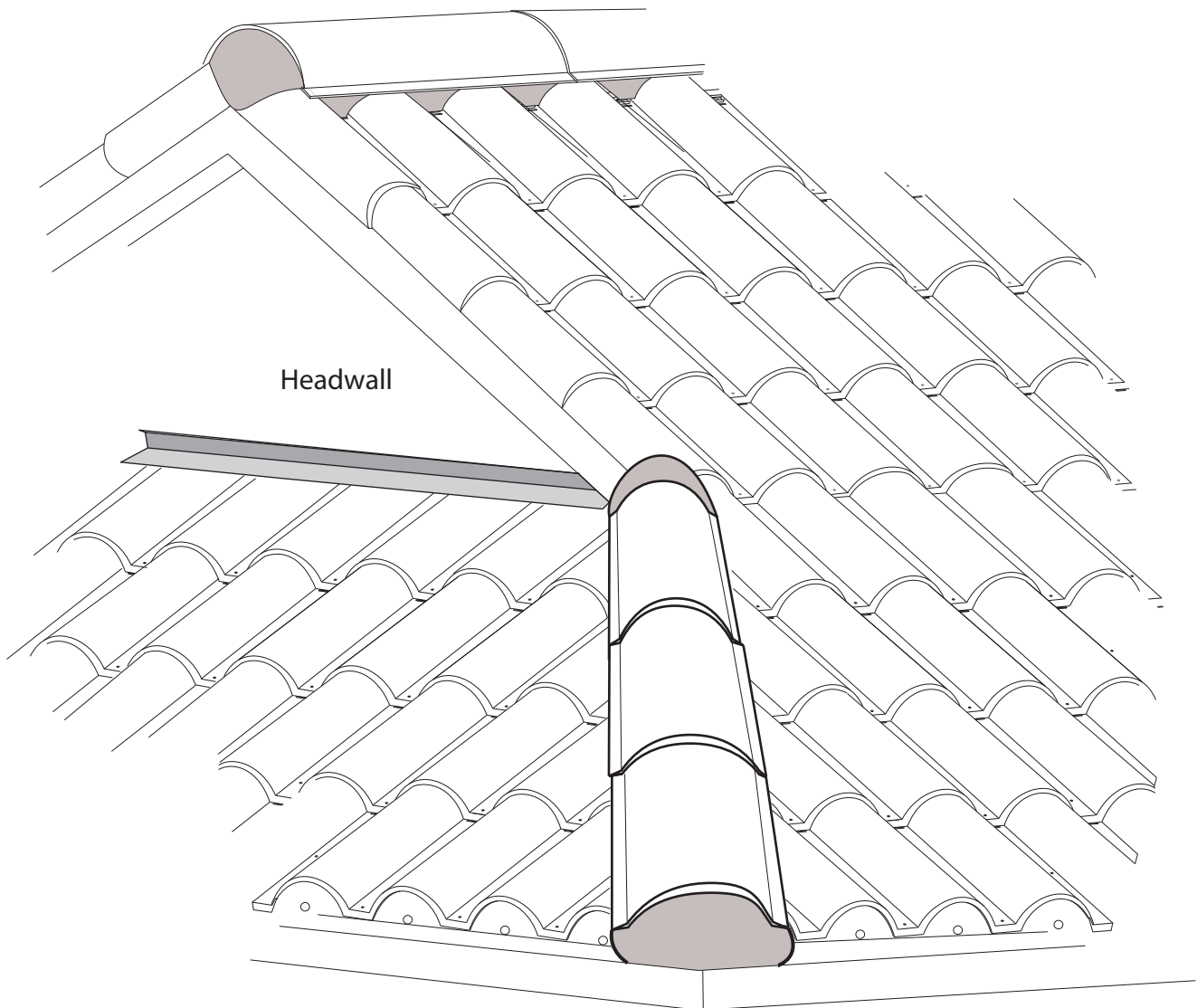
#10-13 x 1"



## Ekorooftile Rake to Hip Transition Detail

Begin the transition with a full bed of mortar, as specified in Pages 14 and 15 of this manual. Ensure that the ridge mortar covers at least 2" of the end piece of the last rake at the transition point between the rake and the beginning of the hip. Provide a smooth finish to the mortar at the lower edge of the hip, where it meets the eave.

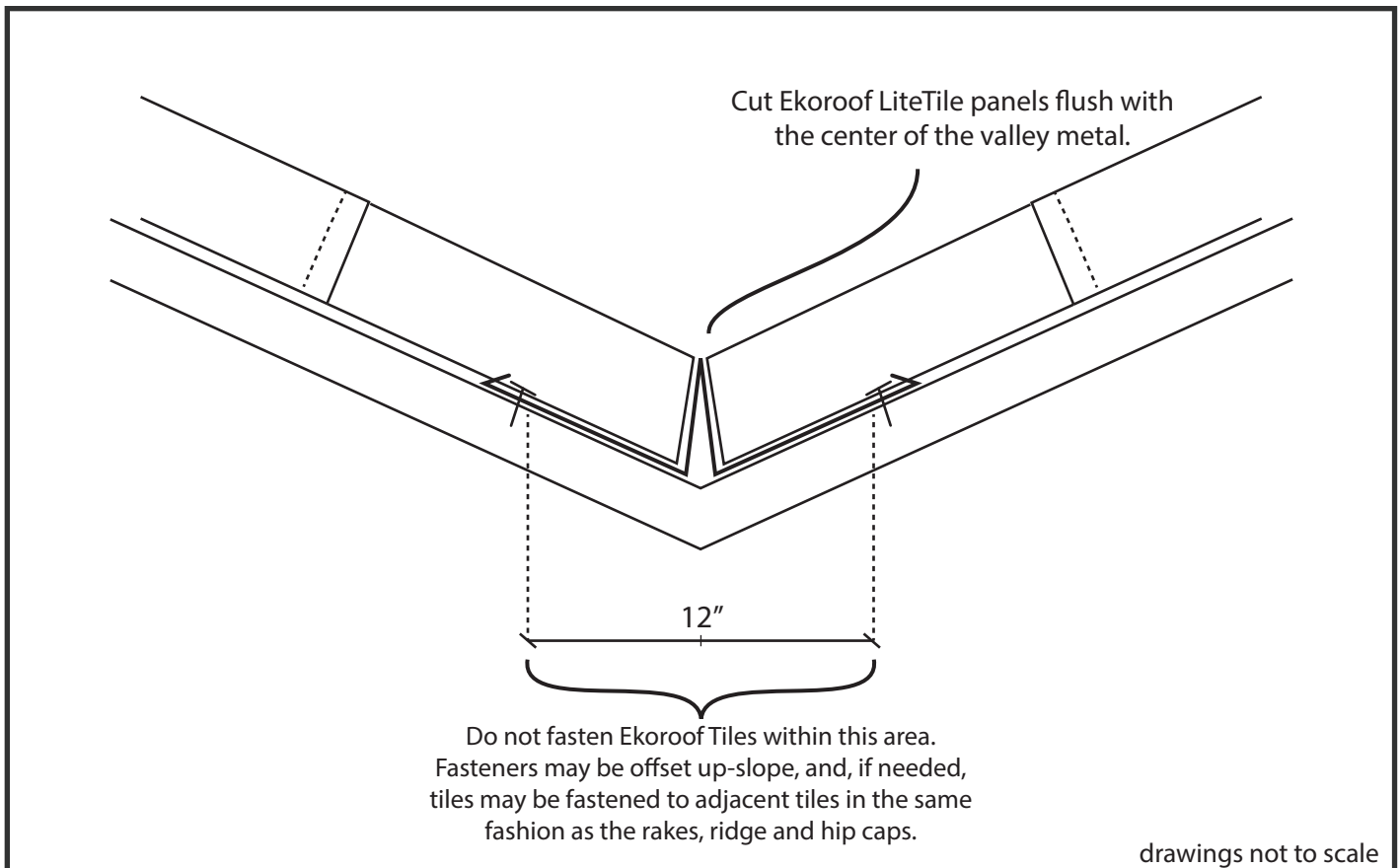
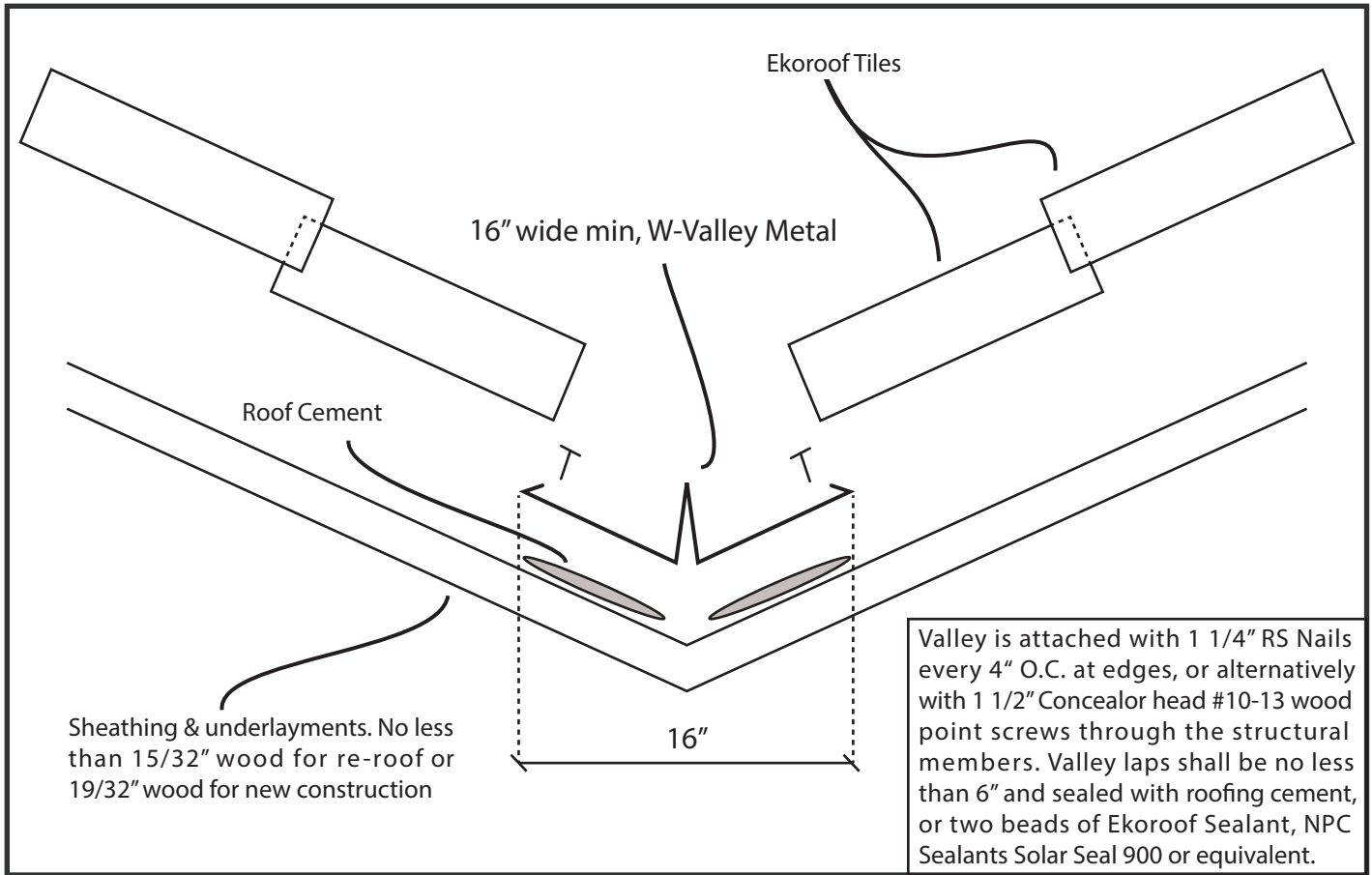
Mortar should be color-matched to tile for aesthetics.



Hip installation is the same as Ridge installation. See pages 14 through 16 of this manual for details and information on fastener size, type and location.

drawings not to scale

# Ekorooftile Valley Detail

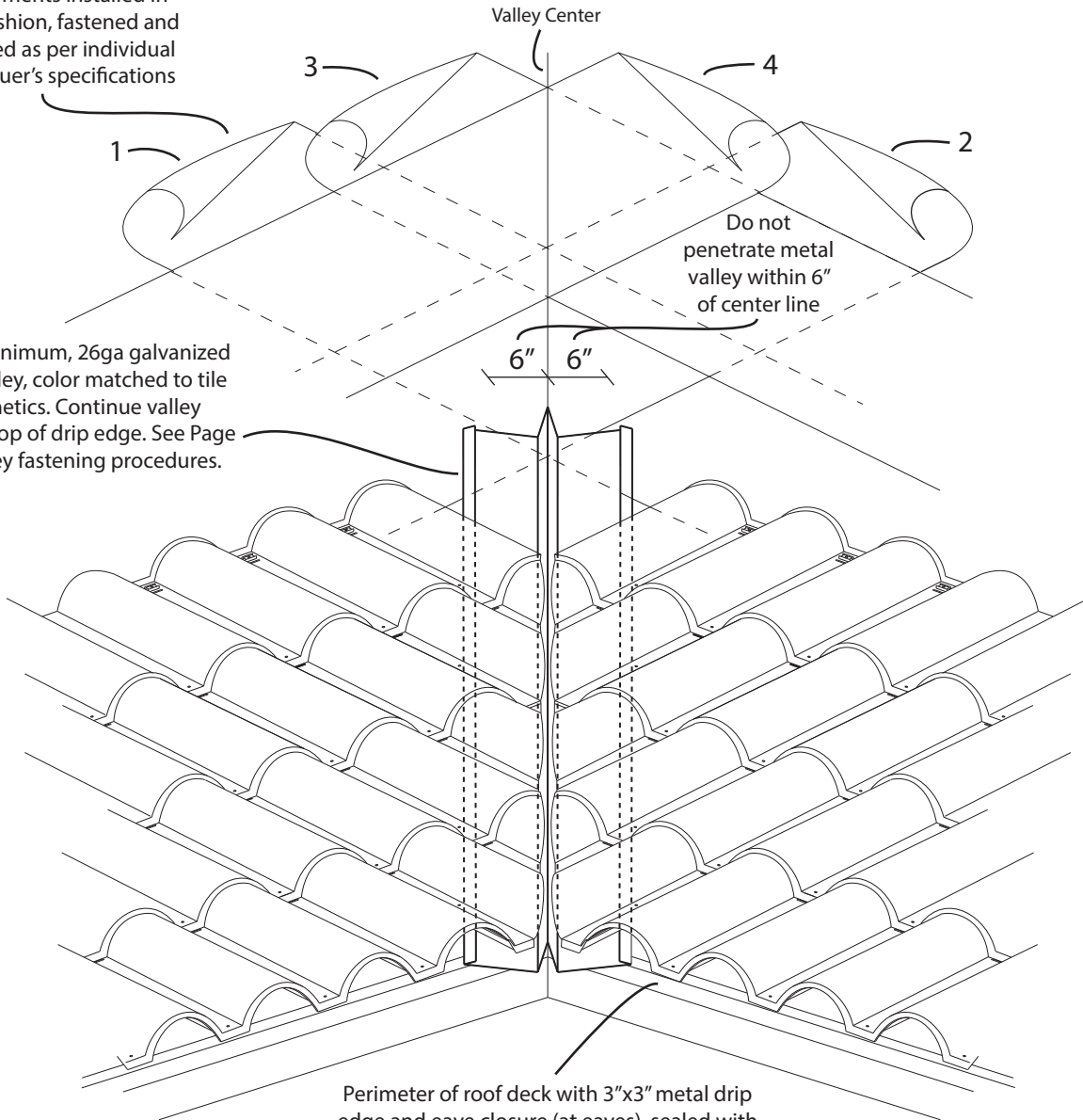


# Ekorooftile Valley Detail Continued

Minimum underlayment allowed for installation of Ekorooftile is one ply of ASTM D-226 Type II. It is recommended, but not required, that when installing Ekorooftile with only this minimum, an additional 36" wide, continuous layer of underlayment (ASTM D-226 Type II or Self-Adhered ASTM D-1970) be applied over the first ply of ASTM D-226 Type II, and under the valley metal, running the length of the valley. The same recommendation is made for the hips.

Underlayments installed in shingle fashion, fastened and overlapped as per individual manufacturer's specifications

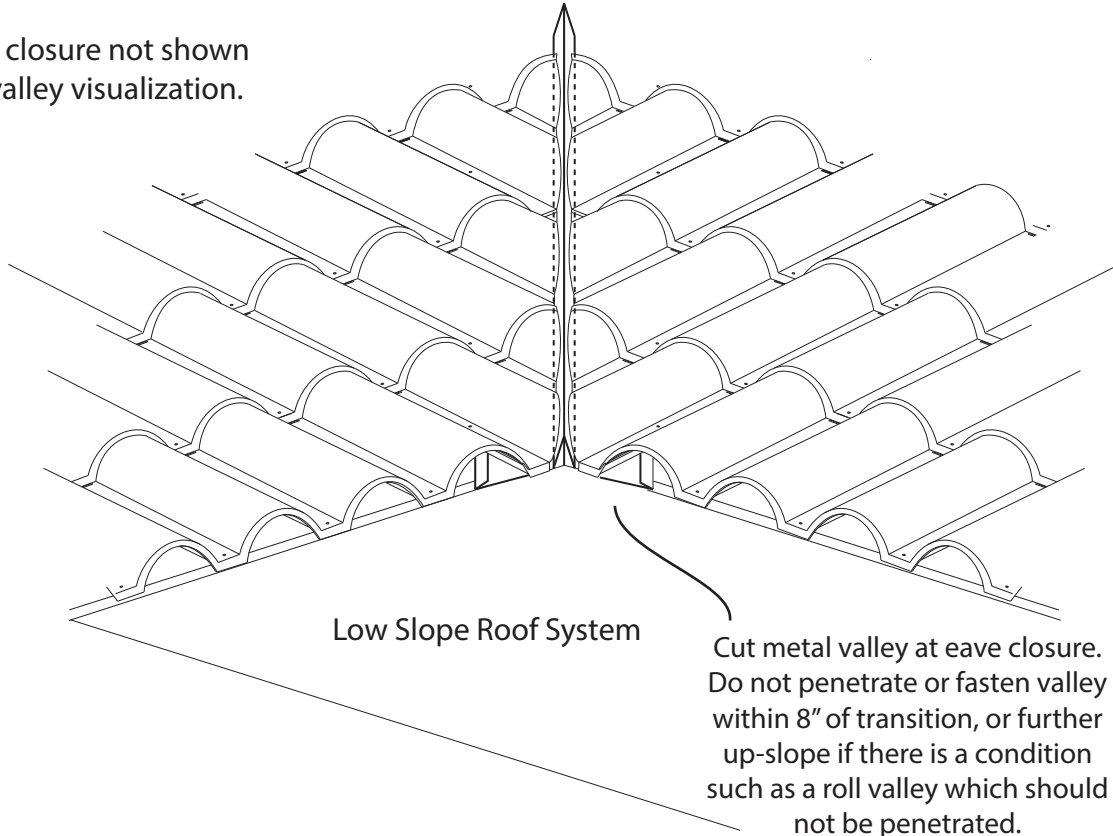
16" wide minimum, 26ga galvanized steel W-Valley, color matched to tile for aesthetics. Continue valley flashing to top of drip edge. See Page 18 for valley fastening procedures.



drawings not to scale

# Ekoroof Tile Valley Detail Continued

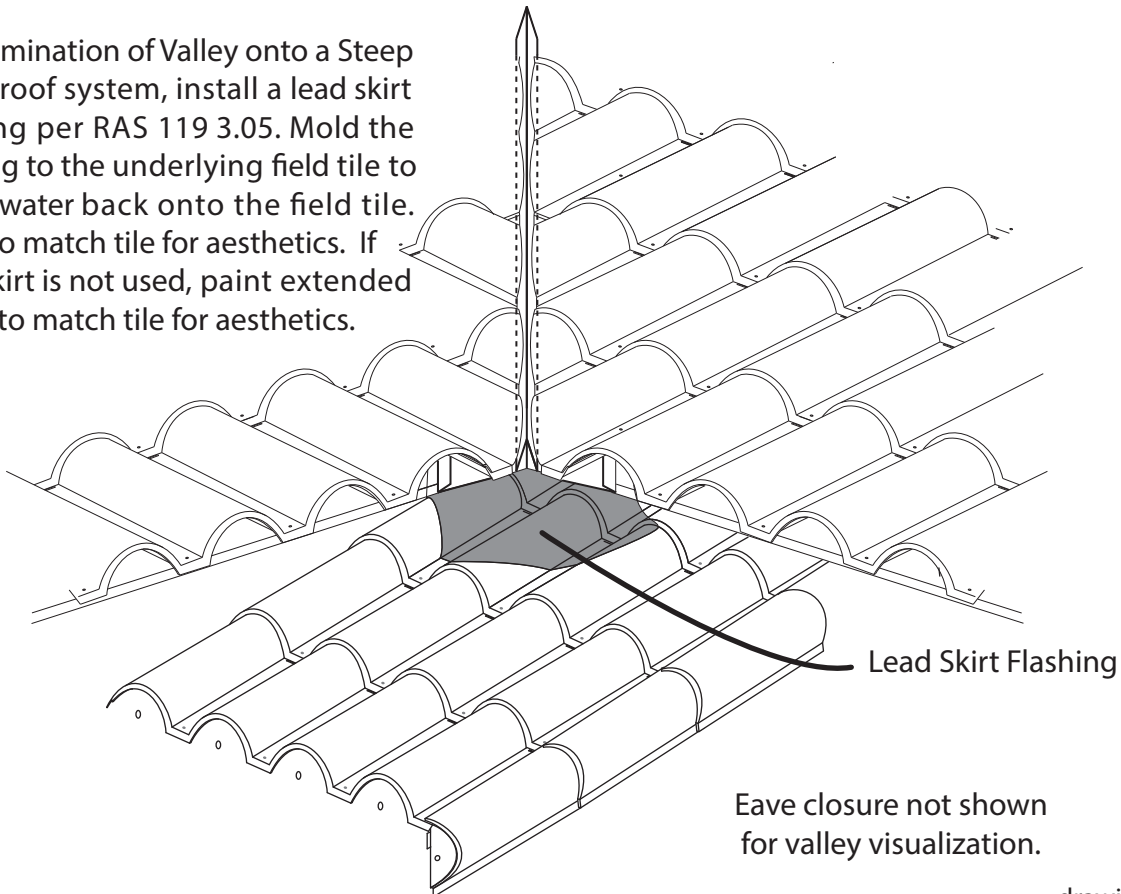
Eave closure not shown for valley visualization.



Low Slope Roof System

Cut metal valley at eave closure. Do not penetrate or fasten valley within 8" of transition, or further up-slope if there is a condition such as a roll valley which should not be penetrated.

For termination of Valley onto a Steep Slope roof system, install a lead skirt flashing per RAS 119 3.05. Mold the flashing to the underlying field tile to divert water back onto the field tile. Paint to match tile for aesthetics. If lead skirt is not used, paint extended valley to match tile for aesthetics.



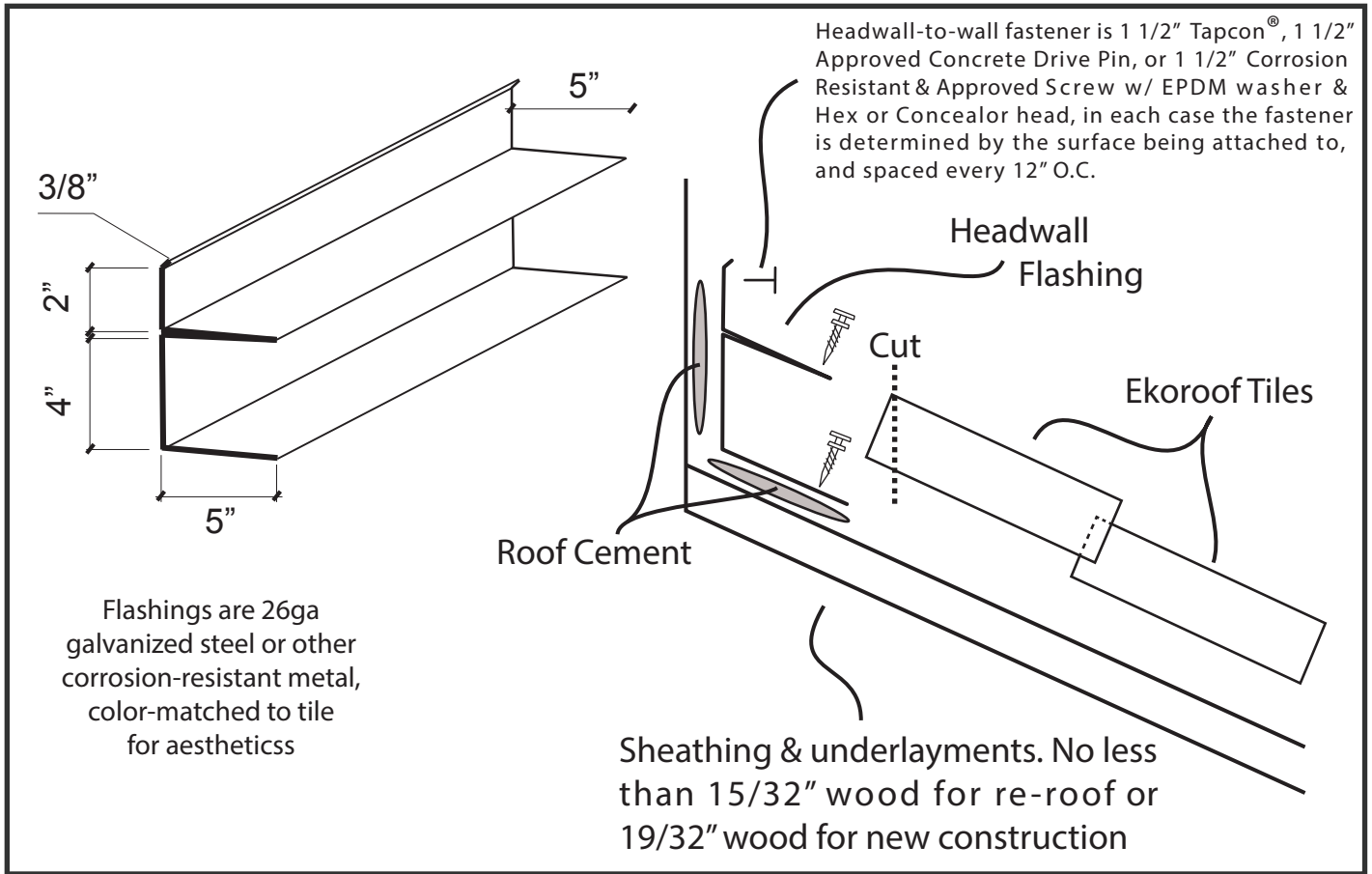
Lead Skirt Flashing

Eave closure not shown for valley visualization.

drawings not to scale



# Ekorooftile Headwall Flashing Installation Detail

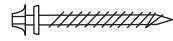


Headwall to Deck Fastener is #10, 1 1/2" wood point, Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, installed every 12" O.C. Headwall to Ekorooftile fastener is same type, but color-matched for aesthetics.

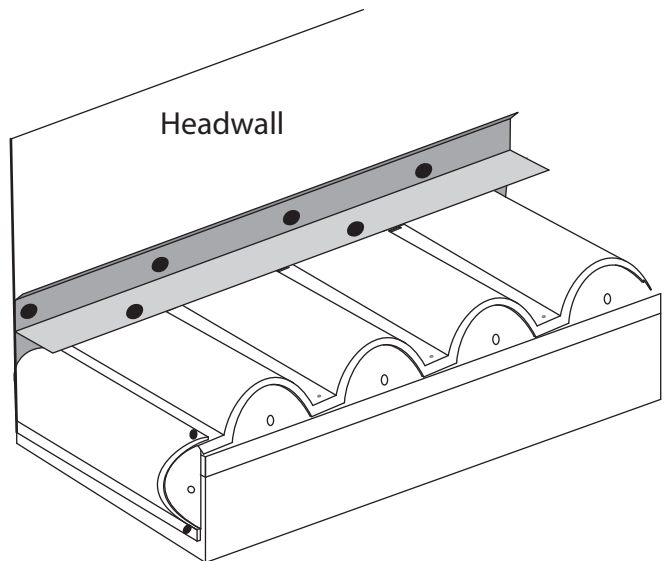
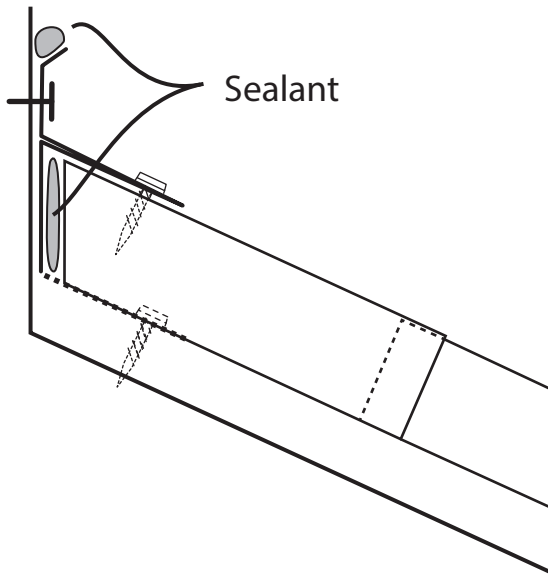
Concealor / Pancake Head



1/4" Hex Drive



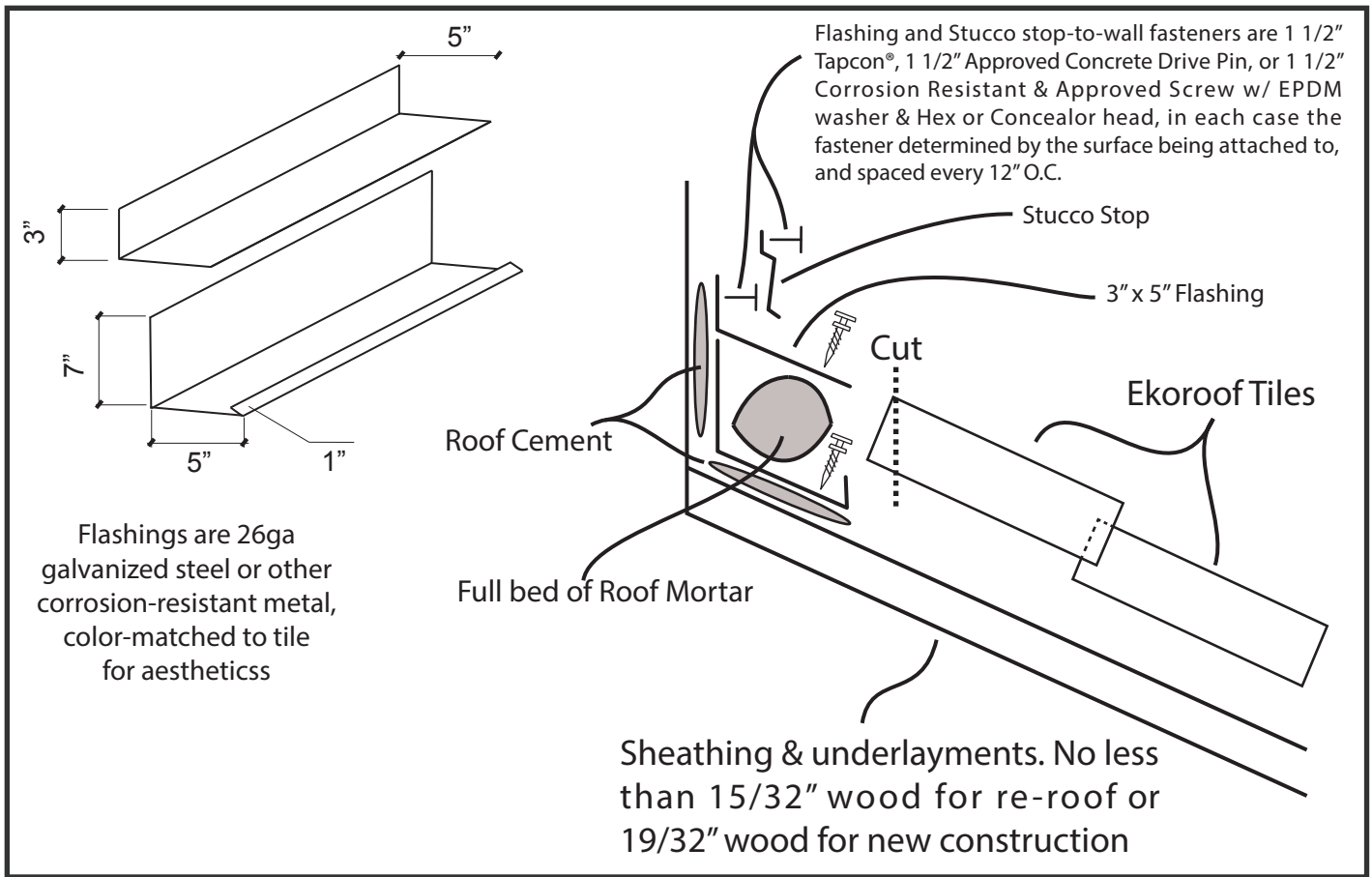
Install Headwall Flashing to the wall as specified, then fasten Ekorooftile panels abutting the inner part of the flashing. Seal Ekorooftiles to the back end of the headwall with Ekorooftile Sealant, NPC Sealants Solar Seal 900, or equivalent. Ekorooftiles may be cut to fit flush against the back end of the flashing. Fasten flashing to high point of Ekorooftiles every 20". Additional fasteners may be used at each contact point with tile, if desired.



drawings not to scale

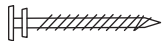


# Ekorooftile Headwall Flashing Installation Detail

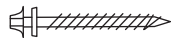


Headwall to Deck Fastener is #10, 1 1/2" wood point, Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, installed every 12" O.C. Headwall to Ekorooftile fastener is same type, but color-matched for aesthetics.

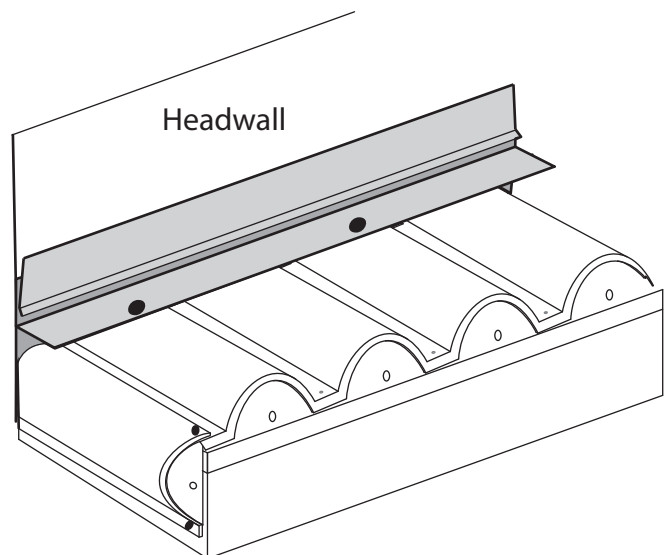
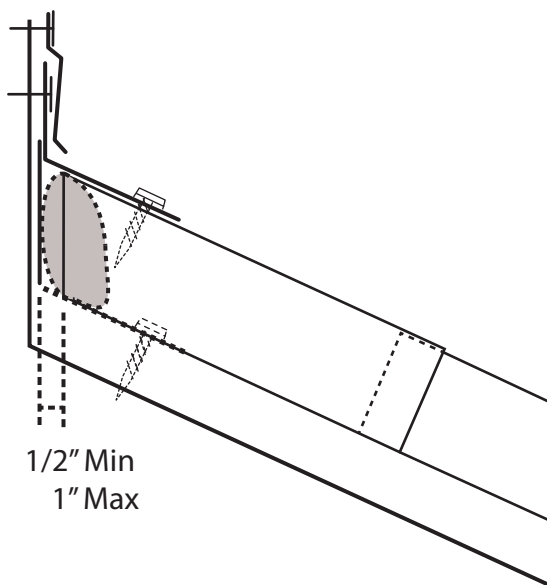
Concealor / Pancake Head



1/4" Hex Drive

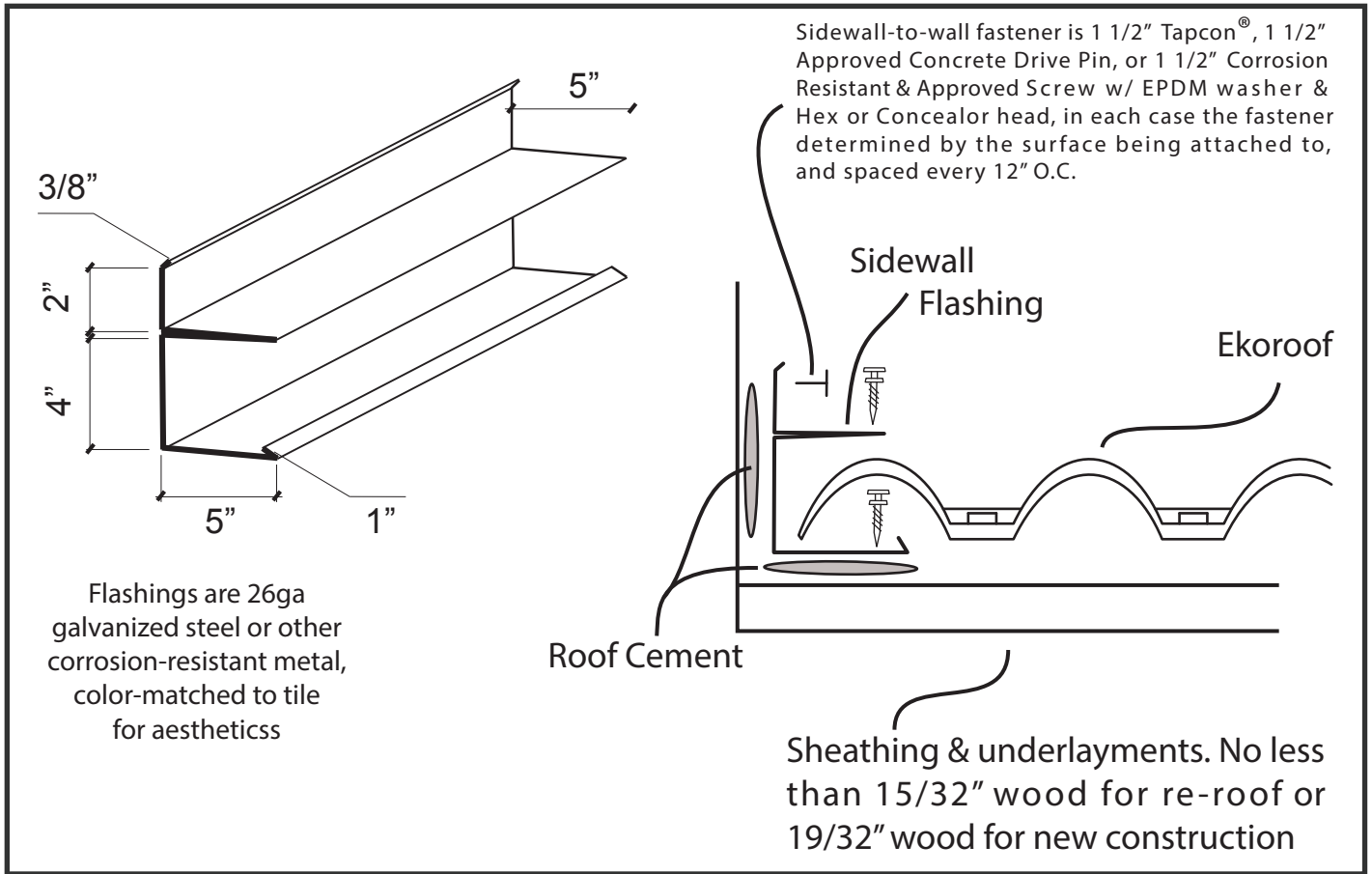


Install Flashings to the wall as specified, then apply a full bed of mortar to the junction of the deck and headwall, over the 5" x 7" flashing, and fasten Ekorooftile panels spaced at least 1/2", but not more than 1" away from the inner part of the flashing to allow the concrete bed to remain continuous. Fasten 5" x 7" flashing to high point of Ekorooftiles every 20". Additional fasteners may be used at each contact point with tile, if desired.



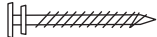
drawings not to scale

# Ekorooftile Sidewall Flashing Installation Detail

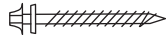


Sidewall to Deck Fastener is #10, 1 1/2" wood point, Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, installed every 12" O.C. Sidewall to Ekorooftile fastener is same type, but color-matched for aesthetics.

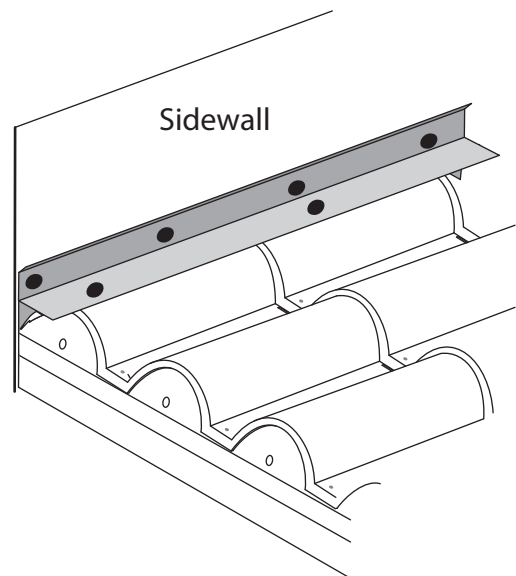
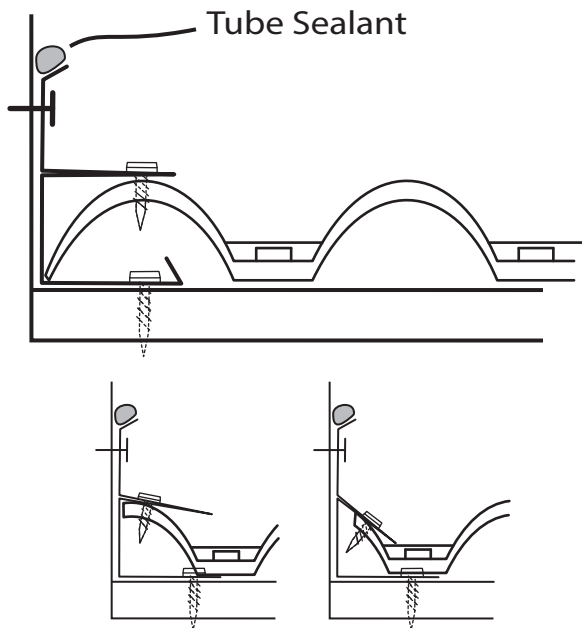
Concealor / Pancake Head



1/4" Hex Drive

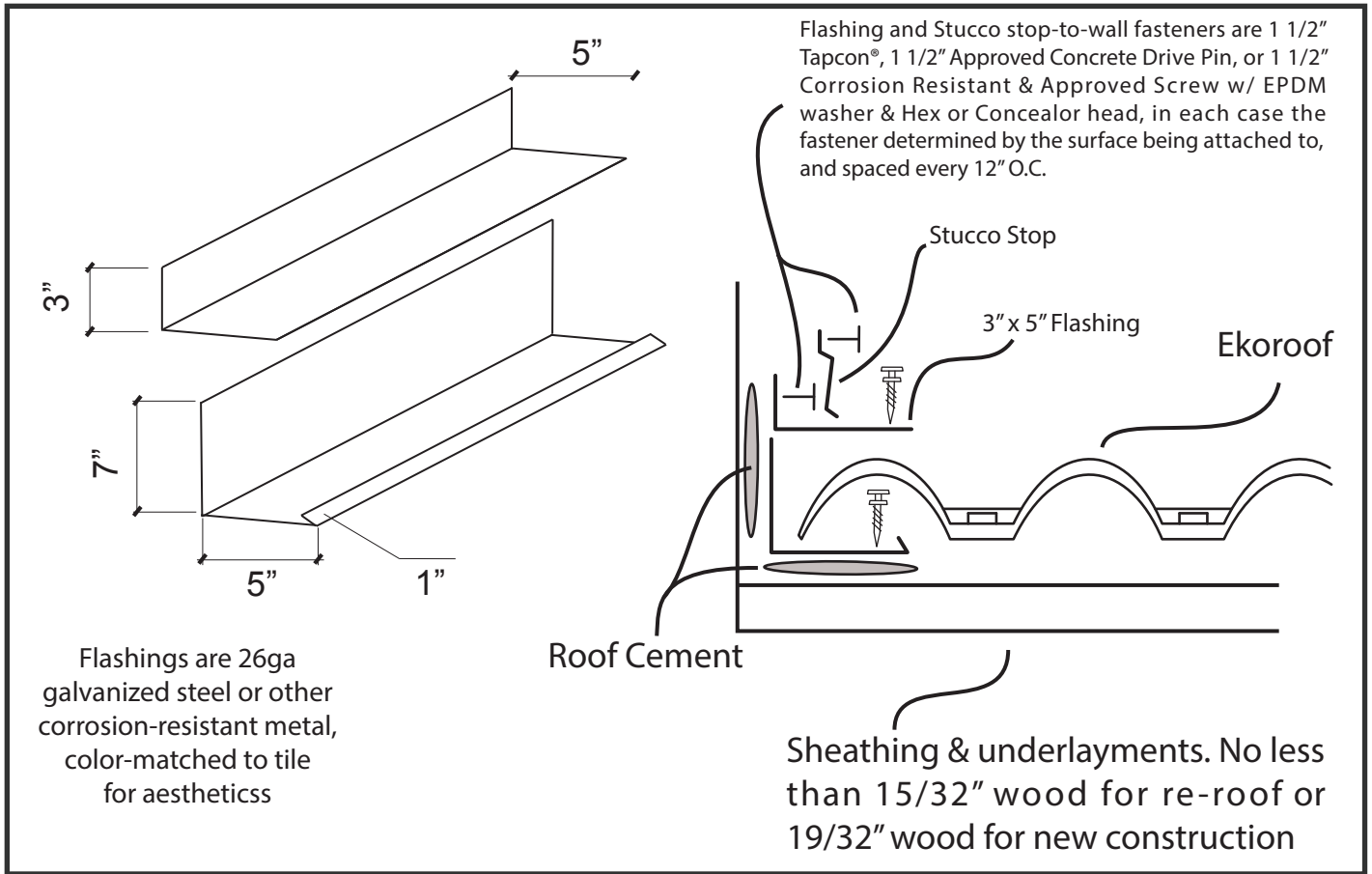


Install Sidewall Flashing to the wall as specified, then fasten Ekorooftile LiteTile panels abutting the inner part of the flashing. Ekorooftile tiles may be cut to fit flush against the back end of the flashing. Fasten flashing to high point of Ekorooftile tiles every 20".



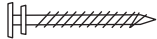
drawings not to scale

# Ekorooftile Sidewall Flashing Installation Detail

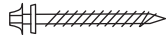


Sidewall to Deck Fastener is #10, 1 1/2" wood point, Corrosion Resistant & Approved Screw w/ EPDM washer & Hex or Concealor head, installed every 12" O.C. Sidewall to Ekorooftile fastener is same type, but color-matched for aesthetics.

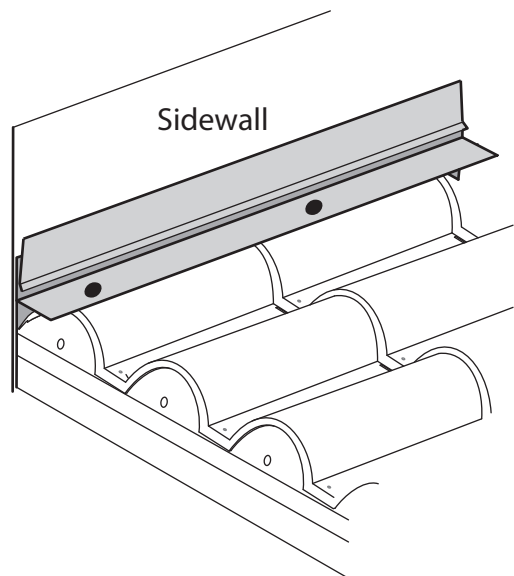
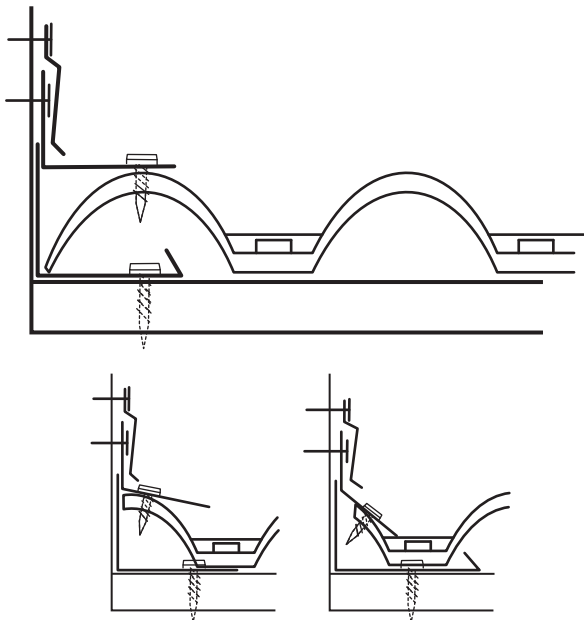
Concealor / Pancake Head



1/4" Hex Drive



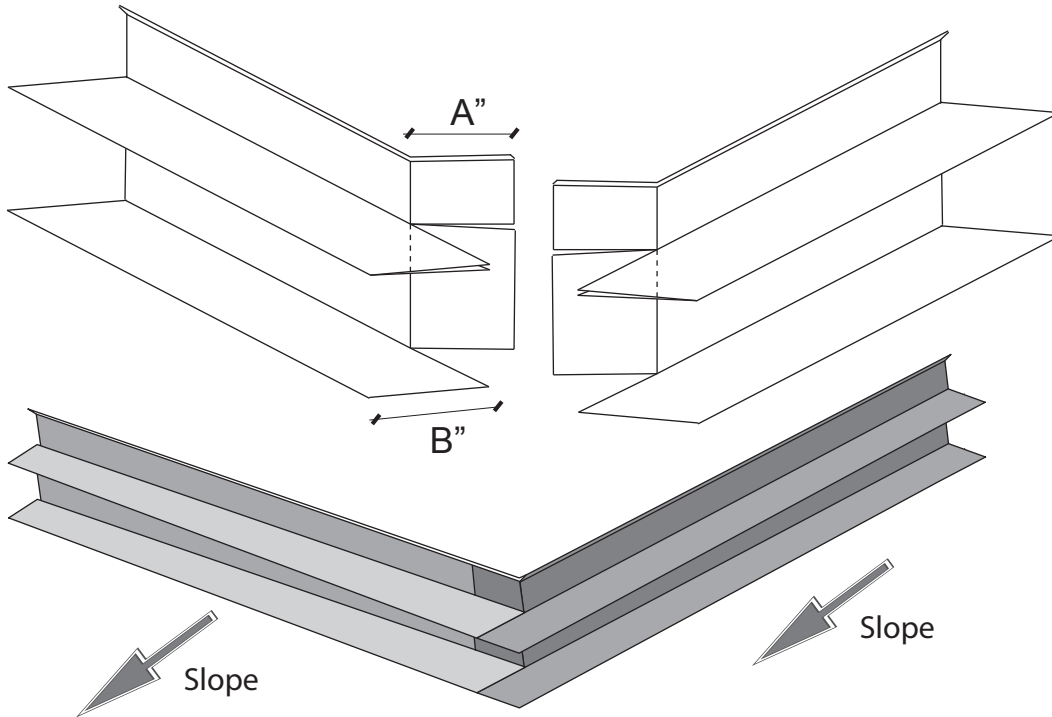
Install Sidewall Flashing to the wall as specified, then fasten Ekorooftile LiteTile panels abutting the inner part of the flashing. Ekorooftile tiles may be cut to fit flush against the back end of the flashing. Fasten flashing to high point of Ekorooftile tiles every 20".



drawings not to scale

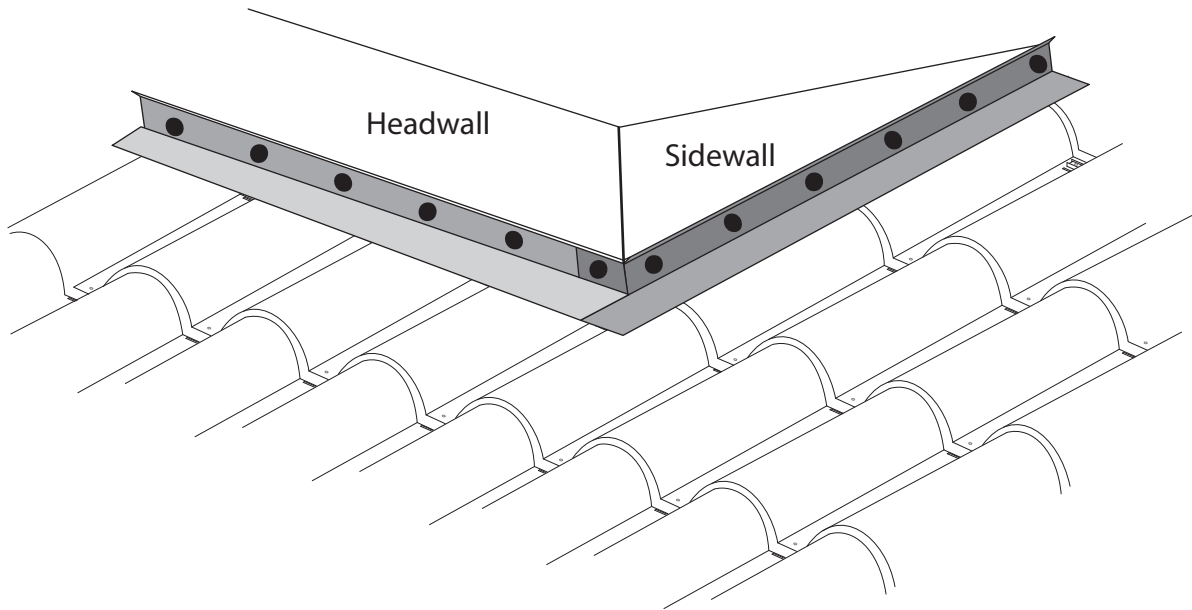
# Ekorooftile Sidewall to Headwall Flashing Installation Detail

This condition is encountered at dormers, chimneys, and other locations where a sidewall turns a corner into a headwall.



Cut Flashings as shown. Length of flashing to be cut and overlapped is equivalent to length of horizontal sections ( $A'' = B''$  in illustration)

Overlap flashings in shingle or step flashing manner around the corner. Seal all seams with Ekorooft Sealant, NPC Sealants Solar Seal 900®, or equivalent.



See pages 24-27 on headwalls and sidewalls for fastener types to be used, locations and spacing.

drawings not to scale