Installation Instructions - English

Updated 10/04/2024

IRONSTONE®
FINE ROOF TILE

For questions call 210-878-0080

SAFETY FIRST

Safety is priority! Protect yourself and your crew by following all safety tips included in this guide, safety labels on your power tools and **always** follow OSHA requirements in your area.

SAFETY WARNING – TILE DUST

Roofing tiles are made from clays and other mined minerals that contain naturally occurring amounts of crystalline silica (quartz) and traces of other hazardous substances. These are released as dust when dry-cutting or grinding this product and can be inhaled if proper respiratory protection is not utilized. Do not use dry cutting equipment without integral air pollution controls. Cutting roof tiles should only be done using a simple score-and-snap tile cutter or wet saw.

WARNING: Crystalline silica is a substance known to cause cancer. Other chemicals, also naturally occurring in these products, are known to cause cancer, birth defects and other reproductive harm. Please refer to Federal and State OSHA requirements for proper compliance.

Parts and Specifications

Field System

Field Tile
11.75 inches X 11.75 inches +/- 0.10" (approx.)
CTN Qty: 16 pieces (approx.)
CTN Weight: 50 lbs
Tiles/Sq.: 120 (approx.)
Weight/Sq.: 360 lbs. (Approx)
CTN/ Pallet: 48
Weight/ Pallet: 2,400 lbs.
Sq./ Pallet: 6.4 (approx.)
Pallets/ Truckload: 15
Sq./ Truckload: 100 (approx)





Field Bracket - 121NEWHNG
Length: 48 inches (approx.)
CTN Qty: 45 pieces (approx. 1.5 Squares)
Weight: 45 lbs.
Material: 24ga. Galvalume





Starter Bracket - 121STARTER
Length: 48 inches
CTN Qty: 45 pieces (approx. 180 Ft)
Weight: 45 lbs.
Material: 24ga. Galvalume

Tile Liner (HDPE interlayment) - 121TLINER
Roll Length: 373 feet (approx.)
Roll Weight: 42 lbs. (approx.)
Thickness: 0.020 (approx.)
Width: 12.25 inches



Trim System

Trim Tile
11.75 inches X 5.88 inches +/- 0.10" (approx.)
CTN Qty: 16 pieces x 2 = 32 pcs
*TRIM TILES ARE FIELD-CUT FROM FIELD TILES



Trim Spacer - 121SPACER
Width: 5.6 inches
Length: 48 inches
Scored to fold-over hip and ridge
Thickness: 3/8 inch
Plastic: Coroplast HDPE
Pieces/ Bundle: 13=52 LF



Trim Saddle - 121SADDLE
Bent to fit over hip and ridge
Metal: 16oz. Copper
Pieces/ CTN: 12
LF/ CTN: 10
*Includes 48 1.625 inch SS screws



Basic Requirements and Specifications

Slope

The minimum roof pitch for Ironstone is a 4:12. **Never install Ironstone below a 4:12.** Self-adhered leak barrier must be installed on slopes 5:12 and below. There is no maximum slope requirement for Ironstone.

It is recommended that the structural design of the structure be evaluated by a registered engineer to determine that it can support the roof. Most building codes require an engineering review and may be required by local building codes.

Deck

Roof covering shall be installed only over code complying sheathing. (roof deck)
Install Ironstone on a roof deck that is solid and considered a "nailable surface." American Plywood Association rated plywood 15/32" thick is suggested. APA rated plywood, APA rated wood panels, 7/16" approved OSB, or other building materials meeting minimum requirements in accordance with DOC PS-1 are also acceptable.

Underlayment

Select an underlayment product that is suitable to specific location, climate, roof pitch and attic ventilation. When selecting an underlayment, remember that Ironstone is a lifetime product and will last over 75 years, so the underlayment should be of comparable quality.

Recommended for slopes over 5:12

Use one layer of synthetic mechanically attached roof deck protection conforming to ASTM D226, ASTM D2626 Type I, or ASTM D6380 Class M covering the entire deck. At vulnerable areas (valley, ridge, drip edge, etc.) use high temp self-adhered leak barrier.

Required for slopes 4:12 up to and including 5:12

Use high temp self-adhered Leak Barrier covering the FULL deck. All hips and ridges, valleys, rakes, eaves, gable/rake edge, around roof protrusions and any other vulnerable areas are required to be covered with a self-adhered leak barrier. At eaves, the leak barrier should extend over the drip edge metal at the eave edge.

NOTE: In regions where the average daily January temperature is 25 degrees Fahrenheit or lower, or where ice buildup is possible where ice dams may form, it is required to install self-adhered leak barrier from the bottom edge, extending two feet above the exterior wall line on all eaves. Check with your roofing professional about the need for snow guards.

To meet Class A Fire Rating: To achieve a Class A Fire Rating System, one layer of GAF VersaSheild® fire resistant roof deck protection must be installed OVER one layer of mechanically attached roof deck protection conforming to ASTM D226.

NOTE: Roofing underlayment should meet or exceed ASTM standards D226/D2626. Self-adhered leak barrier should meet or exceed ASTM D1970. Follow all installation and fastening requirements set by the manufacturer for each underlayment and self-adhered leak barrier product.

****NEVER install Ironstone on a slope less than 4:12****

Basic Requirements and Specifications (cont.)

Fasteners

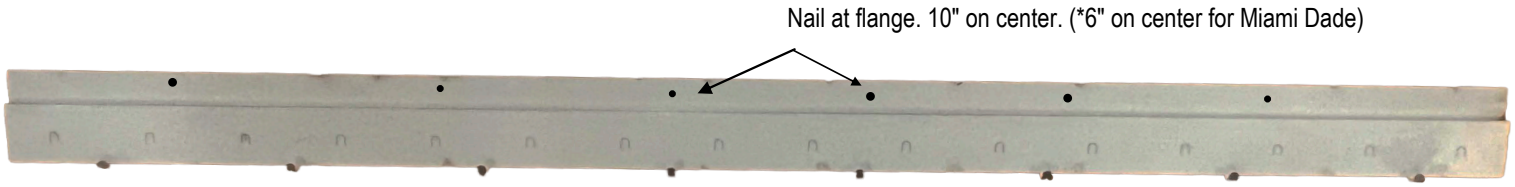
Ironstone Roof Tiles are attached to the roof deck with a bracket system. No screws or nails go directly through the Ironstone tiles.

Each bracket will be nailed to the roof using corrosion resistant fasteners at a minimum of 11-guage shank and 5/16” head. Ironstone recommends ring shank roofing nails at 1-1/4” in length.

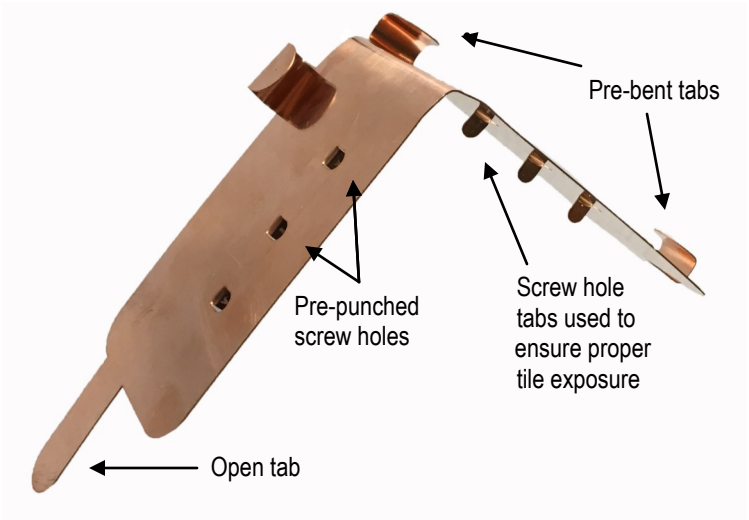
Corrosion resistant screws 1-1/4" length with a minimum of 5/16” head may also be used to fasten brackets.

Trim pieces are fastened to the Hip and Ridge of the roof with a copper “Saddle”. The Saddle is screwed directly into the Trim Spacer and roof-deck using four #8 1-5/8” pan head, stainless steel screws provided by Ironstone. No screws or nails go directly through the Ironstone Trim tiles.

Bracket



Trim Saddle



Flashing Notes

Metals

Where a roof intersects another roof, adjoins a vertical wall, chimney, vent, plumbing stack, or other structural protrusions, flashing metals are required. Proper flashing installations are critical for a water-tight roof. Always refer to and follow applicable building codes and standards and best roofing practices.

Roof flashings shall be new and not be less than No. 26 gauge corrosion-resistant metal or 16 oz. copper. **All dissimilar metals should be separated from contact with brackets using self-adhered leak barrier to avoid corrosion. Dissimilar metals should be fastened with stainless steel fasteners**

The valley flashing shall extend at least 10 inches from the centerline each way and have a splash diverter rib not less than 1 inch (25mm) high at the flow line formed as part of the flashing. Also, the valley flashing shall have a 36 inch wide (914mm) underlayment of self-adhered leak barrier complying with ASTM D1970, in addition to other required underlayment.

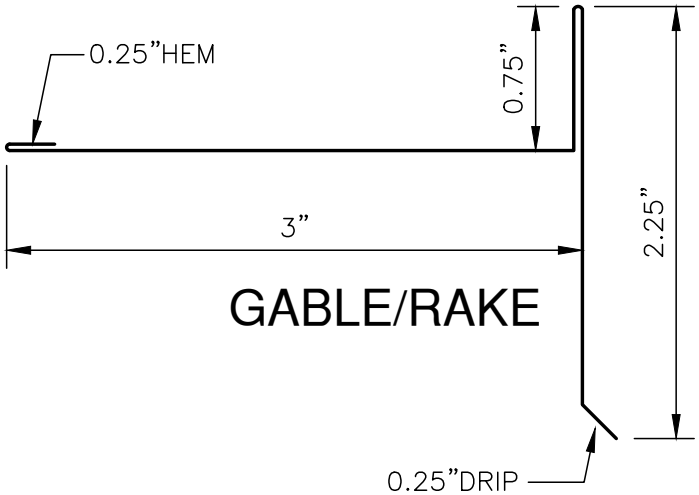
Sections of valley flashings shall have an end overlap of not less than 4 inches (102mm).

Cover fastener heads on the gable/rake edge metal and valley metal with self-adhered leak barrier.

*Metal flashings shall be in accordance with IBC Section 1503.2 or 1507.3.9 or IRC Section R903.2 or IRC Section R905.3.8 as applicable.

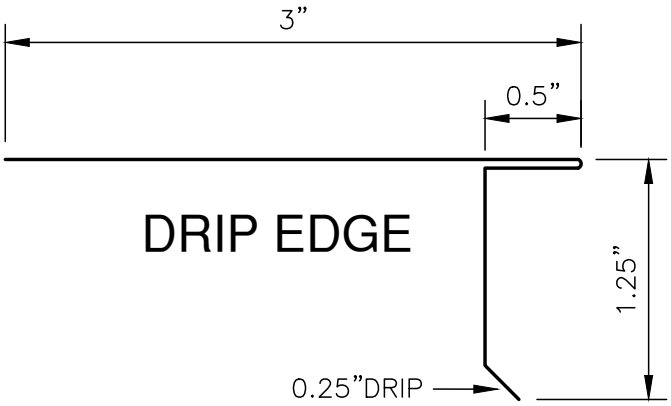
IMPORTANT: All flashings should be separated from dissimilar metals using self-adhered leak barrier to avoid galvanic corrosion.

Required Metal Flashings

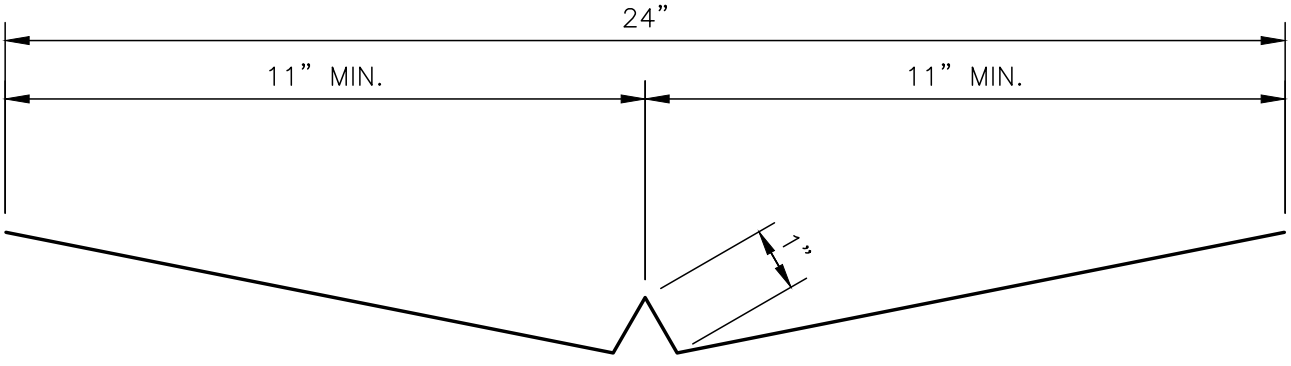


GABLE/RAKE

IMPORTANT NOTE:
Metal Flashing shall not be less than No.26 Gauge, 0.019 inch corrosion resistant metal or 16oz. Copper.



DRIP EDGE



VALLEY

Required Tools and Equipment

Tools

Hand Tools:

- Hammer
- Tin snips
- Chalk line
- Tape measure
- Utility knife
- Marker/pencil
- Pliers
- Flat head screw driver
- Score-and-snap tile cutter

Power Tools:

- Drill (with Phillip's head driver bit)
- Air compressor and hoses
- Pneumatic roofing nail gun
- Extension cords
- Tile cutting "wet" saw (porcelain quality diamond blade) and a score-and-snap tile cutter.

Time Saving Tip! – Use a score-and-snap tile cutter to quickly and easily cut straight lines.

Specialty Equipment:

- Forklift or conveyor lift
- Roof jacks for toe boards

Safety Equipment:

- Hand protection
- Eye protection
- Respiratory Protection (for tile dust)
- Safety belts and harness
- Ropes and other required fall protection
- Hard hats
- Scaffolding and or ladders

SAFETY WARNING – TILE DUST

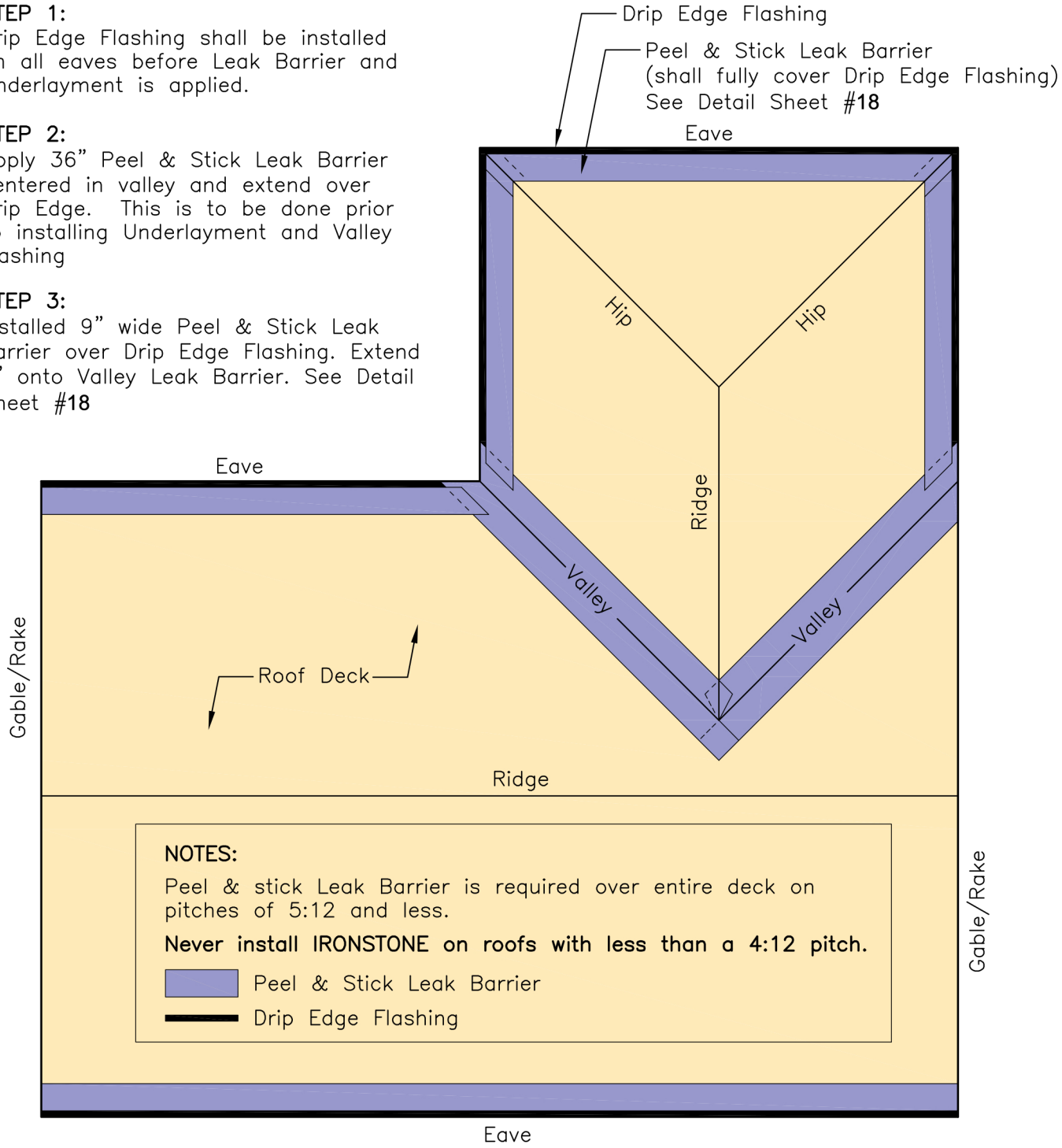
Roofing tiles are made from clays and other mined minerals that contain naturally occurring amounts of crystalline silica (quartz) and traces of other hazardous substances. These are released as dust when dry-cutting or grinding this product and can be inhaled if proper respiratory protection is not utilized. Do not use dry cutting equipment with-out integral air pollution controls. Cutting roof tiles should only be done using a "wet saw" or score-and-snap tile cutter.

Preparing the Roof Deck & Eaves

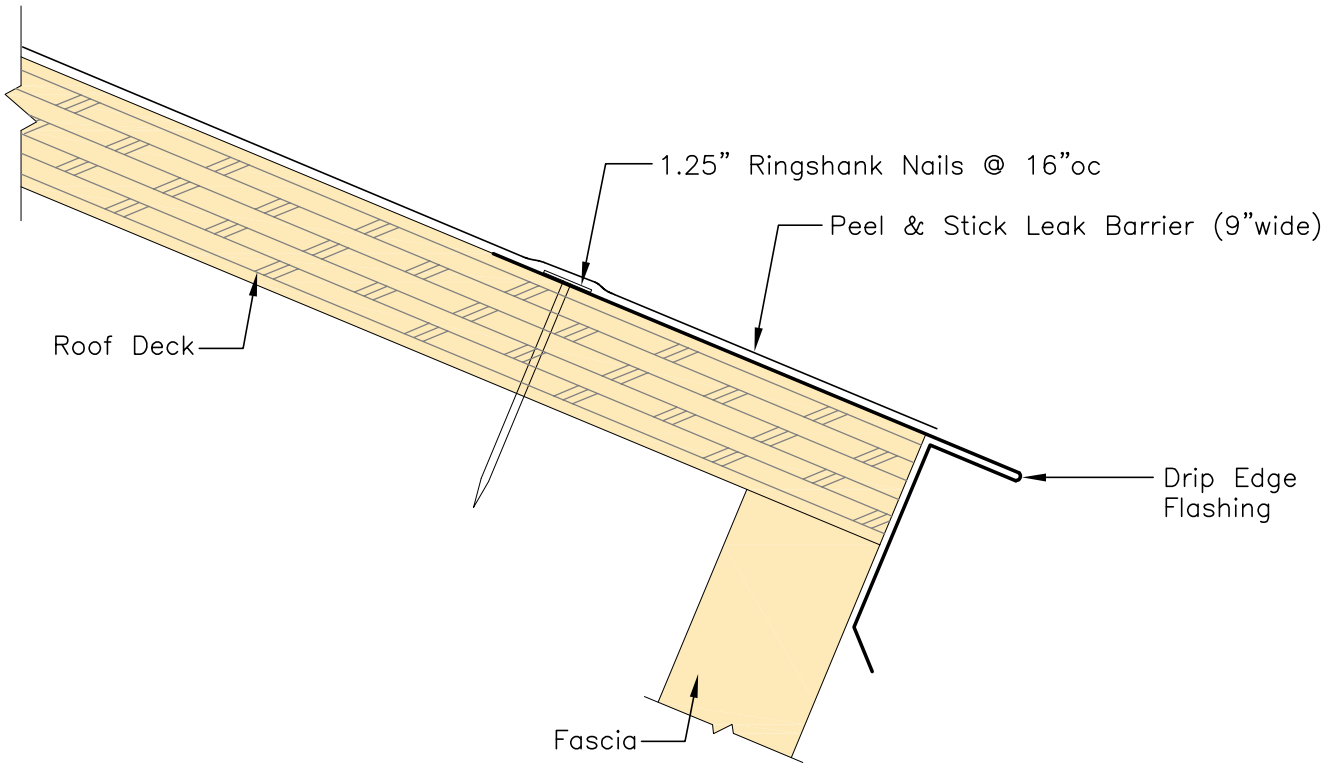
STEP 1:
Drip Edge Flashing shall be installed on all eaves before Leak Barrier and Underlayment is applied.

STEP 2:
Apply 36" Peel & Stick Leak Barrier centered in valley and extend over Drip Edge. This is to be done prior to installing Underlayment and Valley Flashing

STEP 3:
Installed 9" wide Peel & Stick Leak Barrier over Drip Edge Flashing. Extend 6" onto Valley Leak Barrier. See Detail Sheet #18



Full Size Eave Detail



Preparing Valleys, Hips, Ridges and Rake

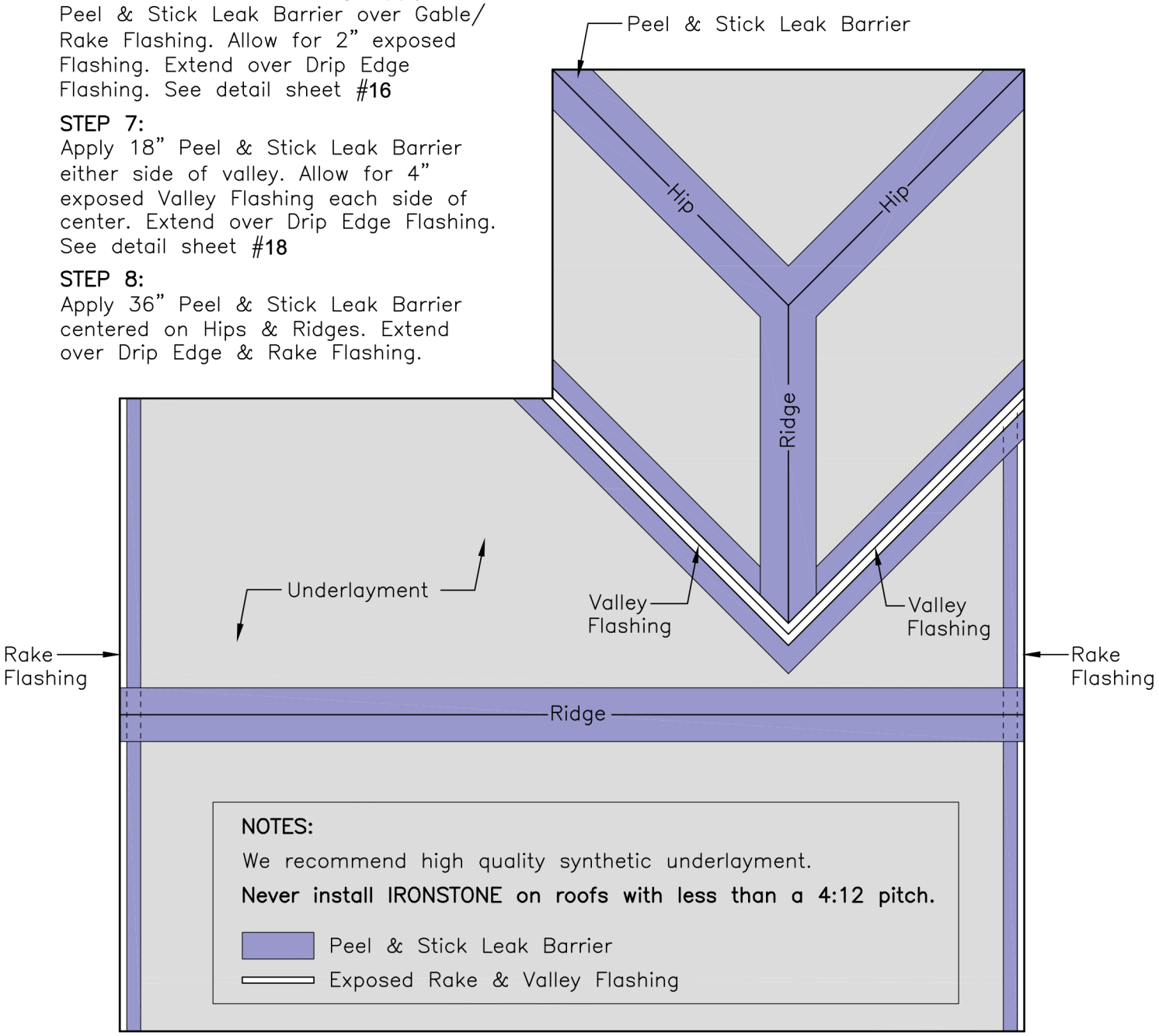
STEP 4:
Install all Valley Flashing.

STEP 5:
Install Underlayment.

STEP 6:
Install Gable/Rake Flashing. Apply 9" Peel & Stick Leak Barrier over Gable/Rake Flashing. Allow for 2" exposed Flashing. Extend over Drip Edge Flashing. See detail sheet #16

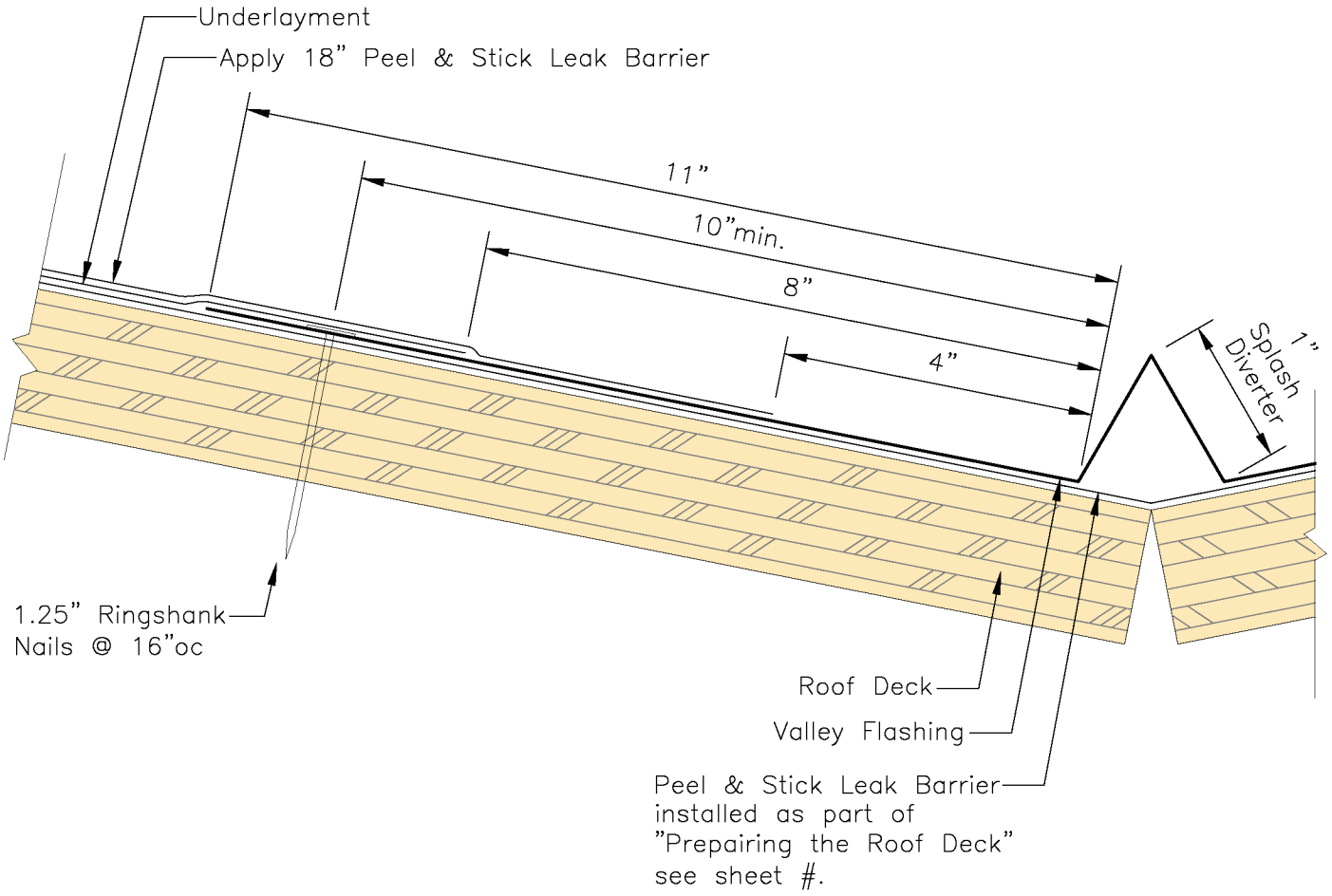
STEP 7:
Apply 18" Peel & Stick Leak Barrier either side of valley. Allow for 4" exposed Valley Flashing each side of center. Extend over Drip Edge Flashing. See detail sheet #18

STEP 8:
Apply 36" Peel & Stick Leak Barrier centered on Hips & Ridges. Extend over Drip Edge & Rake Flashing.



Enlarged (partial) Valley Detail

NOT TO SCALE

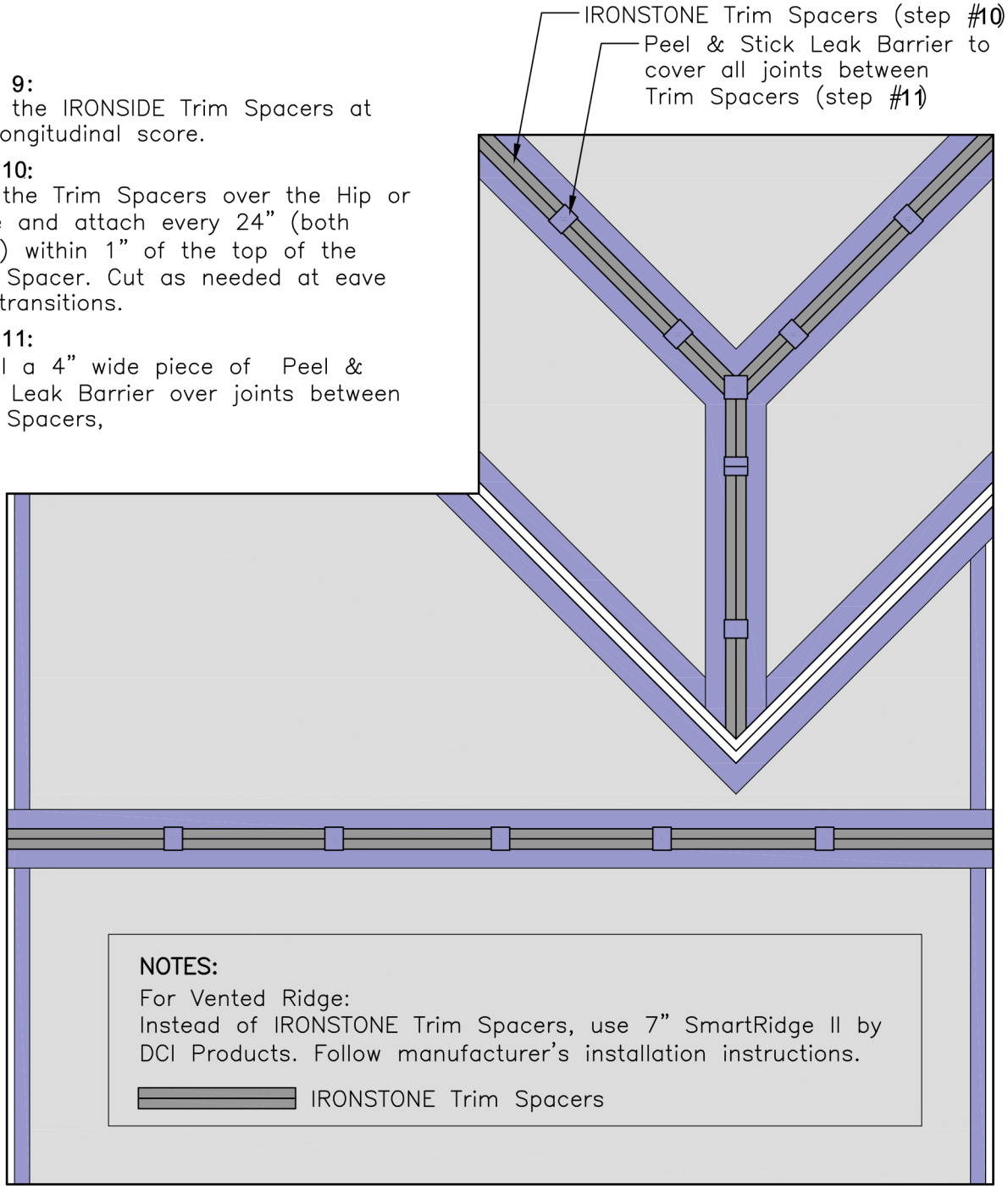


Install Trim Spacers

STEP 9:
Bend the IRONSIDE Trim Spacers at the longitudinal score.

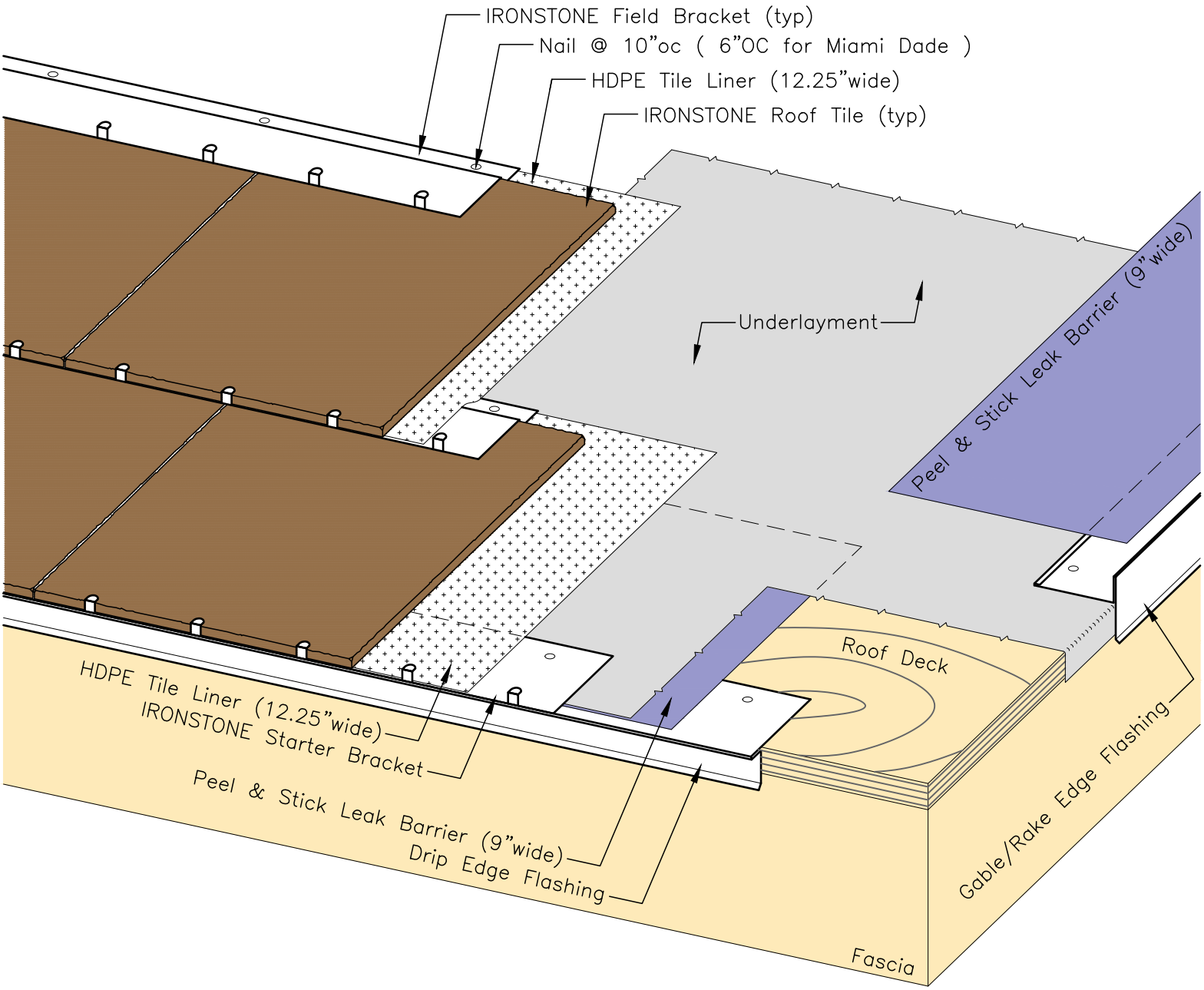
STEP 10:
Fold the Trim Spacers over the Hip or Ridge and attach every 24" (both sides) within 1" of the top of the Trim Spacer. Cut as needed at eave and transitions.

STEP 11:
Install a 4" wide piece of Peel & Stick Leak Barrier over joints between Trim Spacers,

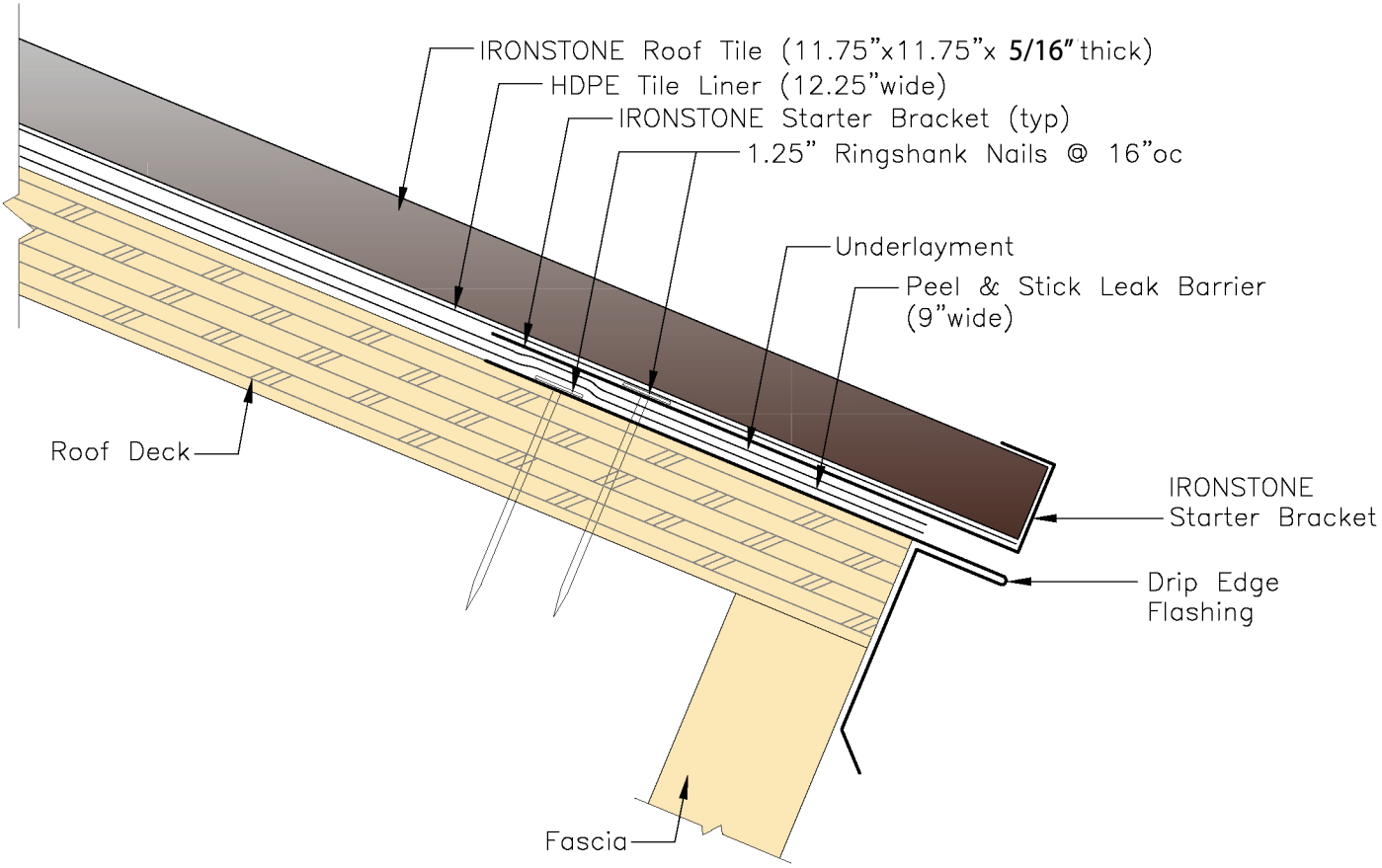


Typical Roofing Installation

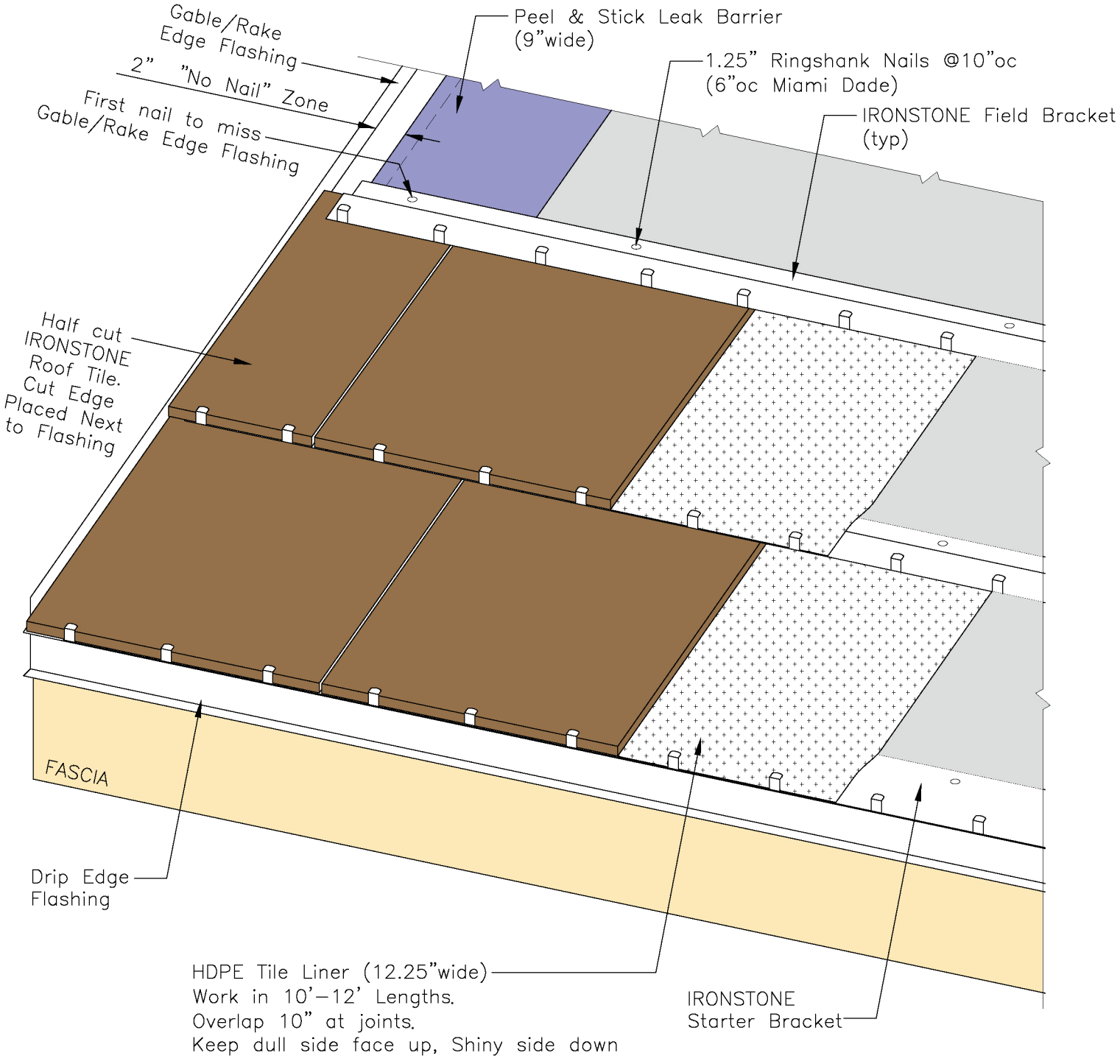
Eave & Rake



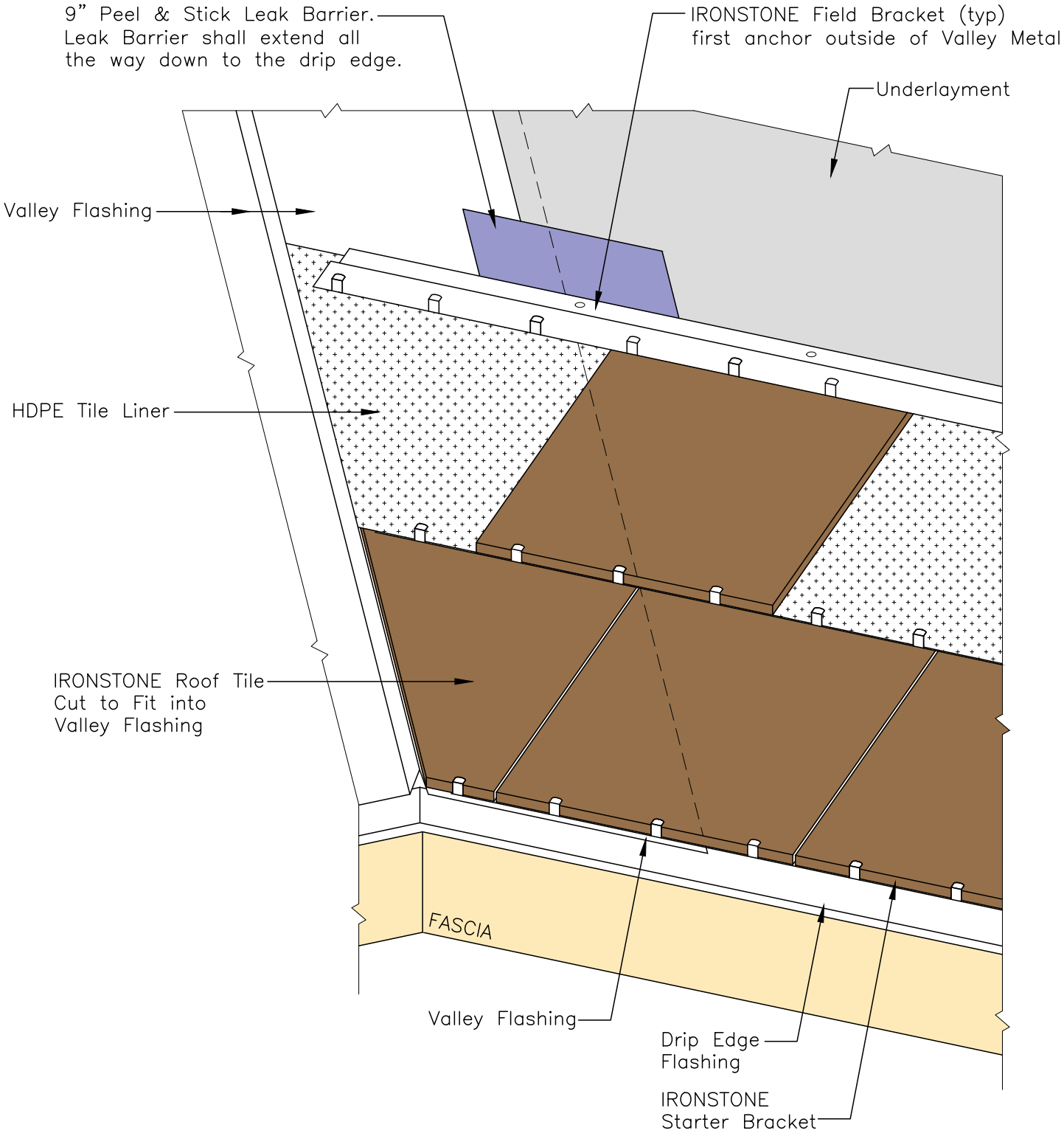
Full Size Eave Detail



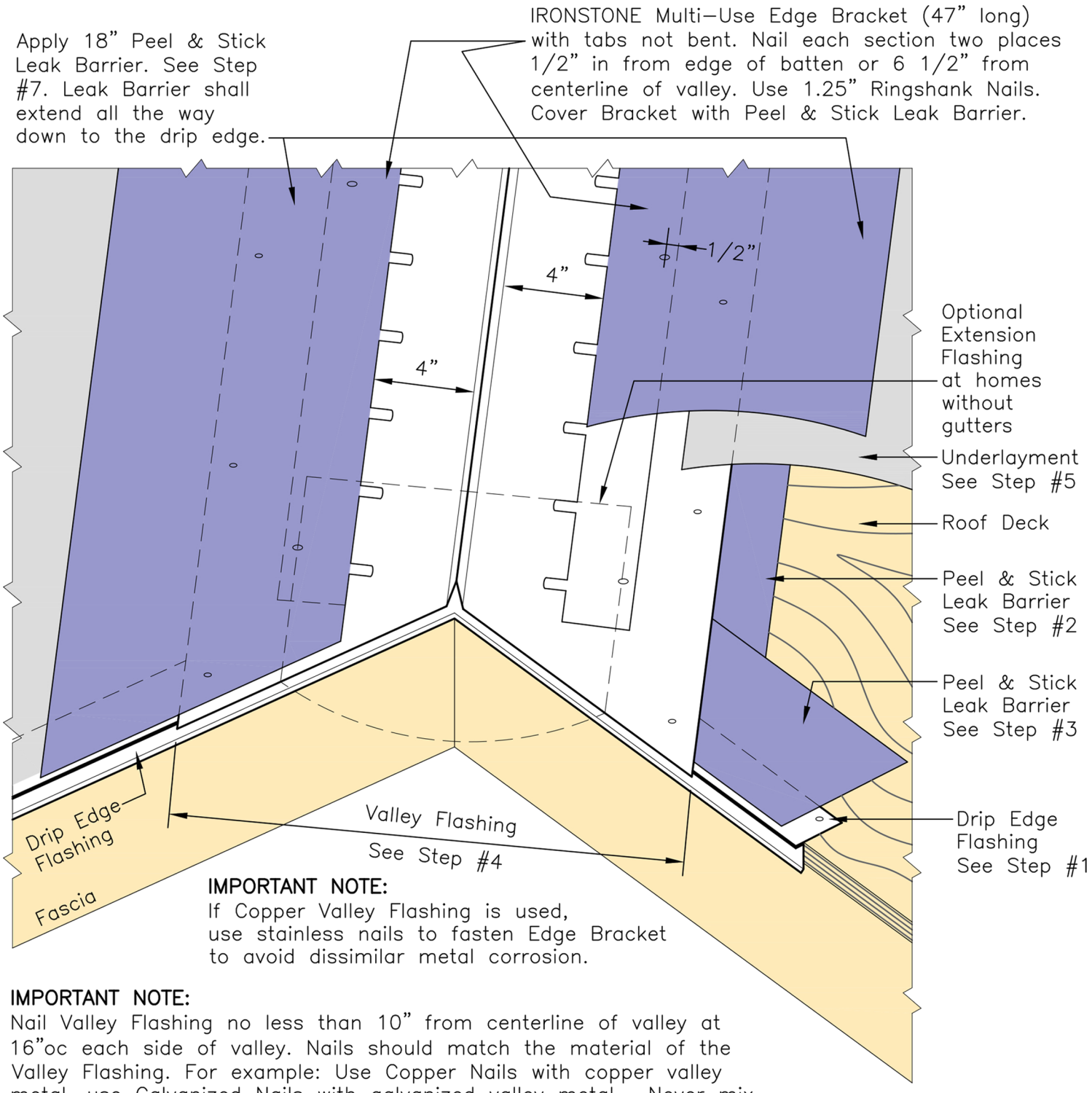
Getting Started



Tile Install at Closed Valley Flashing



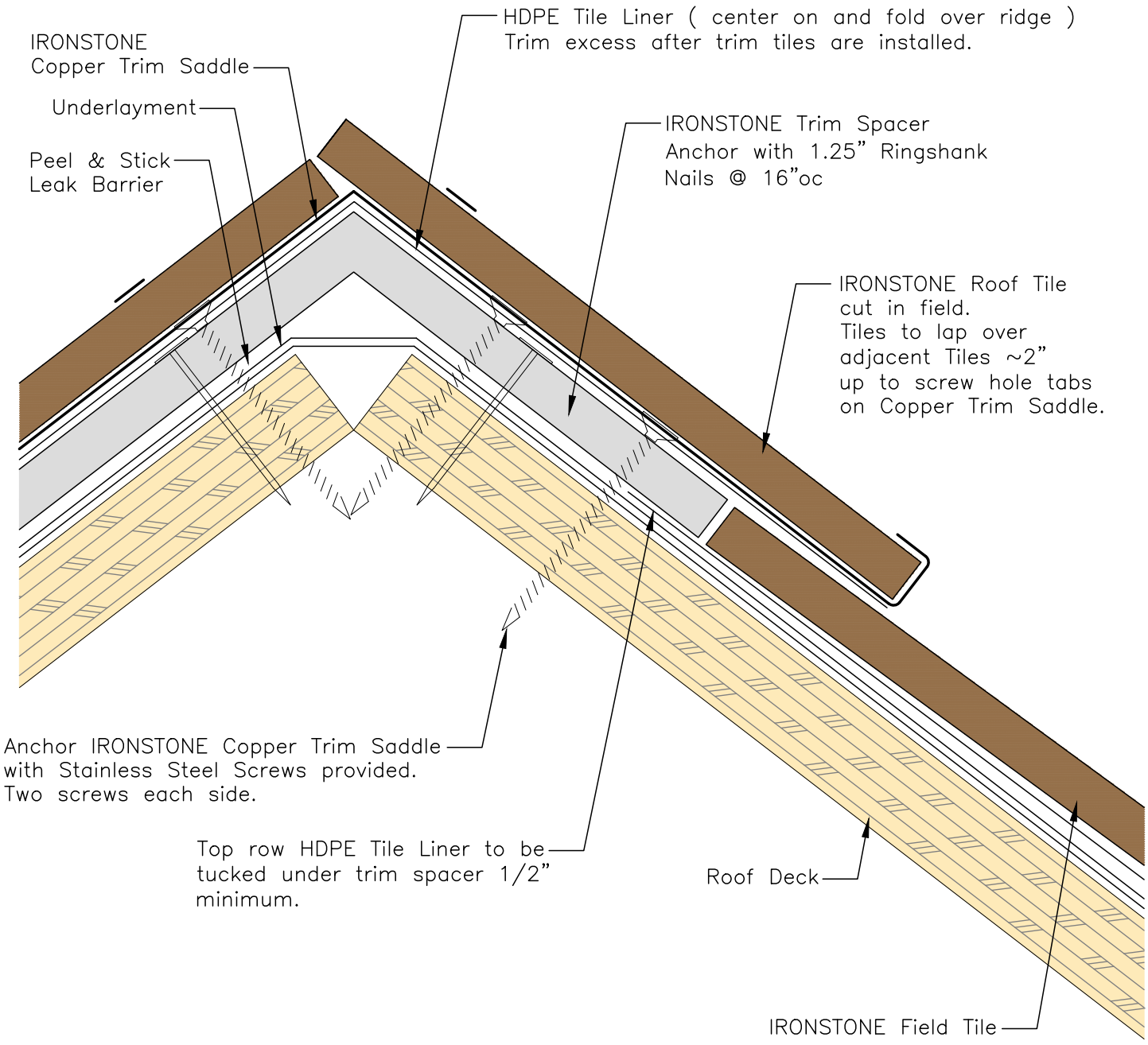
Open Valley Flashing Installation



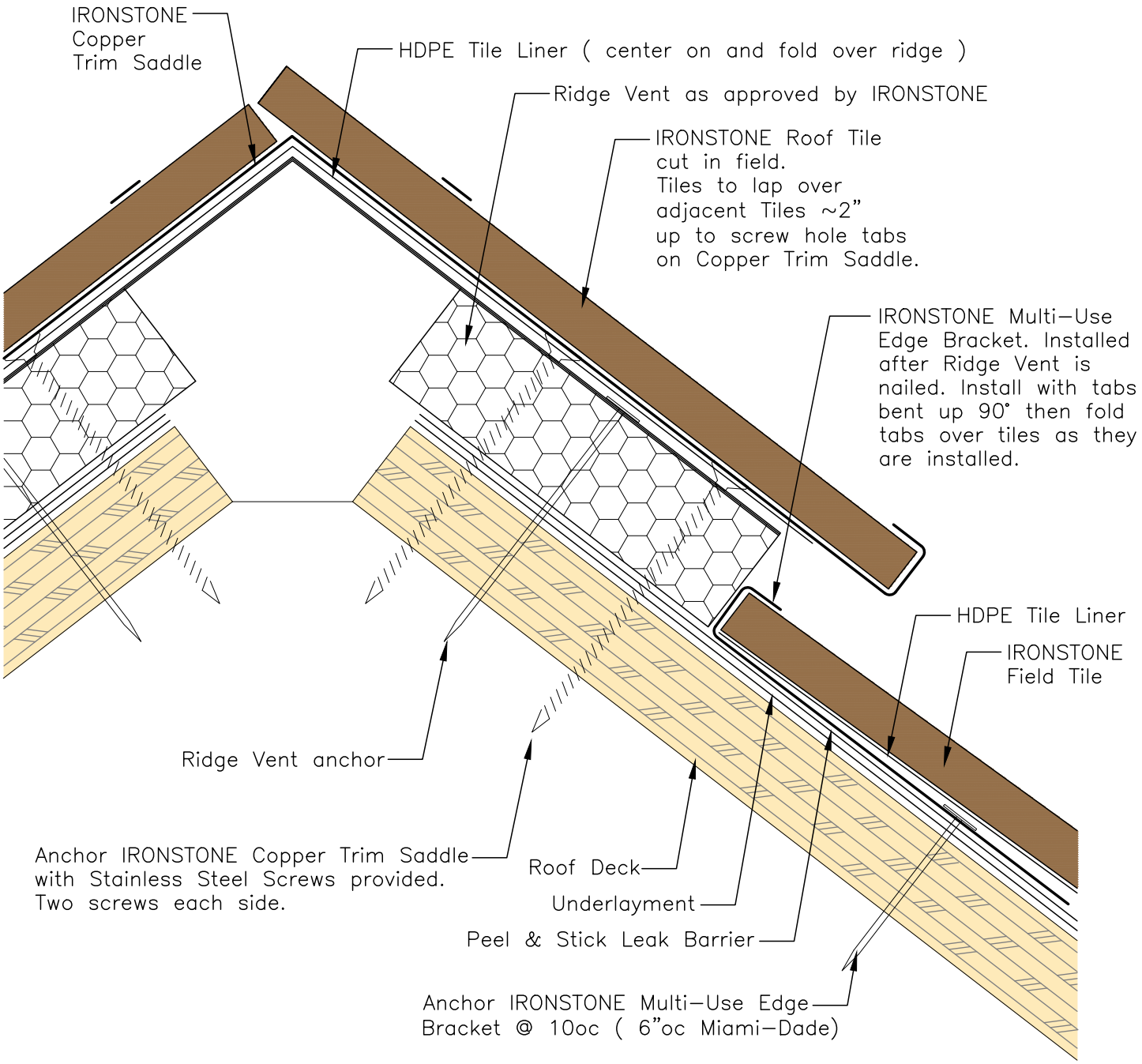
IMPORTANT NOTE:
If Copper Valley Flashing is used, use stainless nails to fasten Edge Bracket to avoid dissimilar metal corrosion.

IMPORTANT NOTE:
Nail Valley Flashing no less than 10" from centerline of valley at 16"oc each side of valley. Nails should match the material of the Valley Flashing. For example: Use Copper Nails with copper valley metal, use Galvanized Nails with galvanized valley metal. Never mix metals. Use Peel & Stick Membrane to separate **dissimilar metals**.

Ridge Detail

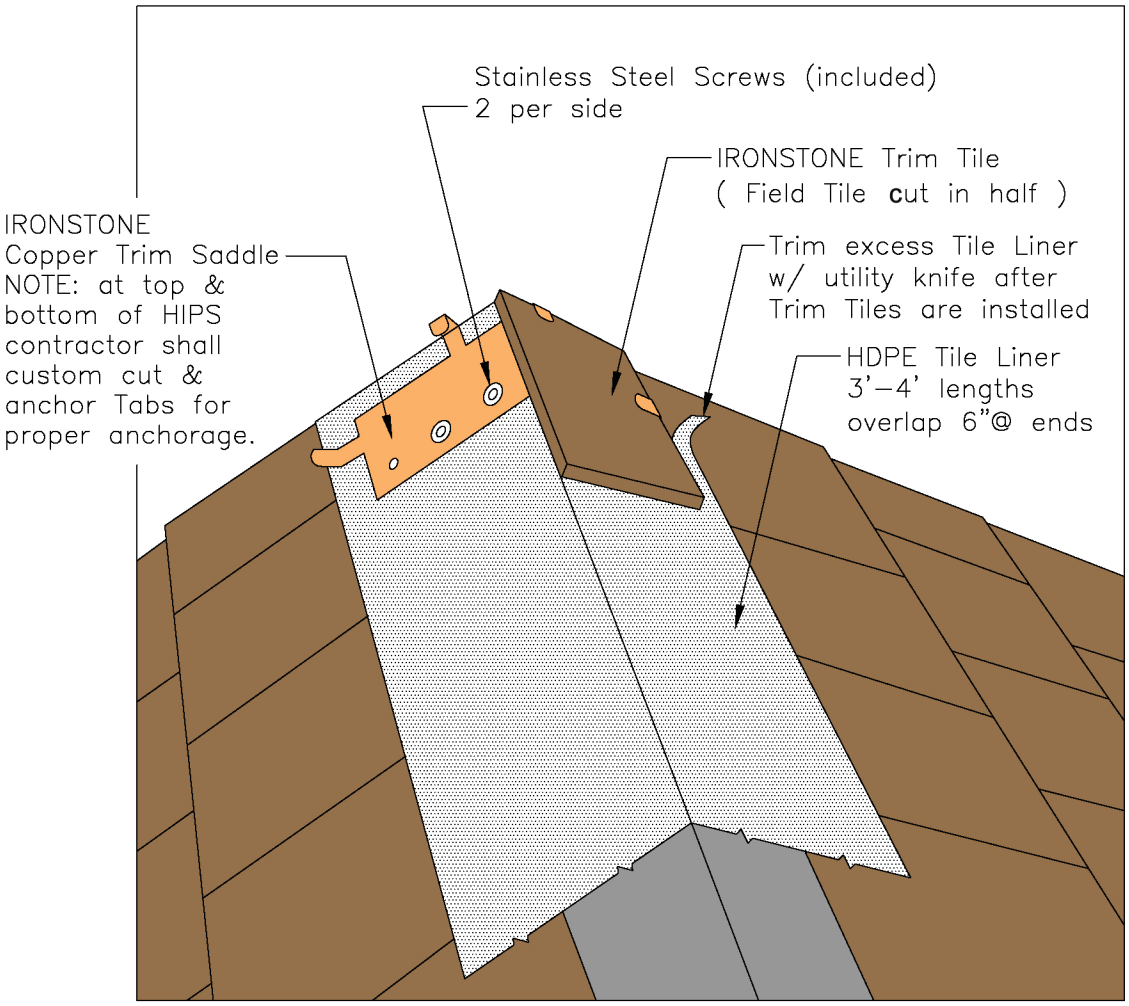


Ridge Vent Detail



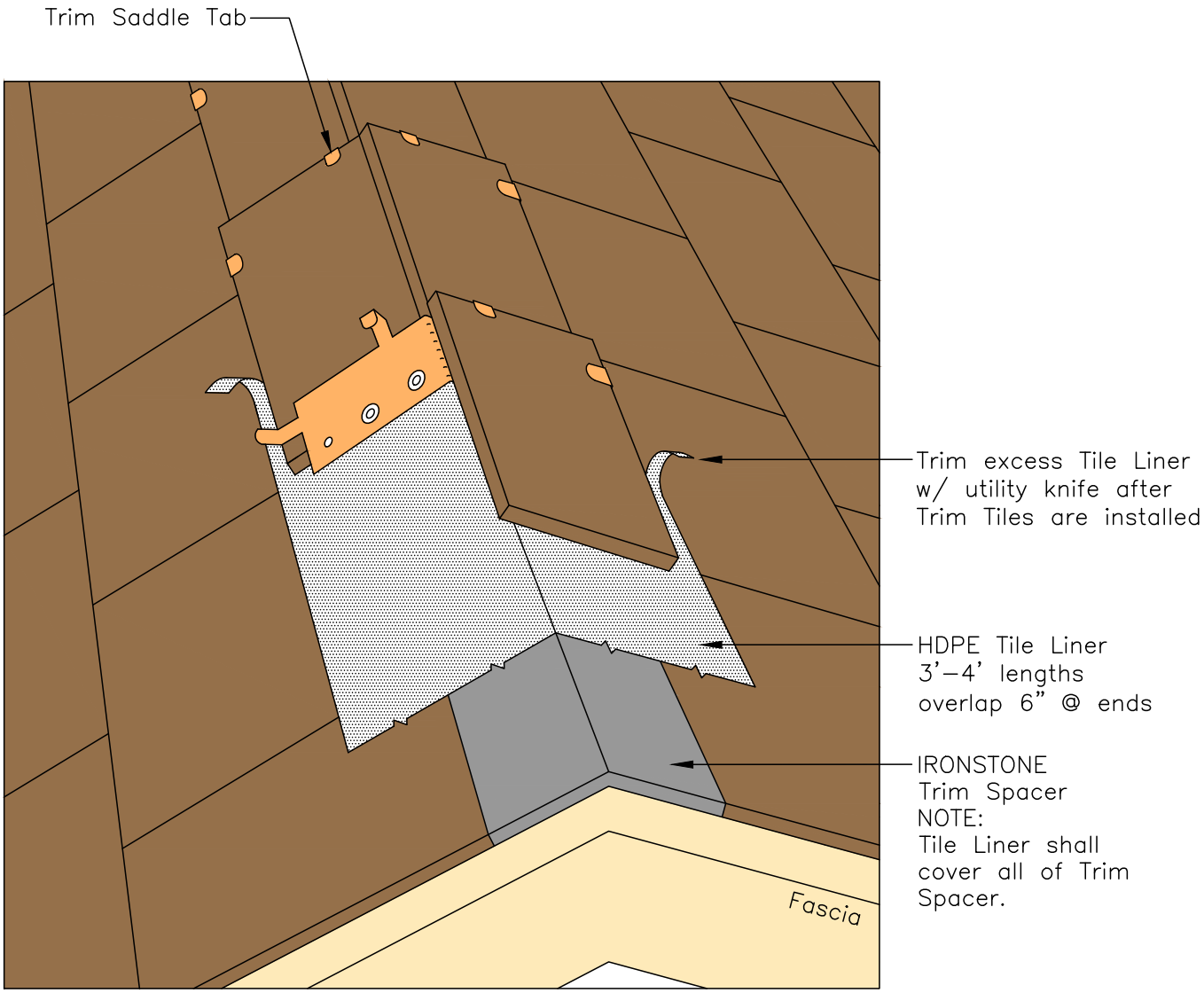
Install Ridge and Hips

Using Ironstone Trim Saddles - START



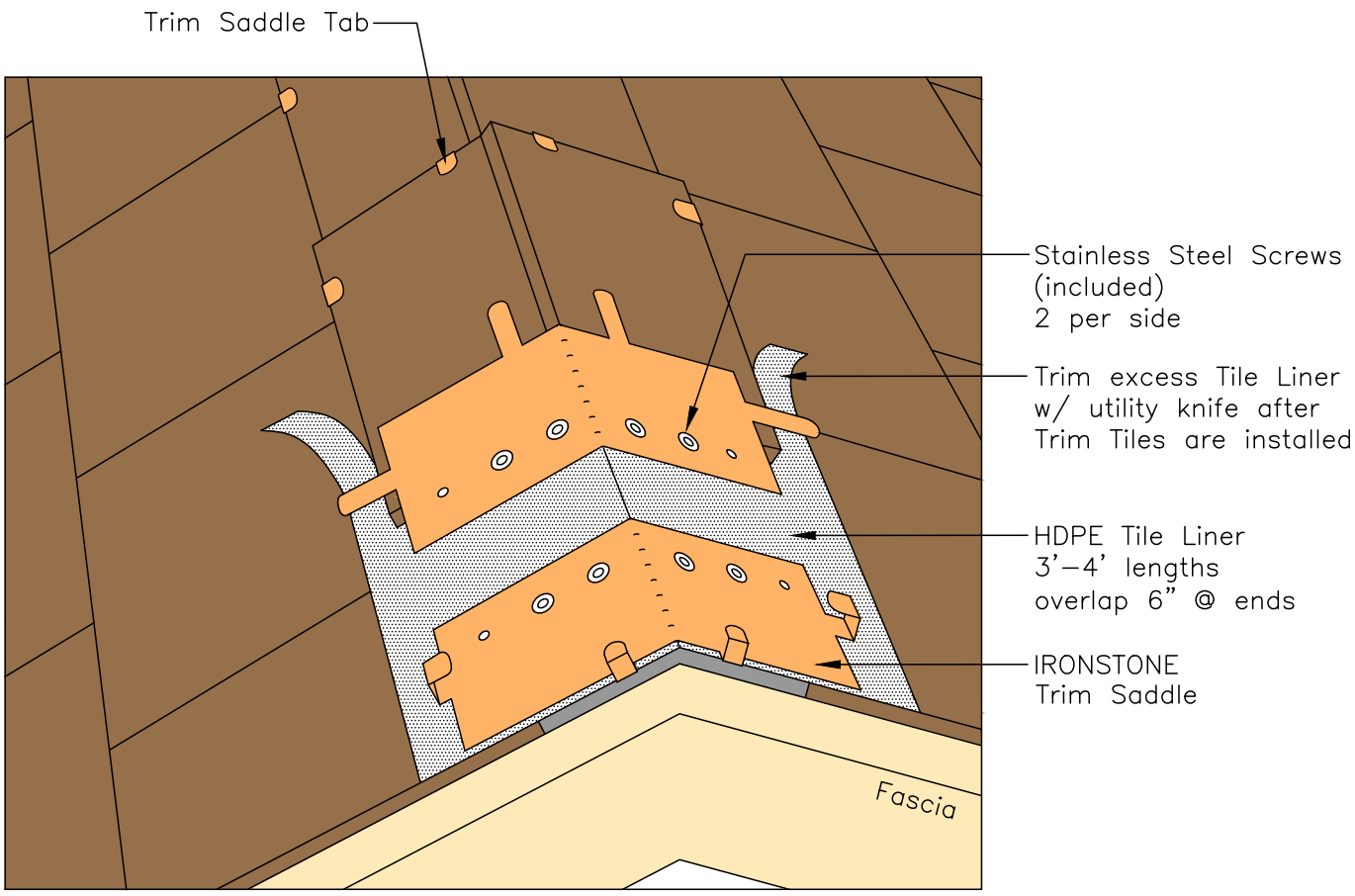
Install Ridge and Hips

Using Ironstone Trim Saddles - FIELD

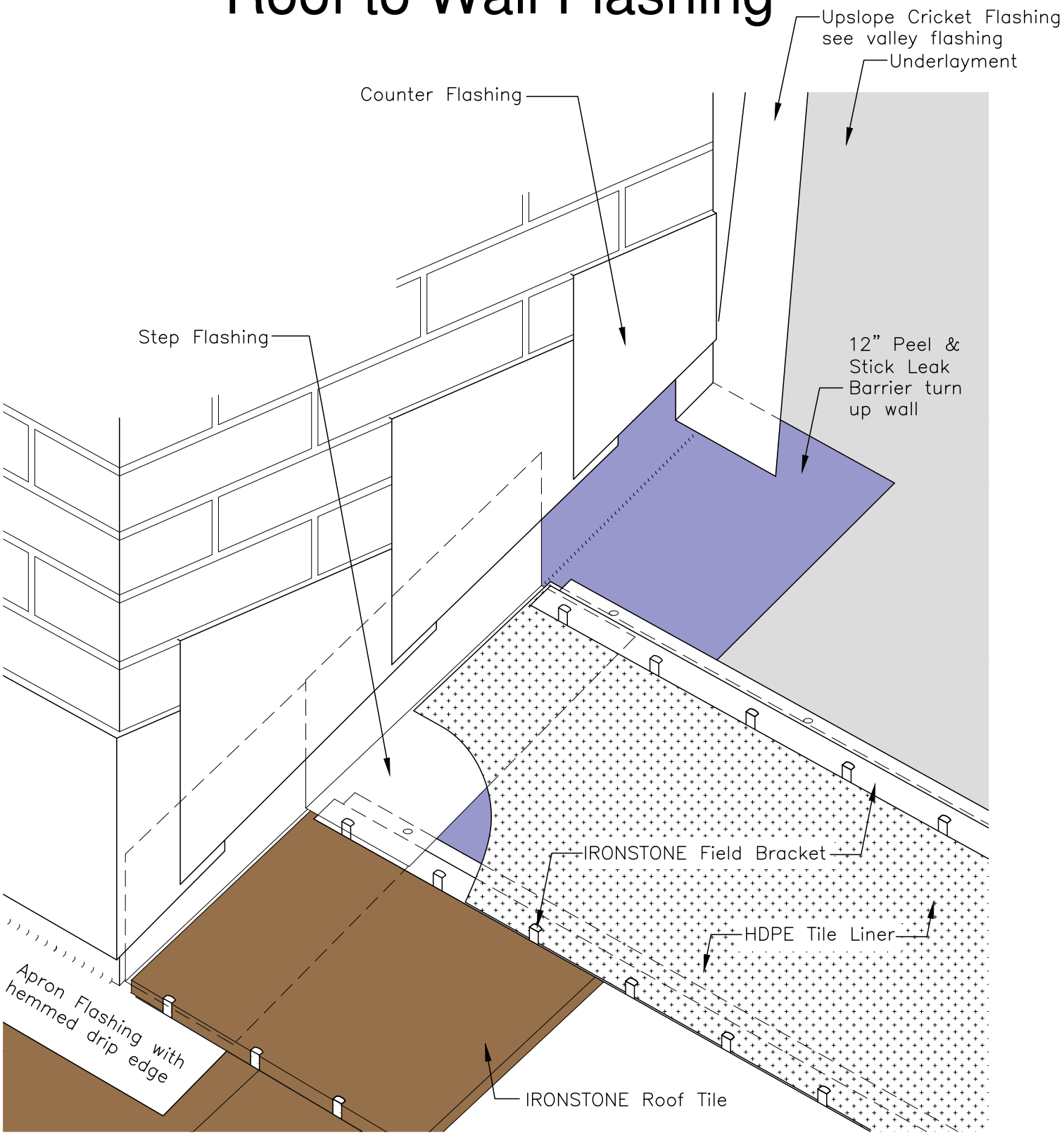


Install Ridge and Hips

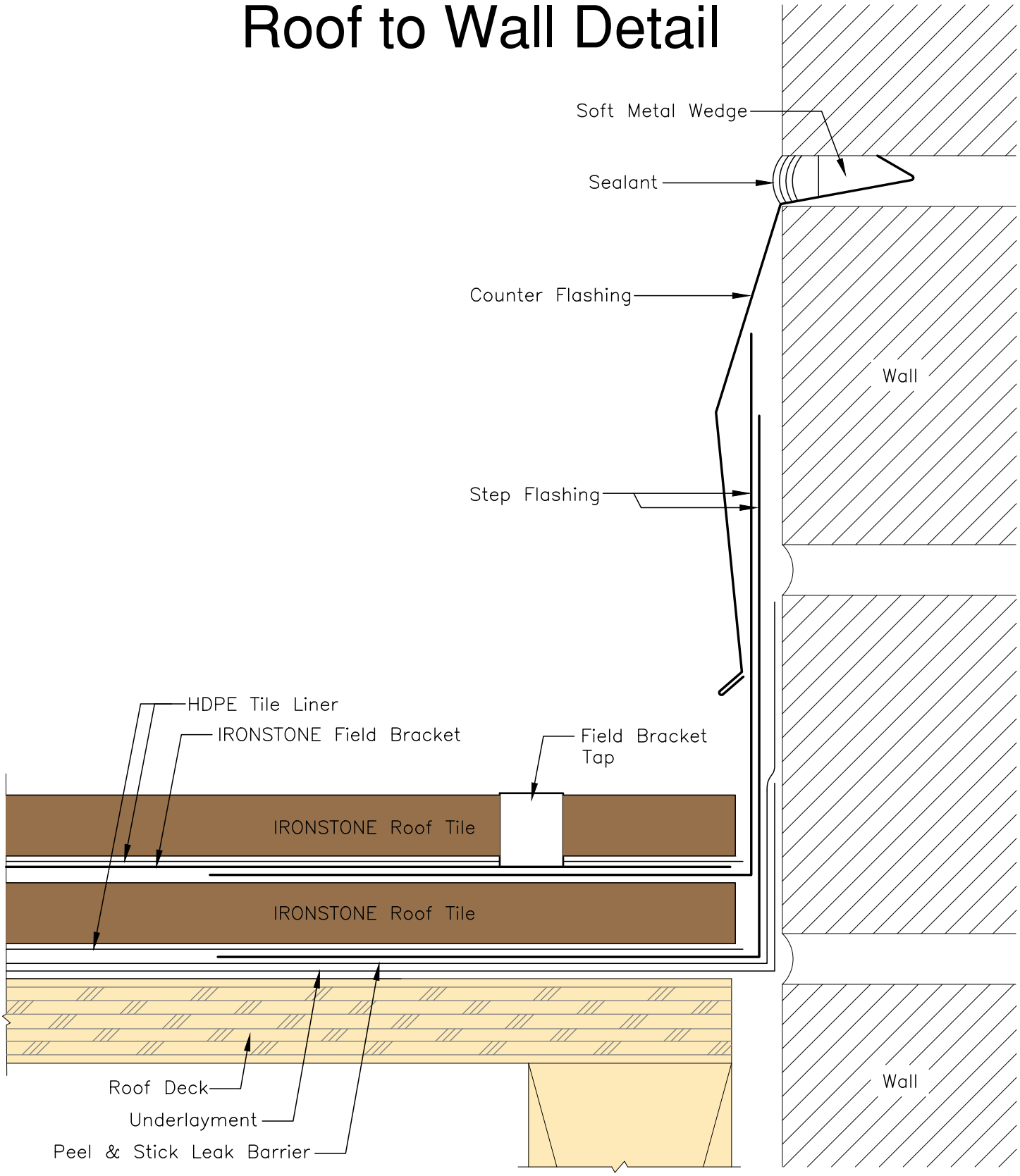
Using Ironstone Trim Saddles - END



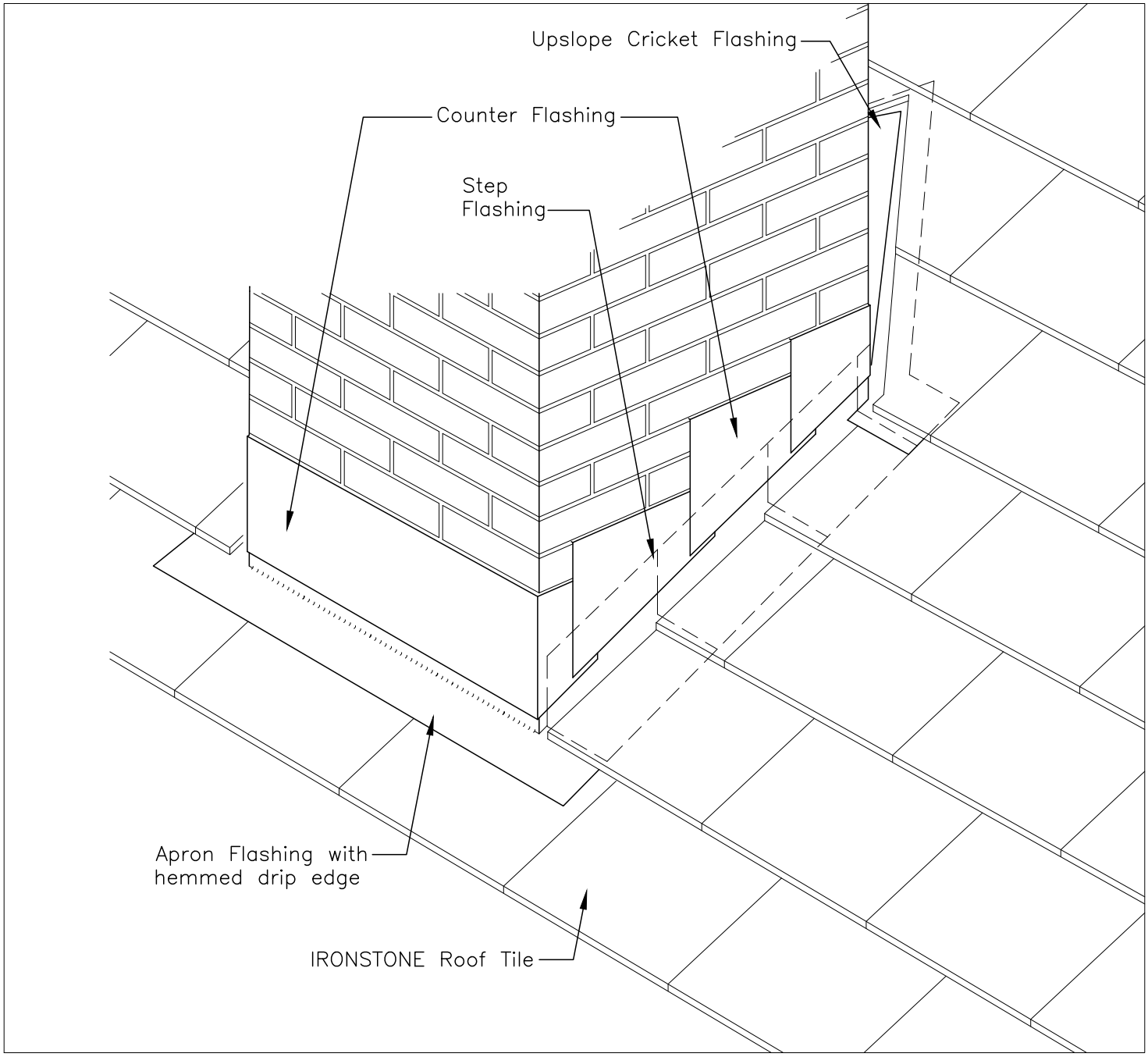
Roof to Wall Flashing



Roof to Wall Detail

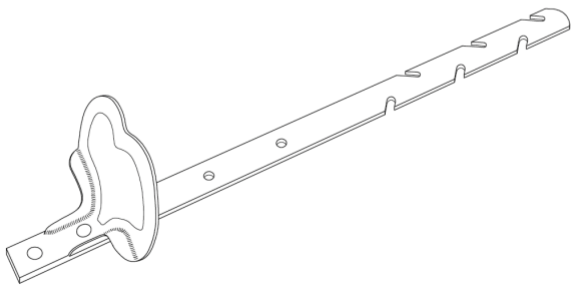


Chimney Detail

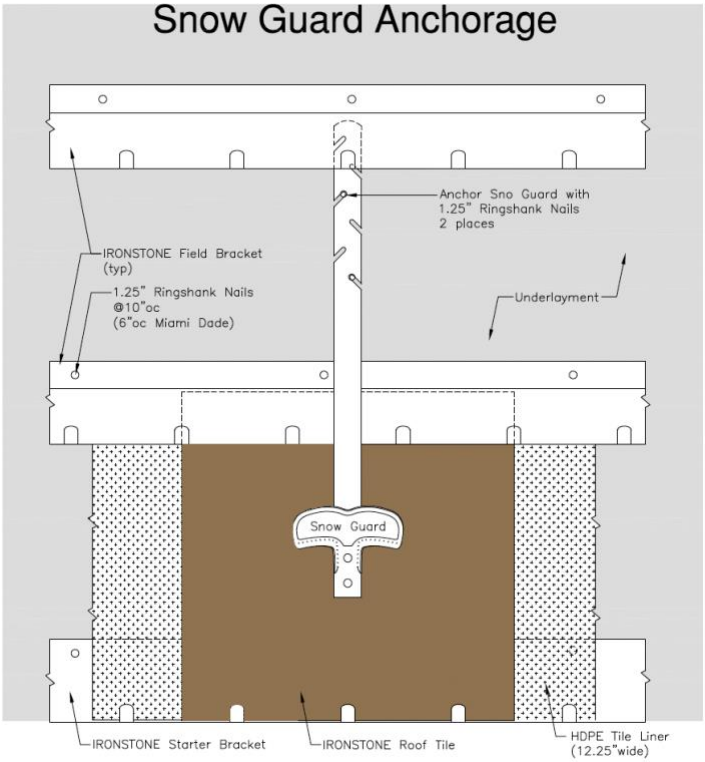


Snow Guard Installation

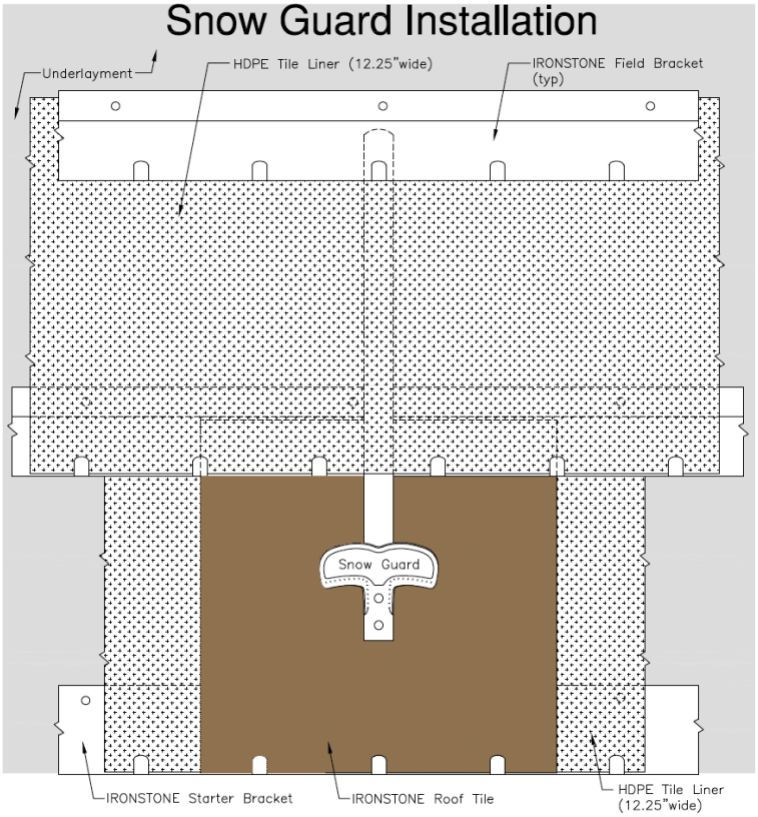
Snow Guard



Snow Guard Anchorage



Snow Guard Installation



Snow Guard Layout

