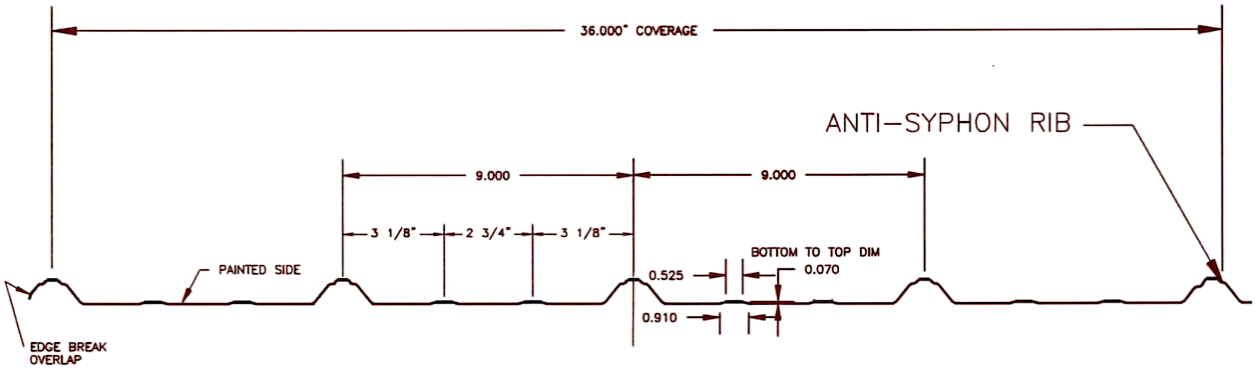
Tuff-Rib Installation Guide

Revised December 3, 2022

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change



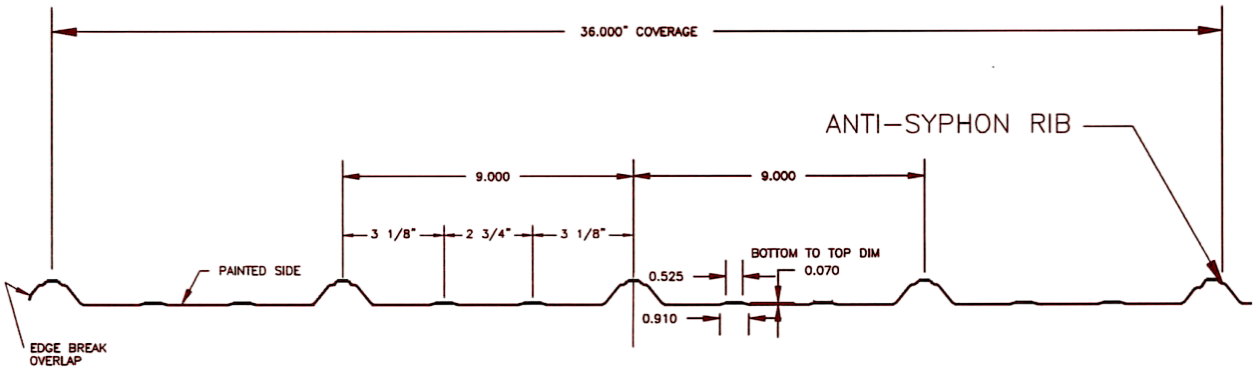
Panel Overview

Finishes:	Sherwin-Williams® WeatherXL™ Silicone Modified Polyester and Acryclic Coated Galvalume®
Warranty:	40-Year warranty for painted material. 25-Year warranty for non-painted Galvalume®
Corrosion Protection:	AZ55 per ASTM A 792 for unpainted Galvalume® AZ50 per ASTM A 792 for painted Galvalume®
Gauges:	29 gauge standard. 26ga available upon special order.
Profile:	36" net coverage. 3/4" panel rib height.
Minimum Roof Slope:	3:12

Galvalume® is a trademark of BIEC International.
Sherwin-Williams® and WeatherXL™ are trademarks of SWIMC, LLC.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Tuff-Rib | Through Fastened Panel



Section Properties

GA	Width (in)	Yield (ksi)	Weight (psf)	Top In Compression		Bottom In Compression	
				Ixx (in4/ft)	xx (in3/ft)	Ixx (in4/ft)	xx (in3/ft)
29	36	80	0.63	0.0097	0.0162	0.0060	0.0140
26	36	80	0.80	0.0123	0.0207	0.0080	0.0181

Allowable Uniform Loads, psf For various fastner spacings

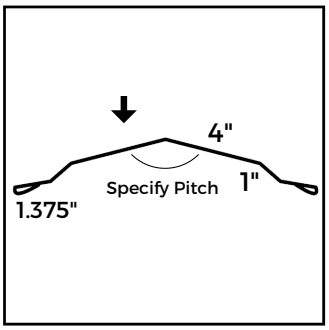
	Inward Load						Outward Load					
GA	1.5'	2'	2.5'	3'	3.5'	4'	1.5'	2'	2.5'	3'	3.5'	4'
29GA	171	97	62	43	32	24	197	112	72	50	37	25
26GA	221	125	81	56	41	32	251	143	92	64	47	32

1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers the 3 or more equal spans condition. Allowable load does not address web crippling, fasteners, support material or load testing. Panel weight is not considered.
3. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
4. Allowable loads do not include a 1/3 stress increase for wind.
5. Diaphragm Capacity - 246 plf average Ultimate Shear Strength using the above fastening pattern on 2x supports located 2' on center, per ASTM E 455.

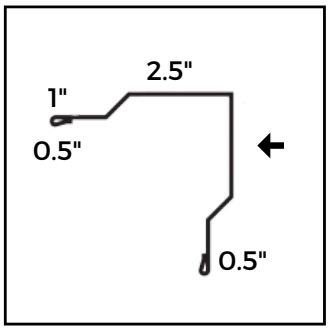
©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

true METAL SUPPLY

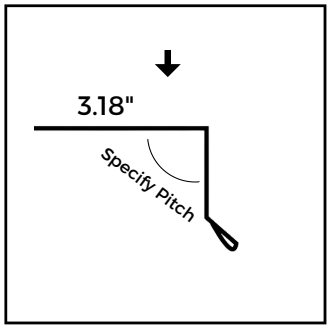
Tuff-Rib | Trim Detail



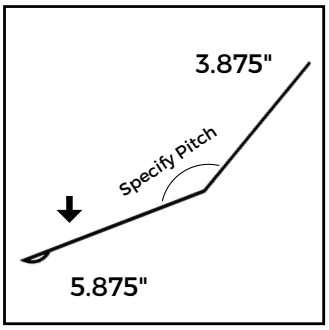
Ridge / Hip Cap



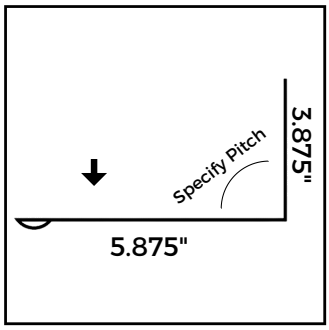
Small Corner / Rake



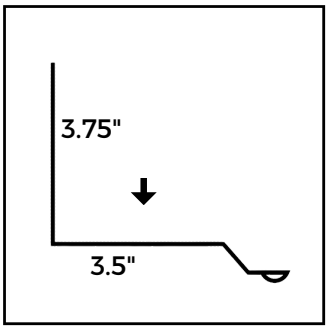
Denver Eave Trim



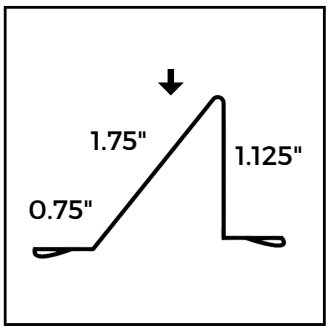
Pitch Break Flashing



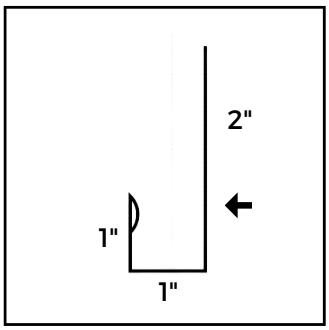
Headwall Flashing



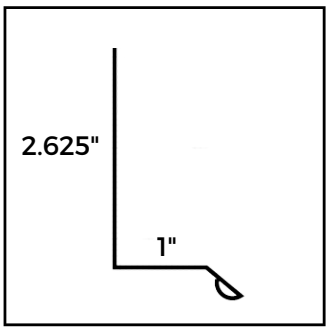
Sidewall Flashing



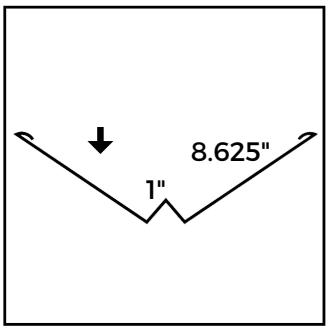
Snow Rail



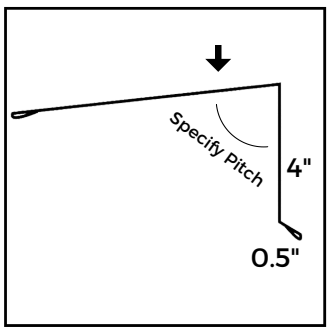
J-Channel



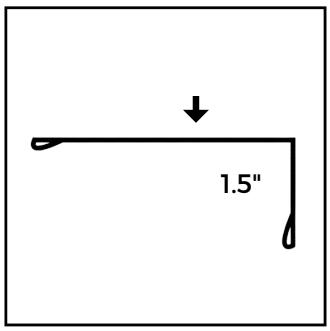
Drip Cap



Valley Flashing



High Side Peak



3.5" Post Trim

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

The general instructions in this installation guide are for informational purposes only. Every roof is different and certain applications may require adjustments in the field that are unique to that particular roof. True Metal Supply assumes no responsibility for roof performance.

Read carefully before continuing with installation.

Safety and Care

- **Wear gloves and protective sleeves when handling metal panels.** Metal roofing panels and trims have sharp corners and edges and can easily cut through skin.

- **Use extreme caution when handling panels in the wind or when handling them on the roof.** Metal panels are lightweight and can act as a wind sail when being carried. A metal panel that gets caught by the wind can easily knock you off the roof and/or cause you to lose grip of the panel and seriously injure yourself or someone else.

- Eye protection should be worn when drilling or cutting metal panels.

- **Foot traffic can cause panel distortion.** Exercise care when walking on metal roofing panels and never stand on the major ribs as it could cause them to be crushed. Traffic over an installed roof should be kept to a minimum.

- **Strippable film on trims or panels should be removed within 30 days.** If your panels or trim are packaged with protective strippable film, it should be removed within 30 days or could become very difficult to remove and is not eligible for return.

OSHA SAFETY REGULATIONS SHOULD BE COMPLIED WITH AT ALL TIMES.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Field Cutting

True Metal Supply recommends using aviation snips, a drill mounted Turbo Shear or electric nibblers to cut your metal trim and panels. Power saws generate hot shavings that will stick to the painted surface and cause the material to rust prematurely. Power saws also do not "fold" protective substrate coatings over the cut edge like snips and nibblers do. Always remove debris and shavings from the panel and trim surface after cutting. **Cutting material with a saw can result in product failure that is not covered by the manufacturer's warranty.**

Drilling

True Metal Supply does not recommend pre-drilling more than one panel at a time. Pre-drilling more than one panel can cause shavings to become embedded between panels and result in premature material failure and/or rust. Immediately brush away any shavings that are caused by drilling. **Shavings created by drilling may cause the panel to rust and could result in product failure that is not covered by the manufacturer's warranty.**

Storage

Materials should be stored in a dry place. Metal panels and trims could stain or rust prematurely if standing water is allowed to sit on them or becomes trapped between them. Panels should be covered in a manner that still allows airflow. Store materials indoor if possible until they are ready for use. **Failure to properly store materials could result in product failure that is not covered by the manufacturer's warranty.**

Handling

Do not drag metal panels across the surface of one another when unpackaging. This can cause paint damage that is not covered by the manufacturer's warranty. Panels should be lifted by their sides (not by the ends) to prevent buckling.

Remove strippable film **prior** to installation.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Fastening

The fastener's washer should be firmly compressed against the surface of the metal. Care should be taken not to over-tighten the fastener and to "blow out" the washer. A blown out washer will fail prematurely due to cracking and overexpose to UV radiation. An overtightened fastener can also dimple the panel and create water pooling that leads to leaks and/or rust.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Recommended Tools

Use a chalk reel to help with angle cuts and with creating consistent fastener lines.

Use a drill with adjustable torque to fasten screws. It is **not** recommended to use an impact driver as it will improperly torque fasteners and can result in damages.

Use a 1/4" driver for standard metal-to-wood fasteners and a 5/16" driver for Wood Ultimate® and Oversized fasteners.

Scan to Buy!

Aviation snips or a drill mounted TurboShear should be used for making cuts. It is **not** recommended to use a saw blade as it will result in premature rusting along cut edge.

Scan to Buy!

A hand seamer will help you make consistent bends on your trim in the field without damaging it.

Scan to Buy!

A caulk gun is needed to install APS 500 metal roof tube sealant in required areas.

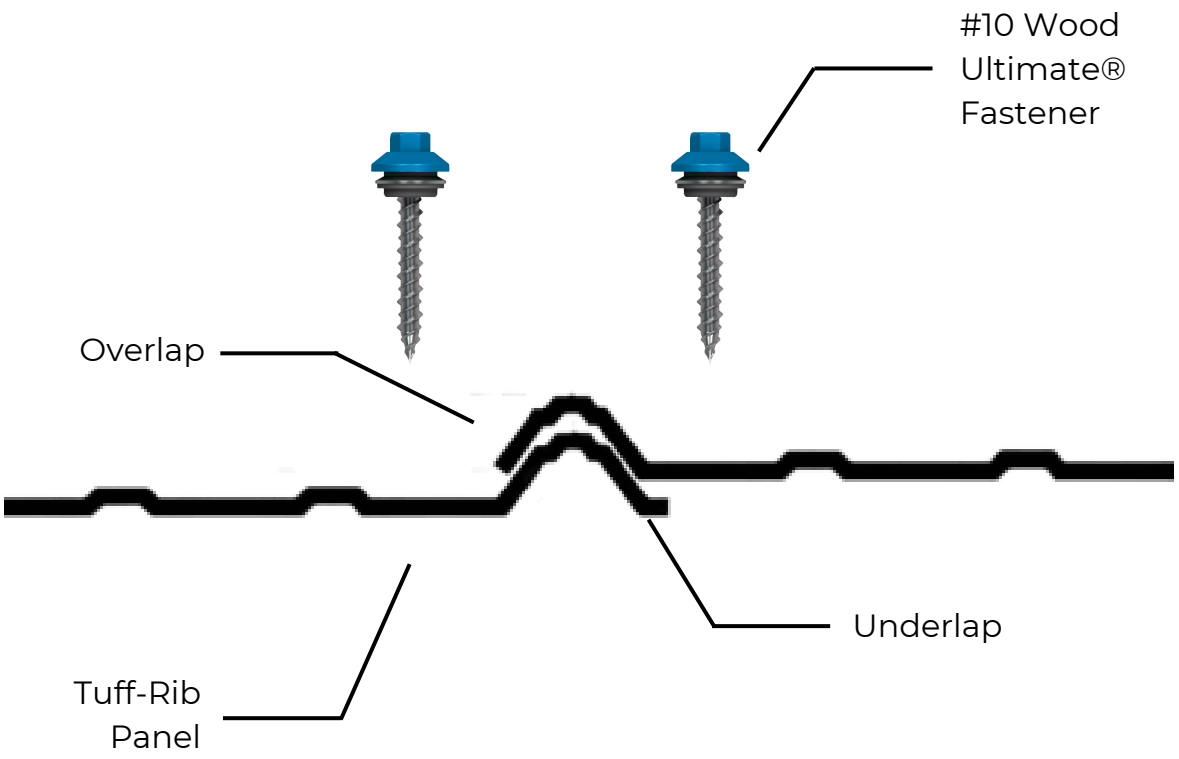
Scan to Buy!

An adjustable sheet metal hole cutting tool will help you make consistent cuts for roof penetrations like ventilation pipes.

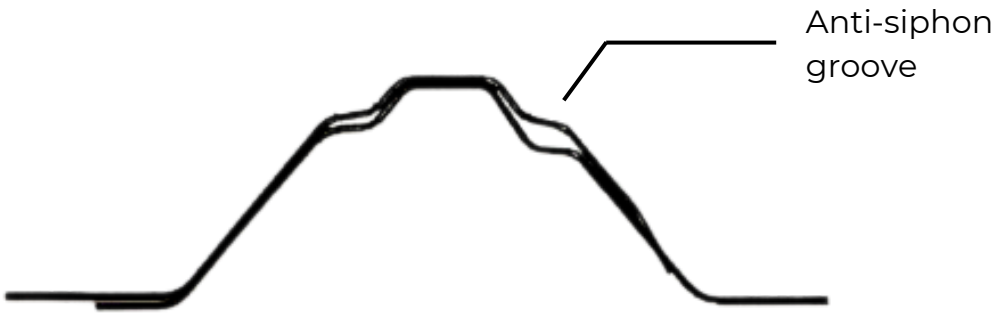
Scan to Buy!

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Panel Lap Detail



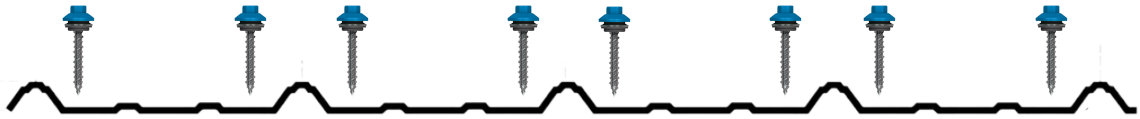
The overlap and underlap sides of the panel are not the same. It is important to make sure the underlap side of the panel goes down first. The underlap side of the panel is the side that features the purlin bearing leg. The overlap side of the panel does not have this leg. Failure to overlap panels properly can result in product failure.



©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

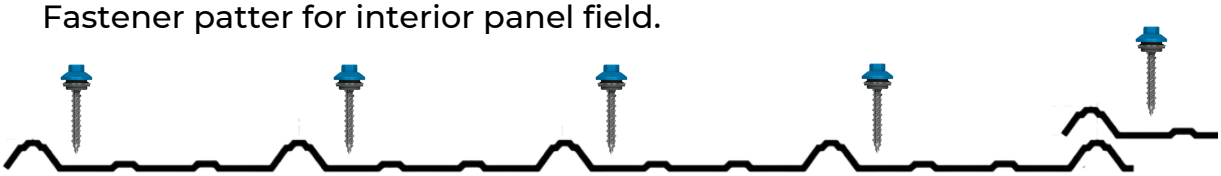
Fastening Pattern

Fastener pattern at panel ends (valley, eave, endlap).



Prevailing Winds

Fastener patter for interior panel field.



Fastener length is determined by the underlying substrate. The fastener's washer should be compressed but should not be overdriven. If a fastener misses a purlin, remove it and use a stitch screw to fill the hole.

Correct **Too Loose** **Overdriven**

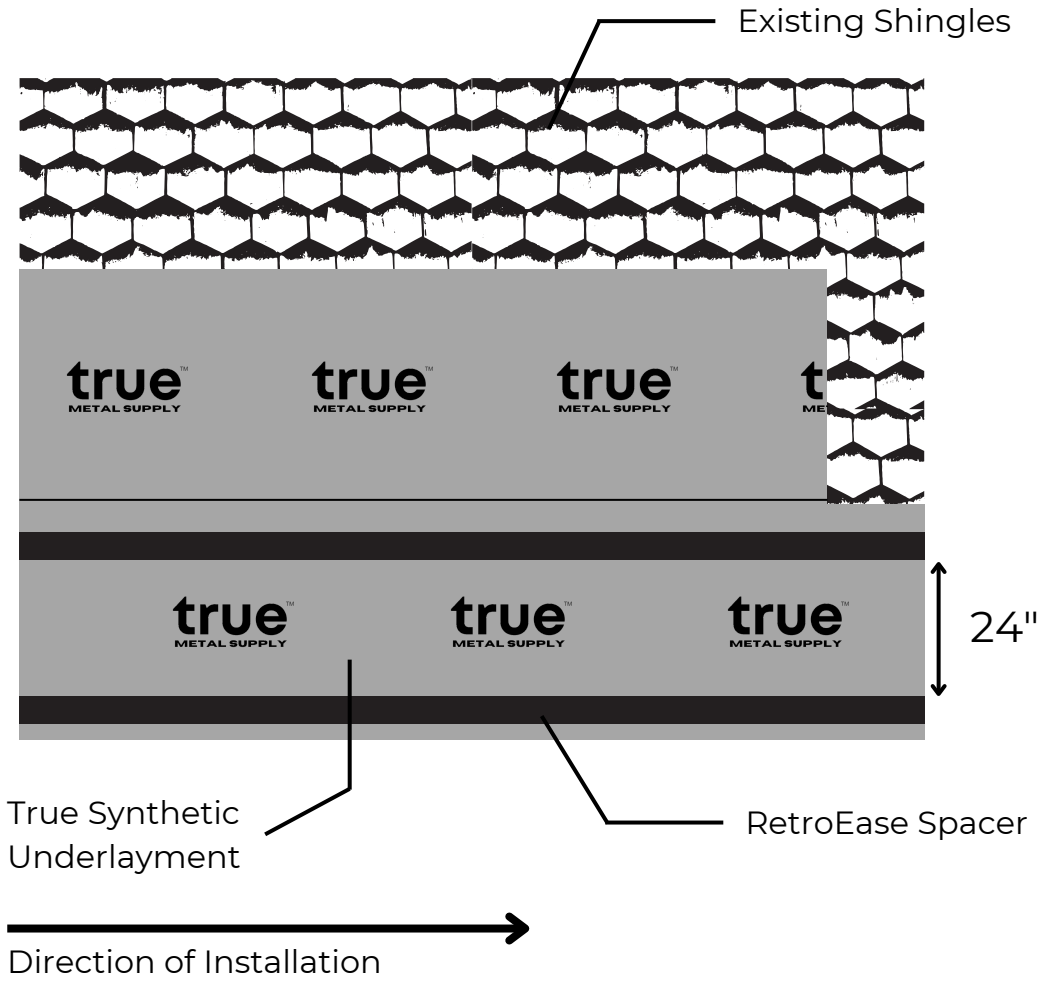
©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Over Existing Shingles

1. If installing metal panels over existing shingles, you should first ensure that there is only one layer on the roof. You should not install metal roofing over two layers of shingles.

2. Install True Synthetic Underlayment on top of the existing roof according to the fastening pattern printed on the underlayment. Use a roofing nail to attach the underlayment to the roof. Install should begin at the lowest part of the roof deck from left to right, working your way up the roof. **Do not install underlayment vertically.**

3. Install Retro-Ease Spacer on top of the underlayment starting at the eave. Install another row every 24". Use a roofing nail to attach the retro ease spacer.

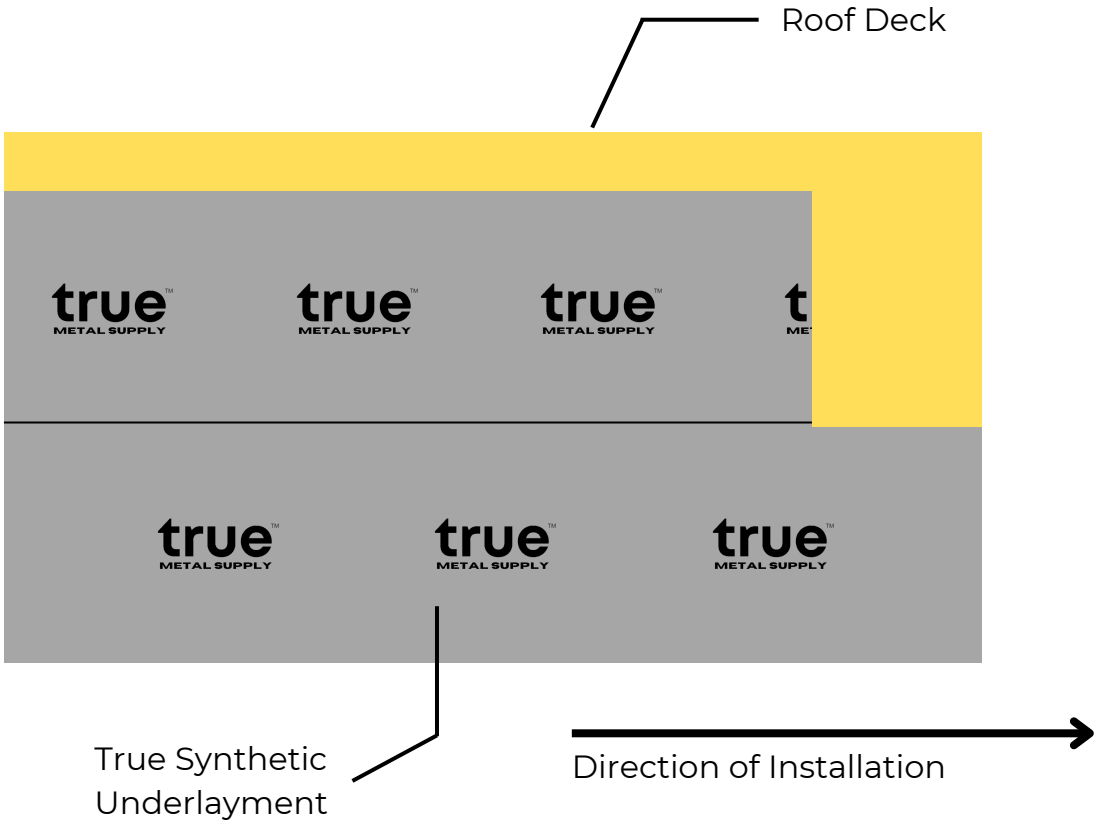


©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Over Solid Roof Deck

1. Install True Synthetic Underlayment on top of the roof deck according to the fastening pattern printed on the underlayment. Use a roofing nail to attach the underlayment to the roof. Install should begin at the lowest part of the roof deck from left to right, working your way up the roof. **Do not install underlayment vertically.**

2. Ensure the roof deck is planar. If it is non-planar, install Retro-Ease Spacer or lathing boards on top of the underlayment starting at the eave. Install another row every 24".



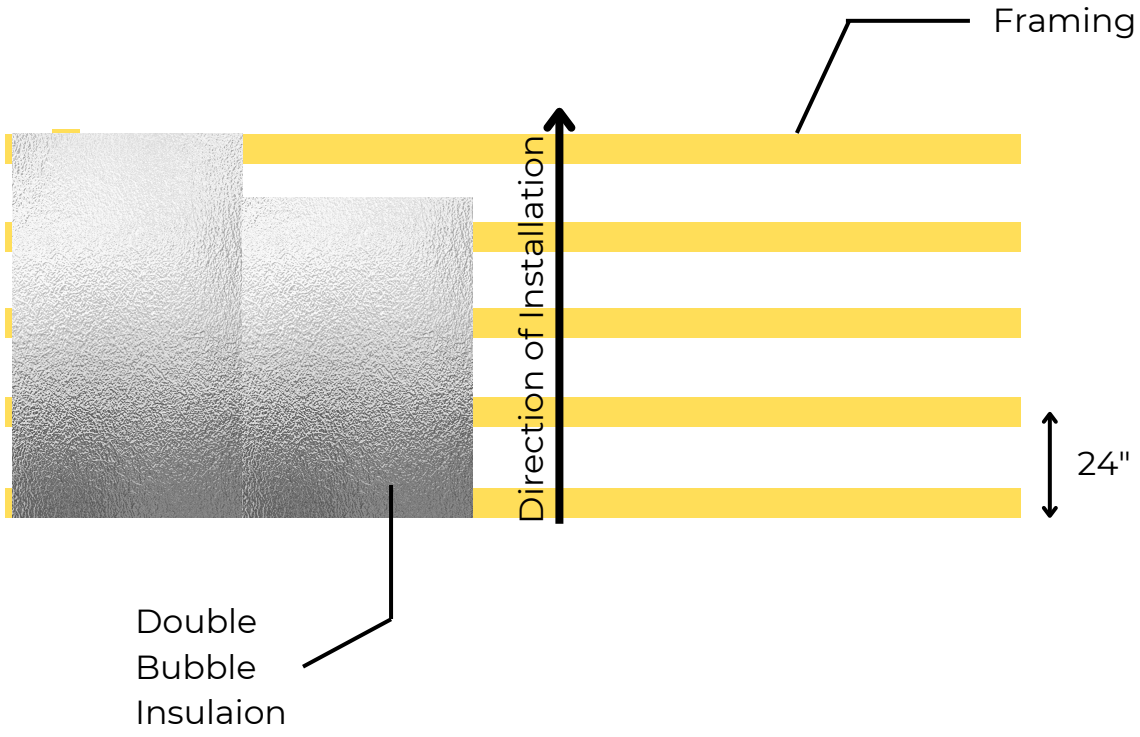
Scan to watch a video on proper underlayment installation.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Over Open Framing

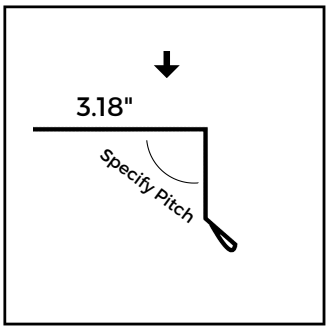
Purlins should be spaced no more than 24" apart.

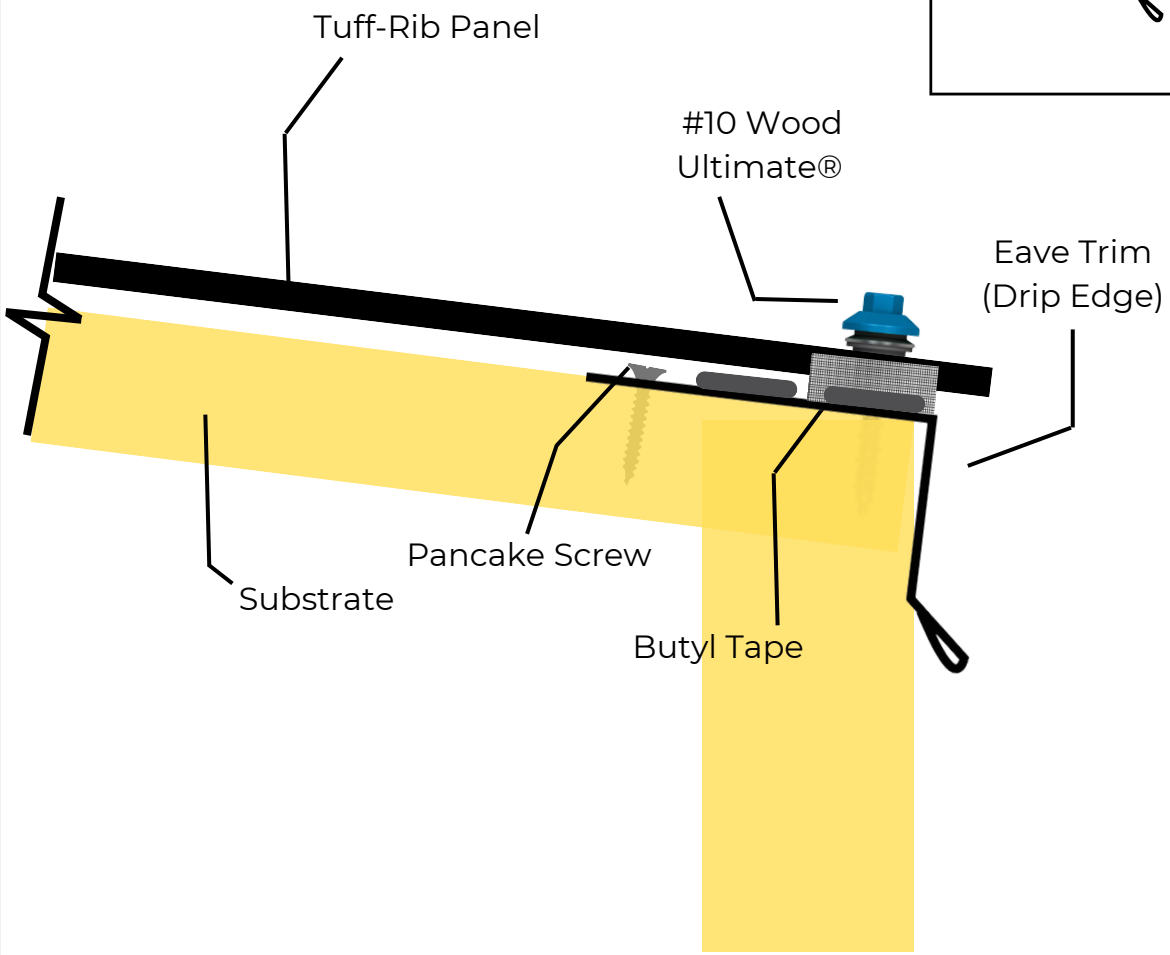
Metal roofing panels can be installed directly on top of open framing or Double Bubble Insulation can be used to prevent condensation forming on the underside of the panel. This method is typically used only if the building is enclosed.



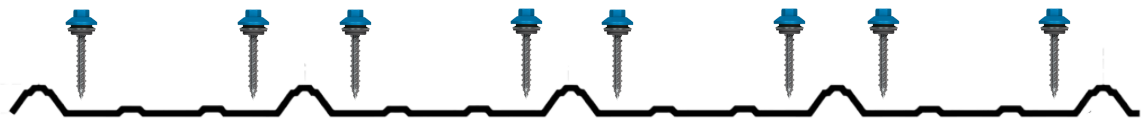
©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Eave (Drip Edge) Detail



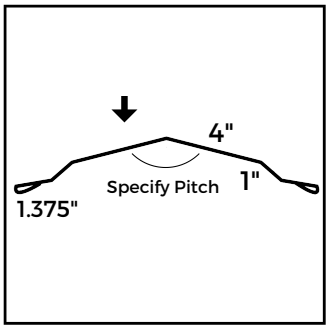


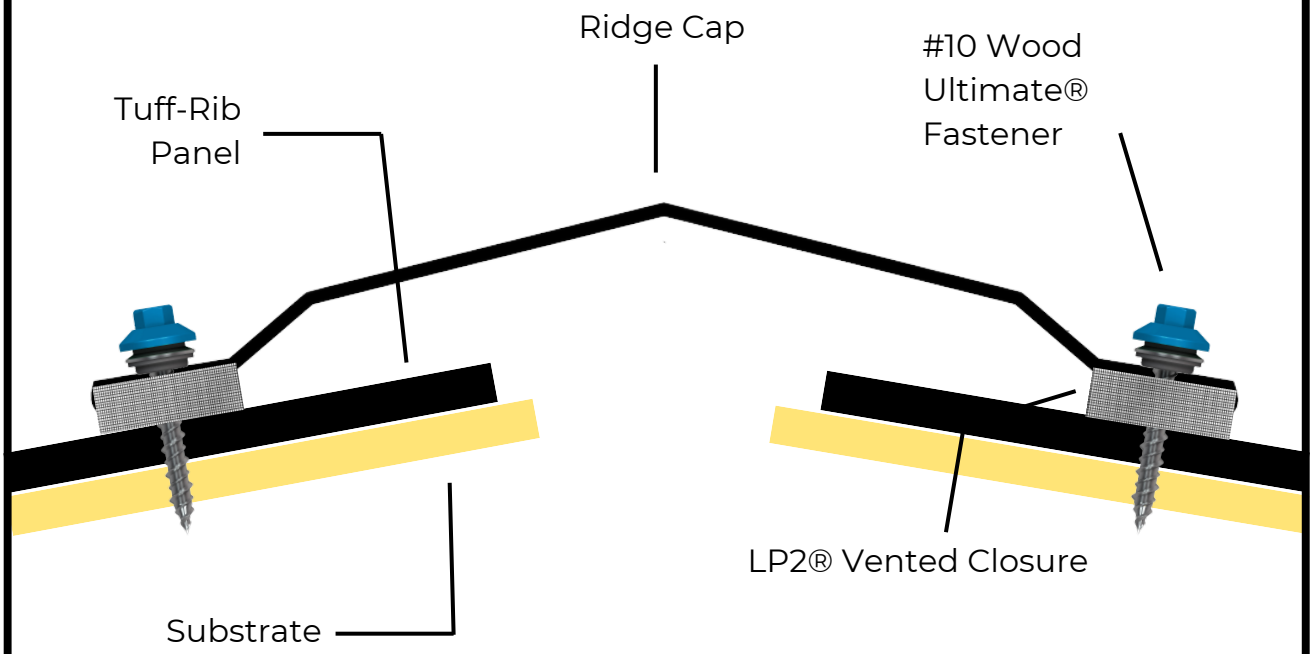
Install eave trim along the low eave of the roof. Fasten to the roof deck using manufacturer supplied pancake head screws. Apply two rows of butyl tape along the eave. Install an inside closure strip on top of the last row of butyl tape. Fasten panels to the roof deck with a fastener penetrating the closure, butyl tape, and drip edge. Install fasteners next to every rib along the eave.



©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Vented Ridge Detail

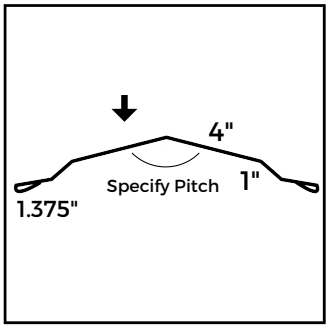


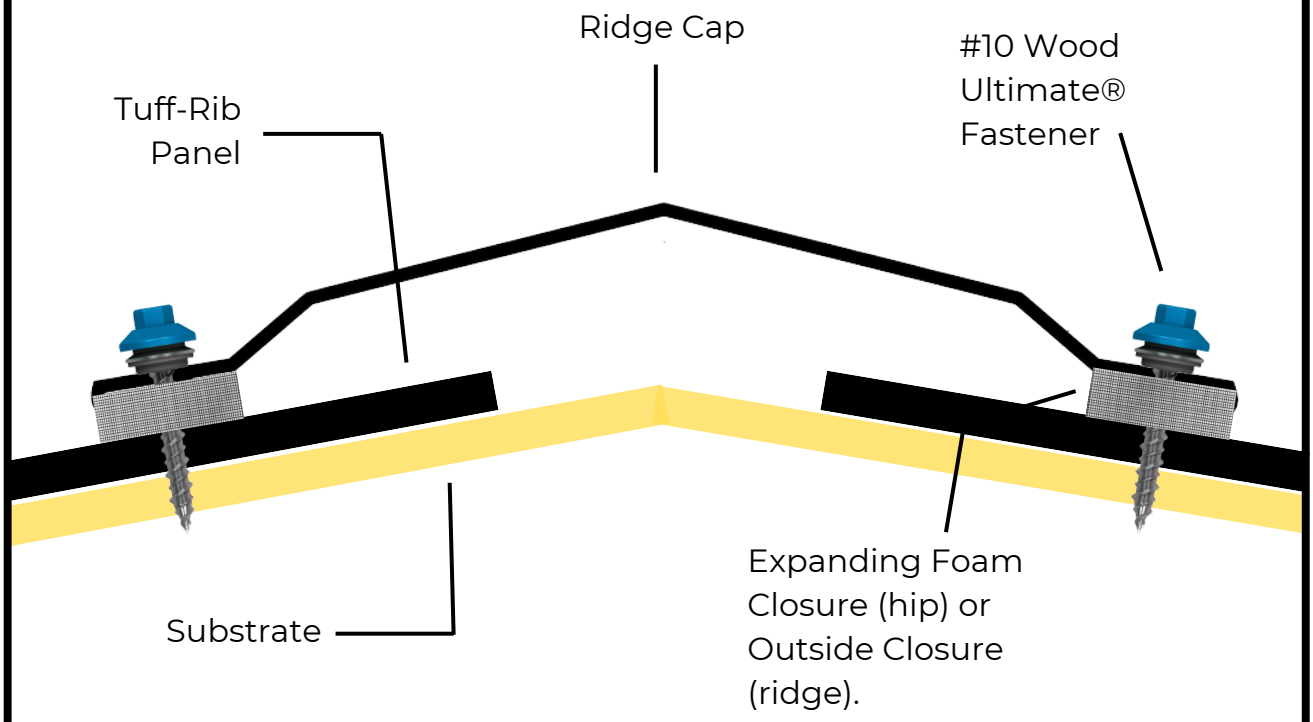


Install the LP2® Vented Closure on butyl tape along the top of the Tuff-Rib panel. Place the ridge cap on top of the LP2® Vented Closure and secure the fastener to the roof deck through the ridge cap and through the closure. Fasteners should be installed along the ridge 9" on center.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Hip / Ridge Detail



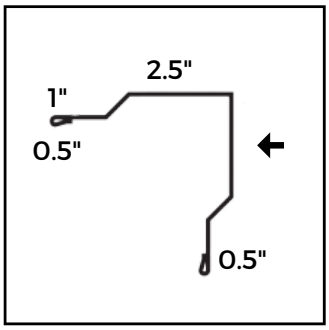


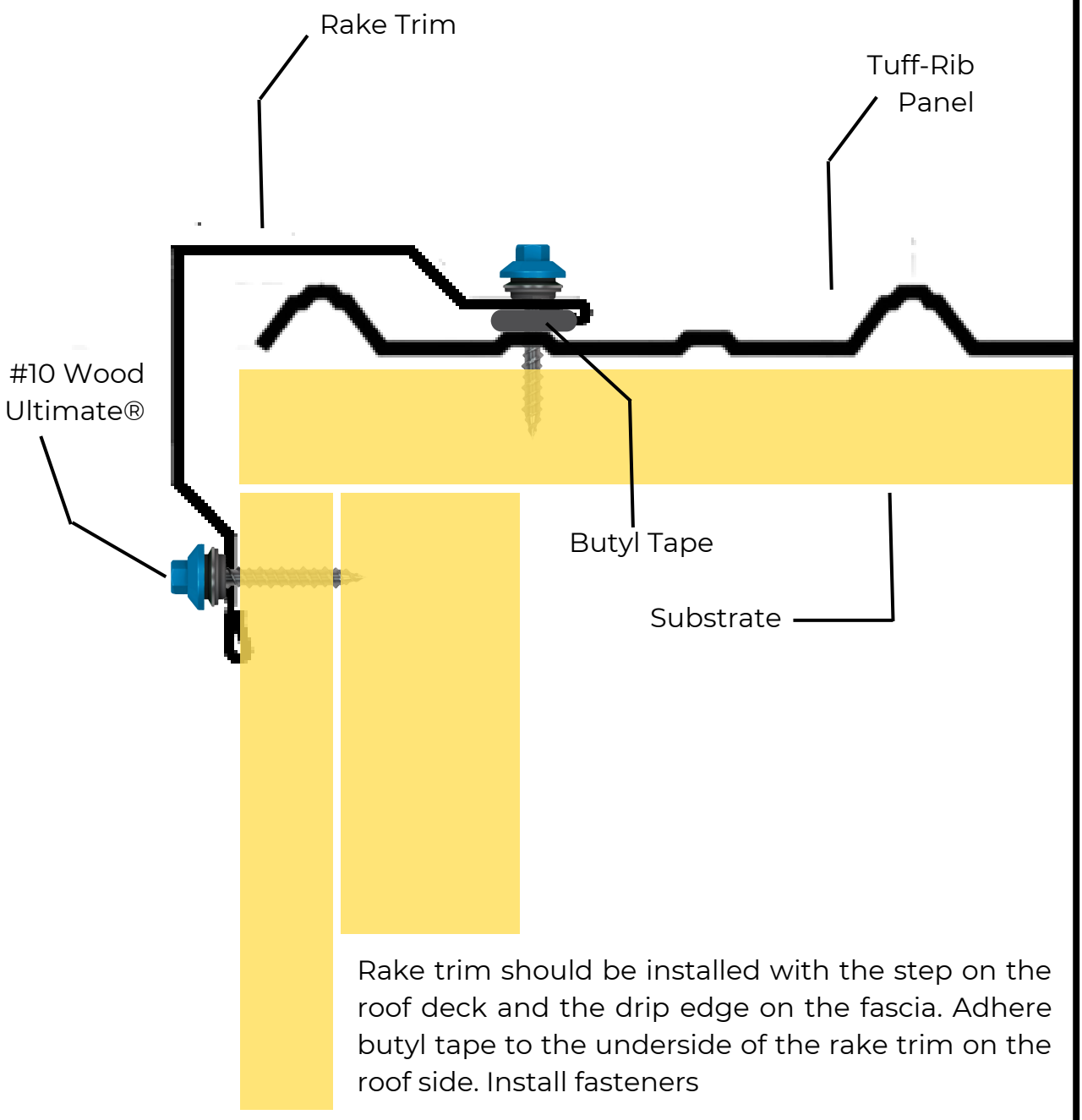
For hip applications, install the expanding foam closure along the bottom of the ridge cap. Regular closures should not be used along hips because the will not properly fit over the panel ribs due to the angle of installation. Set the expanding foam applied hip cap in butyl tape along the hip line. Install fasteners through the hip cap and closure and into the roof deck every 9" on center.

For non-vented ridge applications, install the outside closure in butyl tape along the ridge line. Place the ridge cap on top and install fasteners through the closure and into the roof deck every 9" on center.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Rake / Gable Trim Detail

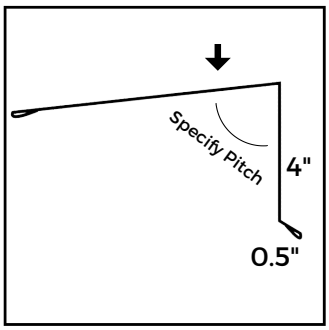


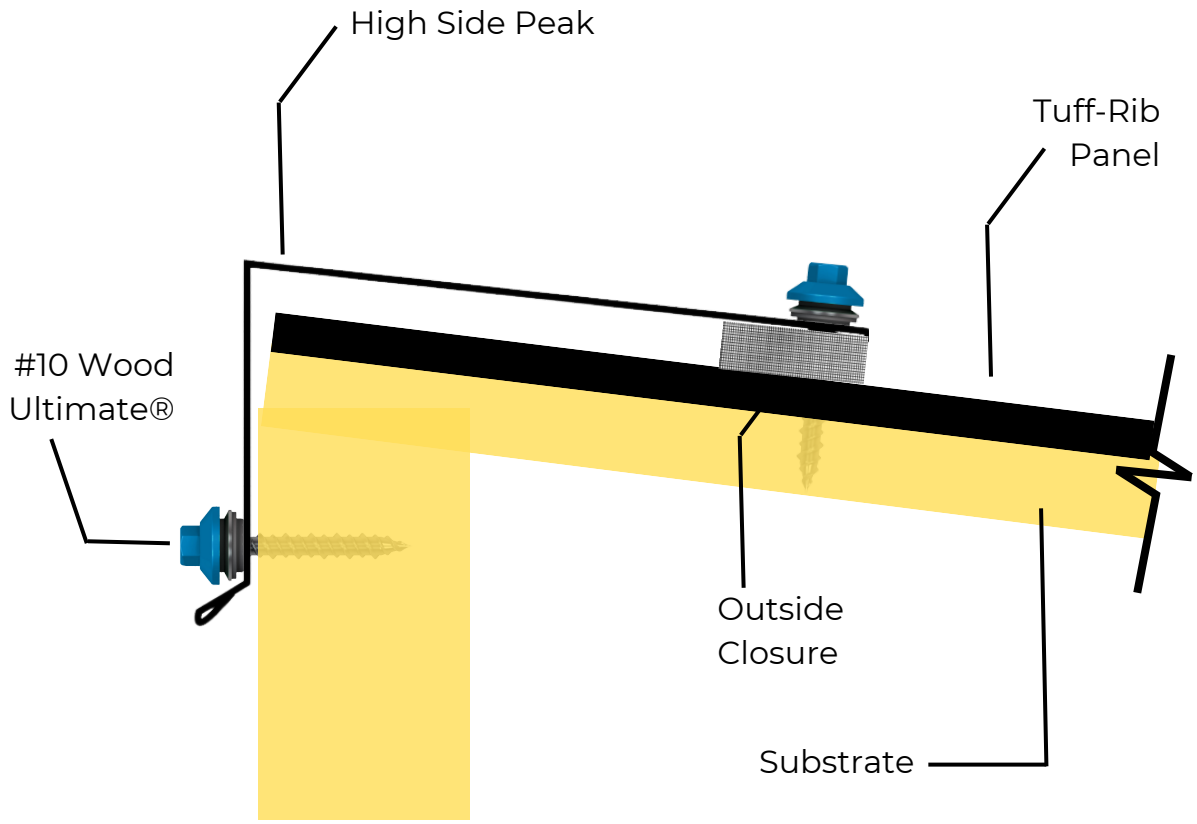


Rake trim should be installed with the step on the roof deck and the drip edge on the fascia. Adhere butyl tape to the underside of the rake trim on the roof side. Install fasteners

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

High Side Peak Detail

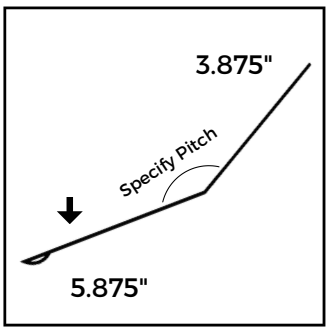


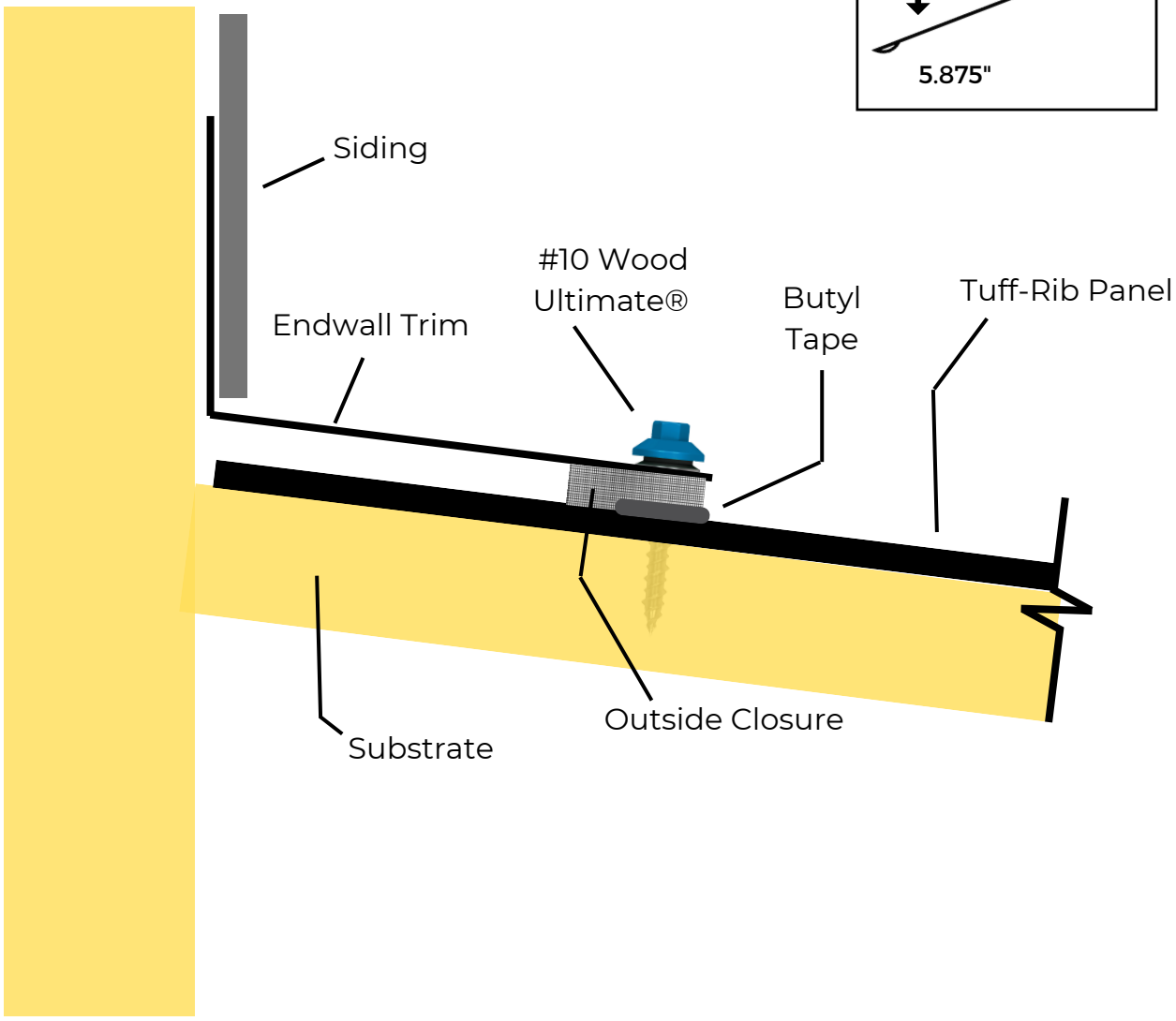


High side peak trim is to be use with mono-slope roofing applications where there is no headwall. Install high side peak trim on top of outside closures and fasten to the roof deck and fascia using manufacturer supplied #10 WoodUltimate® fasteners.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Endwall/Headwall Flashing Detail

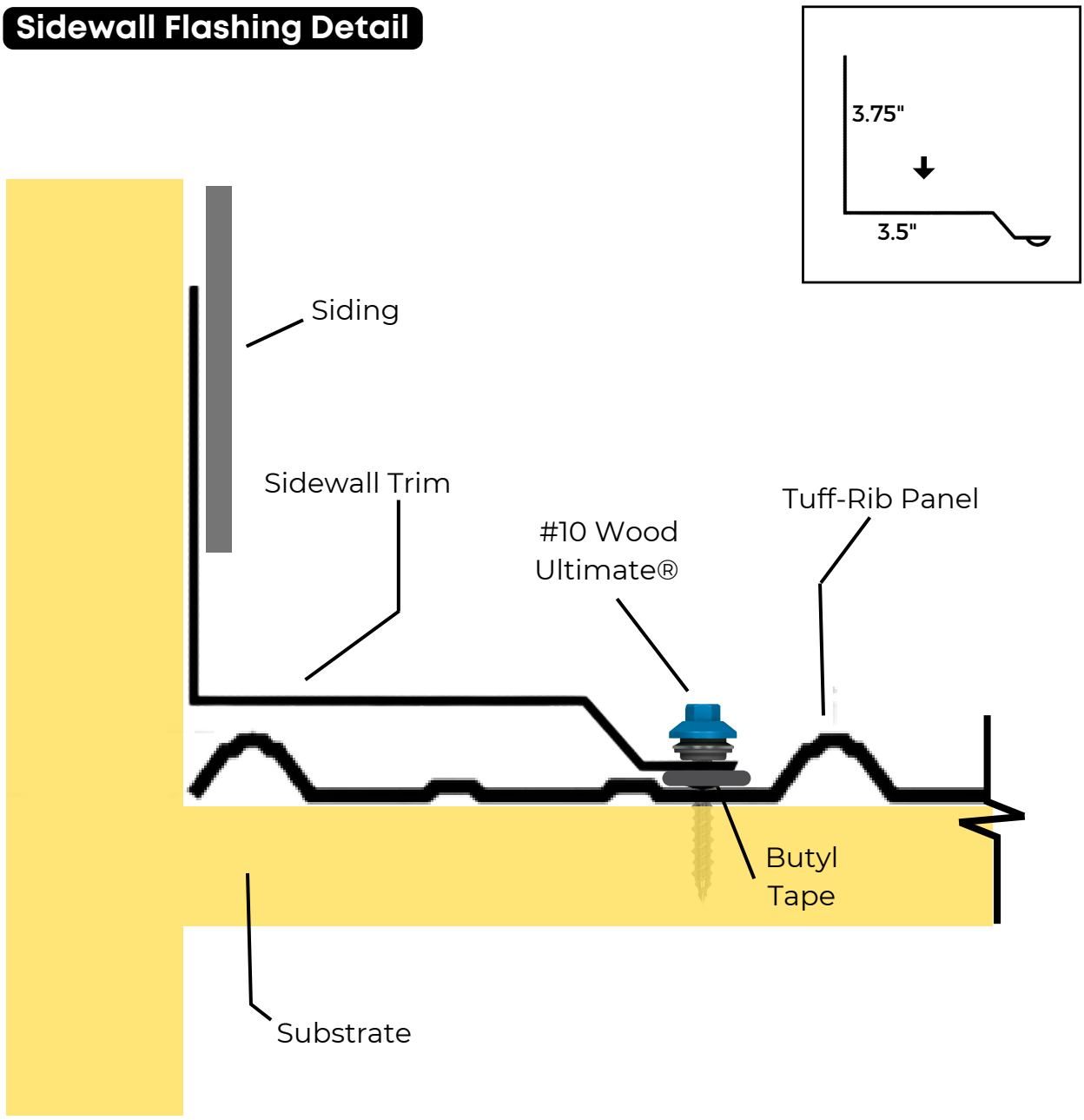




The general instructions in this installation guide are for informational purposes only. Every roof is different and certain applications may require adjustments in the field that are unique to that particular roof. True Metal Supply assumes no responsibility for roof performance.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

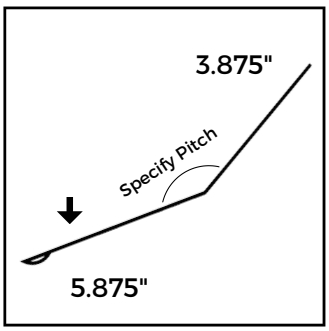
Sidewall Flashing Detail

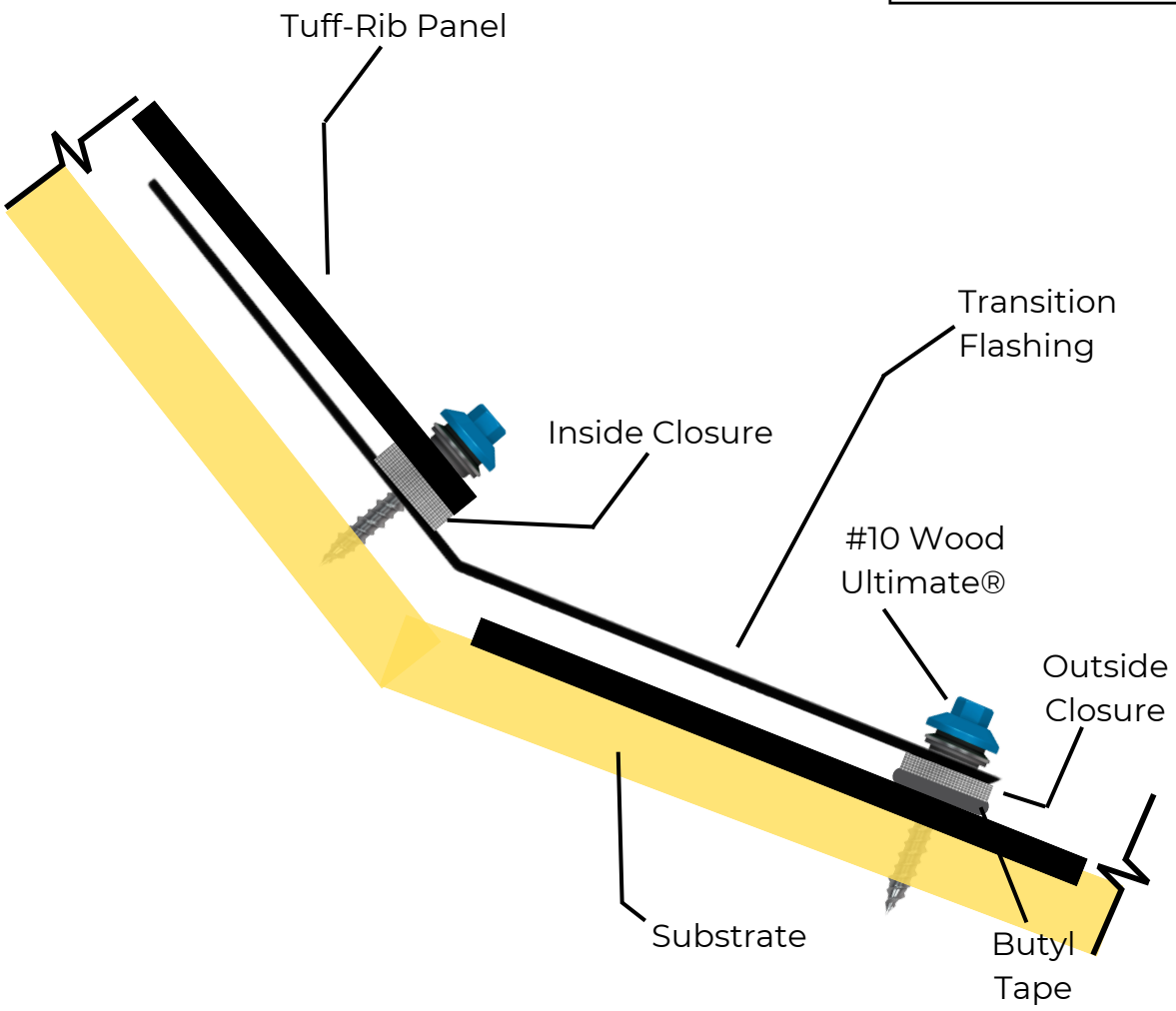


Sidewall flashing is used on wall applications where flashing is needed to run parallel with the roofing panel. Sidewall flashing should be installed under the siding if possible or with counter flashing if being used with masonry. Fasten the flashing to the roof with butyl tape applied to the hemmed leg. Install using manufacturer supplied #10 WoodUltimate® fasteners.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Transition / Pitch Break Detail

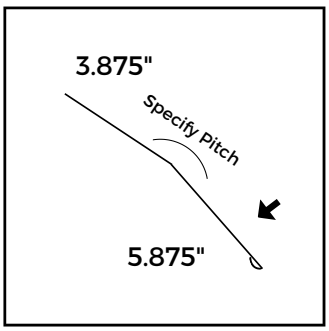


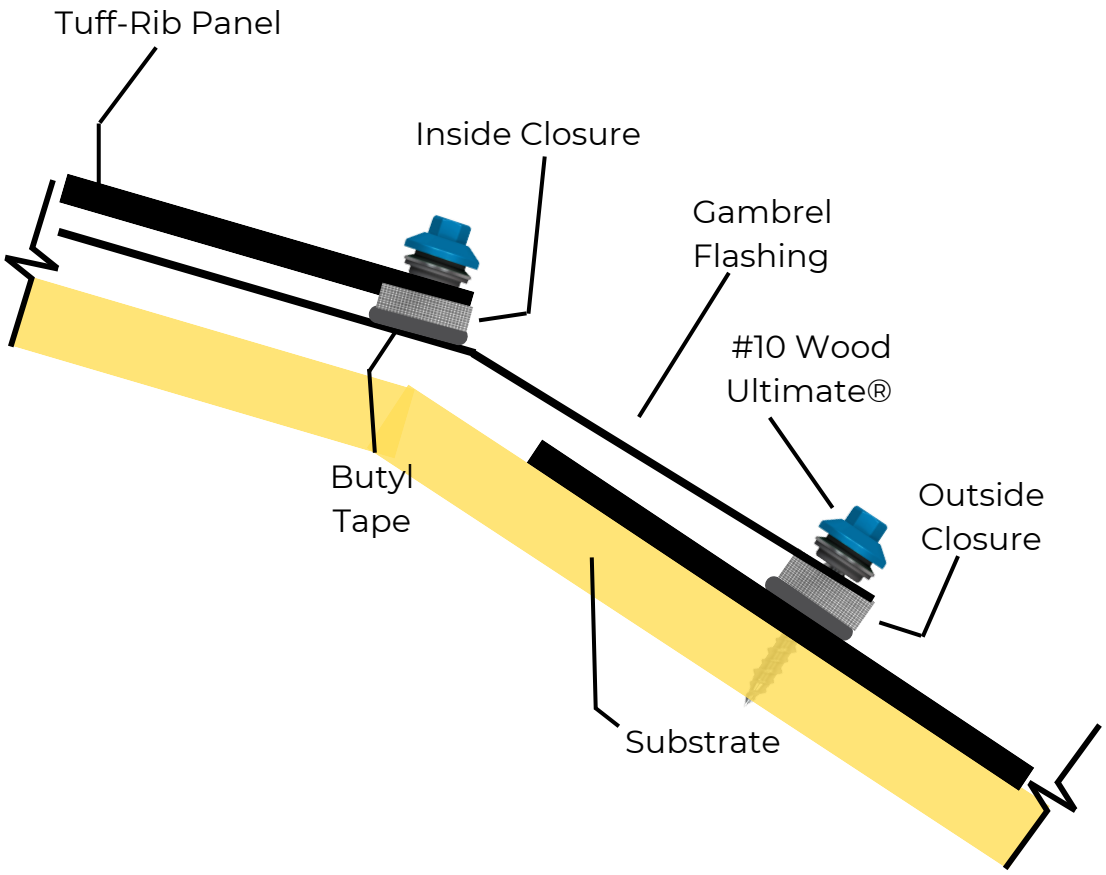


Pitch break flashing is used where two different slopes of the roof connect. Pitch break flashing should be installed with the high side under the roofing panel and the low side on top of the roof panel. Use inside closure and butyl tape on the high side, and outside closure and butyl tape on the low side. Fasten to the roof next to every panel rib using provided Wood Ultimate® fasteners.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Gambrel Flashing Detail

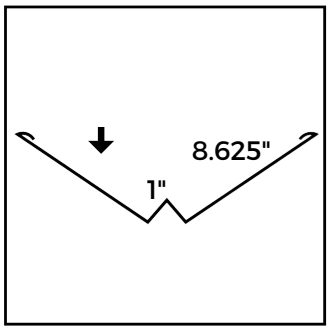


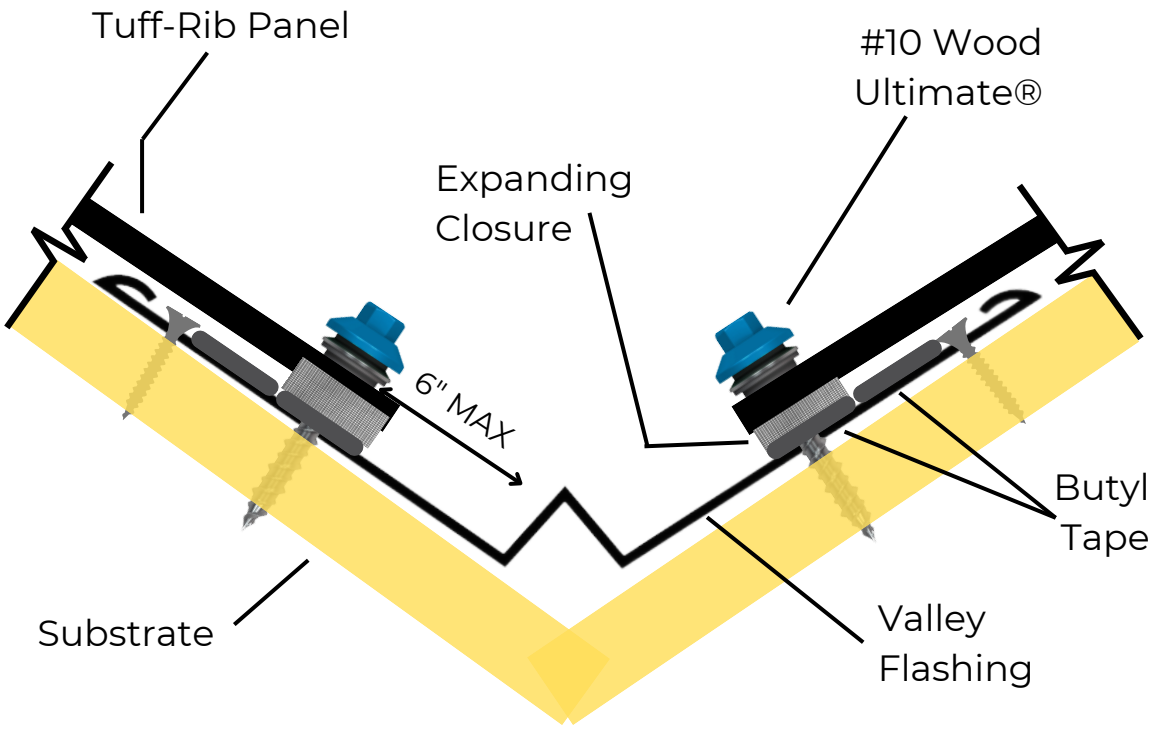


Gambrel flashing is used where two different slopes of the roof connect. Gambrel flashing should be installed with the high side under the roofing panel and the low side on top of the roof panel. Use inside closure and butyl tape on the high side, and outside closure and butyl tape on the low side. Fasten to the roof next to every panel rib using provided Wood Ultimate® fasteners.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change

Valley Flashing Detail





Valley flashing is used to flash valley areas of your roof where two adjacent roof slopes meet. Ice and water shield should be installed in the valley prior to trim installation. Fasten the valley trim to the roof deck using pancake screws. Use a double row of butyl tape below the pancake screws. Apply expanding foam closure to the length of the valley trim and install panels with fasteners next to every rib up the valley.

©2022 True Metal Supply, LLC | truemetalsupply.com | Information subject to change