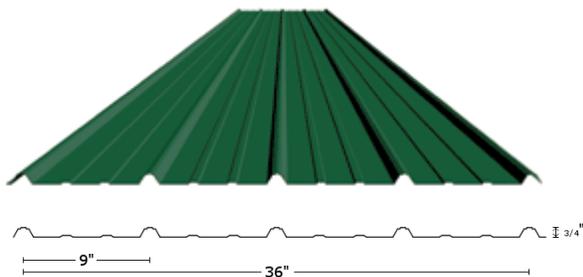




Product Guide

Allsteel Tuff-Rib panels are a strong, durable, economic, and attractive answer to the growing need for quality metal roofing. Exceptionally versatile, they are suitable for homes and businesses as well as agricultural buildings. Tuff Rib panels provide a 36-inch coverage with 3/4-inch ribs on 9-inch centers, and utilize an anti-siphoning channel to provide protection from severe weather conditions. Both panels and trim are fabricated using state-of-the-art computerized equipment at our facility to ensure consistency in the products we manufacture. Panels are roll-formed to the lengths specified by each customer in Galvalume or any of our 18 colors of painted 29-gauge metal. The paint system used on our products offers optimal exterior protection plus advanced resistance to corrosion and ultraviolet radiation. While Galvalume carries a 25-year limited coil manufacturer's finish warranty, painted metal carries a 40-year warranty. Both painted and unpainted metal are of the highest quality in the industry.



Allsteel also stocks a full line of fasteners, sealants, and other accessories to meet every need of both the do-it-yourselfer and the roofing contractor. A complete line of both in-stock and custom-made flashings and trims are available in all colors.

Roof Pitch

Allsteel roofing panels require a minimum 4/12 pitch to ensure proper water drainage, and to prevent water from siphoning over the ribs. *A 4/12 pitch means that there is 4 inches of rise for every 12 inches running horizontally.* Lap screws and sealant are recommended when the pitch is less than 4/12, and optional when the pitch is 4/12 or greater. As a general rule, the less steep the roof, and the more essential that sealant be used at all side-laps. Check with our representatives for suggestions for your particular roof pitch, and about roofing options if you have less than a 2/12 pitch.

Roof Preparation

Any irregularities in the roof, including uneven plywood joints, warped plywood, uneven trusses, poor application of underlayment, the use of button caps with felt paper, etc., can promote oil-canning. *Oil-canning* is a wave-like, rippled appearance extending up the length of the panel after it has been installed on the roof. **Care should be taken to provide a flat, uniform surface on which to attach the panels.**

Roof Installation

Panel installation should begin at the gable end of the roof opposite the prevailing rain-bearing wind (this will provide added protection against wind-driven rain being forced under the laps). Measure one panel width in from the roof edge. At this point, chalk a line from ridge to eave. Place the leading edge of the first panel along this line. **It is extremely important that this panel be laid square to the eave and ridge so that the remaining panels will line up square on the roof frame.** It is recommended to have a person at the eave and at the ridge to ensure that the proper panel coverage is being maintained across the roof. Also be sure that the panels are properly side-lapped.

In applications where end-lapping is necessary, the upper panel on the slope should lap over the panel that is lower on the slope by about 12 inches. Lesser roof pitches require a greater amount of panel overlap. All end-lap applications should use 2 horizontal rows of butyl sealant tape across the panel and proper fastening to provide a maximum water seal.

An overhang of 2 to 3 inches on the eave is recommended to provide a drip edge, while only 1 inch overhang is necessary where gutters are used. The open panel ribs at the eave can be sealed with inside closures. For maximum weather-tightness, a row of butyl tape can be applied above and beneath the closure material.

Trimming and Cutting Steel Panels

To cut panels *across the profile*:

The best devices for cutting steel across the profile are either hand snips or a nibbler. Carborundum blades on electric saws have a tendency to leave hot metal particles that can either burn the painted surfaces or leave rust marks on panels and trim. The same is true of any filings left on the roof caused by the application of screws. Care should be taken to brush particles from roof surfaces after application.

To cut panels *lengthwise*:

Carefully mark where the panel is to be cut, and, using a straightedge, score deeply down the length of the panel with a sharp-pointed utility knife. Folding the panel along the score mark, and bending back again if necessary, should produce a clean break in the panel.

WARNING—Clean all metal shavings and particles off the roof to avoid rust stains.

Residential Trim

How to Order Roof Panels

Care should be taken to order panels of the correct length to avoid having to take corrective measures after purchase. Panel lengths should fall 2 to 3 inches short of the ridge *when a vented ridge is desired*, and should extend 2 to 3 inches past the eave to allow a sufficient drip edge (except as noted on pg. 3 concerning gutters). When a roof transition is involved, panels of the upper portion should be ordered short to allow placement of the transition flashing.

Keep Materials Dry!

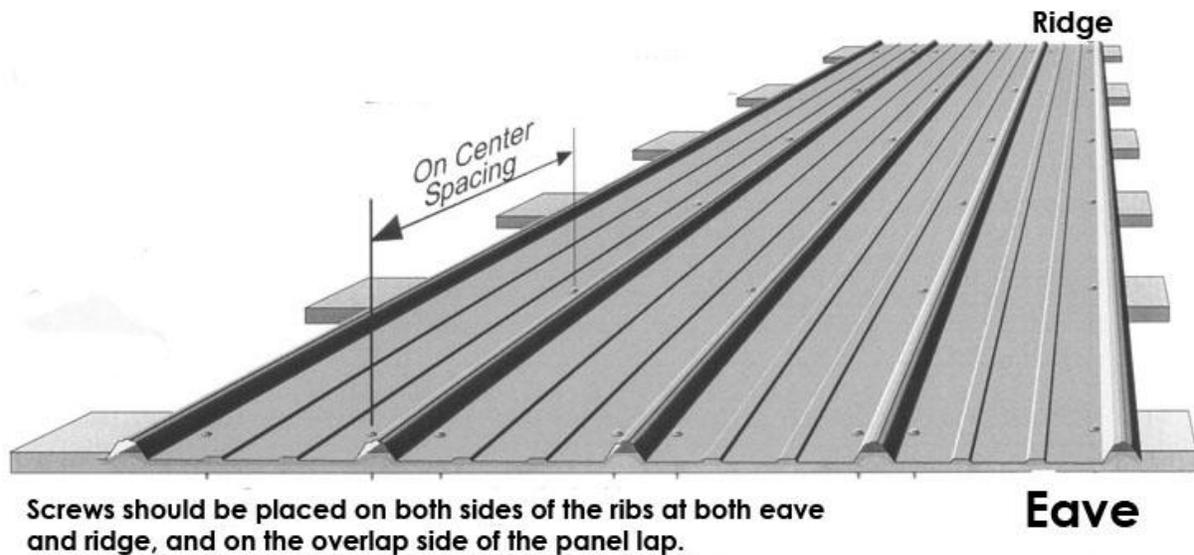
All Allsteel panels and trim are designed to withstand severe rain and wet weather conditions. Neither painted nor Galvalume finishes are designed to be in continuous contact with water for long periods of time. **Damage will result if uninstalled panels or trim are allowed to remain wet in storage.** Be sure to store material that will not be installed immediately in a dry location. Wet material should be air-dried and re-stacked if installation is not planned right away.

How to Calculate and Place Screws

Allsteel carries screws in 2 different lengths: 1½ inch and 2 inch. The 1½ inch variety is the best all-purpose size. The table below can be used to figure approximate quantities of screws for various purlin spacings and sizes of roofs. Screws are available in quantities of 250.

Screw (purlin) Spacing

linear feet of panels in your order	12 inch	18 inch	24 inch
50	270	180	135
100	540	360	270
200	1080	720	540
300	1620	1080	810
400	2160	1440	1080
500	2700	1800	1350
600	3240	2160	1620
700	3780	2520	1890
800	4320	2880	2160
900	4860	3240	2430
1000	5400	3600	2700
1100	5940	3960	2970
1200	6480	4320	3240



Again, be sure to clean away any metal shavings left after applying screws to the panels to prevent rust stains.

Allsteel Policies

Sales tax: All orders picked up at Allsteel are subject to state sales tax. Tax exemptions should be verified prior to delivery or customer pickup.

Warrantied products: There is a 40 year warranty on most material manufactured from painted coil stock, and a 25-year warranty on Galvalume material. Ask for details.

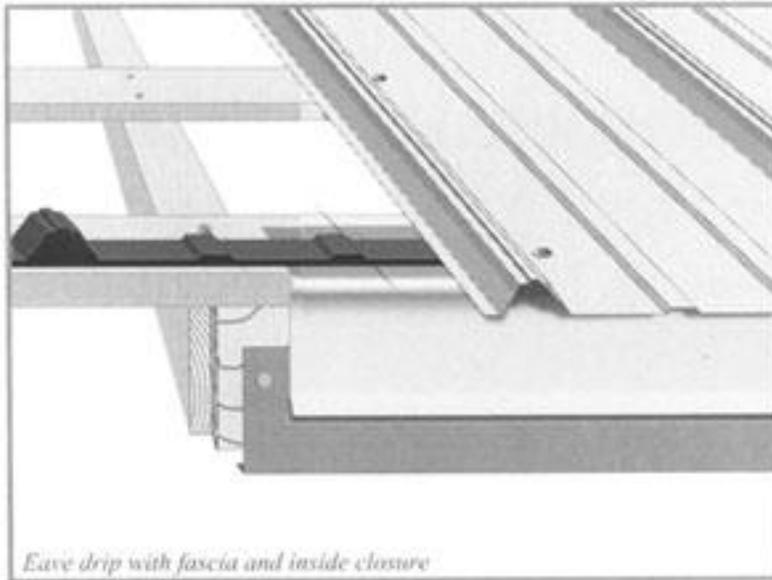
Indemnity: All prices and designs are subject to change without notice.

Disclaimer: While we have made every attempt at accuracy in this manual, we are not responsible for typographic, printing, or technical errors.

Oil-Canning: A wave-like appearance in the length of the panel is a common and often unavoidable phenomenon in metal panels, like Tuff-Rib roofing, that have large, flat areas within the panel. It is therefore not a defect, nor a cause for replacement.

Return policy: All panel and trim orders are considered the property of the customer and are non-refundable once they are manufactured.

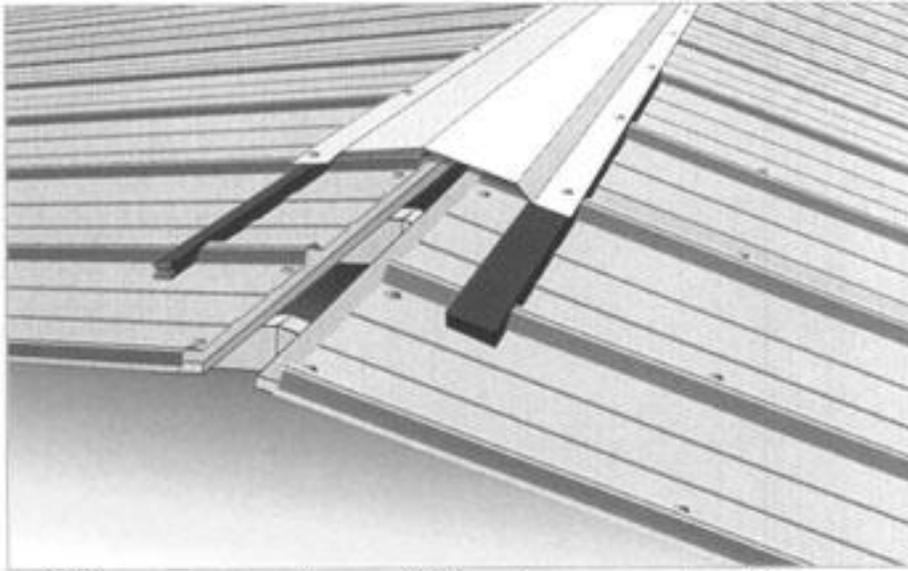
Eave Drip & Fascia



Eave drip and fascia give a finished look along the drip eave of the house, as well as providing protection for the materials they cover. The eave drip should completely cover the top edge of the fascia. Inside closures, which seal off the open ribs of the panels, are optional.

For custom eave drip, specify the amount of the eave that will be covered (dimension “a”), and specify the pitch. If fascia is desired, be sure that the dimension you order will be hidden by the eave drip.

Ridge Cap



Ridge cap showing outside closure and profile vent.

The ridge cap is used to seal the point at which two upward slopes meet. This can be both along the ridge of the roof as well as a covering for a hip. Either wood grip or self-drilling lap TEK screws can be used, and are applied through the ribs of the metal.

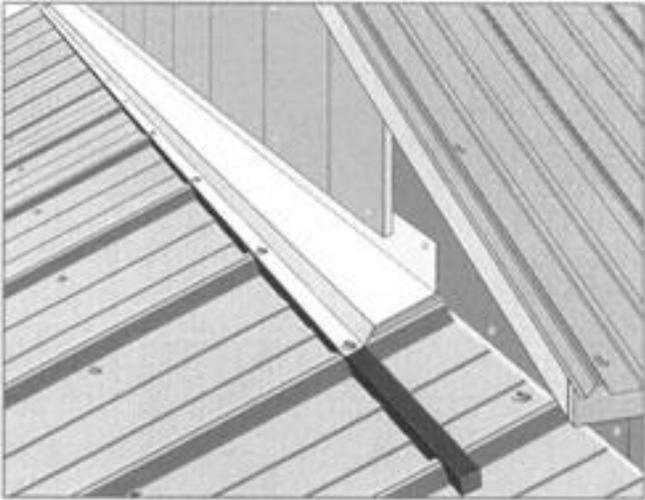


Since debris, insects, and blowing rain can find easy access under the ridge cap, closures are required to either completely or partially seal the opening. Closures under ridge caps come in 3 types: solid, vented, and hip tape.

Solid closures (“outside closures”) are the same width as the panels. They lock together in a row placed directly under the screws that attach the ridge cap, and form a solid, water-tight, air-tight barrier.

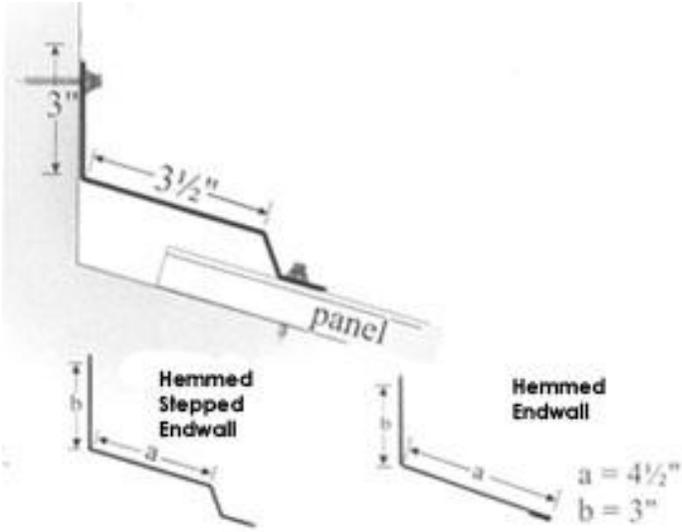
Vented closures are the same length as the panels, and forms a water retardant, insect resistant barrier that allows hot air to escape from the attic, and is better than many of the other more elaborate and expensive venting systems.

End-Wall Flashing

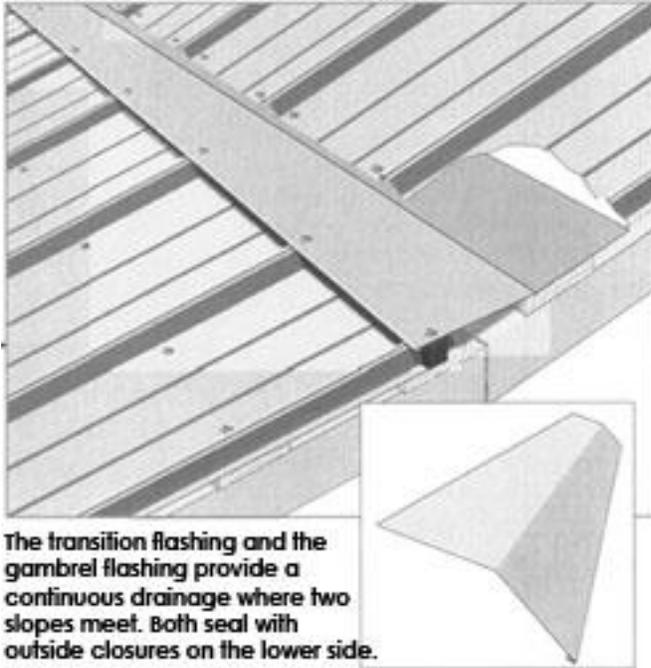


The end-wall flashing is also sealed using outside closures.

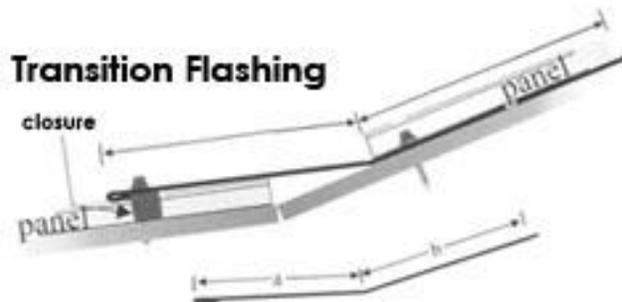
End-wall flashing is applied where the upward slope of a roof meets a wall. The wall side of the flashing can be covered with siding or counter-flashing, and outside closures are necessary to seal between the flashing and the panel. Specify which trim piece is needed and the roof pitch when ordering.



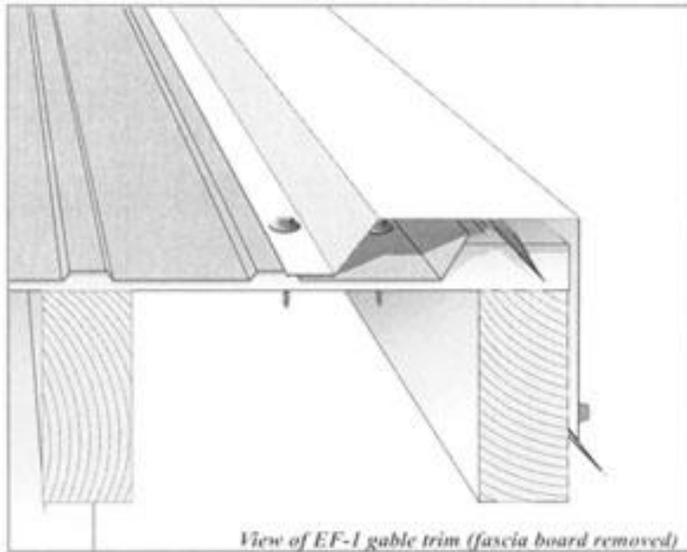
Transition Flashing



The transition flashing prevents leakage at the point where two different roof pitches meet. It must be sealed on the lower side with outside closures, and can be sealed underneath the upper panels with inside closures. The similar gambrel flashing is used where the lower pitch is steeper than the upper.

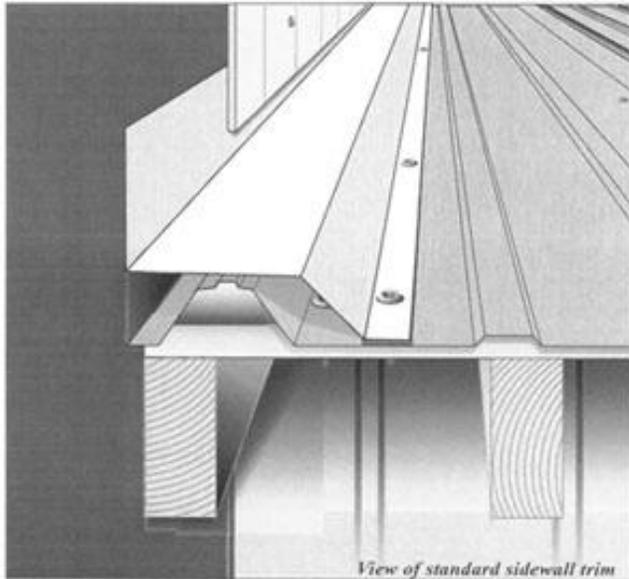


Gable Flashing



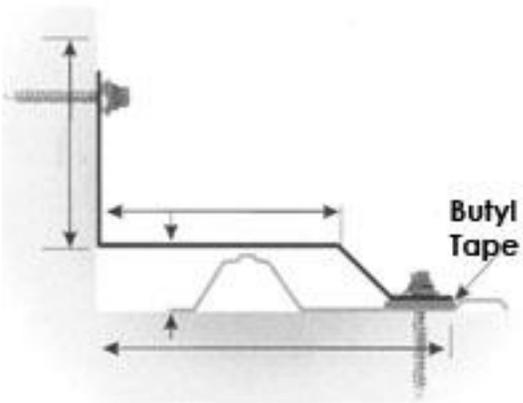
Gable flashing is used to trim the edge of the roofing panel at the gable end of the roof. It should match the eave drip that extends along the drip edge of the roof. If the panel is allowed to hang over the gable end, eave drip can be used instead. Butyl tape between the trim and panel eliminates leaks.

Sidewall Flashing

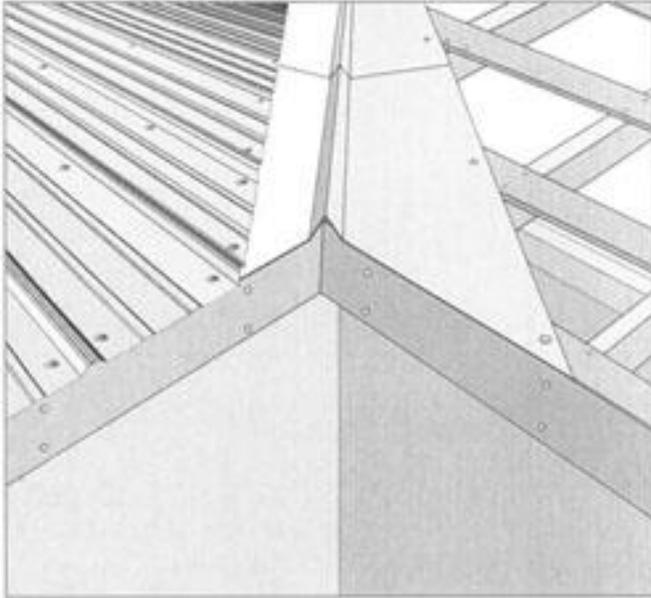


Custom trim – specify a custom length for a or b
Standard dimensions – a = 3", b = 3"

Sidewall flashing is applied when the side of the roof butts up against an adjacent wall. The wall-side of the flashing can either be covered over with siding or sealed with caulk. Butyl tape should be applied where the "foot" of the flashing attaches to the roof.



Pre-formed Valley



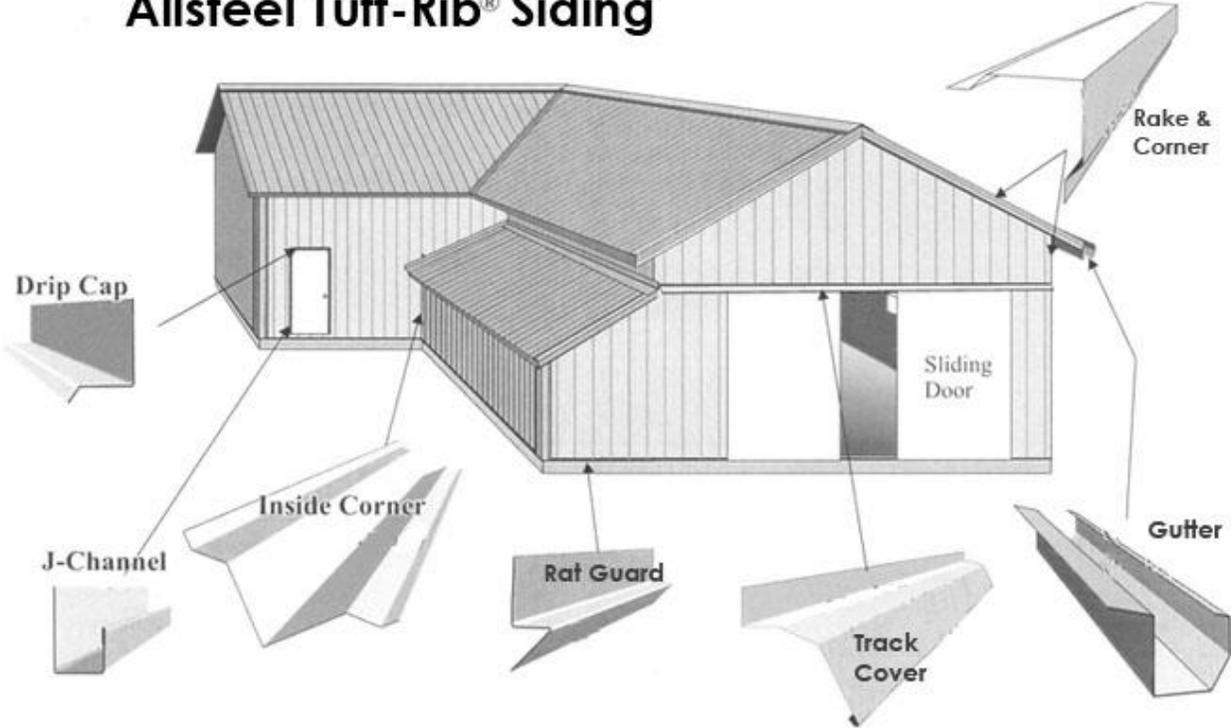
Pre-formed valleys use a diverter to prevent water from rushing under panels on the opposite side, instead channeling the water off the roof. Expanding foam closures are often used to ensure a good seal.

Pipe Boot

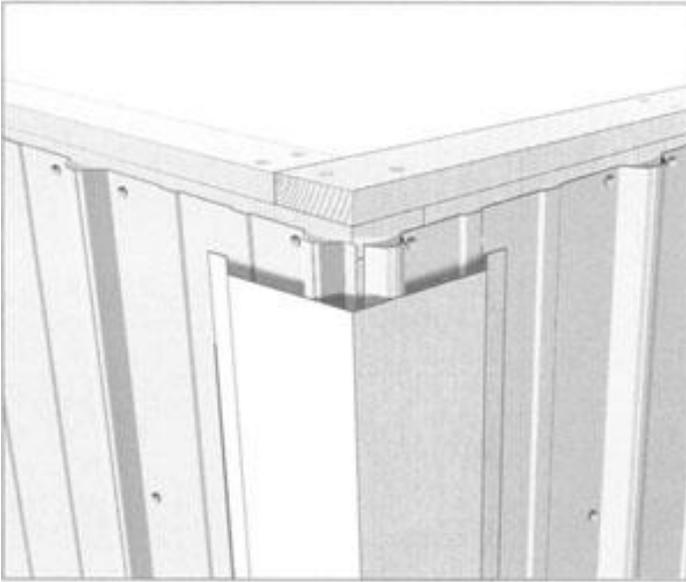


Pipe boots provide a watertight seal around roof vents and come in a variety of sizes. They seal with caulk and conform to the shape of the panel ribs.

Allsteel Tuff-Rib® Siding



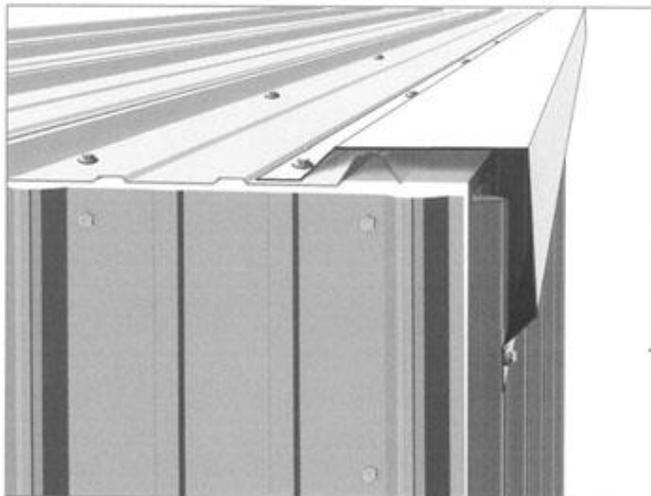
Outside Corner



The Rake and Corner trim can be used as a gable trim or a corner for metal-sided buildings. Customizing corners is often necessary due to their landing on a panel rib. These can be ordered as custom trim items by specifying custom dimensions. Be sure to take into account the 3/4" "head space" when figuring custom dimensions.

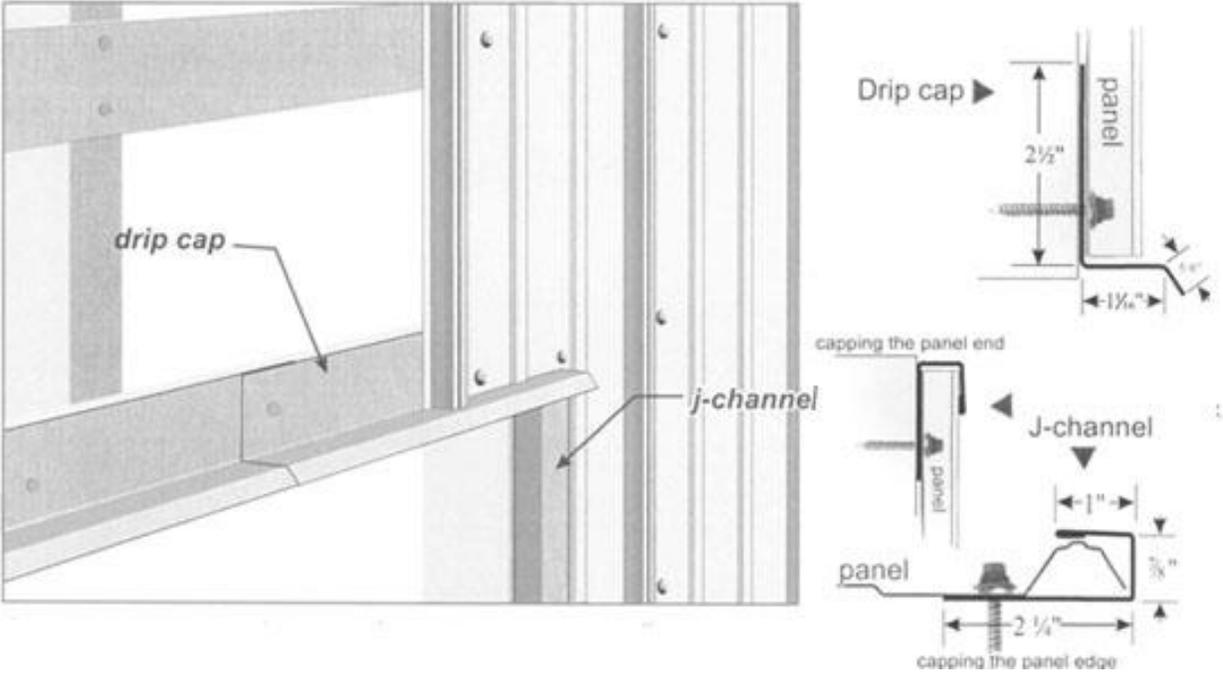
When used as corner trim, the GR-2 straddles the ribs of the panels where they meet at the corner of the building. The Tuff-Rib outside corner also serves as a gable rake.

Gable Rake



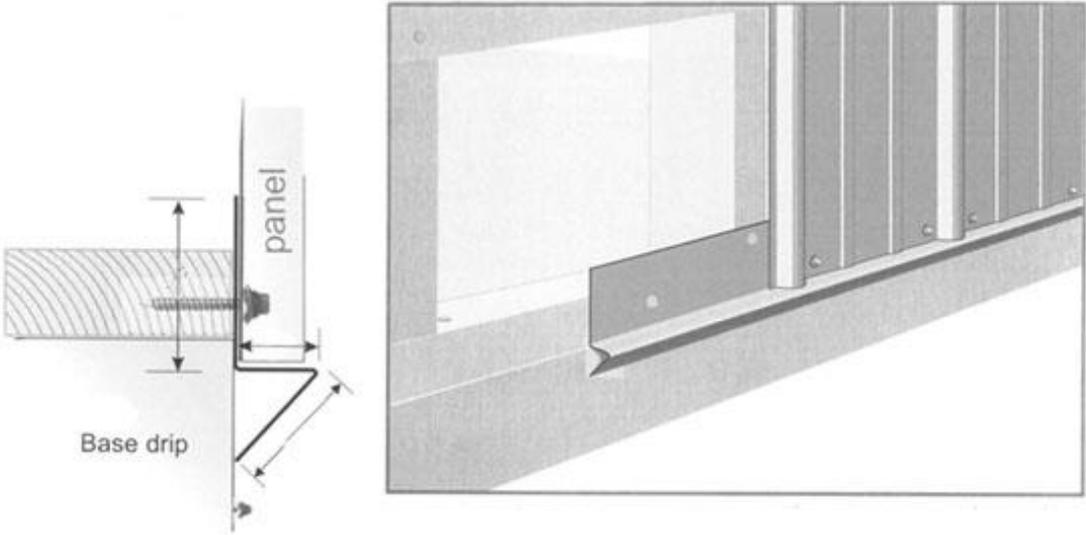
When used as a gable rake, it runs parallel to the ribs of the roof panel, and is attached with screws running through the ribs of upright siding. The roof side can be sealed with butyl sealant.

Drip Cap and J-Channel



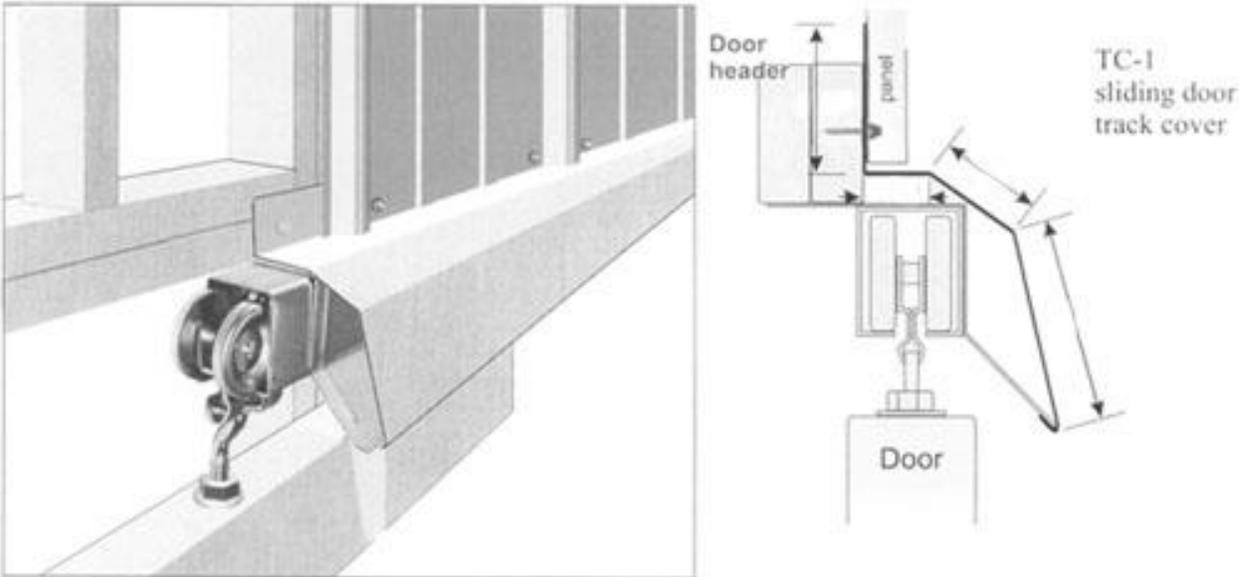
The drip cap is commonly used to trim out the bottoms of panels over doorways and windows, and occasionally takes the place of rat guard. J-channel is used to cap raw panel edges where run-off is not a problem, and is most commonly used to trim around the bottom, sides, and occasionally the top of windows and doors, and also to cap the top sides of skirting.

Rat Guard



Base drip seals off the bottoms of panels at the floor level, where it helps to prevent the entrance of rodents and insects, as well providing a base for the setting of panels.

Track Covers



Sliding door track covers fit over the door track and under the panels to hide the track, give a neat appearance, and shed water over the door.