



# Installation Manual for **STANDING SEAM ROOFING**

Absolute Steel

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[www.MetalRoofingSource.com](http://www.MetalRoofingSource.com)



Standing Seam panel has  
1" high "nail strip"

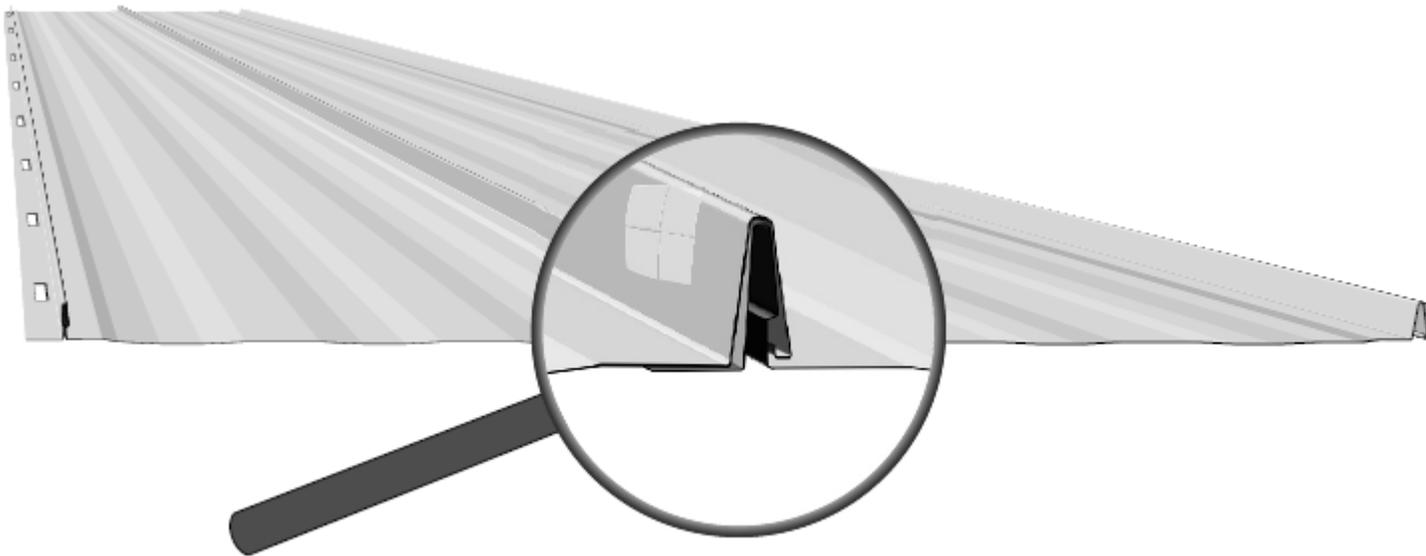
Standing Seam features approximately one-inch high ribs and a net coverage of 16 inches. The "nail strip" and screws that attach each panel are in turn covered by each subsequent panel as each overlapping panel locks into place over the previous one.

Standing seam roofing is available in either acrylic-coated or Galvalume or several different colors, low gloss paint systems on the finish side, with primer and washcoat on the reverse side.



We carry both stock and custom trims and flashings, and provide screws and other accessories specific to standing seam installation.

Delivery and customer pick up of panels is also available.



# Standing Seam Trim

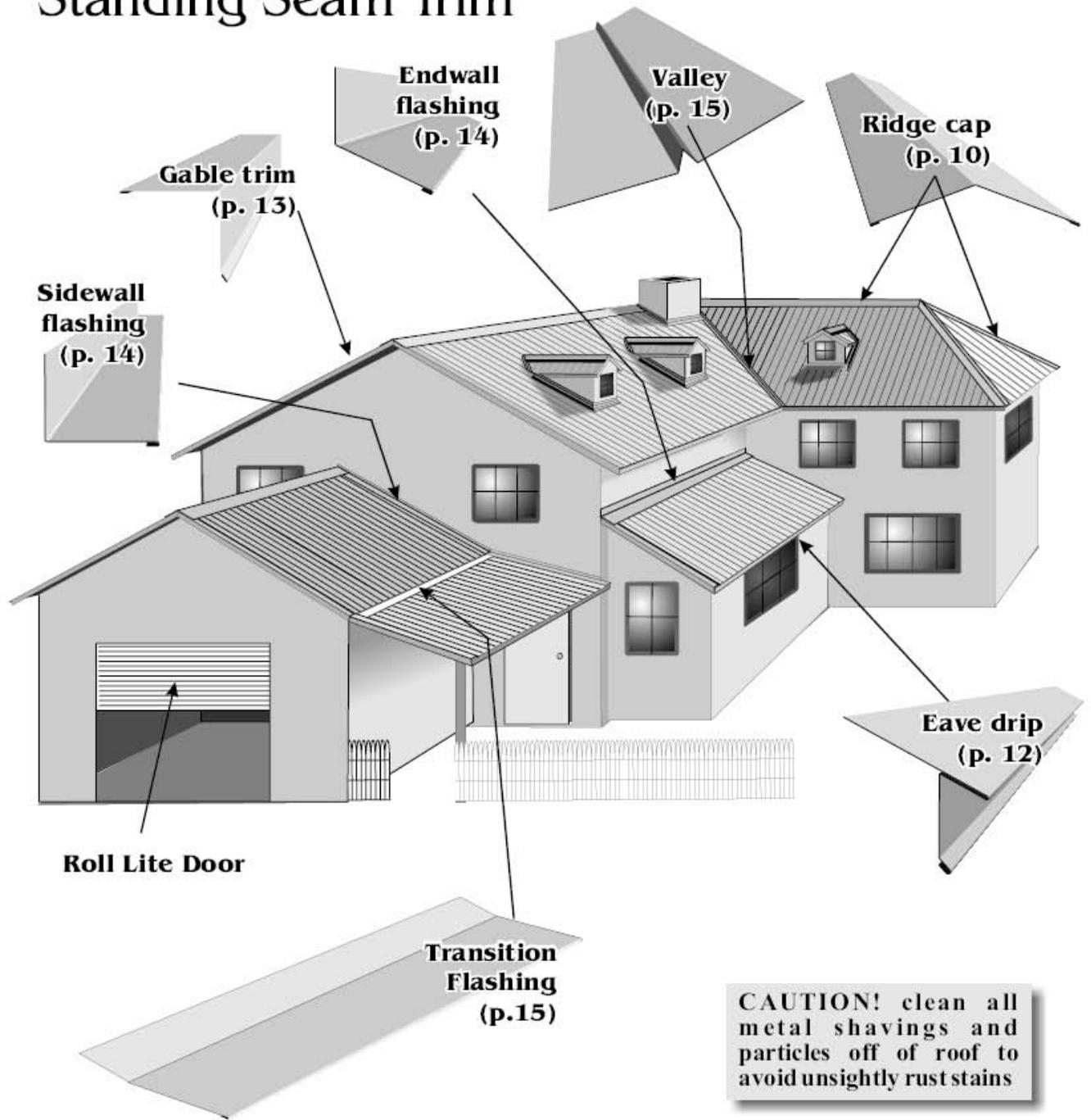


Fig. 5 Roofing trims and flashings are named by the location or function of that particular piece on the building.

# Installation of Panels

## Roof Panels

We require at least a 3 / 12 pitch for standing seam panels, to ensure proper water drainage.

This means that the minimum roof slope required for panels is 3 inches of rise per foot.

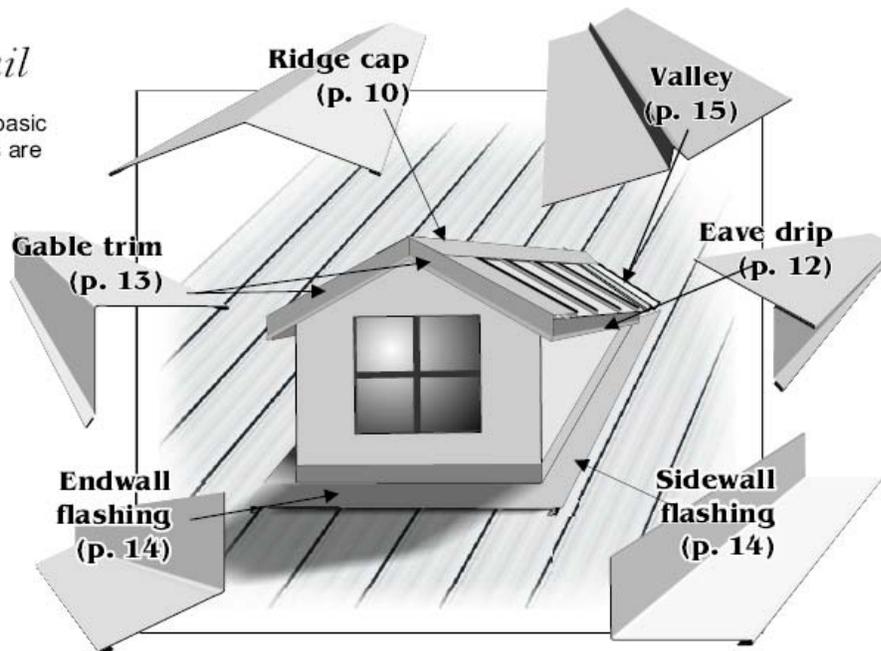
## Ordering and Applying Trim

The most common flashing for standing seam roofing is the *ridge cap*, which is used at the peak of a roof where two opposing roof slopes join, and attaches to the roof with *z-flashing*. Other flashings include *gable trim*, which runs up the sloped ends of the roof, and *drip edge or eave trim*, which trims out the lower ends of the panels and provides a surface for the attachment of the lower end of the panel. Both gable and drip edge are often applied above the *fascia* trim, and are attached with surface screws. For details about the application of each type trim see the details on pgs. 10-15.

Roof pitch must be given when ordering ridge caps, endwalls, valleys, and eave drip. When a steeper roof slope meets a lesser slope, both slopes should be mentioned when ordering transition flashing.

### *Dormer detail*

Fig. 6 Most of the basic standing seam trims are used on dormers. The bottom corners of the dormer are similar to the placement of sidewall and endwall flashings on chimneys.



## General Principles of a Typical Installation—Hidden Fastener System

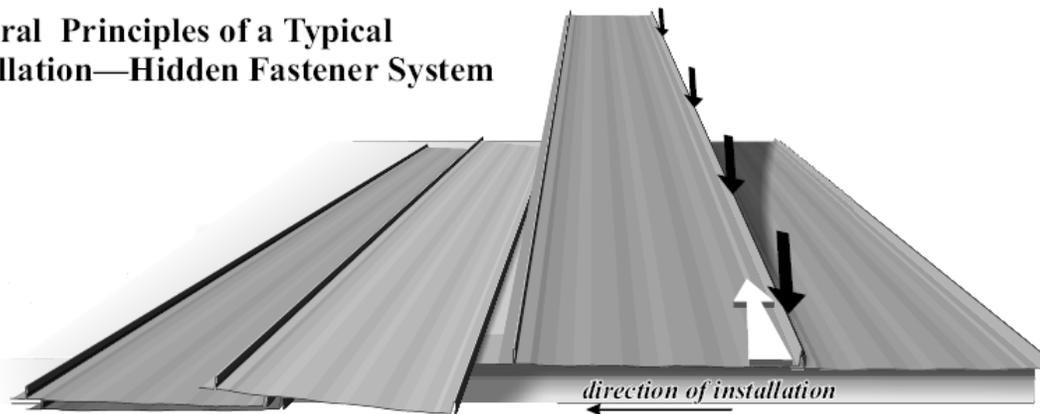


Fig. 7 Each panel should be installed over the extended eave drip, pressed down and attached with the appropriate fasteners, and eave hems finished before installing the next panel.

Pancake screws are applied to the “nail strip” of the standing seam panels.

When used, extended drip edge should be installed first along the drip edge of the roof. The lower end of each panel is then trimmed and the hem pre-bent before installation (see pg 9). The starter panel is laid out with the overlap side against an eave or wall and the hem pulled up tight and then compressed around the eave drip. The “nail strip” is screwed off completely with pancake screws before the next panel is installed. Care should be taken that the starter panel is square with the roof, since the first panel determines the lay of all that follow it.

The bent eave end of the next panel is then pulled tight against the drip edge and pressed or “walked” down over the first panel, its nail strip secured, and the next panel applied, and so on. Each panel is always screwed down the hem finished off before the next. The unfastened length against the gable or wall is secured (either then or later) with flashing, either gable trim (on the gable end) or sidewall trim (against a wall).

### Ordering Roof Panels and Screws

Care should be taken when ordering panels the correct length to avoid having to make corrective measures after purchase. Panel lengths should fall 2” short of the ridge and should be ordered to extend 2” past the eave when being attached to extended drip edge (see pg 9). Our sales staff is ready to assist customers with information specific to their particular roof.

Special, flat head screws called *pancake* screws are used to attach either nail strip panels or the clips that secure the locking panels. Woodgrip pancakes are used when going into wood decking or self drilling pancakes for going into metal purlins. The same screws also secure attachment flashings like Z-closures and eave trim. Colored trim screws are recommended for attaching ridge cap, endwall and sidewall trim, and transition flashing.

**Screws should be centered in slot and should not be tightened completely to allow for panel expansion.**

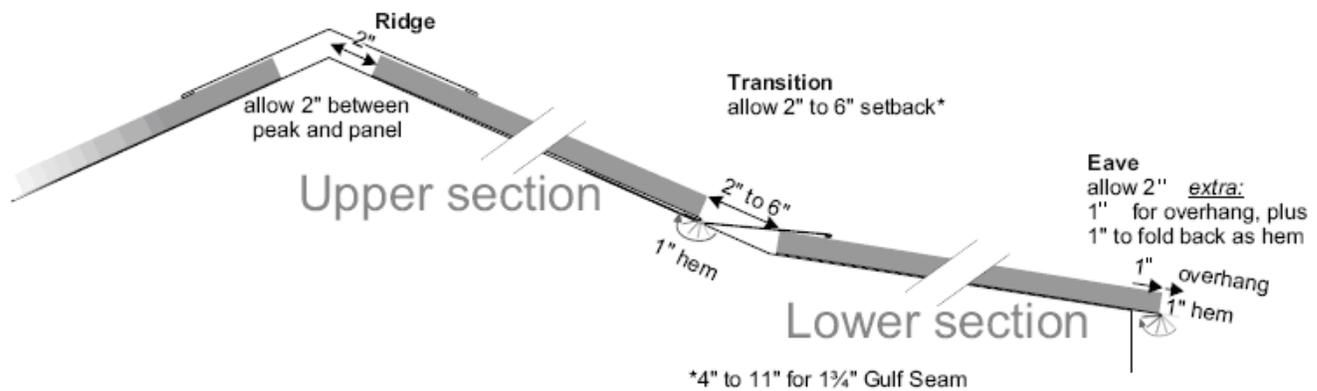


Fig. 8 Allowances must be made when ordering panels to allow for hemming of panels, overhang, ridge venting, and errors.

Since allowances must be made in the hidden fastener system for hemming panels that attach to extended eave drip, these panels should be ordered approximately 2" longer than substrate decking to allow panel length for the 1" nose on extended eave drip edge plus the 1" hem.

Where the deck makes the transition from a higher to a lesser pitch, lower panels should be ordered from the transition point downward allowing for drip edge (as above), and upper panels must allow for a setback away from the transition point depending upon the roof pitch, the less the difference in the pitch, the greater the setback, and the more the need for a longer length on the lower side of the transition flashing (see pg 14 for details).

The general principles of attaching the upper and lower edges of the standing seam roofing are most thoroughly covered in the sections on "drip edge" (pg 9) and "ridge caps" (pg 11).

### Trimming and Cutting Steel Panels

The best devices for cutting steel panels *across the profile* are circular saws, nibblers and various shear attachments for drills. Hand operated snips also work. Nibblers and metal blades on electric saws do however have a tendency to leave hot metal particles that can burn the paint surface or leave rust marks on panels and trim. It is best to cut from the bottom side of the panels to minimize this from occurring. Care should be taken to brush off all such particles from the roof surface immediately after application.

*To cut panels lengthwise:* The same method can be used or some people prefer the following method. Note carefully 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.

### Keep Materials Dry!

Paint and finishes of the panels and trim are designed to withstand severe rain and wet weather conditions. Neither painted, galvanized or Galvalume finishes, however, 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 figure and apply screws

Standing seam roofing is particularly noted for its use of hidden fasteners. *Pancake screws* are used because they are strong and yet have a low profile that does not interfere with panel and trim installation. For nail strip panels, one pancake screw is required every 12 – 24 inches, depending on wind requirements.

12" Spacing # screws = linear ft of panels

24" spacing # screws = linear ft of panels / 2

For solid decking, at least ½" structural plywood or 5/8" OSB supported on rafters at a maximum of 24" on center is required.

## Policies

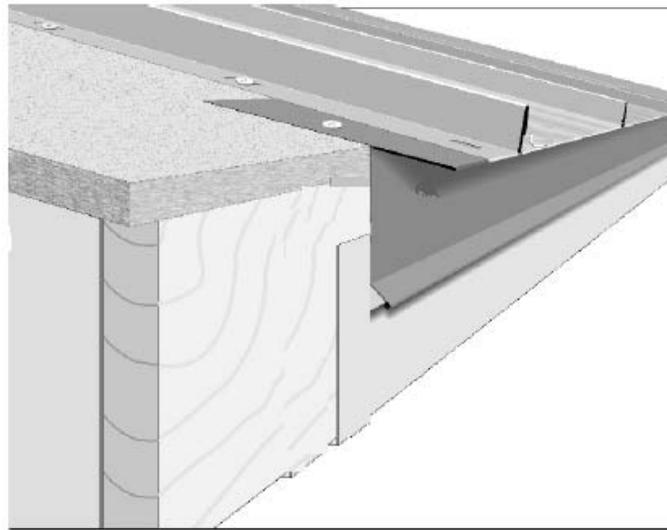
**Delivery Policy** – Delivery charges apply to all orders where delivery is requested. Delivery site must be accessible by a full size semi truck and a lifting device is required for off loading the materials – No hand off loading is allowed due to liability reasons

**Warrantied Products** – Painted standing seam panels come with a 45 year manufacturer's warranty, and Galvalume comes with a 30 year warranty. All trim is manufactured from the best grade stock of the particular color ordered.

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

## Drip Edge & Fascia

Fascia and extended drip edge provide a protective covering for the fascia boards and edges of the roof decking at the eave of the building.



Layered view of eave, showing fascia and extended drip edge, and panel (which is bent on site by installer)

Panels are trimmed in a specific manner (see diagram below), bent with a hemming tool and crimped around the extended eave drip, securing the lower end of the panel. Screws applied to the "nail strip" of the panel secure the rest of the length. When ordering care must be taken to specify the correct pitch of the eave drip to avoid unnecessary effort in applying the trim.

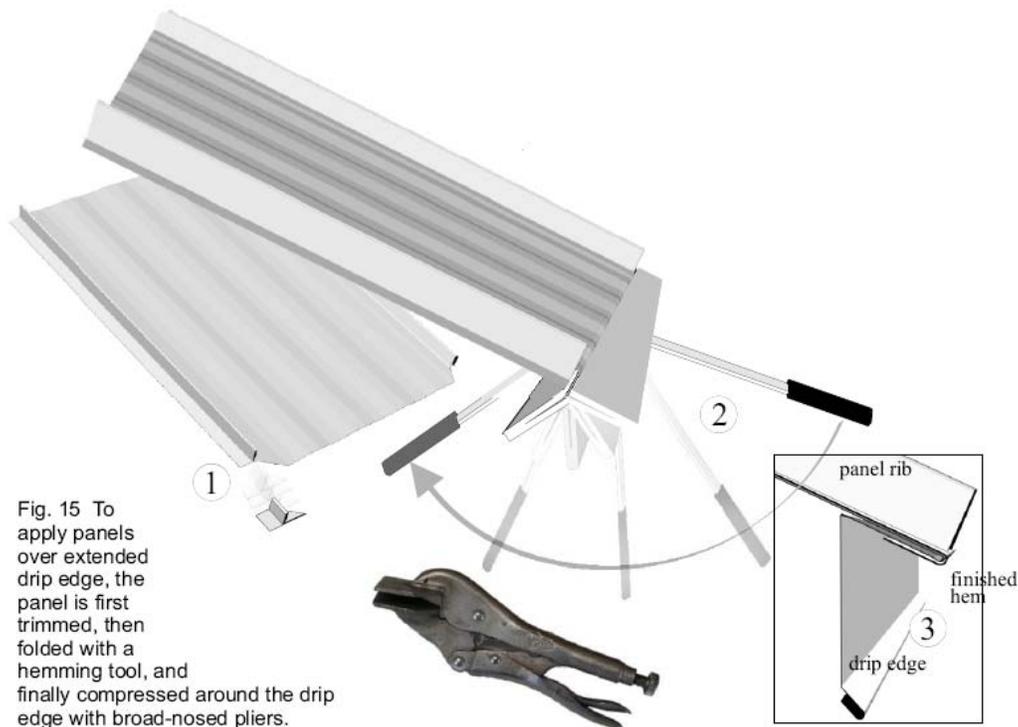
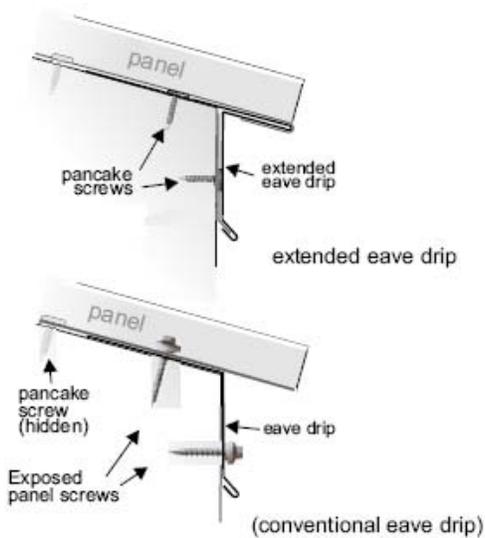


Fig. 15 To apply panels over extended drip edge, the panel is first trimmed, then folded with a hemming tool, and finally compressed around the drip edge with broad-nosed pliers.



Some installers and do-it-yourselfers elect to install the conventional eave drip (as shown above) along the eave of the building. It is a much easier procedure and simplifies installation and allows for a much faster application of the roofing.

### Gable Flashing

Gable trim serves a similar purpose to eave drip, but acts mainly to protect the exposed edge of the gable end of the building. One option for installing the gable trim is to attach a Z-flashing that runs parallel to the panel ribs and is in turn fastened to the roof with screws (see fig 16). Our recommended option in the gable trim is to use the *step rake*, which again simplifies installation by allowing exposed screws at intervals along the length of the roof side. Either type of gable must be fastened with exposed screws to the eave side (see diagram below)

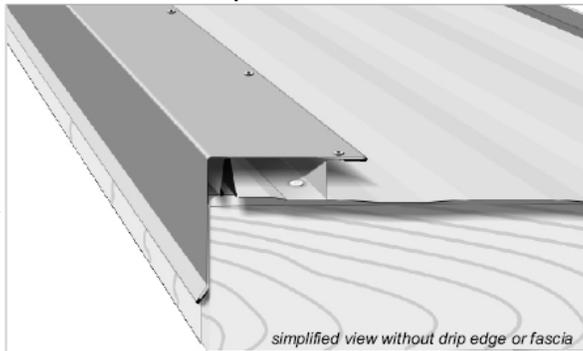
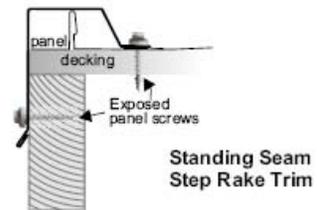
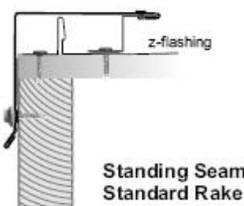
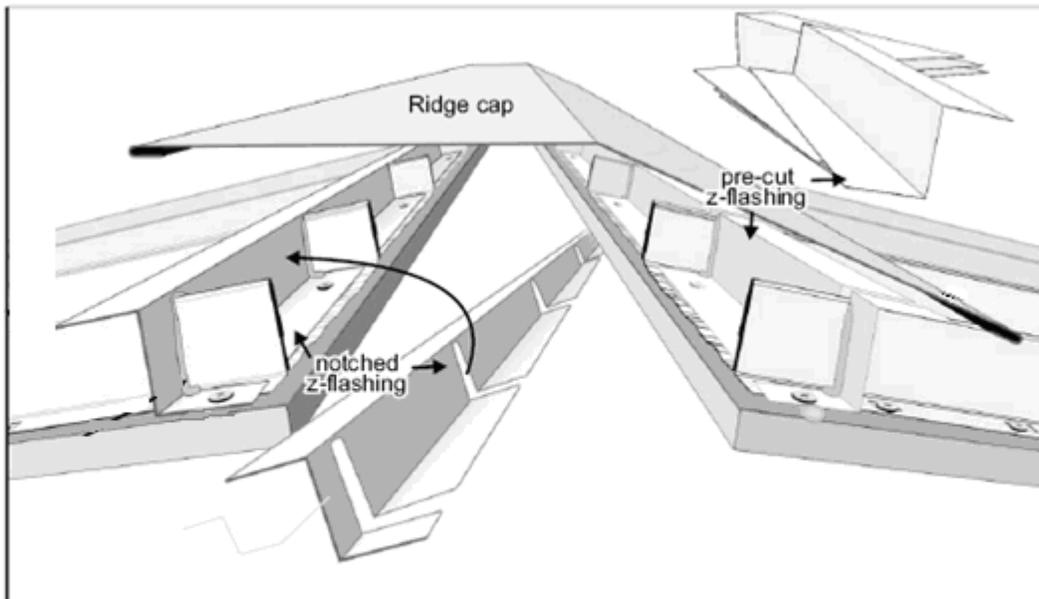


Fig. 16 Standard Gable trim attaches to the z-flashing





*Fig. 10* To attach ridge caps, z-flashings are either notched (left) or cut into pieces (right) and mounted with screws at the upper ends of the panels.

The ridge cap is used to seal the upper point at which two slopes meet. This can be both along the ridge of the roof as well as the covering for a hip, and the ridge of dormers.

Attachment to the roof is most generally accomplished through the use of z-flashing. Z-flashings are either notched or cut to length (to fit between the panel ribs) and attached with pancake screws to the roof through the panels. Ridge caps are in turn attached with trim screws to the z-flashing. Whether the z-flashing is notched or cut to length, gaps should be kept to a minimum. When used on a hip roof, z-flashing is cut or notched at whatever widths are appropriate for the pitch and cut of the hip.

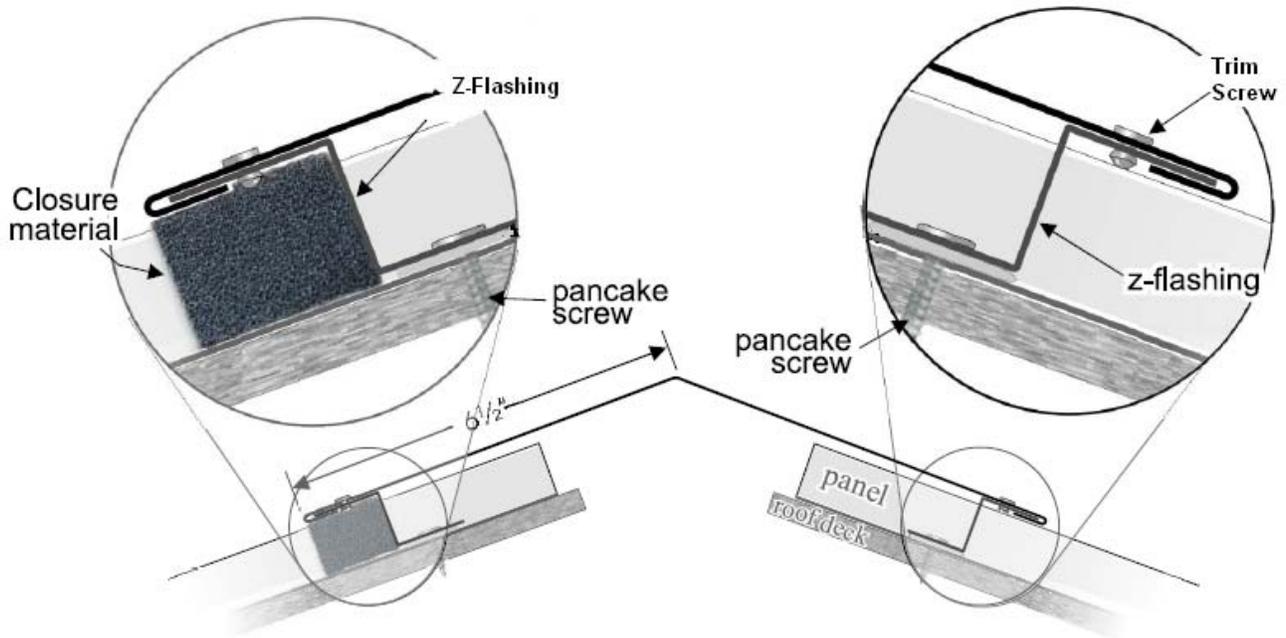
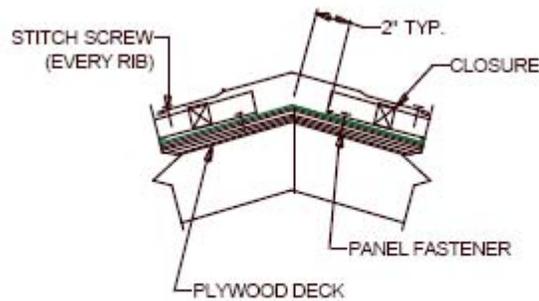


Fig. 11 Ridge caps can be installed as vented (using vent material) or sealed (using z-flashing), as shown also in Fig. 12.

When attic ventilation is desired, Profile Vent can be used in the place of Z-flashing. Closure material is inserted between the ribs and sandwiched between the panels and the ridge caps. The ridge cap is then attached with the trim screws through the ridge cap and into the ribs of the panel (see detail below).

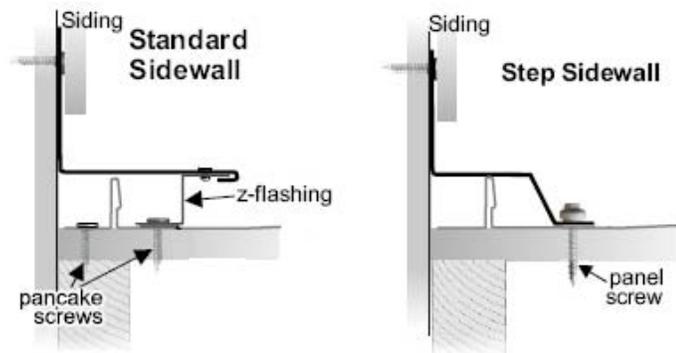


The decking must of course be cut at the ridge to let out hot air. Vent material is either a sponge-like or fibrous material that prevents wind-driven rain, insects, leaves and debris from entering the attic, while at the same time allowing the release of hot air out of the attic. Installation may require caulk to hold the material in place.

## Sidewall Flashing



Fig. 17 Standard Sidewall attaches to z-flashing with screws



Sidewall installation is similar to that of gable trim. As with the gable, one option is attaching the sidewall with a Z-flashing installed over the roof panel. We recommend the *step sidewall* that mounts directly to the roof with trim screws.

## Endwall Flashing

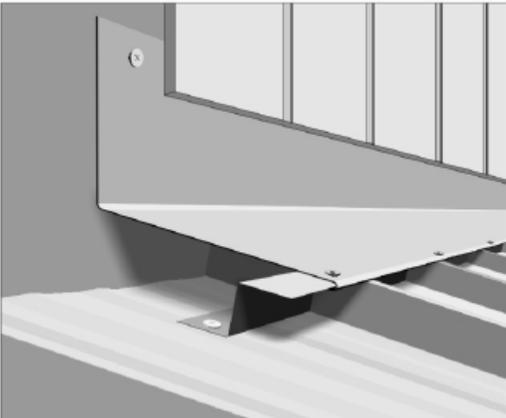
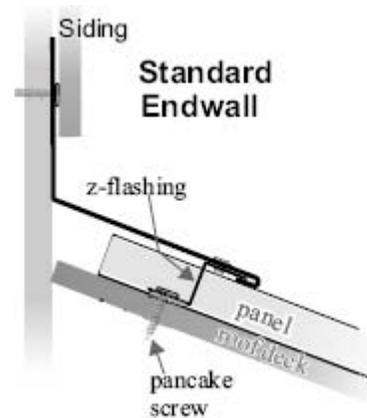


Fig. 18 Endwall flashing is applied where the upper slope of a roof meets a wall.



Installation of endwalls combines principles similar to those described for sidewalls and ridge caps. Z-flashing is either notched or cut in lengths between ribs, and attached with screws. Then the endwall is attached to the Z-flashing also with trim screws. Specify roof pitch when ordering.

## Preformed Valley

Panels ending in valleys must be cut diagonally and screwed down to the roof through the valley with trim screws.

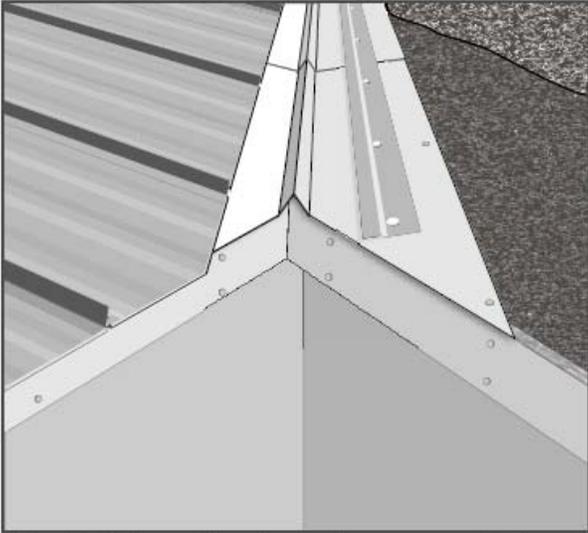
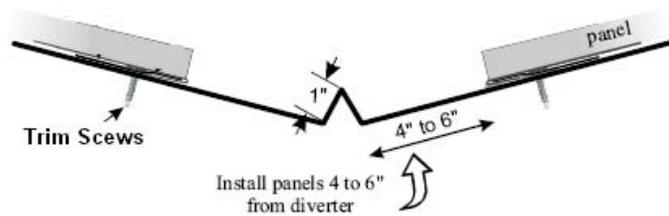


Fig. 19 Diagonally-cut panels are mounted on the surface of the valley.



## Transition Flashing

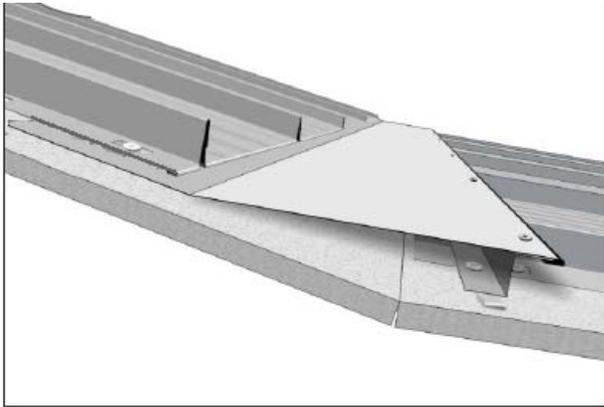
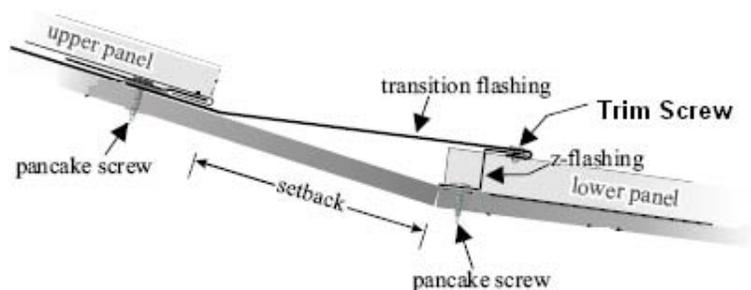


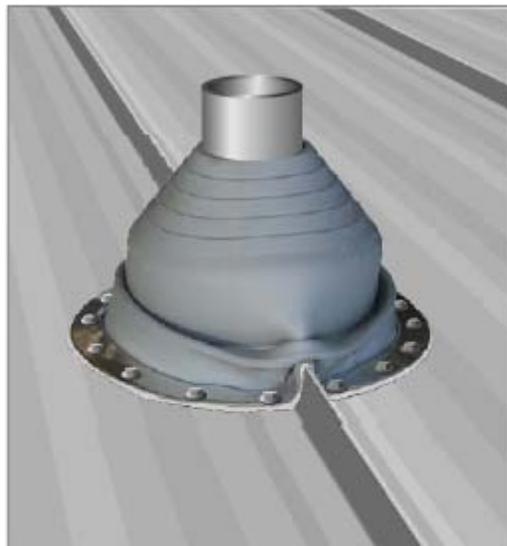
Fig. 21 Transition flashing combines the attachment techniques of valleys (top of page) with that used with ridge caps (p. 10). Notice the panel set-back that allows proper watershed from the upper panels onto the lower. The less the difference in pitch, as well as the flatter the roof, the greater the amount of set-back, and the more need for a longer lower side on the transition flashing.



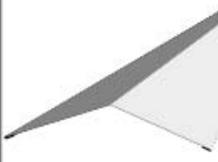
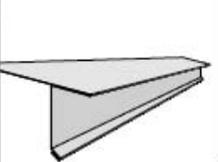
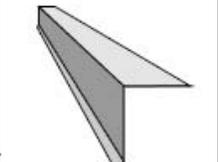
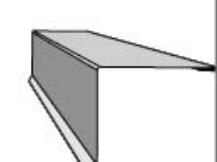
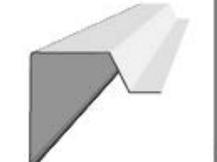
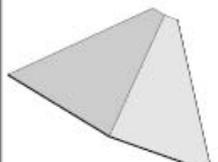
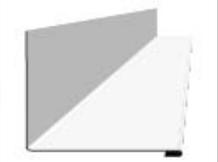
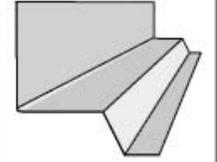
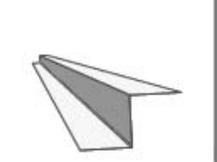
Transition flashing is required when a roof makes a change from a steeper pitch to a lesser pitch. The panels on the upper slope are attached in the same way as valleys. On the lower side, the transition flashing extends over the panels and is attached to Z-flashing with trim screws. Be sure to specify both upper and lower pitches when ordering.

**Summary of Trims and Flashings**  
*special order information*

<i>item</i>	<i>special order information</i>
Ridge caps	State roof pitch when ordering. Attached with Z-flashing
Extended Drip Edge	Specify roof pitch when ordering.
Gable flashing	Use butyl sealant between step rake and panel. <b>Butyl tape is optional, you can use caulk also</b>
Valleys	Specify pitch when ordering.
Sidewall	Use butyl sealant between sidewall flashings and panel. <b>Butyl tape is optional, you can use caulk also</b>
Endwall	Specify pitch when ordering. Attaches with Z-flashing
Transition flashing	Specify pitches of both roof sections.



*Fig. 13* Pipe Boots provide a water-tight seal around roof vents and come in a variety of sizes. They seal with caulk under the base and around pipe, and conform to the shape of the panel ribs.

 Ridge cap (pg. 11)	 Extended eave drip (pg. 8)	 Eave drip (pg. 8)	 Gable rake (pg. 9)	 Step rake	 valley (pg. 8)
 Transition flashing (pg. 10)	 Endwall (pg. 10)	 Sidewall (pg. 9)	 Step Sidewall	 Z-flashing	
 Pancake screws	 Woodgrip® Screws	 Electrical Boots	 Pipe Boots (pg. 11)	 Butyl Tape	

## Guide to Misc. Accessories

<i>item</i>	<i>application</i>
pipe boot	Fits over vent and heat pipes. Available also in <i>heat-resistant</i> boots.
electrical boot	Fits around pipes with inaccessible tops (such as weatherheads).
touch-up paint	Hides scratches and mars encountered in installation.
butyl tape	General purpose low-cost sealant, used on panel laps and under trim.
TurboShear HD®	The best tool for cutting metal roofing panels. Great for angle cuts.
low profile insulation	Greatly reduces radiant heat when installed under panels.
Pancake screws	Used in all applications attaching metal to wood. 1", 1½" sizes.
Woodgrip® screws	Used in applications attaching metal to wood. 1", 1½" sizes.