REED'S METALS, INC.

METAL ROOFING • METAL BUILDINGS • POLE BARNS • MINI STORAGES

DETAIL MANUAL

and guide to Reed's Metals products

Residential Roofing and Siding Panels & Accessories

SALES AND MANUFACTURING LOCATIONS

Brookhaven, MS
19 E. Lincoln Drive NE
Brookhaven, MS 39601
601-823-6516

Lake Charles, LA
1909 Ruth Street
Sulpher, LA 70663
337-625-5051

Tupelo, MS
120 Industrial Park Rd
Saltillo, MS 38866
662-869-7797

Benton, AR
12655 I-30 South
Benton, AR 72015
501-776-3825

Jackson, TN
1070 S Highland Ave.
Jackson, TN 38301
731-300-3200

Holden, LA
5321 Arundel Rd
Meridian, Ms 39307
601-482-1500

Jasper, TX
3931 Hwy 96 S
Jasper, TX 75951
409-384-5777

Scott City, MO
1616 E. Rd.
Scott City, MO 63780
573-803-4700

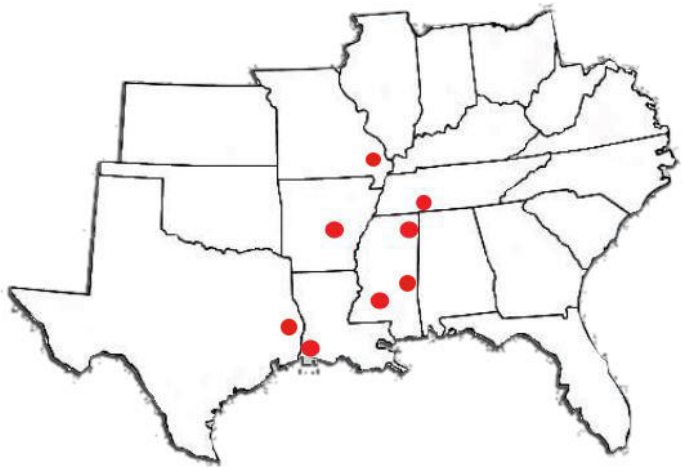
Reed's Metals

Since 1998, Reed's Metals, Inc. has proudly served the Southeast as a high-quality manufacturer of metal roofing and pre-engineered steel buildings. Headquartered in Brookhaven, Mississippi, Reed's Metals 20-acre, state-of-the-art fabrication facility produces multiple roofing panel profiles in over 20 colors; fabricates purlins, trim and associated roofing accessories; and produces steel buildings of any size for commercial, industrial, residential, agricultural, and arena applications. Reed 's Metals prides itself on fast, friendly and efficient operations. With locations in Brookhaven, MS; Lake Charles, LA; Tupelo, MS; Benton, AR; Jackson, TN; Holden, LA, Jasper, TX; and Scott City, MO. Reed's Metals provides same daypick-up on most orders. Our number one priority is customer satisfaction, and we stand behind our reputation of excellent service. Reed's Metals offers prompt delivery for metal roofing materials and preengineered steel buildings. On most orders, our delivery fleet can deliver and unload directly at your jobsite. For standing seam installations, we can even create your panels on-site to ensure the best quality. We supply you with the customized service to keep you up to code, on time and under budget.

We Manufacture Quality

We start with quality materials. We choose prime steel. The paint systems employed on our standard products hold a 40 year warranty. As a Keystone Quality Partner, we follow tight quality procedures. Our computer-controlled equipment assures consistent production. Many of our products meet the most rigorous standards for quality in the industry for fire, winduplift resistance and impact resistance -- UL 580, UL 790, UL 2218 & Florida

2010 Building Code certifications. Our welders are AWS certified. As well, we have design project managers trained in MBS and AppliCAD to help plan your project. As one of the South's most experienced manufacturers, we have the products, the processes and the people to ensure a quality experience and product from beginning to end.



Serving the Central and Southeastern U.S

Customer Satisfaction is our TOP PRIORITY! . . .

a credo we live by at Reed's Metals. We manufacture and deliver to your specifications and greatly appreciate the opportunity to serve you.

Installation of Panels

Roof Pitch

Reed's Metals roofing panels require a certain degree of pitch to ensure proper water drainage. Mississippi Building Code allows a minimum pitch of 2/12 for Residential panels as long as lap screws and sealant are applied to the laps to prevent water from siphoning over the ribs (see Fig. 5 on p. 4). Lap screws and sealant are optional when the pitch is 4/12 or greater (4/12 pitch means that there is 4 inches of rise for every 12 inches running horizontally). As a general principle, the less steep the roof, and the more necessary also that sealant be used at all side-laps. Consult our representative for recommendations for your particular roof pitch, and about roofing options if you have less than a 3/12 pitch.

Roof Application

Panel installation should begin at the gable end of the roof opposite the prevailing rain-bearing wind (this will provide added assurance 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 wise 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 (see fig. 7 on page 7).

In applications where end-lapping is necessary, the upper panel on the slope should lap over the panel that is lower on the slope. Lower roof pitch requires a greater amount of panel overlap. All end-lap applications require two horizontal rows (across the panel) of butyl sealant tape and proper fastening to provide a maximum water seal.

An overhang of 2 to 3 inches 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 closures material.

Trimming and Cutting Steel Panels

The best device for cutting steel panels across the profile is either a portable or hand shear or a nibbler. Nibblers, and especially Carborundum blades on electric saws, however, do have a tendency to either leave hot metal particles that can burn paint 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 all such particles from roof surfaces after application.

To cut panels lengthwise: 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.

CAUTION! Clean all metals shavings and particles off of roof to avoid unsightly rust stains.

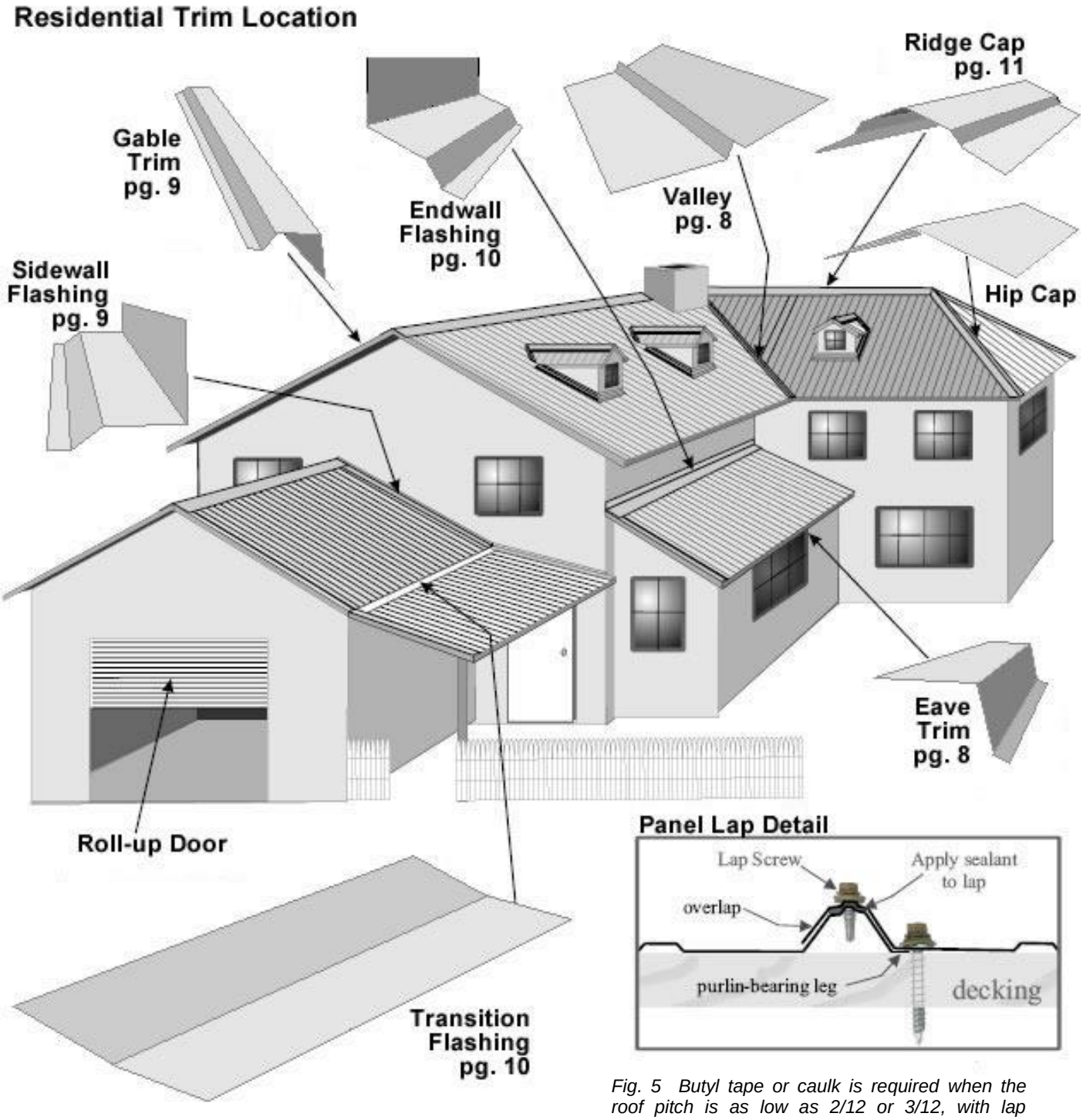


Fig. 4 Roofing trim and flashings are named by the location or function of that particular piece on the building

Fig. 5 Butyl tape or caulk is required when the roof pitch is as low as 2/12 or 3/12, with lap screws applied every 2 feet to keep water from overflowing the lap. On pitches greater than 3/12, lap screws and butyl tape are optional. For more details on screws, see pg. 6.

Ordering Roof Panels and Screws

Care should be taken to order panels of the correct length to avoid having to make 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 shortened to allow placement of the transition flashing (see diagram on page 10). The Reed's Metals sales personnel are ready to assist customers with information specific to their particular roof.

Specially-washered screws applied through the flat of the metal is the most recommended method used to attach roofing panels. 1-inch screws can be used if penetration of only ¾ inch is either necessary or desired; otherwise, 1½ inch screws are usually recommended. 2½ inch screws are also available, and are often used by those who adhere to through-the-rib fastening, and for ridge-cap application. See pages 6 and 7 for more information on screw spacing and ordering.

Ordering and Applying Trim

The most common flashing for metal roofing is the ridge cap, which is used at the peak of a roof where two opposing roof slopes join. Other flashings include transition flashing, end wall and sidewall flashings, and valleys (see diagram on right for application). Eave flashings include gable flashing and eave drip, either of which are often applied above fascia trim. When roof pitch exceeds 5/12 (a 5 inch rise in 12 inches), the slope of the roof should be mentioned when ordering ridge caps, endwalls, and eave drip. When a steeper roof slope meets a lesser slope, both slopes should be mentioned when ordering transition flashing.

At the gable edge the use of gable trim adds to the appearance of the structure and protects the fly-rafter, and sidewall flashing is used where the side of a panel butts up against an adjacent wall. In either case, the installer should be careful to seal between the gable rake or sidewall and panel with butyl sealant tape, and to fasten the rake every 6" to 12" up the slope of the roof with the appropriate screws. If eave drip is used on the gable, the number of 90 degree eave drip should be specified separately from that used on the drip edge when ordering.

To prevent penetration of water, insects, and debris at the ridge, outside closures may be inserted between the ridge cap and the top end of the panel*. Screws are applied through the ridge cap, closure, and rib in at least every other rib of the panels. At least a 1½" (or preferably 2½") screw should be used for attaching ridge caps. Self-drilling lap screws can also be used to attach ridge caps.

Keep Materials Dry!

Paint and finishes of Reed's Metals panels and trim are designed to withstand severe rain and wet weather conditions. Neither paint, galvanized, nor 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

Reed's Metals carries screws in 3 different lengths: 1 inch, 1½ inch, and 2 ½ inch. 1-inch screws will barely penetrate a 1x4, but the 1½ inch are the best all-purpose size. **1½- or 2½-inch screws are necessary for attaching ridge caps.** The table on the right (Figure 6) can be used to figure approximate quantities of screws for various purlin spacings and sizes of roofs. For 2-foot spacing between rows of screws, multiply the total linear feet of metal times 2.7.

Screw (purlin) Spacing

linear feet of panels in your order	12 inch	18 inch	24 inch	30 inch
50	270	180	135	108
100	540	360	270	216
200	1080	720	540	432
300	1620	1080	810	648
400	2160	1440	1080	864
500	2700	1800	1350	1080
600	3240	2160	1620	1296
700	3780	2520	1890	1512
800	4320	2880	2160	1728
900	4860	3240	2430	1944
1000	5400	3600	2700	2160
1100	5940	3960	2970	2376
1200	6480	4320	3240	2592

Fig. 6 Residential Panel screw calculation chart

Example: your order is 1250 feet of Residential roofing. 1250 x 2.7 = 3375 screws

Please confirm all estimates with your Reed's Metals representative when placing your order.

Codes allow re-roofing over shingles without the use of battens providing the roof has been checked by a licensed roofing contractor to insure levelness and pullout integrity.

Residential metal roofing can be separated from the moisture barrier by minimum, nominal 1"x3" yellow pine battens spaced on maximum 24"centers, or according to ASCE calculations where applicable. Since **direct contact between pressure treated lumber and metal roofing must be avoided to prevent potential corrosion**, Reed's Metals sells only untreated battens.

CAUTION: Battens must be fastened to the roof deck w ith minimum #6 screws at 12" on-center, or two minimum 8d common or pneumatic nails spaced 8" on-center, or one every 4" on-center (or by applicable calculations according to ASCE 7-98). **Battens must be installed to support the entire width and length of ridge, eave, hip, valley, and gable-end trims.**

For solid decking, at least 15/32-inch structural plywood supported on rafters at a maximum of 24" on center is required.

If care is taken, metal roofing application can be aided by pre-drilling panels, allowing screws to go quickly and accurately into the desired spacing. Pre-drilling will work provided that pilot holes are placed accurately in the proper locations on panels. Purlin spacing must be uniform and carefully measured. For panel lap details, see Figure 5 on page 4.

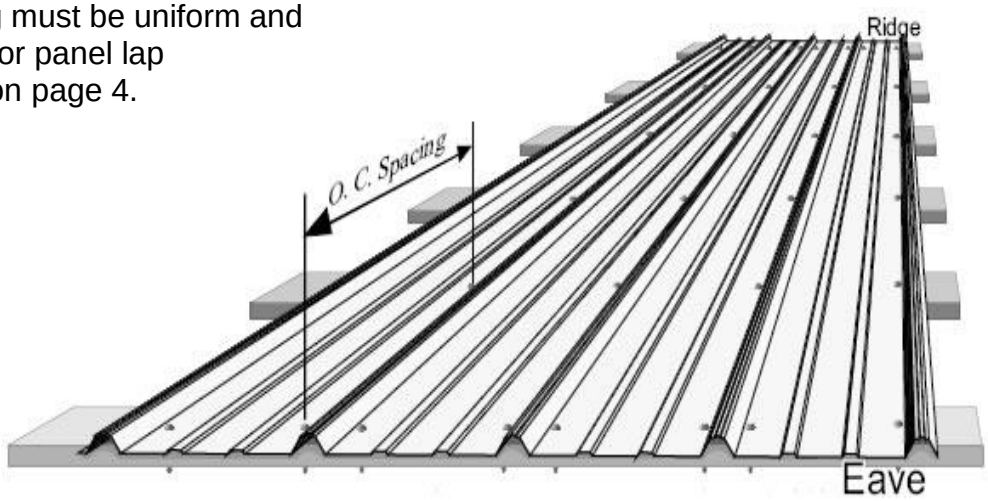


Fig. 7 Screws should be placed on both sides of the ribs at both eave and ridge.

Reed's Metals Policies

All standard trim not ordered as "economy" is manufactured from our best 29-gauge prime coil stock, and is returnable as long as it is deemed by our company's representative as being in good, clean, resalable condition, free from scratches, mars, and other damage. The same general principle applies also to the return of other accessories such as screws, boots, closures, etc. Trim that is custom-made is not returnable, and is considered the property of the customer once it has been made, whether paid for or not. Roofing panels may be returned in the above same good condition to be resold as "economy" material, and therefore are not fully refundable.

Delivery policy - Delivery charges apply to all orders where delivery is requested. Please consult your Reeds Metals sales department for details.

Sales tax - All orders picked up at Reed's Metals, and all orders delivered within the state of Mississippi, are subject to state sales tax. Tax exemptions must be verified prior to delivery or customer pickup.

Warranted products – Orders designated as "Standard panels" come with a five year adhesive warranty from Reed's Metals. Orders designated "Prime" come with a 25-year coil manufacturer's warranty. All trim is manufactured from the best grade in stock of the particular color ordered. Ask for details.

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

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

Return Policy - All panel orders and special order (non-stock) trim are considered the property of the customer and non-refundable once they are manufactured. Standard trim and accessories are refundable providing they are returned in a clean, resalable condition. Restocking charges may apply to any items at the discretion of Reed's Metals personnel.

Summary of Stock Trims and Flashings

item	*special order information*
Ridge caps (RC-2)	specify pitch if less than 3/12 or greater than 6/12. Also available in larger widths. Closures recommended.
Eave drip (FHA, ED-3)	2 common styles. FHA style is pre-pitched for 3/12 to 6/12 roofs. For appearance or ease of application, order by either specific pitch or as gable trim (90°).
Gable flashings	Residential (EF-1), large (GR-2), and small (GR-1) rakes available. Use butyl sealant between rake and panel.
Valleys (PV-1)	specify pitch if greater than 7/12. Seal with universal foam closure material. Open-hemmed valleys (PV-2) aid water-tightness.
Sidewall (SW-1)	Use butyl sealant between sidewall flashing and panel.
Endwall (EW-1)	Specify pitch if greater than 5/12. Seal with outside closures.
Transition flashing	Specify pitches of both roofs. Seal lower slope using outside closures and, if desired, inside closures on upper slope.

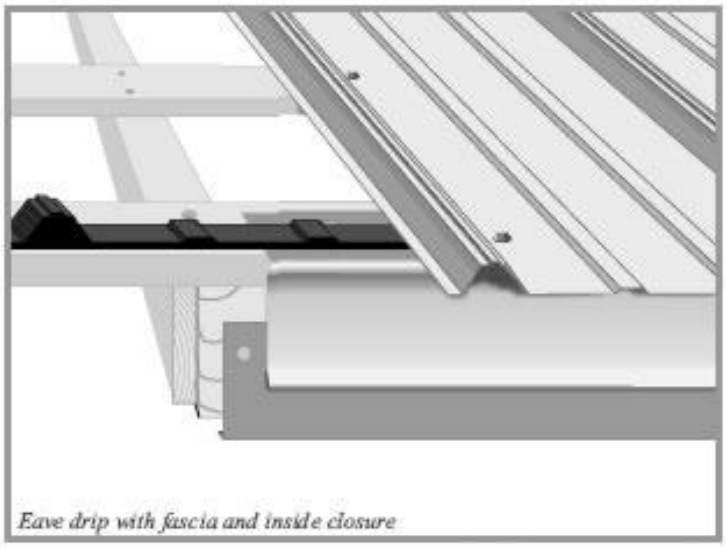
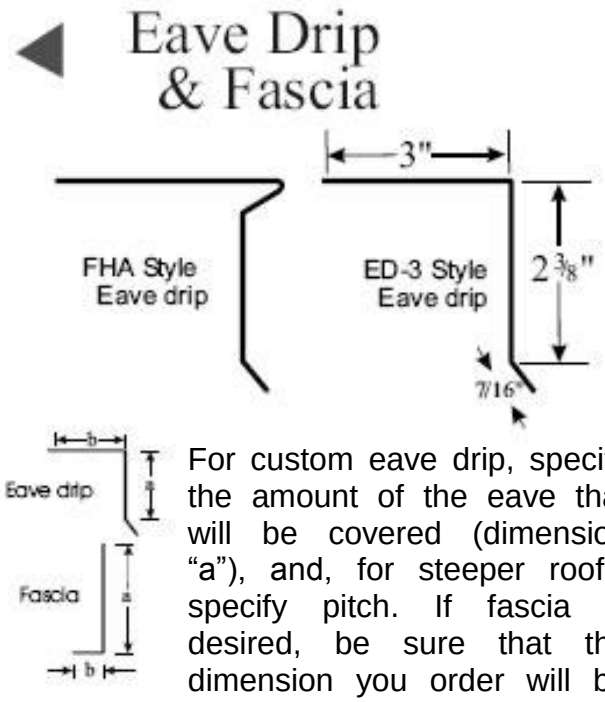
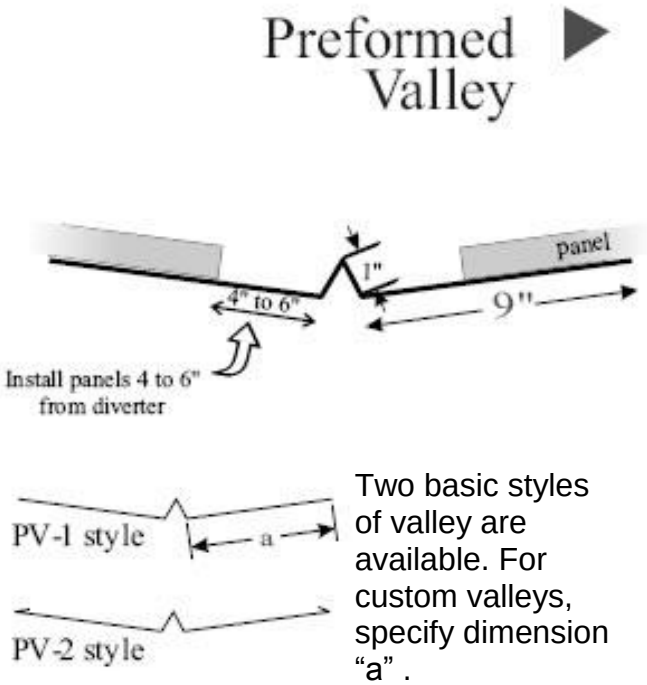


Fig. 8 Eave drip and fascia give a finished look along the drip eave of the house, as well as providing protection for the materials they cover. The eave drip should completely cover the top edge of the fascia. Inside closures, which seal off the open ribs of the panels, are optional.



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



Two basic styles of valley are available. For custom valleys, specify dimension "a" .

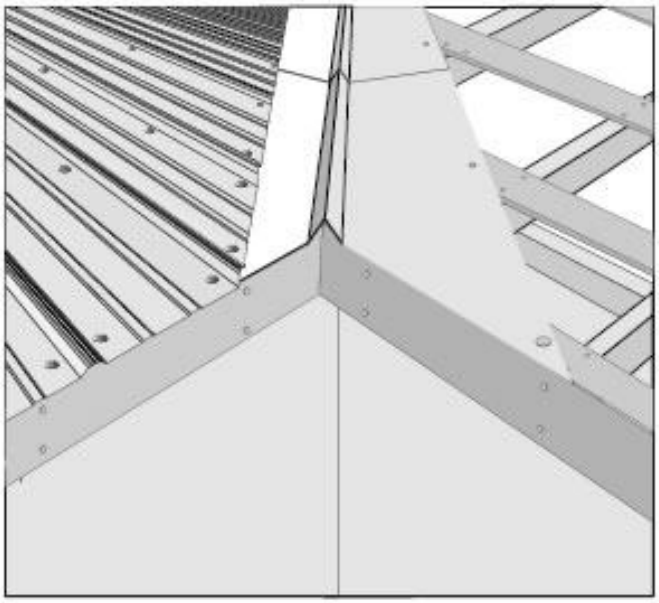
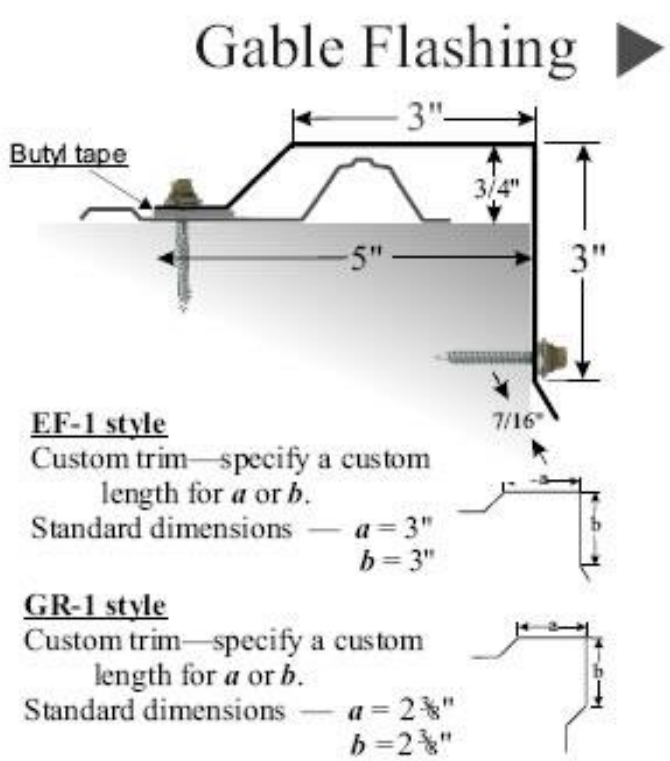


Fig. 9 Pre-formed valleys use a diverter to prevent water from rushing under panels on the opposite side while meanwhile channeling water off the roof. Expanding foam closures are often used to assure a good seal.



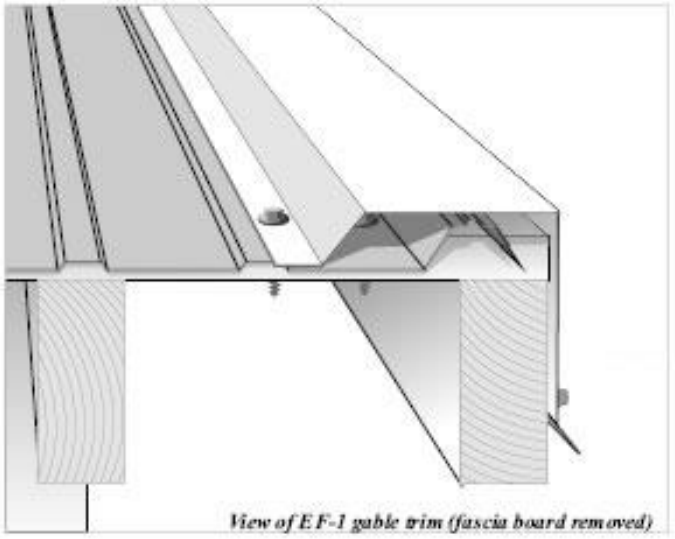


Fig. 10 Gable flashing is used to trim the edge of the roofing panel at the gable end of the roof. It should match the eave drip that extends along the drip edge of the roof. If the panel is allowed to hang over the gable end, eave drip can be used instead. Butyl tape between the trim and panel eliminates leaks.

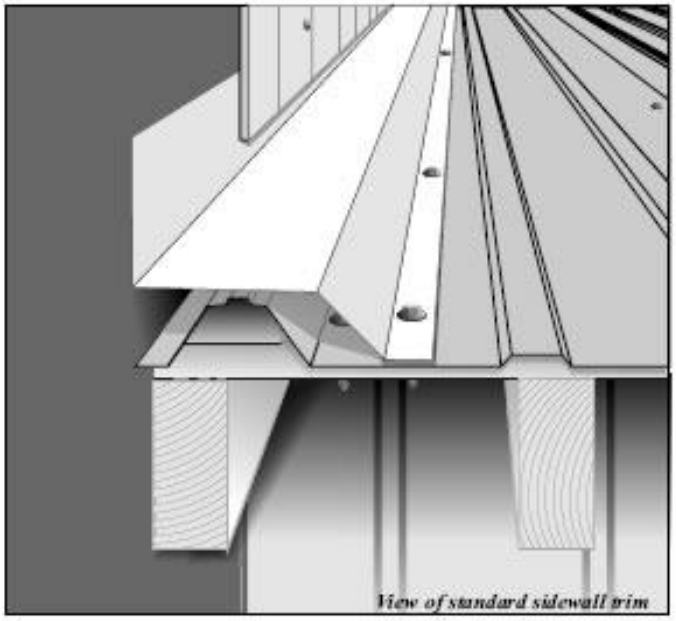


Fig. 11 Sidewall flashing is applied when the side of the roof butts up against an adjacent wall. The wall-side of the flashing can either be covered over with siding or sealed with caulk (order SW-1C). Butyl tape should be applied where the "foot" of the flashing attaches to the roof.

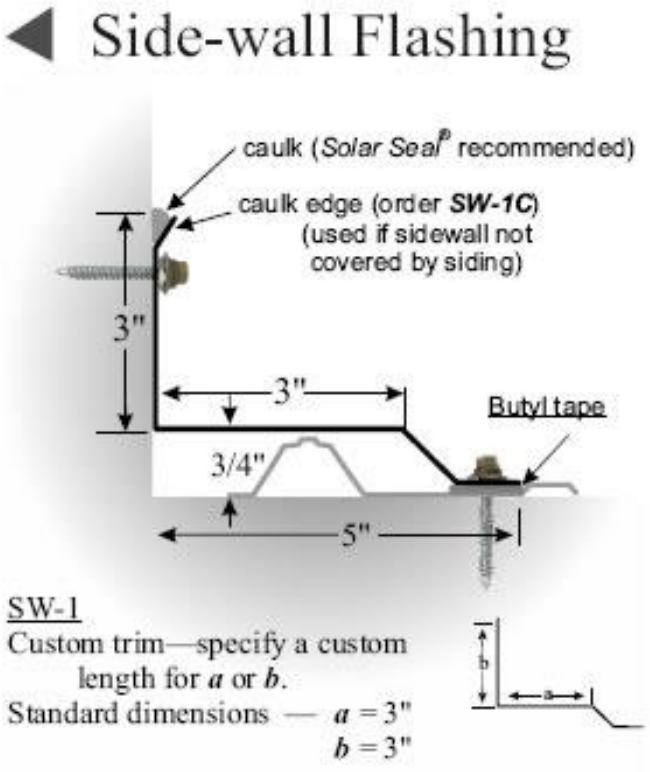
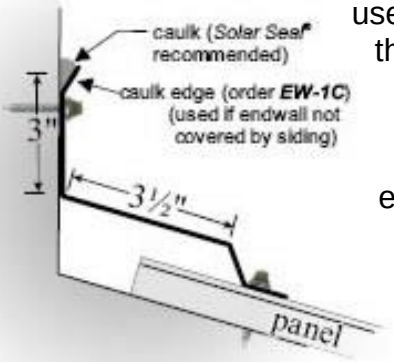


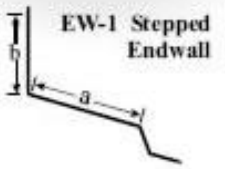
Fig. 12 As with the ridge cap, the ENDWALL FLASHING above can be sealed using outside closures.

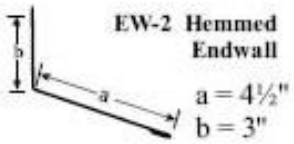
End-wall Flashing

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 used to seal between the flashing and the panel. Roof slope should be mentioned if roof exceeds 5/12 pitch.



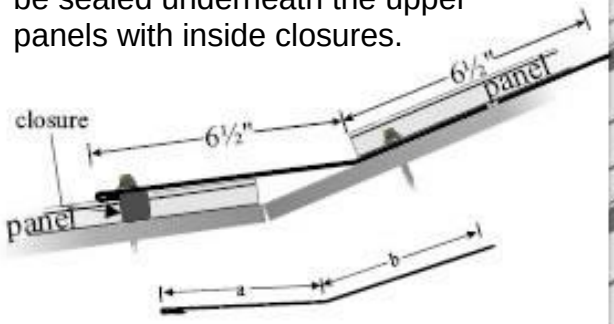
Use *EW-2* hemmed endwall when cornering endwalls with sidewall flashing. such as with dormers or chimneys.
For custom end-walls, *specify roof pitch* and dimensions "a" and "b".





Transition Flashing

Transition Flashing prevents leakage at the point where two different roof pitches meet. It is sealed on the lower side with outside closures, and can be sealed underneath the upper panels with inside closures.



For custom transition flashing specify the pitches of the two roof slopes and, if necessary, dimensions "a" and "b".

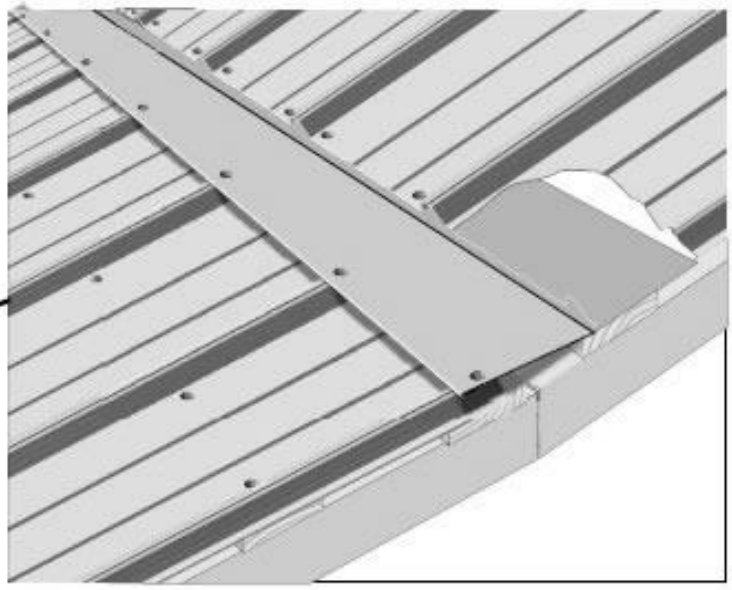


Fig. 13 The transition flashing provides a continuous drainage where two slopes meet.

Ridge Cap

Fig. 14 Ridge cap with outside closure (left)and profile vent (right) in place.

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 woodgrip or selfdrilling lap TEK screws are applied through the ribs of the metal.

Debris, insects, and blowing rain can find easy access under the ridge cap, so closures are often used 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. (see Figure 14).

Profile Vent comes in 50 foot rolls, is 3 inches wide, and forms a water-retardant, insect resistant barrier that allows hot air to escape from the attic, and is superior to many more elaborate and expensive vent systems. Any length may be ordered.

Hip closure tape (Peel and Seal) is a sticky, adhesive-backed metallic tape that seals the hip roof. It is 6 inches wide and comes in 33½ foot rolls. Because it must be conformed to the rise and fall of the panel ridges, approximately 10% extra may be needed beyond the length of the hip being covered.

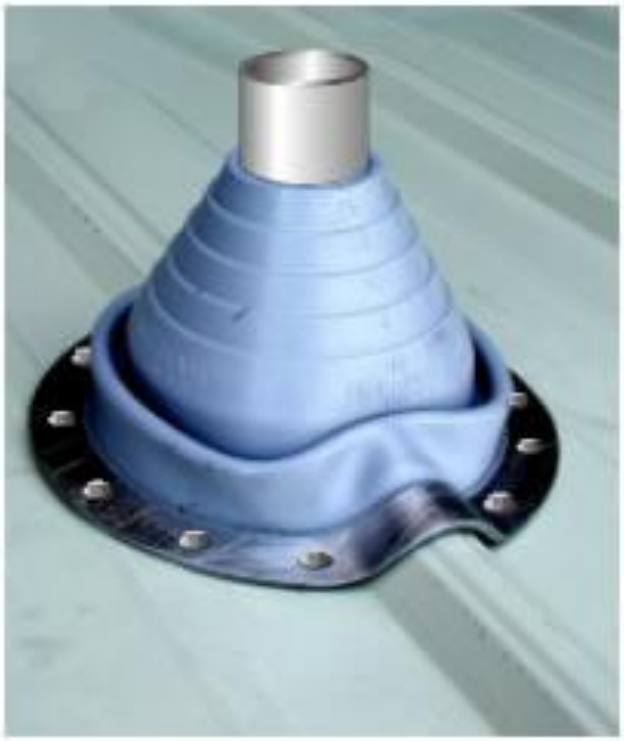
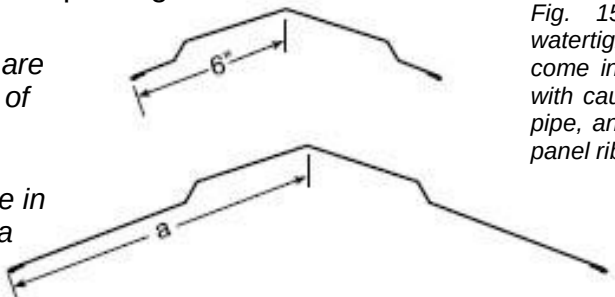


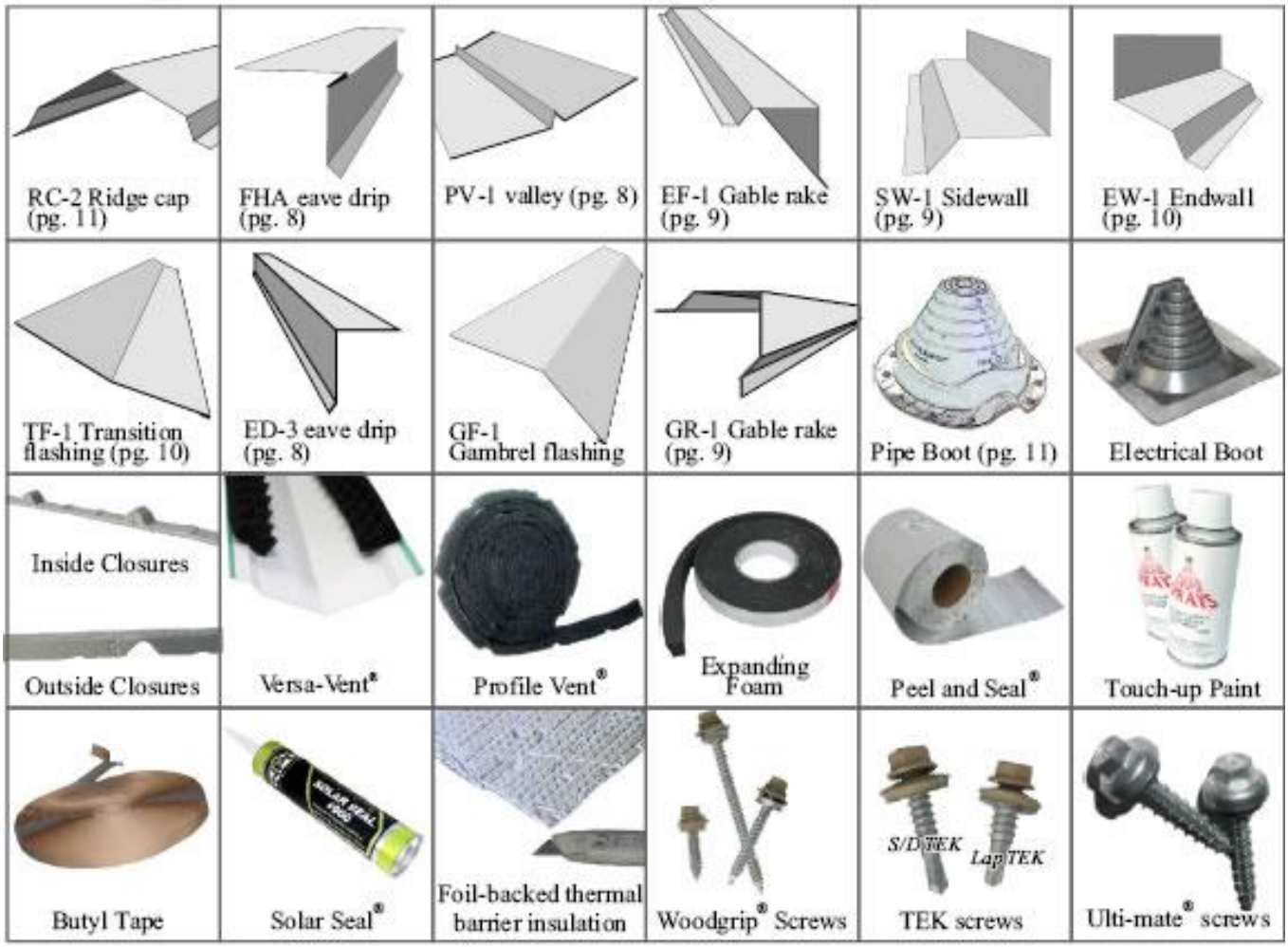
Fig. 15 Pipe Boots provide a watertight seal around roof vents and come in a variety of sizes. They seal with caulk under the base and around pipe, and conform to the shape of the panel ribs.

Standard 12 inch ridge caps are economical and adequate for most of your roofing needs.

Over-sized ridge caps are available in 18 inch widths (hem to hem) or as a custom trim item in other widths.



Available in *total widths* (2 *times* "a") of 14-, 16-, 18-, 20-, 22-, and 24-inch



Reed's Metals Guide to Misc. Accessories

item	*application*
pipe boot	Fits over vent and heat pipes. Available also in *heat-resistant* boots.
electrical boot	Fits around pipes with inaccessible tops (such as weatherheads).
outside closures	Seals under ridge caps and transition and endwall flashings.
inside closures	Seals under panels, particularly on the eave.
Profile Vent®, Versa-Vent®	Vented closure material surpassing many other venting systems.
expanding foam	Compressed adhesive foam expands to seal between valleys and panels.
Peel and Seal®	Seals hips under hip caps. Also, a general purpose sealing tape (6" wide).
touch-up paint	Hides scratches and mars encountered in installation. Over 20 colors.
butyl tape	General purpose low-cost sealant, used on panel laps and under trim.
Solar Seal®	A superior general purpose caulk for all joints. Matches panel colors.
Low profile insulation	Greatly reduces radiant heat when installed under panels.
Woodgrip® screws	Used in all applications attaching metal to wood. 1", 1½", 2½" sizes.
TEK screws	Self-drilling TEK screws for metal purlins. Lap TEK screws draw together joints and attach trim.
Ulti-Mate® screws	"Lifetime" screws; 1½", 2½", threaded for wood; self-drilling available.