

Curved T - P A N E L



INSTALLATION INSTRUCTIONS



CHAMPION METAL
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Champion Metal Curved T- panels are designed for use on residential and commercial structures.

Whether it's an entryway, dormer, or entire roof, Champion Metal 12" T-panel is designed to protect and beautify your roof area. The T-panels are offered in any of our attractive, long-lasting 26 or 24 gauge panels with top-of-the-line Kynar® 500 finishes. It is also available in 24 gauge Acrylic Coated Galvalume or natural 16 oz. copper.

Champion Metal 12" coverage Curved T-Panel is available in lengths from 2' to 50' and can be formed to fit a radius as tight as 3'.

These installation instructions are intended to offer suggested application procedures for common building construction. No attempt is made to provide installation details for every application or possible use.

Please contact Champion Metal for use of custom flashing details as they pertain to specific conditions or to discuss a specific project.

Conformity to local building codes, details for specific applications, and use of safety and health procedures are the sole responsibility of the installer.

Champion Metal assumes no liability for the improper installation of the Curved T-panel nor for any personal injury or property damage that may occur with the product's use.

Oil Canning – All light gauge metals can display waviness often referred to as “oil canning.” This is caused by steel mill tolerances, substrate variation and relative reflectivity. “Oil canning” is an inherent characteristic of steel products, not a defect, and is not a cause for material rejection.

Delivery and Will Call

Delivery Policy

Champion Metal delivers using diesel trucks with 5th wheel, low-boy flat bed trailers. Overall combined length can be as long as 65 feet. Our fleet includes trucks, with and without knuckle cranes, and a variety of trailer sizes to assist in deliveries. We will make every effort to accommodate requests for a specific delivery mechanism but we cannot guarantee availability of specific resources.

We will make every attempt to deliver material to the desired location. We may be unable to gain access on tight corners or steep terrain. If the site is deemed inaccessible by our driver, the customer may choose an alternate delivery site within a reasonable proximity. If we are unable to make the delivery, additional charges may be assessed.

The customer is responsible for:

- Determining adequate access for delivery ahead of time.
- Meeting the delivery at the agreed upon time.
- Any balance owing on C.O.D invoices.
- Providing adequate resources (1-4 people as needed) for off-loading materials.
- \$35 per half hour charge if delivery takes longer than one-hour.

Delivery times are usually scheduled one day in advance. Champion Metal will make every effort to make the delivery at the scheduled time. Please be aware that there may be conditions beyond our control such as traffic, mechanical failure, road closures, etc. which may affect our schedule.

Will Call and Loading Policies

Flat bed trailers and trucks are best suited to transport metal roofing materials. These can be loaded from the side with a forklift and tied down in a safe and secure manner.

We are not able to load materials onto vehicles and/or trailers which are not suitable or may be hazardous to load. Please be aware that if we find a vehicle to be inappropriate, we reserve the right to refuse to load your order.

Examples are: boat trailers, vans, buses, motor homes, campers and box trailers. Pickup racks which do not have sufficient supports for the weight or are not long enough to support bundles are also unacceptable.

Champion Metal is not responsible to tie down loads nor do we provide any tie down materials. Please bring tie downs to secure your load (string or twine are not acceptable for this purpose.) We do offer a delivery service at reasonable rates to accommodate the customer who needs the materials delivered to an accessible job-site.

Please see our delivery pricing pages for more information.

Check the shipment at the time of delivery.

Verify material quantities against the shipping/packing list. Note any damage or discrepancies upon the paper work at the time of delivery and notify TMP within 48 hours of delivery.

Handle materials with care when off loading or moving materials to avoid damage to panels or flashings. Long panels may require two or more pick-up points, properly spaced to avoid damaging panels. Plan ahead. Contact Champion Metal for recommendations on handling/hoisting long panels.

Store the panels, flashings, and accessories in a dry, well ventilated area, off the ground. If covering, allow ventilation around the panels. Elevate one end of bundles to allow drainage of wet materials.

Painted metal roofing panels will have a clear plastic film applied to the lower rib of the panel to protect the seam during transportation and handling. Flashing and flat sheet may have a plastic film for protection. Remove this film prior to installation of the panels. Products with film should not be stored in direct sunlight, and should not be left in hot weather for long periods.

Wear clean cotton gloves when handling copper or unpainted Galvalume to avoid leaving fingerprints and smudges. While finger-prints or smudges will not harm the material, they will temporarily leave markings on the material until the material weathers.

Wear clean, soft-soled shoes when walking on roofing panels to avoid damage to the painted finish. Take care

that sand, gravel, dirt etc. sticking to your shoes is not carried onto the roof, scratching or otherwise damaging the finish on the roofing material. Walking on asphalt impregnated felt paper, especially on a hot day, can cause the asphalt to stick to your shoes and be tracked on to the roofing material.

Take care when painting to avoid getting over spray on the roofing material. Remember that wind can carry paint particles some distance. Over spray can cause the finish of the roofing material to look dull and may void your warranty.

Secure materials, especially when leaving the site, on the ground or roof to prevent winds from moving the materials. Wind blown materials may cause damage to the material, property or persons.

Safety considerations are the responsibility of the installer and his crew. Be sure to **use common sense** and generally accepted safety practices when installing roofing materials.

Tools

The following tools may be used for proper installation.

- Screw Gun: Clutch type, variable torque, cordless screw guns will give the best results.
 - Extra batteries
 - Bit holder - magnetic
 - #2 square drive bits or phillips drive bits (for panel screws)
 - 1/4" Hex head - magnetic - bit driver (for woodfast flashing screws)
 - 1/8" drill bit (for rivets & pre-drilling fastener holes)
 - Belt & holster (keeps all the above tools safely on your hip)
- Cutting Tools:
 - Cutters/Offset (curved jaw) left & right (for precision cutting, long cuts)
 - Snips (straight jaw) left & right (for short cuts & circular cuts)
 - Hack Saw - 32 TPI Blade
 - Circular & Sabre saws (with metal cutting blades speeds up panel cutting but leaves very rough edges and burrs paint)
 - CAUTION: POWER SAWS MAY CAUSE PANEL DAMAGE!
 - Electric Shears (aids in long panel rips)
 - DeBurring Tool
- Hole Punch (for pre-punching holes in metal)
- Rubber Mallet - Soft Type (for adjusting panels & flashings)
- Quick Square, Framing Square & Bevel Square (aids in squaring flashings & panels)
- Duck Bill Vise Grips/Pliers (for various bending)
- Tape Measures - 16' for most work - larger sizes for larger surface & panel measurements
- Rivet Tool (for riveting flashings)
- Marking pen or pencil
- Chalk Line (for marking long panel rips and to align panels)
- Protective gloves to protect hands
- Cotton gloves for working with copper (to protect against fingerprints on finish)

WARNING - Filings, debris and chips must be wiped off panels, otherwise rust will develop!

Fastening Frequency

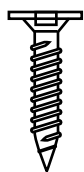
Champion panels have a slotted screw flange with slots about every 12". Champion recommends placing a fastener in the center of each slot for the best wind resistance. (Note: Slots are not in identical locations on each panel.) Fasteners should be of sufficient length to penetrate the sheathing fully or into solid lumber 1".

Screw down panels firmly but do not over tighten. On those occasions where you cannot use the slot, fasten through the flange of the panel. Screw spacing when not using the slots is:

- 10" to 12" for 3/8" plywood (note- 3/8" plywood is not recommended)
- 12" to 14" for 1/2" plywood
- 18" to 20" for 5/8" plywood
- 24" for solid decking

Fasteners

Champion Metal recommends the following fasteners for 26ga and 24ga galvanized steel Easy-Lock Standing seam, Pacific Pattern and T-Panel.



Waferhead, Sharp point

Sizes:

#9-16 x 1" #2 Phillips Drive (also available in #2 Square Drive)

#9-16 x 1-1/2" #2 Square Drive

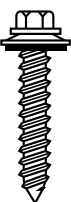
Waferhead screws are recommended for attaching the panels to a wood deck or substrate. They are concealed fasteners and made of carbon steel coated with Zinc and an Oxyseal/Xylon Coating for long life.



Lathhead Screws, Sharp Point

Size: #6 x 9/16"

Lathhead screws are used to attach the panels to the wood deck. While generally not recommended for most applications, this concealed fastener is useful for areas where a longer fastener will penetrate the substrate and exhibit an objectionable appearance, such as exposed overhangs. The pull out rating for this fastener is less than the waferhead, so these fasteners need to be placed more often.



Woodfast, Sharp Point

Sizes:

#9-16 x 1" 1/4" Hex Drive- Color Match

#9-16 X 1-1/2" 1/4" Hex Drive- Color Match Woodfast

screws are recommended for attaching metal to wood in some cases metal to metal. They are exposed fasteners made of carbon steel, coated with Zinc and an Oxyseal/Xylon Coating for long life.



Stitch Screw, Sharp Point

size #12 x 3/4" 1/4" Hex Drive-Color Match

Stitch screws are used to attach metal to metal such as lap joints in flashing. They can be used interchangeably with rivets. They are exposed fasteners.

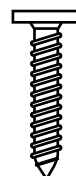


Rivets

#42 or #44 (1/8" x 1/8") Stainless Steel rivet- color matched or non-painted

Rivets are used to attach metal to metal such as lap joints in flashing.

Champion Metal recommends the following fasteners for use with copper:

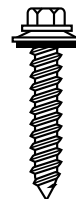


Pancake Head, Sharp Point

(Silicon Bronze)

Size: #10 x 1" #2 Phillips Head-natural finish

The Silicon Bronze fasteners are used with copper roofing panels to prevent reactions between unlike metals. The pancake head is used for panel attachment, and is a concealed fastener.



Woodfast, Sharp Point

(Silicon Bronze)

Size: #10 x 1" 1/4" Hex head -Natural finish

The Silicon Bronze fasteners are used for metal to wood applications, typically for the attachment of flashings. They are exposed fasteners.



Rivets

(copper rivet/brass mandrel)

Size: #42 or #44 1/8" x 1/8"

Rivets are used to join metal to metal such as lap joints in flashings.

Roof Preparation

Sub-Structure and Underlayment

Champion Metal recommends installing the T-Panel over 1/2" or thicker exterior grade plywood.

We recommend 30 lb. ATM-rated felt paper be used as underlayment. We also suggest installing an "Ice and Water Shield" product in the valleys, and perhaps over the entire roof area, prior to the application of the felt paper. The use of this product depends on the radius and roof configuration.

Measuring the Roof

As with all metal roofing applications, accurate measurements of the roof are critical. Figures A and B show which dimensions are needed to accurately calculate materials for the roof area(s).

Figure A shows a front (or end) view, and Figure B shows a side view.

Champion Metal has estimating services available for the convenience of our customers. If you would like Champion Metal to calculate the materials and provide you with a quote, we will need specific dimensions to accurately calculate the materials.

Figure A
End View

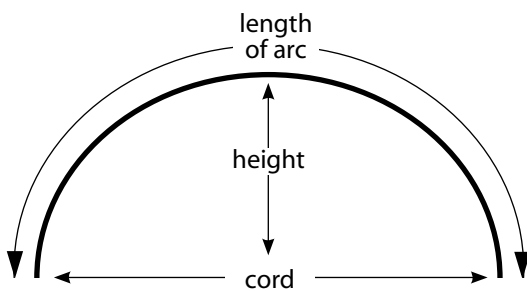
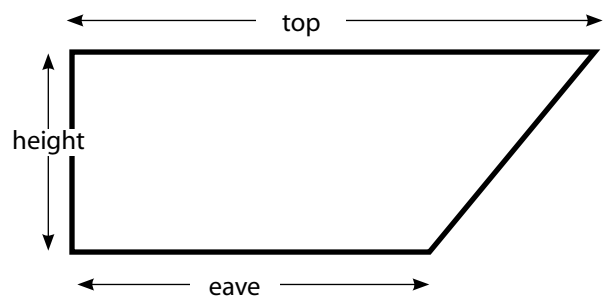
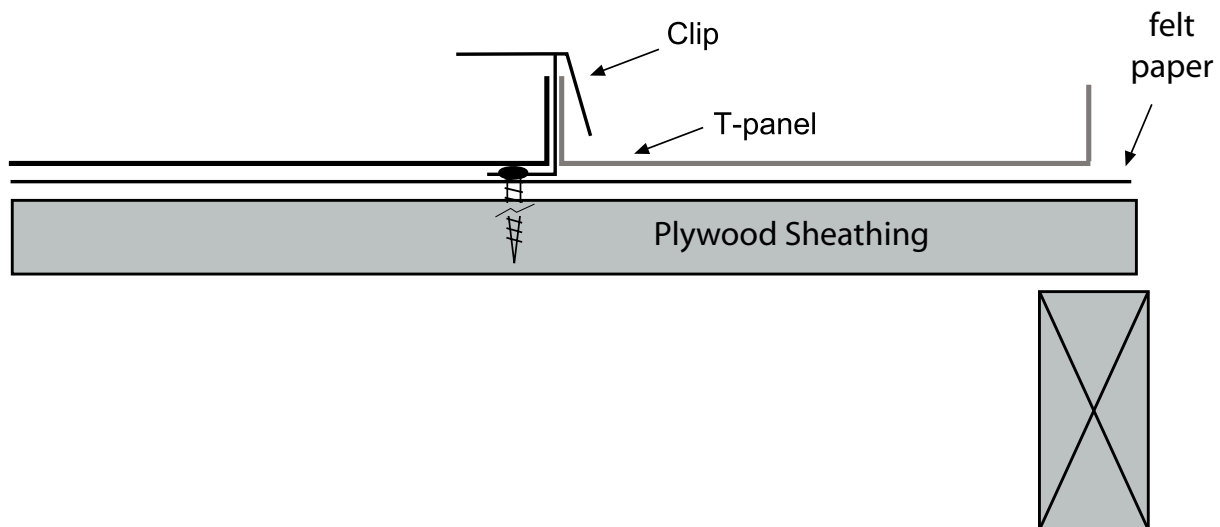


Figure B
Side View





Install any eave flashing and/or valley flashing before installing the T-Panels.

Position the first panel, beginning on the gable end and working toward the valley, wall, or opposing gable end. Be sure the panel is straight and true.

Position the clip against the leg of the panel with the base of the clip away from the panel. Bend down one tab of the clip over the leg of the panel and fasten the clip to the sheathing with a waferhead screw of sufficient length to penetrate the sheathing.

Install a clip every 2 feet and repeat the procedure as described above.

Install the next panel by placing it next to the previous panel, covering the base of the clip and bending the remaining tab over the leg of the just placed panel. Repeat the process for the remaining clips.

Subsequent panels are installed repeating the procedure, with the last panel cut and/or upended as needed.

Flashing Details

Flashing for curved roofing panels is not unlike the flashing details for sloped flat roofs, except that the gable/rake, sidewall and valley flashings need to be formed to follow the roof.

In order to form a flashing to fit the radius of a curved roof, the sides of the flashing are crimped to shrink the sides and create curvature. The smaller the radius the more crimps required.

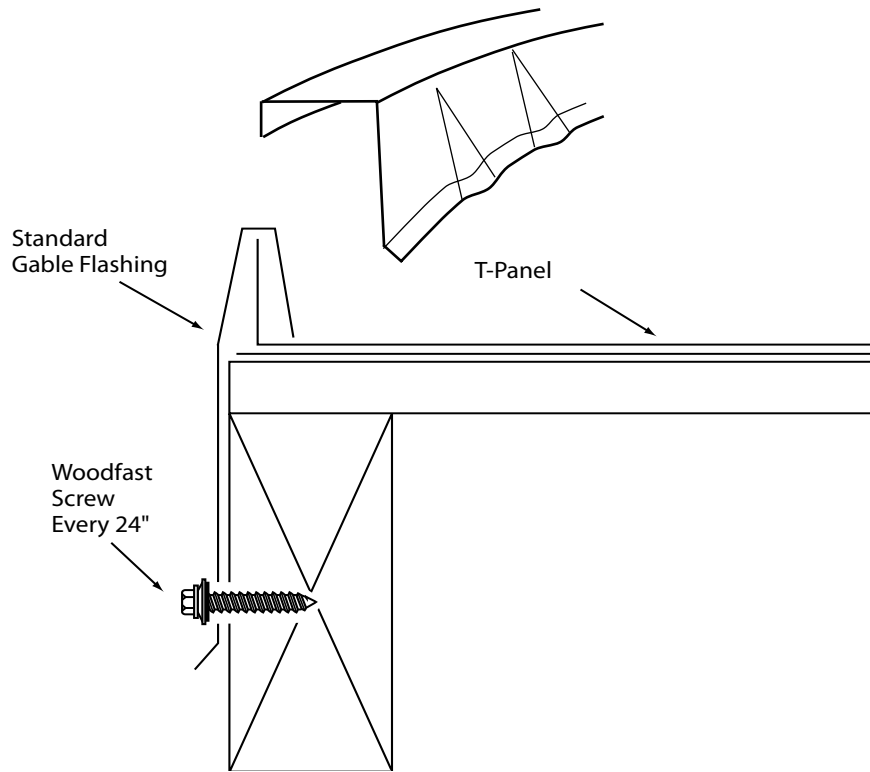
Another method used to curve the flashing is to snip the sides of the flashing as often as necessary, and tuck snipped edges.

Champion Metal can also custom fabricate curved flashings to fit the curvature.

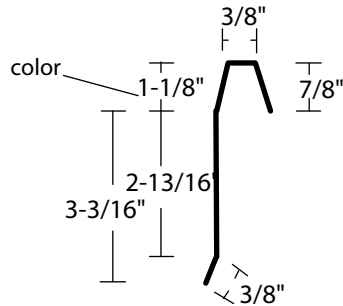
Valley flashings present some challenges for the installer. The typical w-valley flashing cannot be formed to fit the curvature of the valley. We have found that it works well to use wide flat sheet(s) and form them into the valleys, and then if a w-valley is desired it can be segmented in over the flat metal.

Other types of flashing details are similar in application to standing seam type panels and should present no challenges to the installer.

Please contact our sales department with any questions regarding installation.



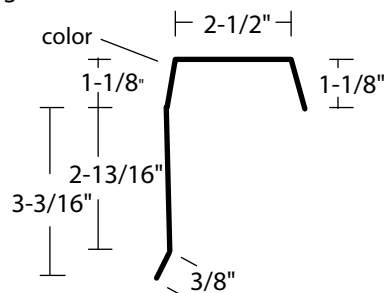
GS Gable Standard



GC Gable Compensating

Use to compensate for:

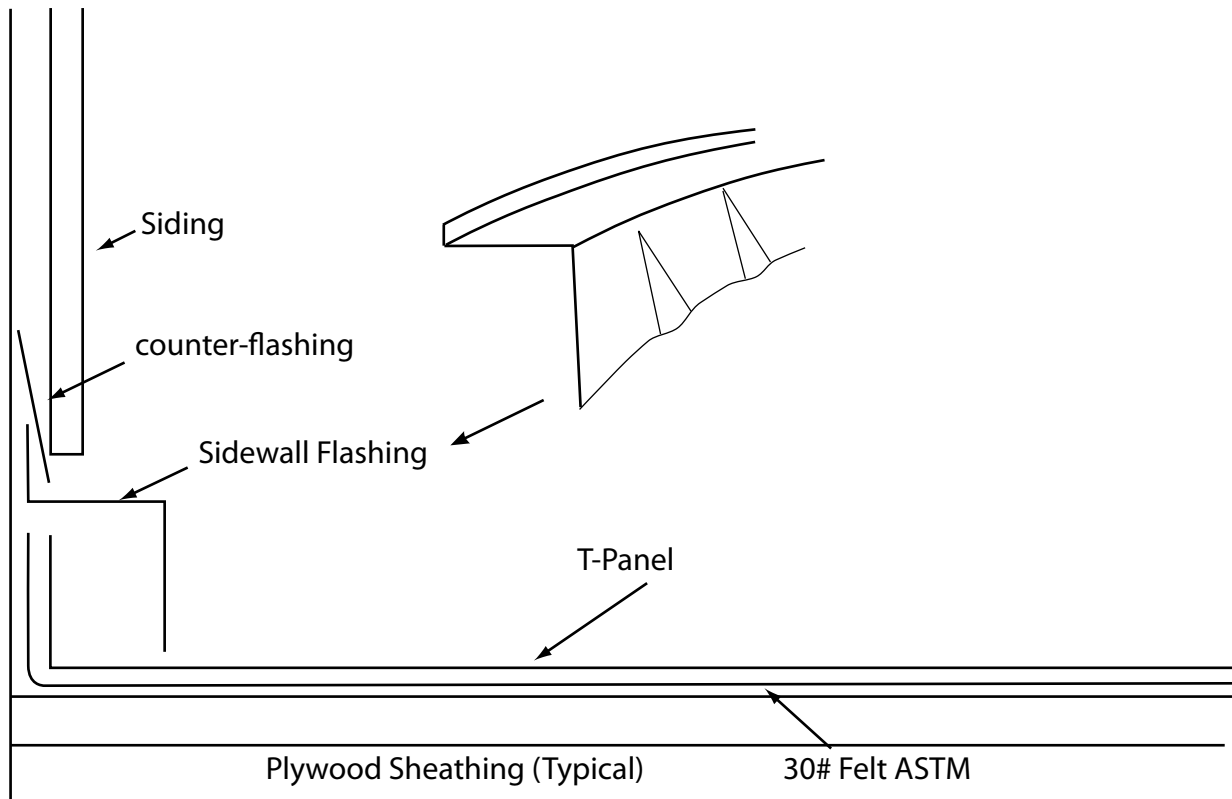
- Out of square roof
- Up to 2" coverage



Gable Flashing Application

- Install to hold down beginning and/or ending panel(s).
- Trim last panel (if needed) to allow 1" leg to be bent up to receive gable trim.
- Place firmly over leg (or field formed leg).
- Overlap flashing 2" to 3" top over bottom and place 1/8" bead of caulk under lap.
- Fasten to fascia board every 24" with woodfast screw.
- Consider using compensating gable if roof is out of square or to avoid cutting very narrow panel for the ending panel.
- Compensating gable flashing will allow installation to begin or end, up to 2" from gable edge.

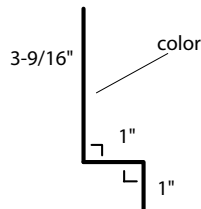
Sidewall Flashing



SW Sidewall

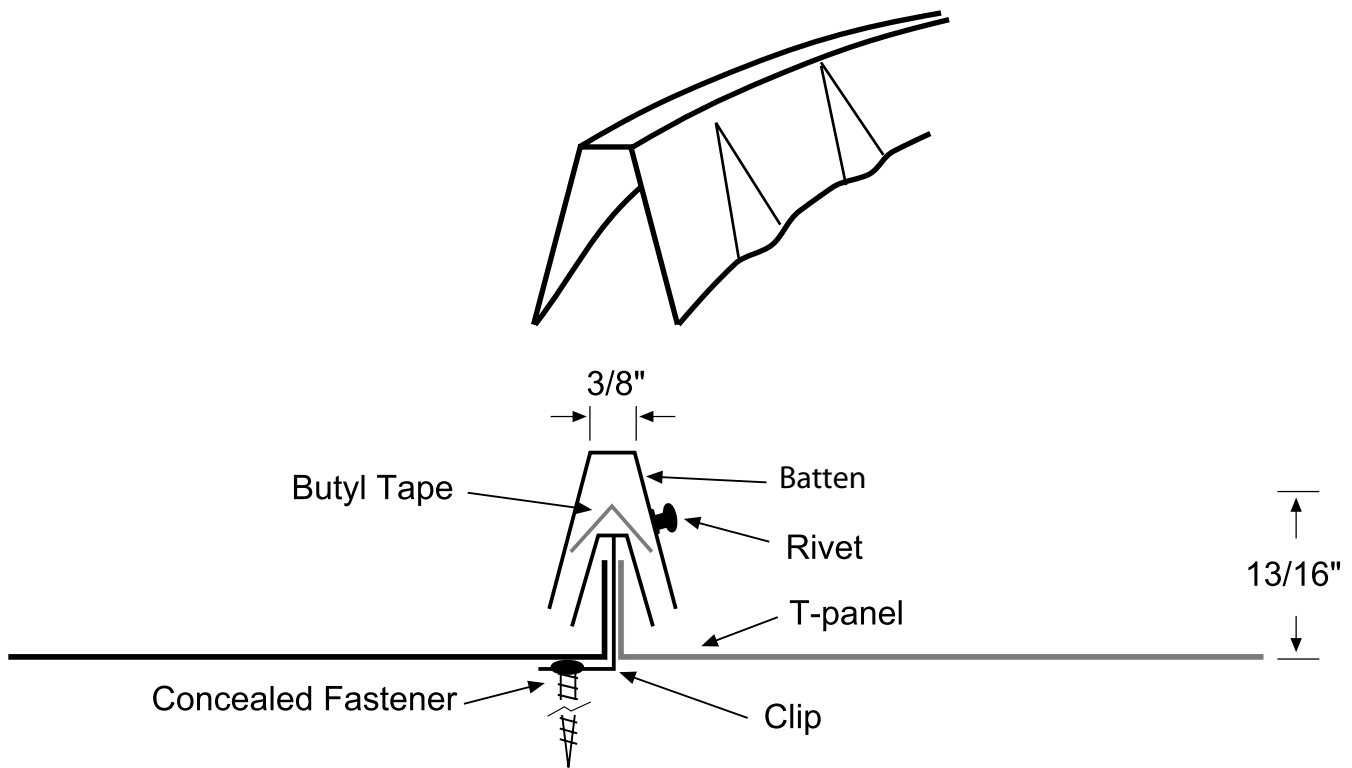
Used where panel sides begin or end against a wall.

Specify with or without lip.



Sidewall Application

- Sidewall flashing is used where wall runs parallel with slope.
- Install roofing panel first.
- Flash over panel leg if starting panels at wall or over upended edge of panel (pictured).
- Install flashing under siding with short leg against wall.
- Counter-flash the upper leg of the sidewall flashing. Seal between the counter flashing and the sidewall flashing.
OPTION: Siding is cut 1/4" deep and lip is caulked into the cut to seal. Attach to wall with woodfast screw every 24". NOTE: Specify with lip if using this method of installation.
- Overlap flashing end to end 2" to 3" and caulk at lap.



Batten Application

- Battens are pre-formed to fit the curvature of the roof by crimping the sides of the batten. Crimping shrinks the the sides of the batten. The smaller the radius, the more crimps are needed to tighten the curve.
- Place the butyl tape inside the batten and press into place.
- Position the batten over the leg of the panel and press down until the batten completely cover the leg of the panel and clip.
- Using a 1/8" bit, drill a hole through side of the batten and the leg of the panel, either side but not both. Rivet the battn to the panel leg every 2 feet.
- If the panels are longer than 10 feet, overlap battens 2"-3" downhill, using a 1/4" bead of caulking at the lap.
- Repeat the procedure for installing the rest of the battens.



Customer Name: _____ Job Name: _____

Drawing #: ___ Pitch: _____ # of Pieces: _____
 Description: _____
 Hems: Open Closed Slightly Open

Drawing #: ___ Pitch: _____ # of Pieces: _____
 Description: _____
 Hems: Open Closed Slightly Open

Drawing #: ___ Pitch: _____ # of Pieces: _____
 Description: _____
 Hems: Open Closed Slightly Open

Drawing #: ___ Pitch: _____ # of Pieces: _____
 Description: _____
 Hems: Open Closed Slightly Open

Please provide a drawing for each flashing with precise measurements and angles
Fax to: 425-485-2710

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