

STANDING SEAM PANEL

Installation Manual

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Bellevue, MI 49021**

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ABOUT THIS MANUAL

- ◉ We suggest you read over the entire manual for familiarization before starting out. You may also wish to crosscheck various sections of the manual as you read.
- ◉ Installing Standing Seam Panel can be fairly simple if you follow the instructions in this manual. Each section of this installation manual is designed to guide you through every step of the job with practical advice based on years of industry practice and experience. However this manual is designed to help the qualified installer; it is not intended for use by homeowners.
- ◉ The techniques discussed in this manual are illustrative of the procedures covered. They are not intended to be fully exhaustive and definitive. Other methods and techniques are used by qualified installers with full success.
- ◉ The best method depends on the specific construction of the building worked on, the brand and type of siding used, and the particular skills of the applicator.
- ◉ Although the manual is based on the best information and experience currently available in the industry, EMCO Building Products does not make any representation or warranty, express or implied (whether of merchantability or of fitness for a particular use or purpose) with respect to any tools, material, techniques, or procedures referred to herein.
- ◉ Always remember to use licensed contractors who understand local building codes as these codes may vary from one region to another.

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IMPORTANT NOTICE

- This manual is to aid the installer with the installation of the TMS Standing Seam Panels.
- Due to the different complexities of roofs and roofing situations, it is difficult to create a manual that covers every situation that the installer may encounter.
- This manual is to serve as a guideline to properly installing the TMS Standing Seam Panels.
- Check with local building codes prior to installing metal roofing.
- Any questions you may have regarding proper installation of the TMS Standing Seam Panels should be directed to The Metal Shop representative.
- Panels in this profile, unless you've ordered a striated version, can show "Oil Canning" which is a wave-like appearance going up the panels. This can be caused by elastic buckling also known as stress wrinkling in the flat areas of the panels. Although it can be unsightly, this is not a manufacturing defect and is not a means for refusal of product. The Metal Shop LLC highly recommends the use of striations for all standing seam panels and TMS Standing Seam Panels.

SAFETY:

- Failure to observe proper roofing safety can result in serious injury or death. Extreme caution should be used at all times when installing metal roofing. The information in this manual is to show the correct placement of the metal roofing parts. It is the responsibility of the erector to perform the placement of these parts in a safe manner.
- Refer to OSHA guidelines for applicable safety requirements.

IMPORTANT NOTICE

- ▶ Never walk on a wet metal roof.
- ▶ Never walk on an unfastened roof panel.

TOOLS RECOMMENDED:

- ▶ Variable Speed Drill or Screw Gun
- ▶ Snips
- ▶ Magnetic Bit
- ▶ Extension Ladder
- ▶ Tape Measure
- ▶ Hand Bending Tools
- ▶ Turbo Shears (we stock these for purchase)
- ▶ String Line
- ▶ Drill Bits
- ▶ Tool Belt
- ▶ Utility Knife
- ▶ Chalk Line

TOOLS RECOMMENDED:

- ▶ **Important:** Moisture trapped between stacked sheets may cause water stains or white rust to form under the paint, which can affect the life and service of the metal.
- ▶ If metal is not used immediately, store in a well ventilated dry location.
- ▶ Any outdoor storage is at the customer's own risk! If outdoor storage cannot be avoided the likelihood of damage may be reduced by protecting the metal using a canvas or breathable paper.
- ▶ Fan sheets lightly at the bottom to allow for air circulation.
- ▶ Keep the sheets off the ground by using a wood riser to keep off ground.
- ▶ Never cover the metal with plastic as this will cause condensation to form.

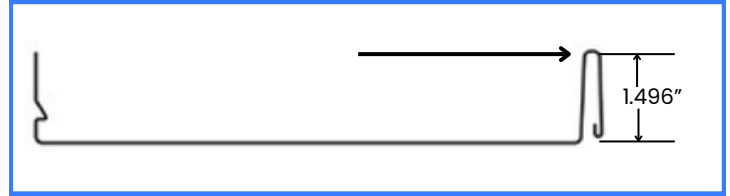
STANDINGSEAM PANELS: SPECIFICATION

Measurement:

Commercial Panel



Residential Panel



➤ **Applications:** Residential & Commercial

➤ **Gauge:** Available in 24 & 26 Gauge

➤ **Minimum Slope:** x2 / 12 - Tube sealant recommended on pitches below

➤ **Panel Profile:** 14", 16" & 18" with 2/12 PT x2" tall panel 24 & 26

➤ **Finish:** 40 year limited warranty Akzonobel's CERAM-A-Star® 1050 paint system

➤ **Applications:** Residential, Light Commercial

➤ **Gauge:** 24 gauge

➤ **Minimum Slope:** 2 /12- Tube sealant recommended on pitch below 2/12 PT

➤ **Panel Profile:** 16" width x 1" tall rib

➤ **Finish:** 40 year limited warranty Akzonobel's CERAM-A-Star® 1050 paint system

PLEASE NOTE: For other installation configurations, please inquire with your salesperson for site-specific accommodations.

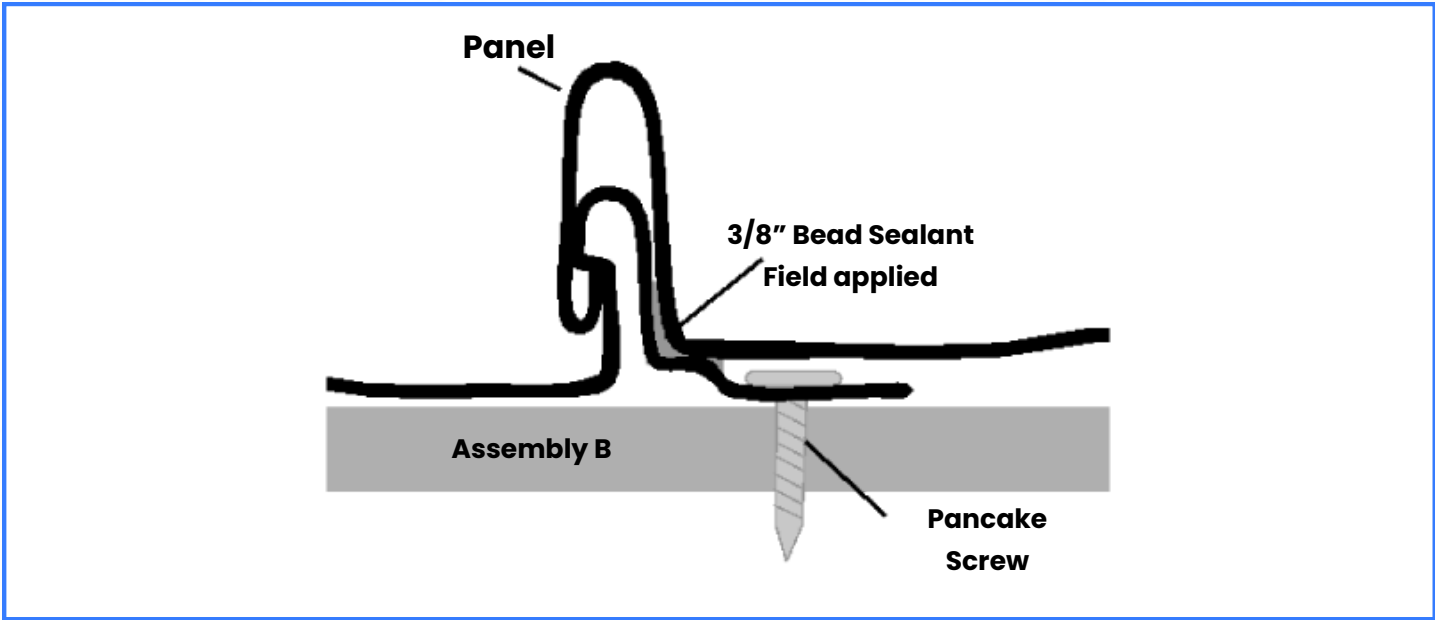
Measurement:

A current list Michigan Product Approvals available on our website.

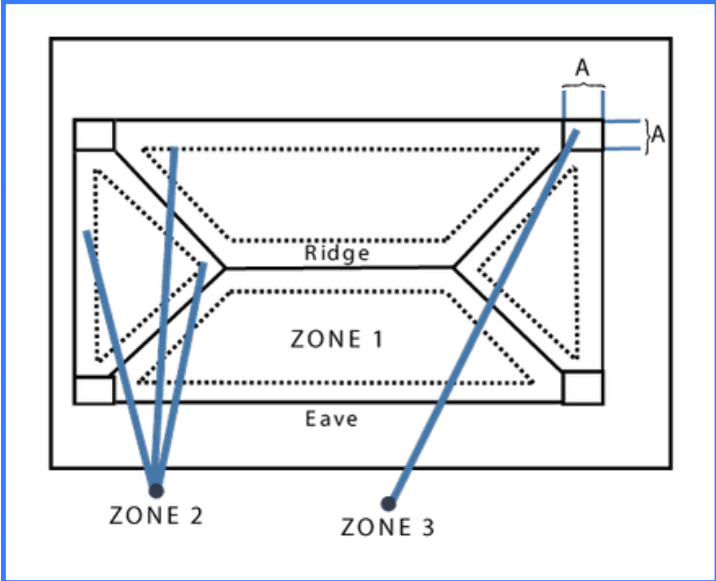
For the most up-to-date Michigan Product Approvals, please visit our website:
www.themetalshopllc.com

STANDINGSEAM PANELS: SPECIFICATION

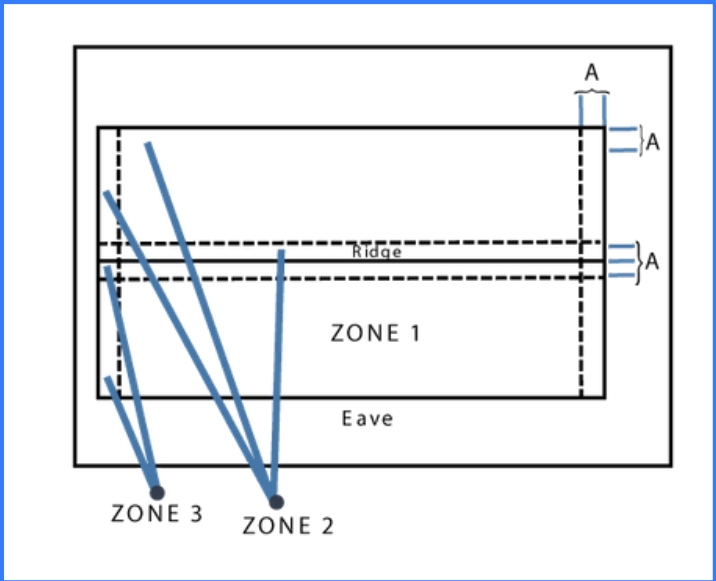
Illustration:



HIP ROOF

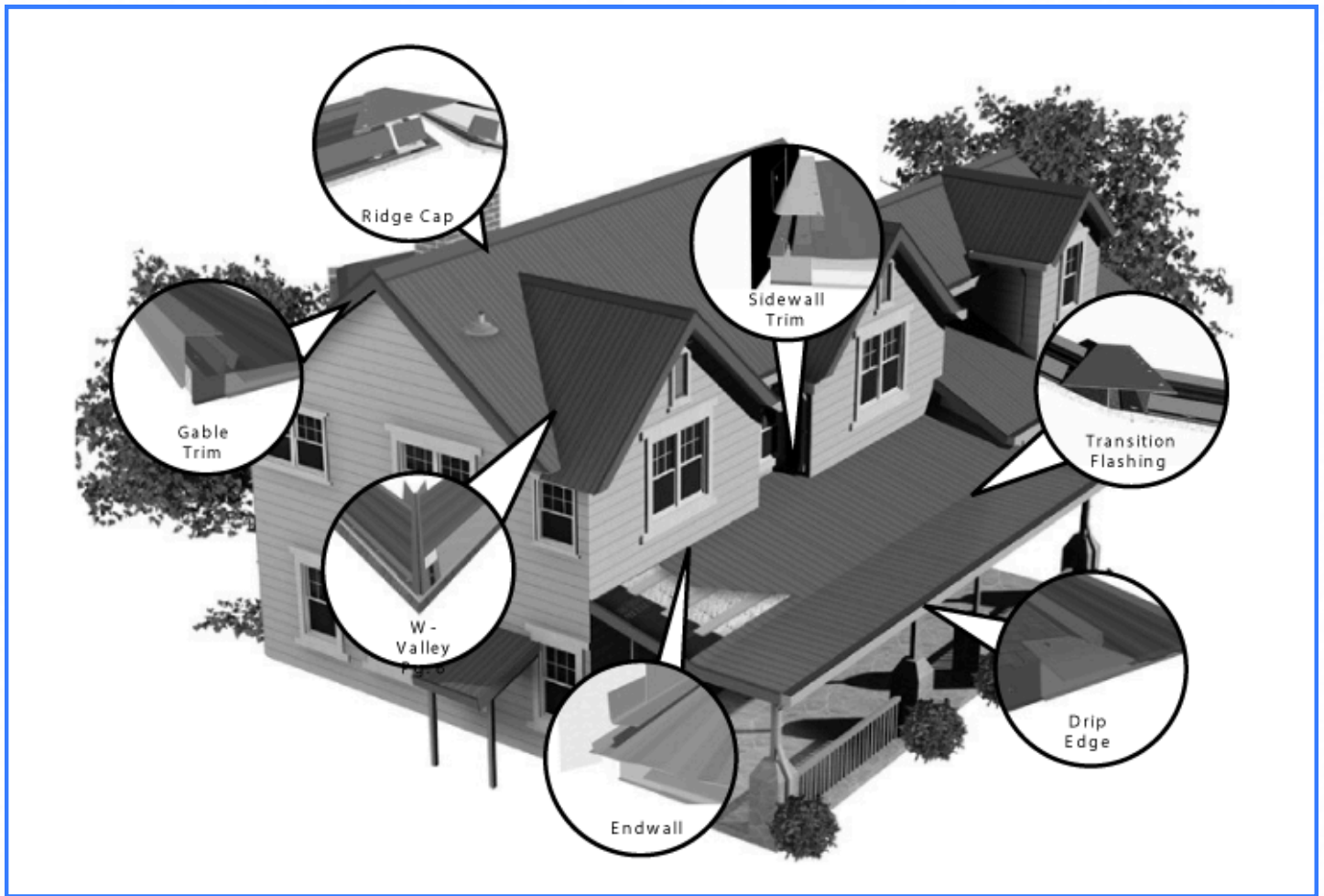


GABLE ROOF



For full details on the fastener type, and spacing, please visit our website
themetalshopllc.com

ROOFING ANATOMY



Eave Cleat



Used to attach drip edge and gable trim to the fascia board. (Optional)

Panel Starter



Used to attach panel edges at valley ends and at roof transitions.

Z Flashing



Used to attach the ridge cap, gable trim, sidewall, endwall, and transition flashings to the roof.

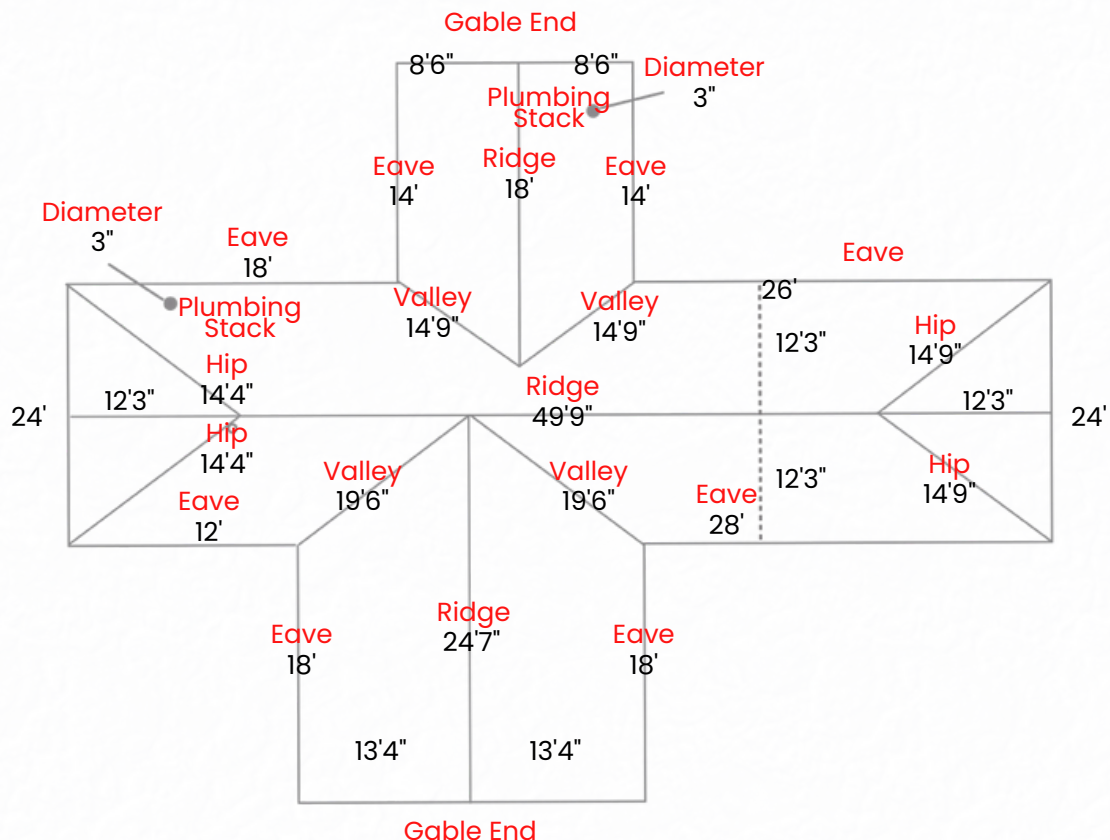
For full details on the fastener type, and spacing, please visit our website themetalshopllc.com

MEASURING YOUR ROOF FOR AN ESTIMATE

Instructions:

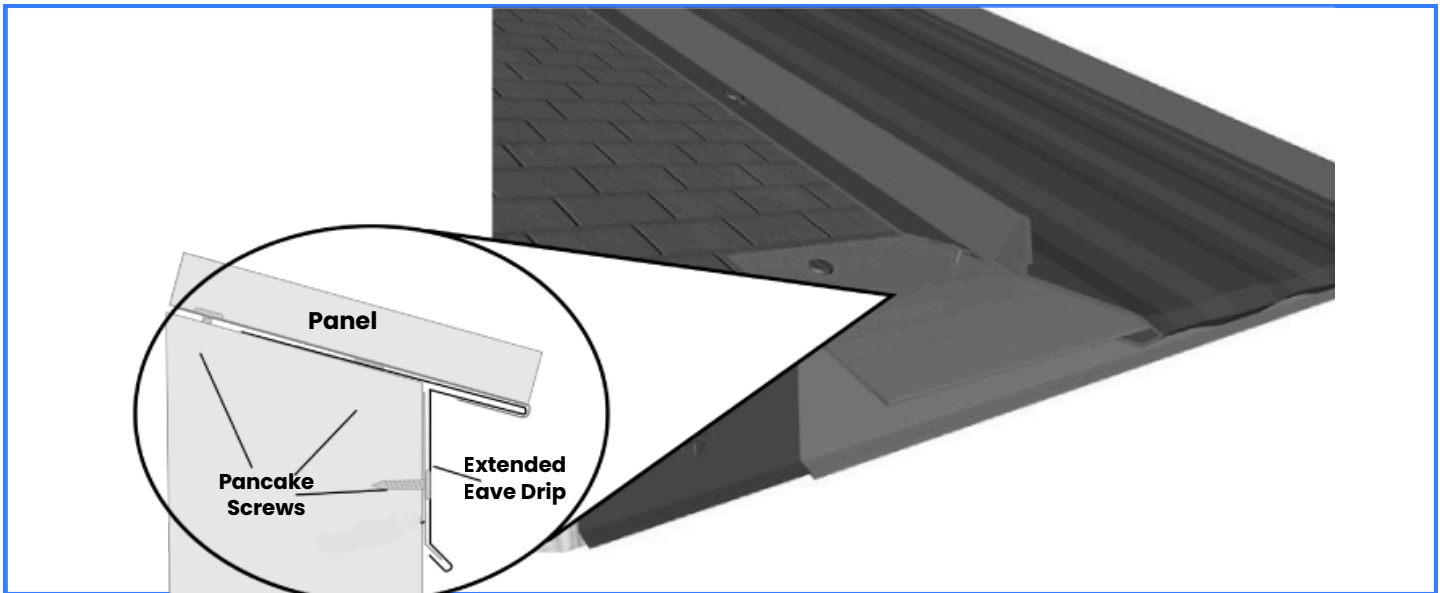
- These instructions are simply intended to serve as a guide to demonstrate a skilled, qualified erector the proper part placement one after the other.
- Start by sketching a birds-eye view of your roof. This can be aided by using Google Earth or similar online programs.
- Identify each part of your roof similar to the drawing below.
- Once you have drawn your roof and identified each part, measure each line and include it on the drawing.
- Include on the drawing the location of plumbing stacks (if any) and the diameter of the pipe.

Illustration:



DRIP EDGE

Illustration:

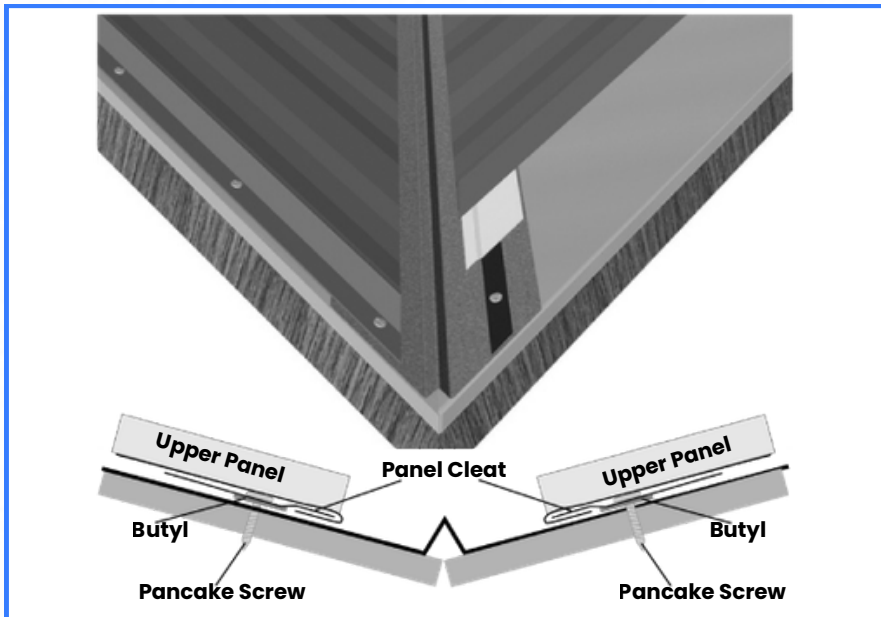


Instructions:

1. Attach drip edge flashing to roof deck with 1" pancake screws 4" on-center,
2. Overlap drip edge flashing a minimum of 3".
3. Allow drip edge to run past corner of roof 3" so it can be folded to ensure maximum weather tightness.
4. Attach roofing panel at eave by notching 1" off of each panel rib from the panel edge leaving 1" of panel to be folded over the drip edge flashing.
5. Slide hemmed panel edge over drip edge flashing.
6. Use hand seamers to finish crimping panels over drip edge if using extended eave drip.

W-VALLEY

Illustration:



RECOMMENDED ACCESSORIES:

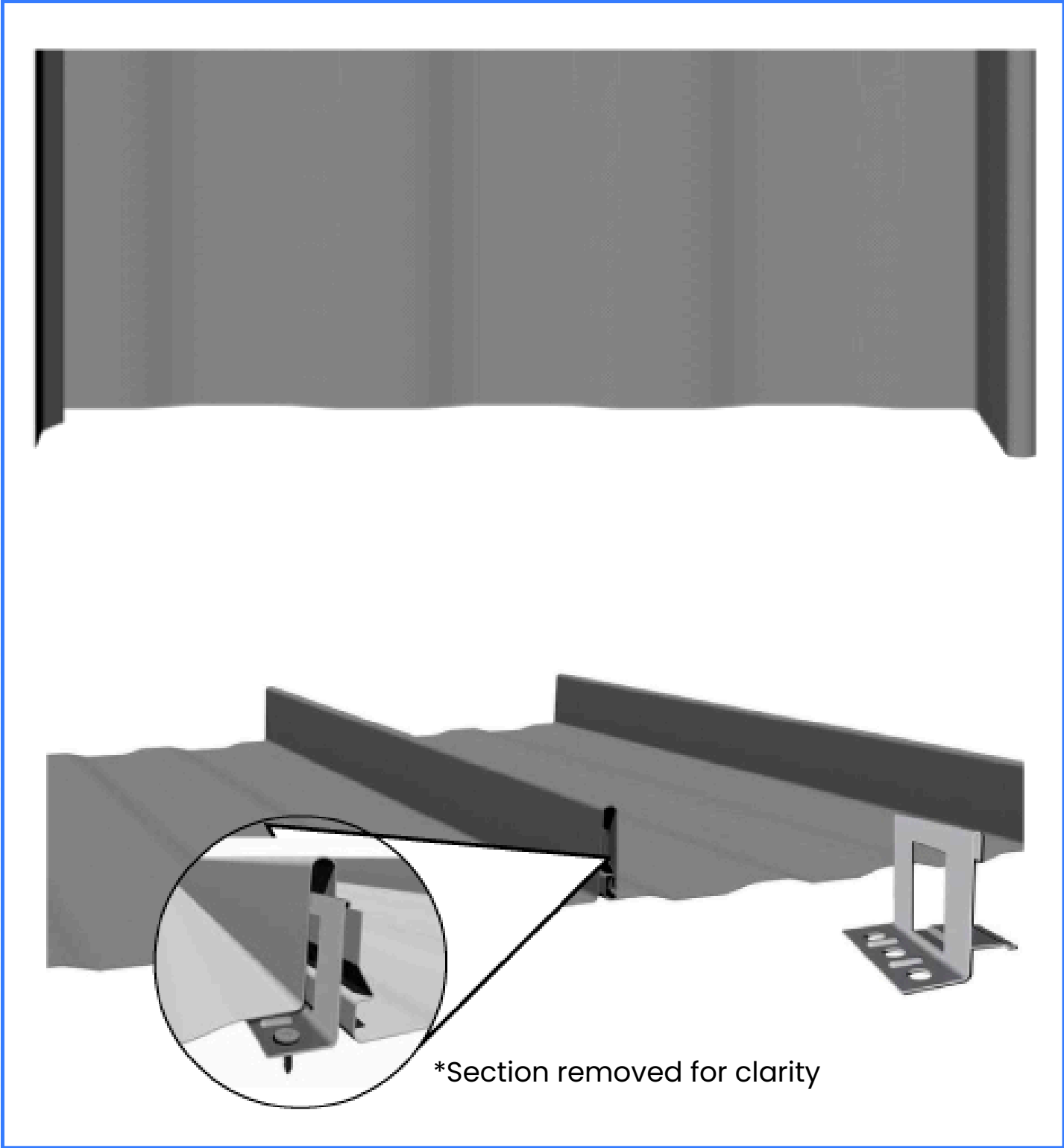
Butyl (1 roll = 50' of coverage)

Instructions:

1. Starting at the bottom, fasten W-Valley trim flashing to roof substrate using 1" pancake screws every 24" on-center.
2. The valley trim needs to run past the installed drip edge, or cut flush with drip edge.
3. End lap w-valley flashing a minimum of 6 inches, and install 2" of Butyl minimum.
4. Cut roofing panels so they stop 3" from the diverter in the center of the W-Valley trim flashing.
5. Apply Butyl the entire length of the w-valley flashing 5" from the center diverter.
6. Attach panel starter on top of the Butyl and screw the panel starter down every 4" using 1" pancake screws.
7. Slide hemmed panel over panel starter and install a 1" pancake screw according to most up-to-date

FASTENING SCHEDULE

Illustration:

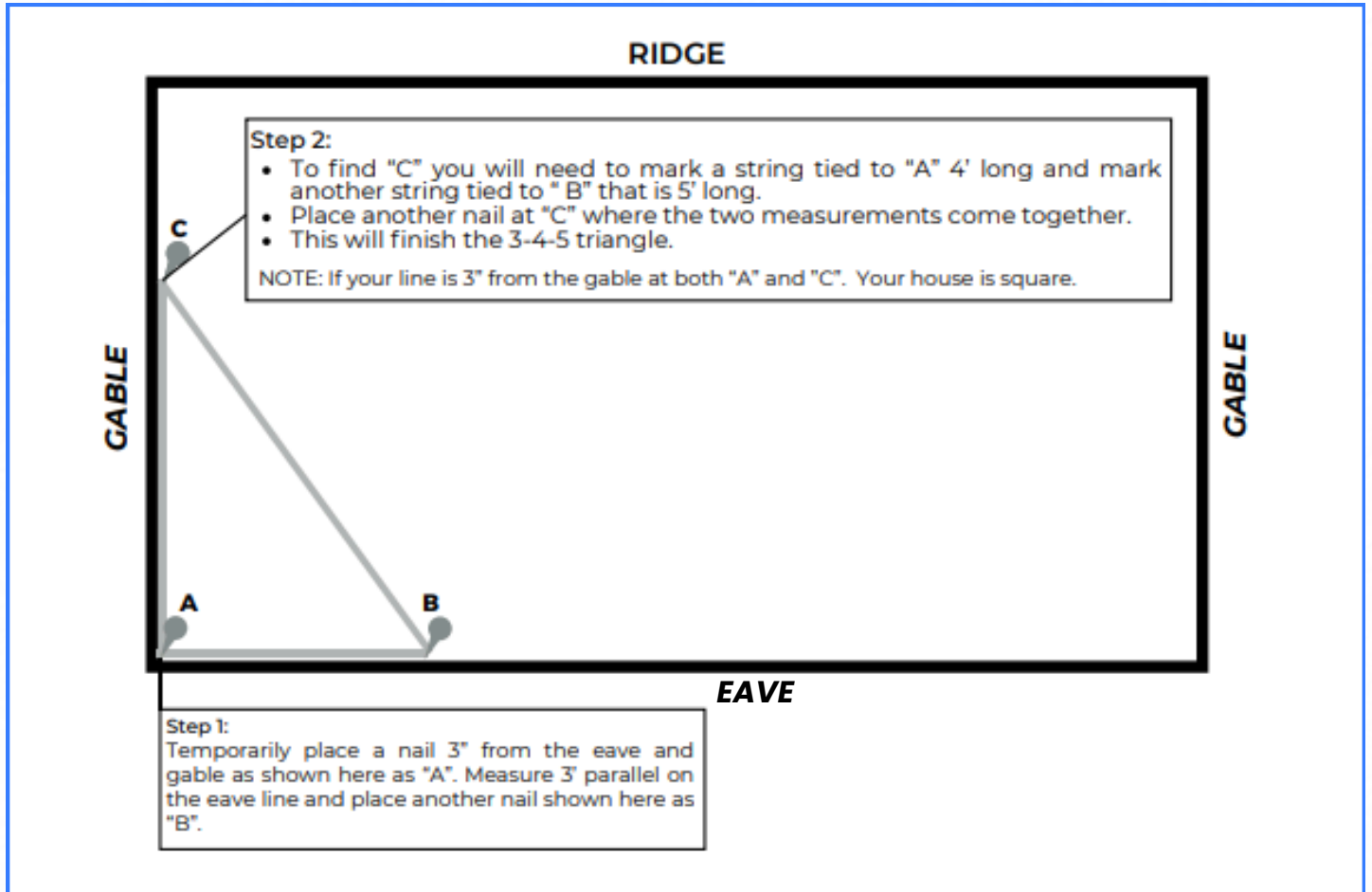


For full details on the fastener type, and spacing, please refer to the Michigan Product Approvals page on our website

www.themetalshopllc.com

FASTENING SCHEDULE

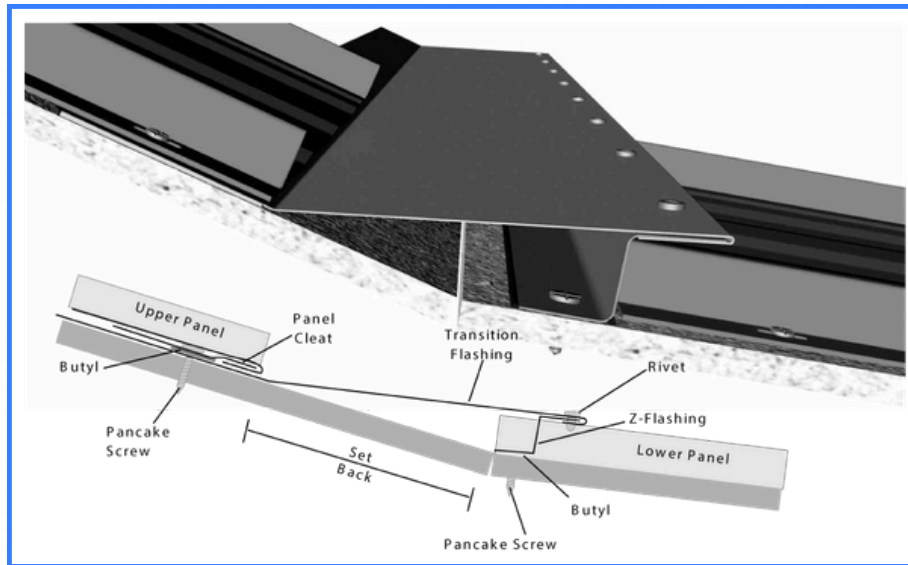
Illustration:



- The 3-4-5 triangle method will work on a larger scale as well. For example, if your roof panels are 16' long then you can multiply the 3-4-5 by 4 so you will be measuring 12-16- 20. Just make sure that you multiply all measurements by the same number. The next step will be making a chalk line going from your "point A" to point C".
- You will want this line to be as close to the edge of the gable as possible so your first panel will be about 1/8" from the edge of the roof. You will want to measure 9' 6" from your chalk line at the A and C points and make another chalk line. This will help you as you start installing your panels to make sure they are square with your eave. It is a good idea to continue this process for the entire project and on both sides of your roof.

TRANSITION FLASHING

Illustration:



RECOMMENDED ACCESSORIES:

Butyl (1 roll= 50')

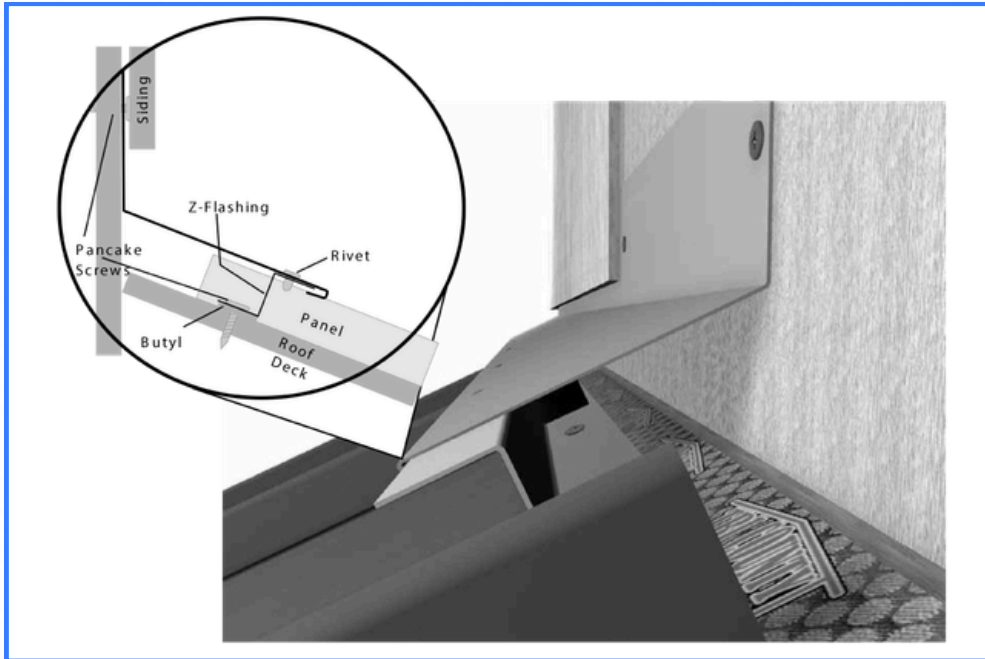
TMS Approved Sealant (1 tube
= 31 linear feet (1/4" bead))

Instructions:

- Install bottom roofing panels first.
- Apply Butyl in the flat part of the lower roof panels where the z-flashing is going to be installed.
- Notch the z-flashing to fit over the panel ribs and install over the Butyl according to most up-to-date Product Approvals, please visit our website: themetalshopllc.com.
- Use TMS Approved Sealant to seal openings created between z-flashing and panel ribs.
- Slide the transition flashing over the installed z-flashing.
- Secure transition flashing to z-flashing using rivets every 12" on-center.
- Apply tacky tape to the top side of the transition flashing.
- Install a panel starter on top of the Butyl using 1" pancake screws every 4" on-center.
- Slide the hemmed panel over the panel starter and attach the panel to the roof substrate using 1" pancake screws according to screw placement according to most up-to-date

ENDWALL FLASHING

Illustration:



Instructions:

- Apply Butyl in between the ribs of the panel.
- Notch z-flashing or cut pieces to fit in-between the ribs and install on top of Butyl.
- Fasten z-flashing to panels using 1" pancake screws every 4" on-center.
- Use TMS Approved Sealant to seal openings created between z-flashing and the panel ribs
- Slide Endwall flashing over z-flashing.
- Secure Endwall flashing to z-flashing using rivets every 12" on-center.
- Attach Endwall flashing to wall.
- Cover Endwall flashing with siding or counter-flashing.

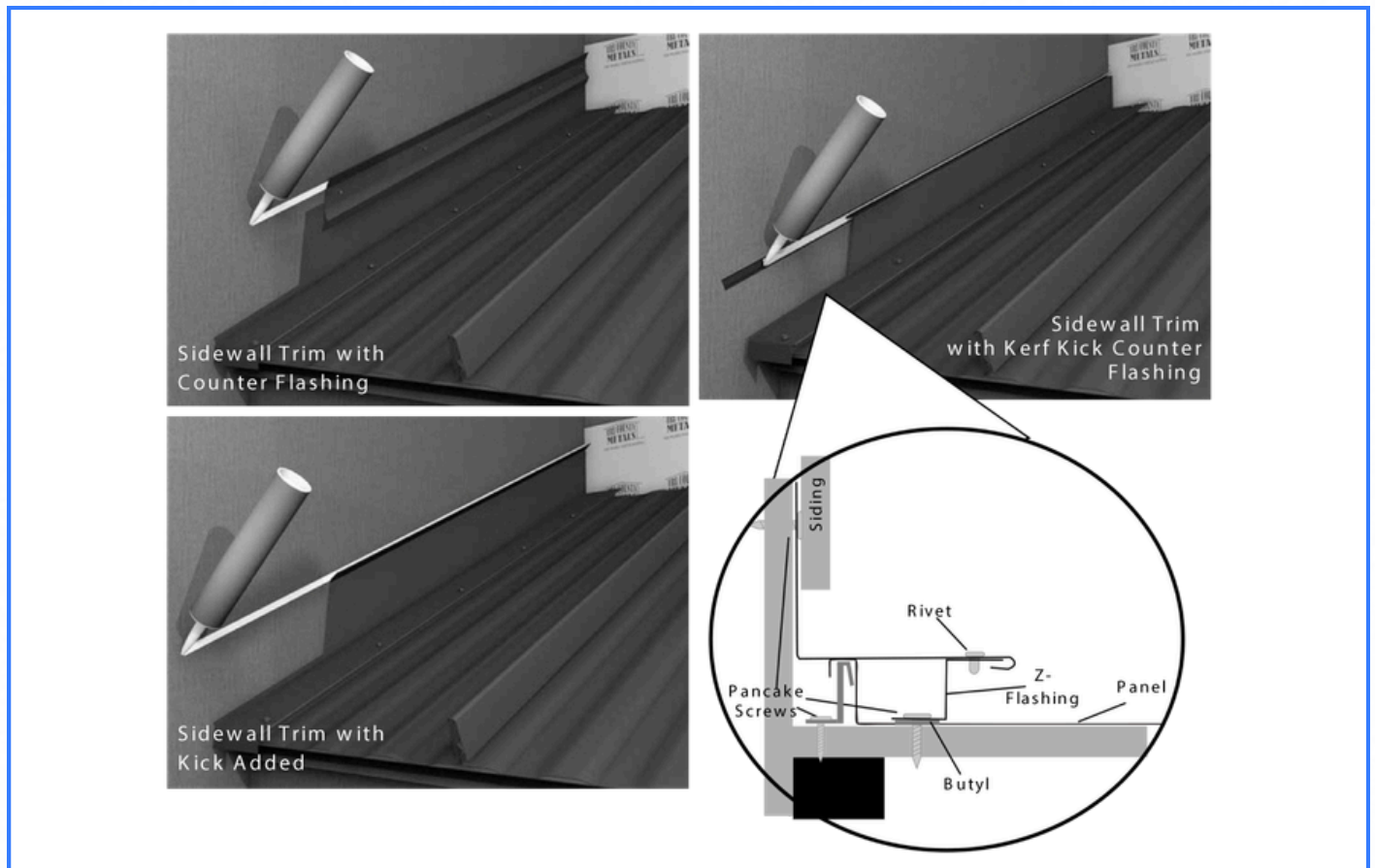
RECOMMENDED ACCESSORIES:

Butyl (1 roll= 50')

TMS Approved Sealant (1 tube = 31 linear feet (1/4" bead)

SIDEWALLFLASHING

Illustration:



Instructions:

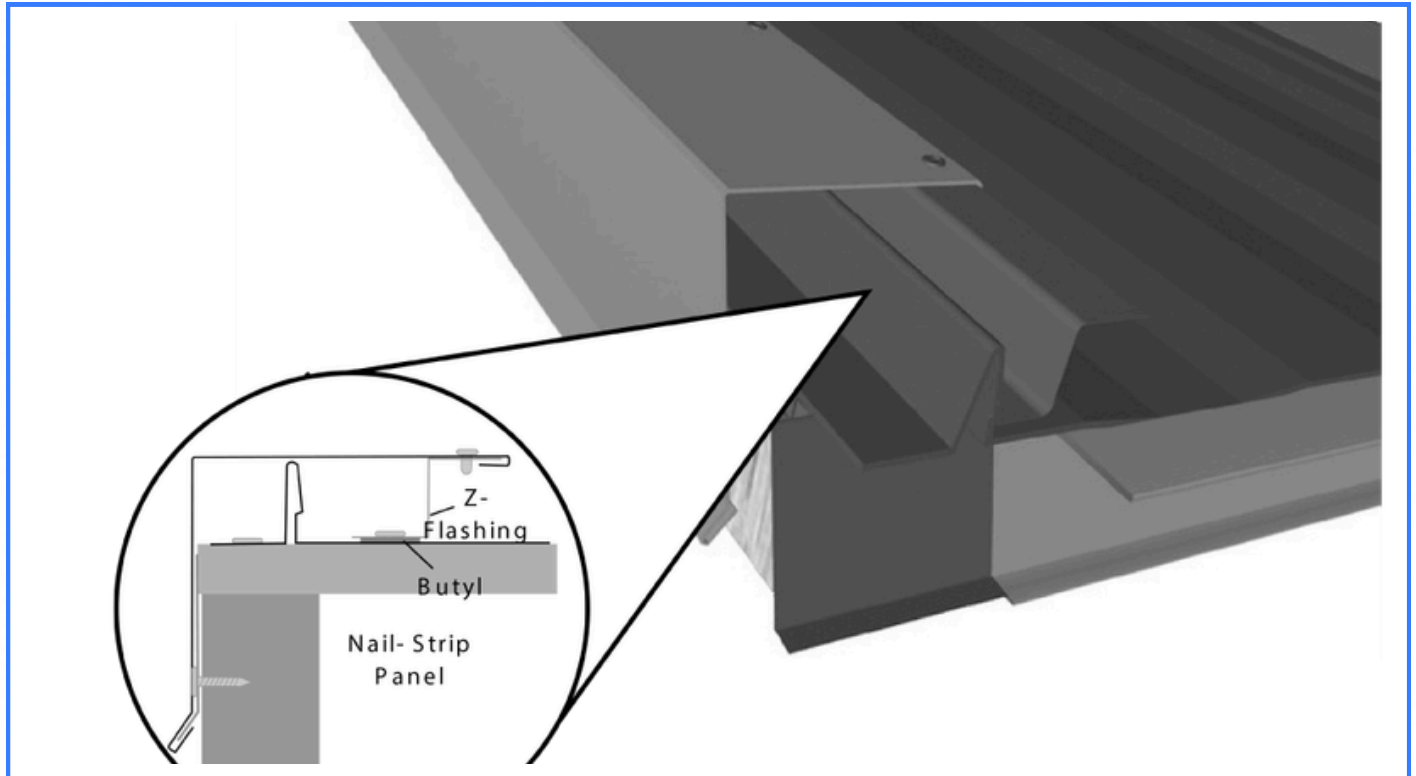
- Apply Butyl along the panel where the z-flashing is going to be installed.
- Attach the z-flashing to the panel by using 1" pancake screws every 4".
- Slide the sidewall flashing over the z-flashing.
- Secure the sidewall flashing to the z-flashing using rivets every 12".
- Attach the sidewall flashing to the wall.
- Cover the sidewall flashing with siding or counter flashing.

RECOMMENDED ACCESSORIES:

Butyl (1 roll = 50' of coverage)

GABLE TRIM

Illustration:



Instructions:

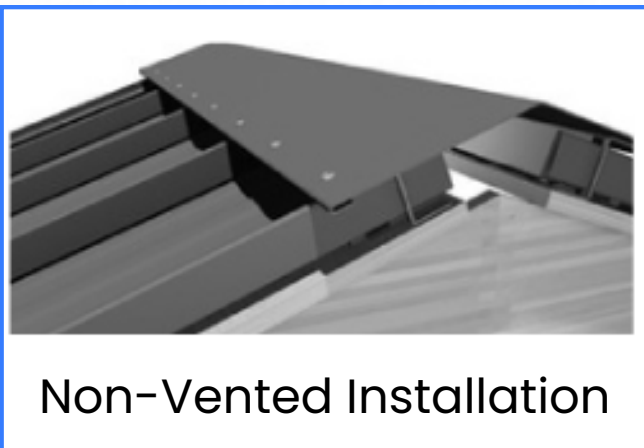
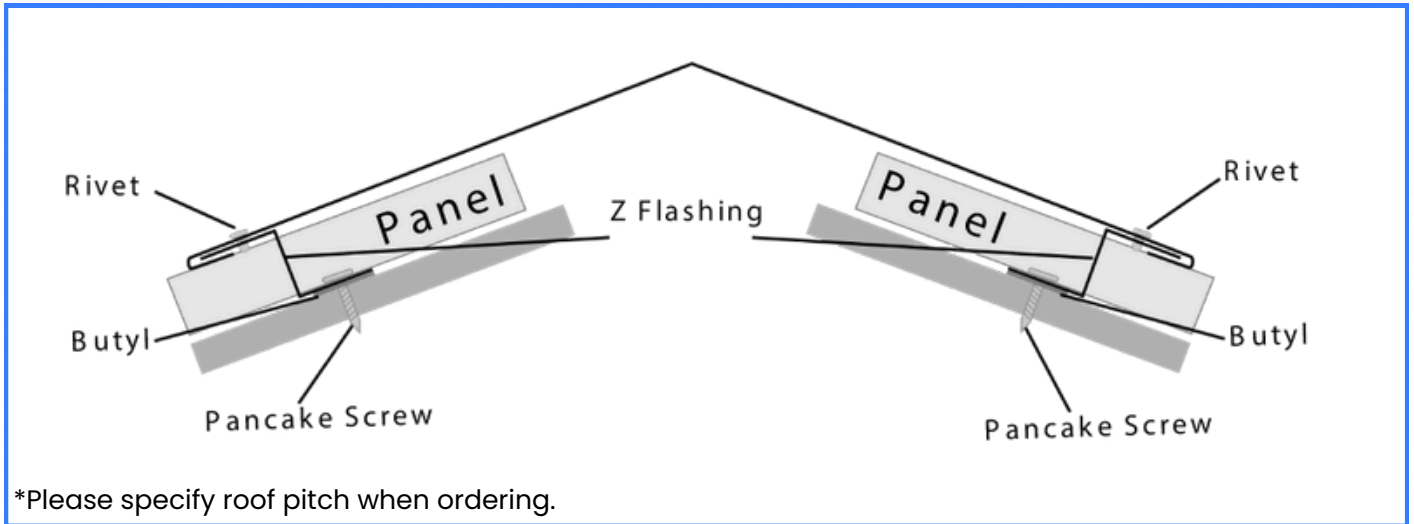
- Apply Butyl to topside of panel where z-flashing will be installed.
- If the panel rib is not going to be under the gable trim flashing, the panel will need to be turned up 1”.
- Install z-flashing on top of tacky tape and fasten to roof deck using 1” pancake screws every 4”.
- Attach eave cleat to fascia board using 1” pancake screws every 4”. (Optional)
- Slide gable trim flashing over z-flashing and then snap it over the eave cleat. (Optional)
- Secure gable trim to z-flashing using rivets every 12”.

RECOMMENDED ACCESSORIES:

Butyl (1 roll = 50’ of coverage)

RIDGE CAP

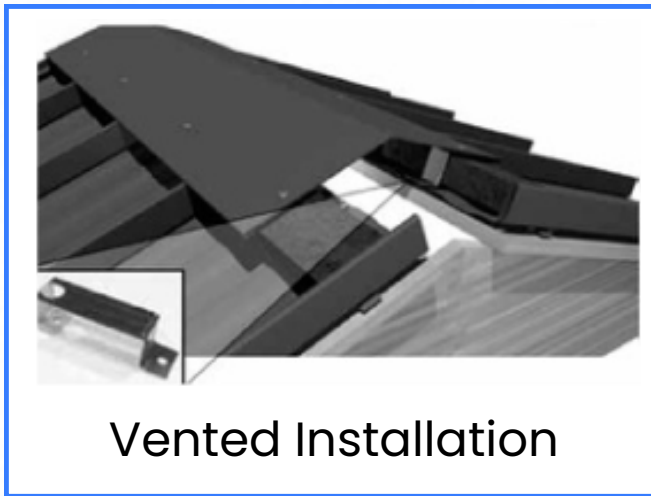
Illustration:



Non-Vented Installation

- Stop panels 2" from center line of ridge for vented ridge installation.
- Apply Butyl to flat part of panel.
- Notch Z-flashing to fit over the top of the rib or cut pieces to fit in-between ribs.
- Install z-flashing on top of Butyl and fasten to panel using 1" pancake screws every 6".
- Use Caulk to seal openings created between zflashing and panel ribs.
- Slide ridge cap over z flashing on both sides and secure using rivets every 12".

RIDGE CAP



Vented Installation

- Apply Butyl below the predrill holes in the profile vent clip.
- Use one clip located in the center of every panel.
- Install one pancake screw through the large access hole in the top of the anchor clip on the down-slope slide.
- Slip the Flex-O-Vent underneath the profile vent clip.
- Insert another pancake screw in the up-slope hole.
- Attach the ridge cap to Flex-O-Vent clip with rivets. (Make sure to not install rivet through the large access hole in the profile vent clip)



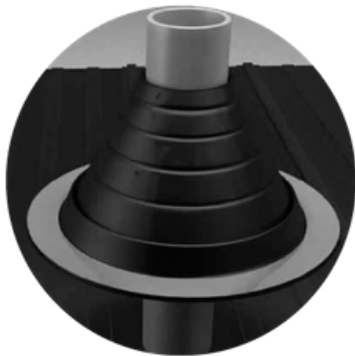
Snap Z Ventilation Installation

- Take the Snap-Z and a screw gun and install one on each side of the ridge of the roof. Allow about 1/8" to 1/16" slack for ridge capping. Install using screws spaced every 3 inches. (Butyl tape must be installed on the bottom side of the Snap-Z prior to installing.)
- Next take the ridge cap and slide it onto the Snap-Z. Then fasten ridge cap to Snap-Z with stainless steel rivets.
- Do not install Snap-Z on any vented closure roof less than 3/12 pitch. Apply sealant at the joint of panel rib and Snap-Z. The screw used to fasten the Snap-Z must penetrate through the decking by 1/2".

ROOF BOOT INSTALLATION

Instructions:

➤ Follow the instructions in the chart below for best result.



Step 1

Choose appropriate Master Flash with opening at least 20% smaller than pipe diameter. If necessary trim opening to 20% smaller than pipe diameter.



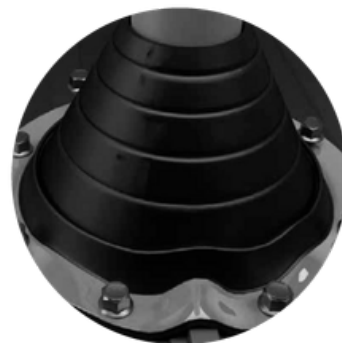
Step 2

Slide Master Flash down over pipe.
(A nonpetroleum base lubricant will ease installation.)



Step 3

Apply sealant between base and roof.

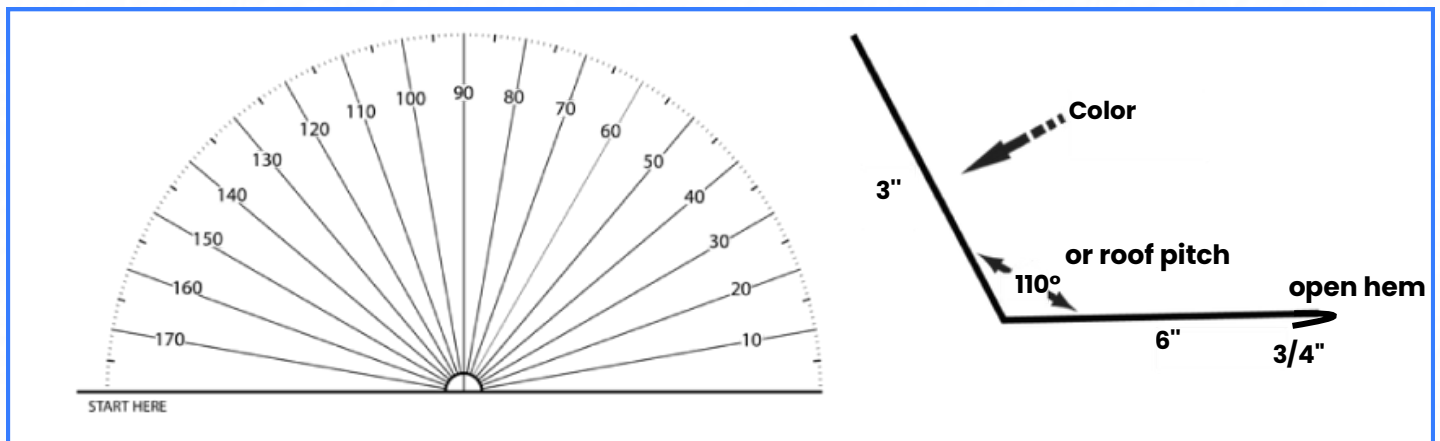


Step 4

Use fasteners to complete sealing.
Space screws no more than 2 1/2" apart around the pipe.

SPECIAL TRIM INSTALLATION

- The Metal Shop can manufacture special trim designs separate from those designs included in the manual.
- 1. A drawing of the trim design
- 2. Clearly marked dimensions of each leg of the drawing.
- 3. Clearly marked degrees of each angle or roof pitch.
- 4. Clearly indicate the color side.



TRIM MANUFACTURING SPECIFICATIONS

- Hem size must be 1/2 or larger.
- Bends on hemmed legs need to be greater than 1/2" or else the hem obstructs the break.
- Smashed parts need to be at least 1 1/4".
- When bending angles opposite of one another, like a Z Flashing, the middle part of the Z must be at least 1/2" or larger.
- When bending two 90-degree bends on the same side, one leg has to be equal to or less than the length of the material between the two bends.
- Pieces with more than two bends on the same side are difficult to do unless the bends are large enough. For more information, please talk to one of the pros at The Metal Shop.

CARE AND MAINTENANCE

- ▶ To maintain the original finish of the metal roofing panels, the only regular maintenance necessary is annual washing. Mild solutions of biodegradable cleaner or household ammonia will aid in the removal of most dirt, and the following are recommended levels:
- ▶ 1. One cup of Simple Green®, or other non-toxic biodegradable cleaner, which contain less than 0.5% phosphate, dissolved into two gallons of warm water.
- ▶ **Note:** The use of detergents containing greater than 5% phosphate is not recommended for use in the general cleaning of building panels. NEVER BLEND CLEANSERS OR DETERGENTS WITH BLEACH.
- ▶ 2. One cup of household ammonia dissolved into five gallons of water (room temperature). Working from the bottom to the top of the metal roofing panels, the panels may be washed with either solution. The use of a well-soaked cloth, sponge, brush (with very soft bristles), or a low-pressure spray washer is advised.
- ▶ We do not recommend the use of scouring powders or industrial solvents, since these agents may damage the film. Solvent-containing cleaners such as Fantastic®. However, they are very effective and can be used without concern. If mildew or other fungal growth is a problem and cannot be removed as outlined above, household bleach, mixed at a concentration of one cup of bleach to five gallons of water, along with one cup of mild soap (e/g., Ivory) to aid wetting, is recommended.
- ▶ Once the metal roofing panels are washed, thorough rinsing with clear water is necessary to eliminate the possibility of residue. Failure to remove all residues from these cleaning steps may damage the film.



POLICIES

- **RETURN POLICY:** All The Metal Shop trim is manufactured from either our Mill finish Galvalume ® or TMS exclusive painted metal systems and is returnable as long as it is deemed by our Company's operations Manager as being in a good, clean, and resalable condition, free from scratches, or any other damages. The Metal Shop reserves the right to charge a 15% restocking fee. The same general principle applies also to the return of other accessories such as screws, boots, closures, etc.
- Trim that is custom-made (different than the stated specification in this manual, including L Flashing and Facia are not returnable and is considered the property of the customer once it has been made, whether paid for or not. This Policy also pertains to metal roofing and siding panels (which cannot be returned).
- **PAYMENT:** The Metal Shop accepts cash, checks, Visa, MasterCard, Discover Card, and American Express. Personal checks require the check writers drivers license # and date of birth.
- Returned checks will be assessed a \$35 dollar return check fee.
- **DELIVERY POLICY:** Delivery charges apply to all orders where delivery is requested. Please call for details.



POLICIES

- ◉ **SALES TAX:** All orders picked up at The Metal Shop, and all orders delivered within the State of Michigan, are subject to State Sales Tax. Tax Exemptions should be verified prior to delivery or customer pick-up. Orders delivered out of state are tax-exempt.
- ◉ **WARRANTED PRODUCTS:** Request written warranty 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 typo, graphics, printing, or technical errors.
- ◉ The success of The Metal Shop has been and will continue to be, because of our valued customers. We strive to be a company where contractors, as well as homeowners, are welcome. We will assist you in calculating the materials needed to complete your project and at a price, you can afford. We understand that our customer's time is important and we make every effort to get you in and out as quickly and efficiently as possible. Quality, price, service, and availability are the mainstays of our business and we don't plan on changing it.



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