STANDING SEAM PANEL
Installation Manual

📞 269-758-3330

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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 cross-check 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.

TABLE OF
CONTENTS

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.
- 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
- Turbo Shears (we stock these for purchase)
- Tape Measure
- Hand Bending Tools
- Chalk Line
- String Line
- Drill Bits
- Tool Belt
- Utility Knife

STORAGE/HANDLING

- **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 an insulator such as wood.
- Never cover the metal with plastic as this will cause condensation to form.

## Measurement:

Applications: Residential, Light Commercial

Gauge: Available in 24 Gauge (16" width) and .032" Aluminum (18" width)

Minimum Slope: ¼ / 12 - Tube sealant recommended on pitches below 2 / 12

Panel Profile: 15 ½" net coverage Substrate: Galvalume® steel sheet, conforming to ASTM A792

Finish: Mill Finish AZ55 Acrylic Coated Galvalume®; 25 year limited warranty

TCM exclusive paint systems:
Max Defender Paint System® 35 / 30 year limited warranty. Coastal Defender Paint System® 25 year limited warranty.
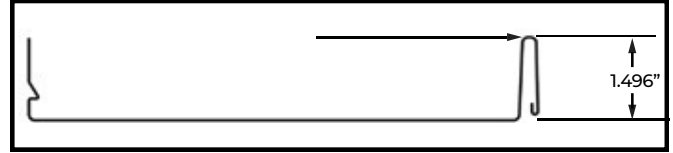
Applications: Residential, Light Commercial

Gauge: 24 gauge

Minimum Slope: 1/4 /12- Tube sealant recommended on pitch below 2/12

Panel Profile: 15 1/2" net coverage Substrate: Galvalume®stell shee, conforming to ASTM A792

Finish: Mill Finish AZ55 Acrylic Coated Galvalume®; 25 year limited warranty.

TCM exclusive paint systems: Max Defender Paint System®35/30 year warranty. Coastal Defender Paint System® 25 year limited warranty.

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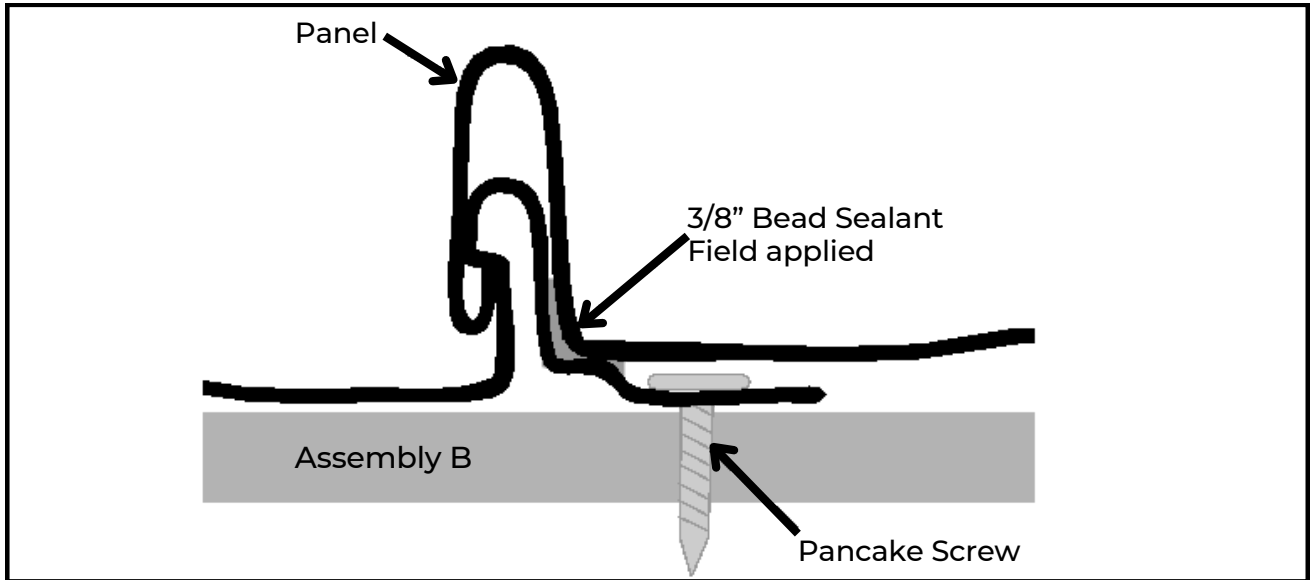
MICHIGAN PRODUCT APPROVALS

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*

Illustration:

Panel

3/8" Bead Sealant
Field applied

Assembly B

Pancake Screw

HIP ROOF

A

}A

Ridge

ZONE 1

Eave

ZONE 2

ZONE 3

GABLE ROOF

A

}A

}A

Ridge

ZONE 1

Eave

ZONE 3

ZONE 2
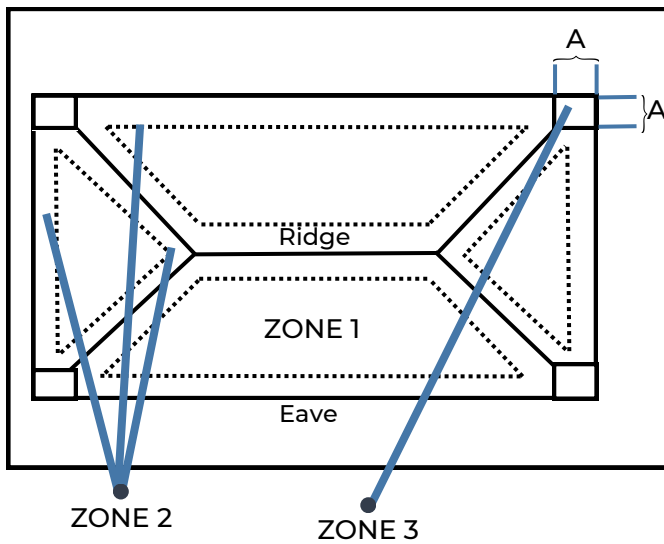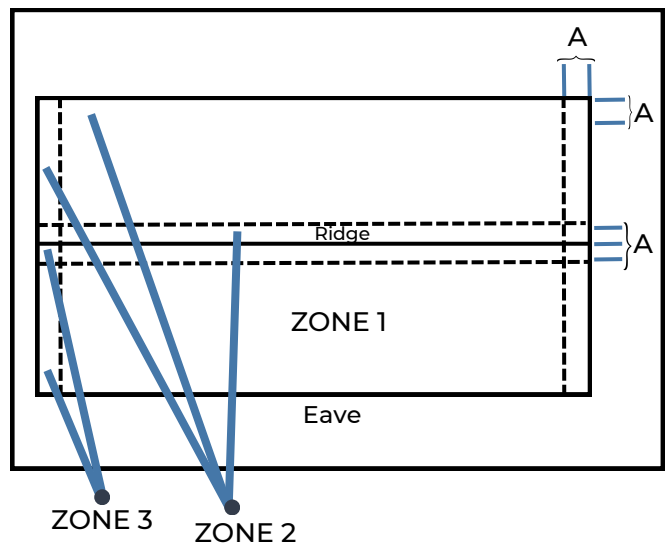
For full details on the fastener type, and spacing, please visit our website
themetalshopllc.com

Ridge Cap

Sidewall Trim

Gable Trim

Transition Flashing

W-Valley Pg. 6
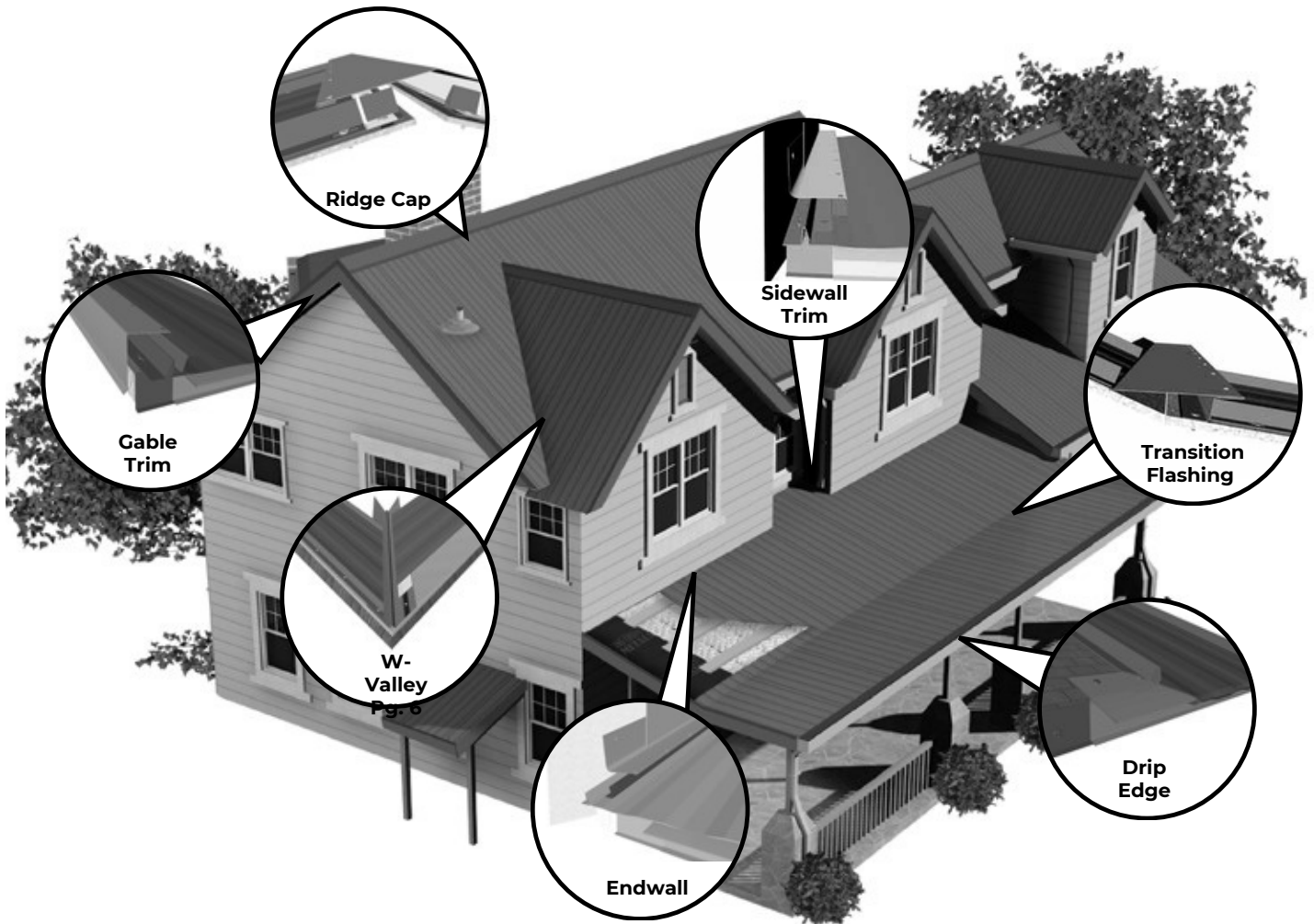
Drip Edge

Endwall

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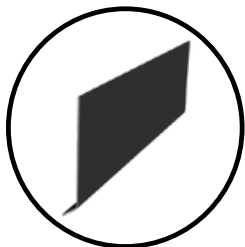
Used to attach drip edge and gable trim to the fascia board. (Optional)

Panel Starter

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

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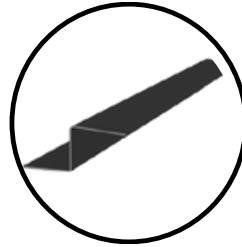
Used to attach the ridge cap, gable trim, sidewall, endwall, and transition flashings to the roof.

Instructions:

These directions 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.
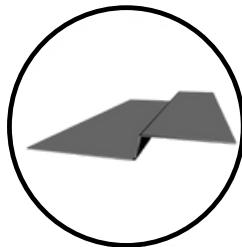- Identify each part of your roof similar to the drawing below.
- Once you have drawn your roof and identified each part, measure each line and include it on the drawing.
- Include on the drawing the location of plumbing stacks (if any) and the diameter of the pipe.

Illustration:

DRIP EDGE

Illustration:

Panel

Pancake
Screws

Extended
Eave Drip
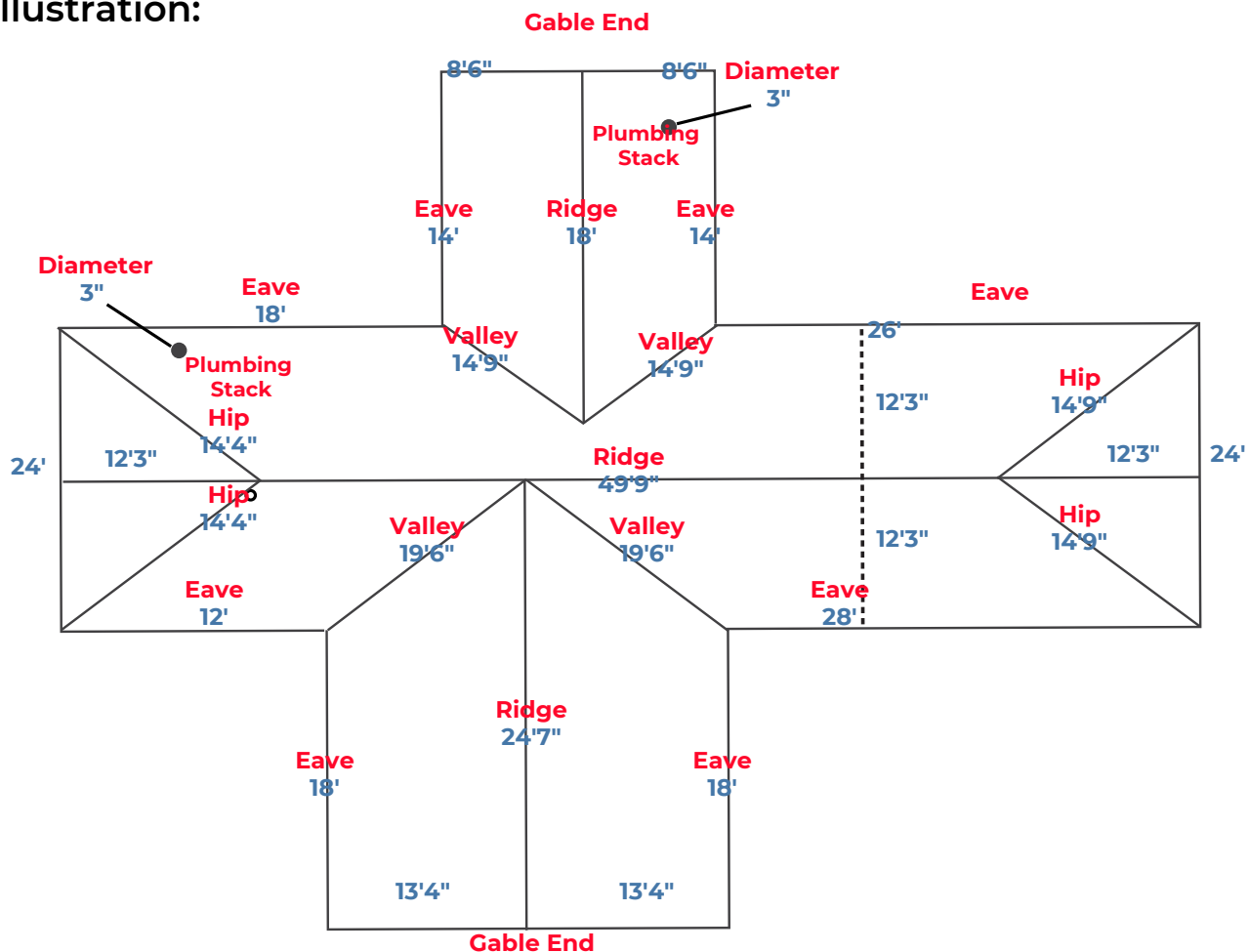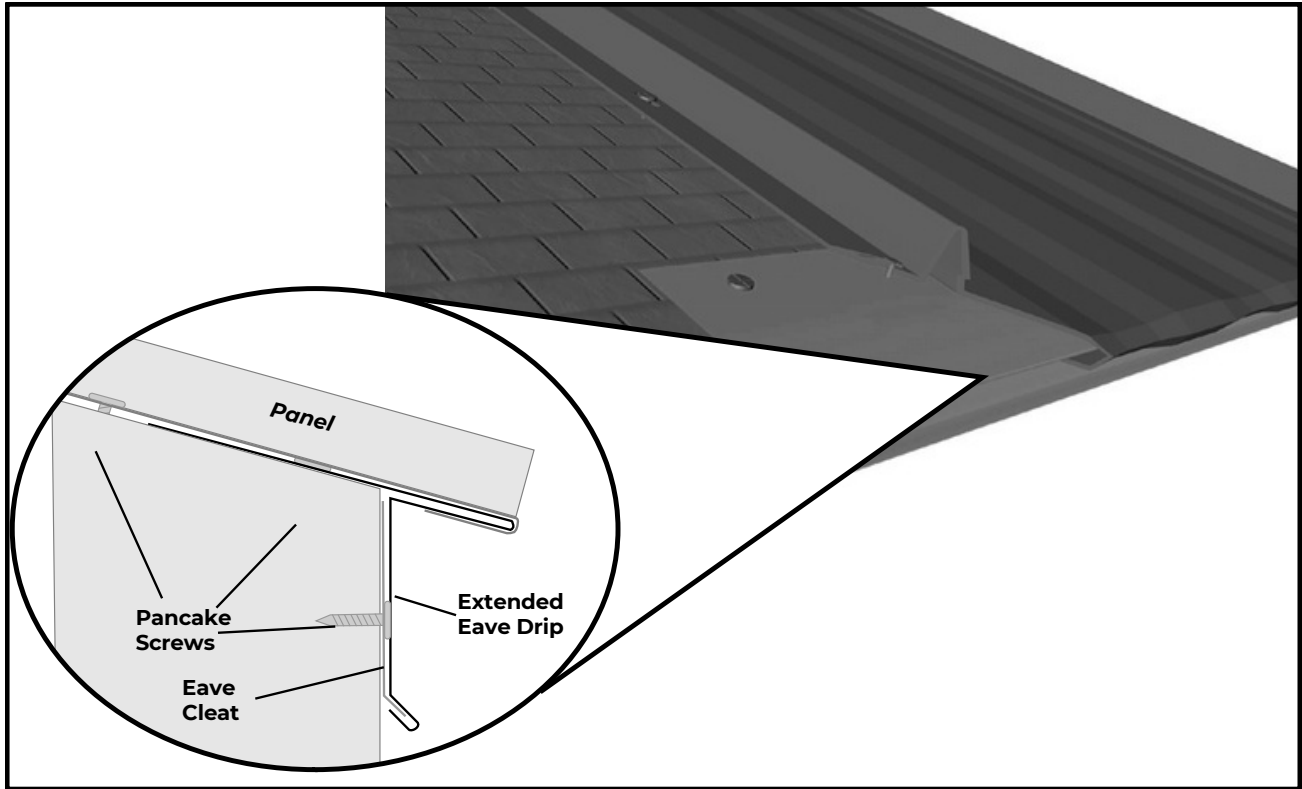
Eave
Cleat

Instructions:

1. Attach eave cleat flashing to fascia board using 1" pancake screws every 4" on-center.
2. Overlap eave cleat flashing a minimum of 3". (Optional for Non-HVHZ Installs)
3. Attach drip edge flashing to roof deck with 1" pancake screws 4" on-center, while hooking the bottom edge of the eave trim flashing to the bottom edge of the eave cleat flashing.
4. Overlap drip edge flashing a minimum of 3".
5. Allow drip edge to run past corner of roof 3" so it can be folded to ensure maximum weather tightness.
6. 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.
7. Slide hemmed panel edge over drip edge flashing.
8. Use hand seamers to finish crimping panels over drip edge if using extended eave drip.

W-VALLEY

Illustration:
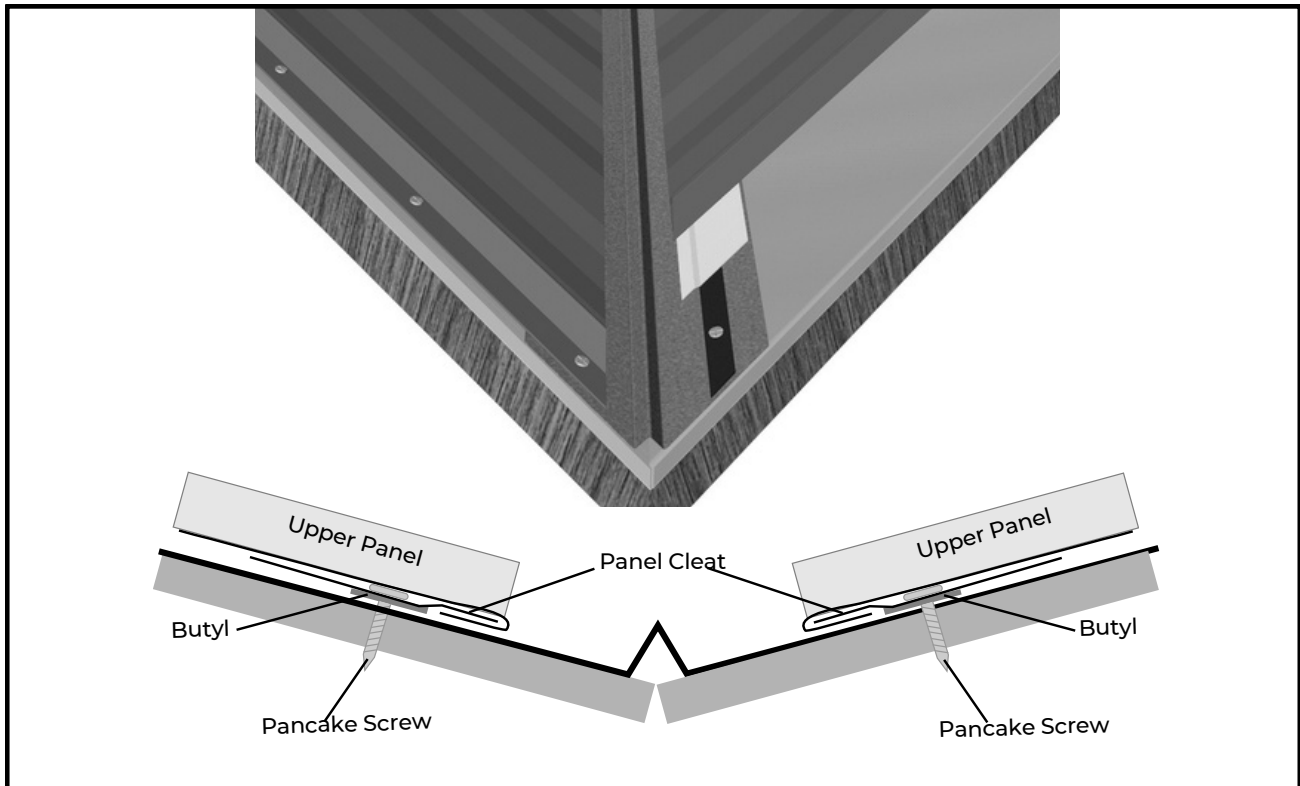
Instructions:

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 minim 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 Product Approvals, please visit our website: **themetalshopllc.com**

RECOMMENDED ACCESSORIES:
Butyl (1 roll = 50' of coverage)

Illustration:

Section removed for clarity
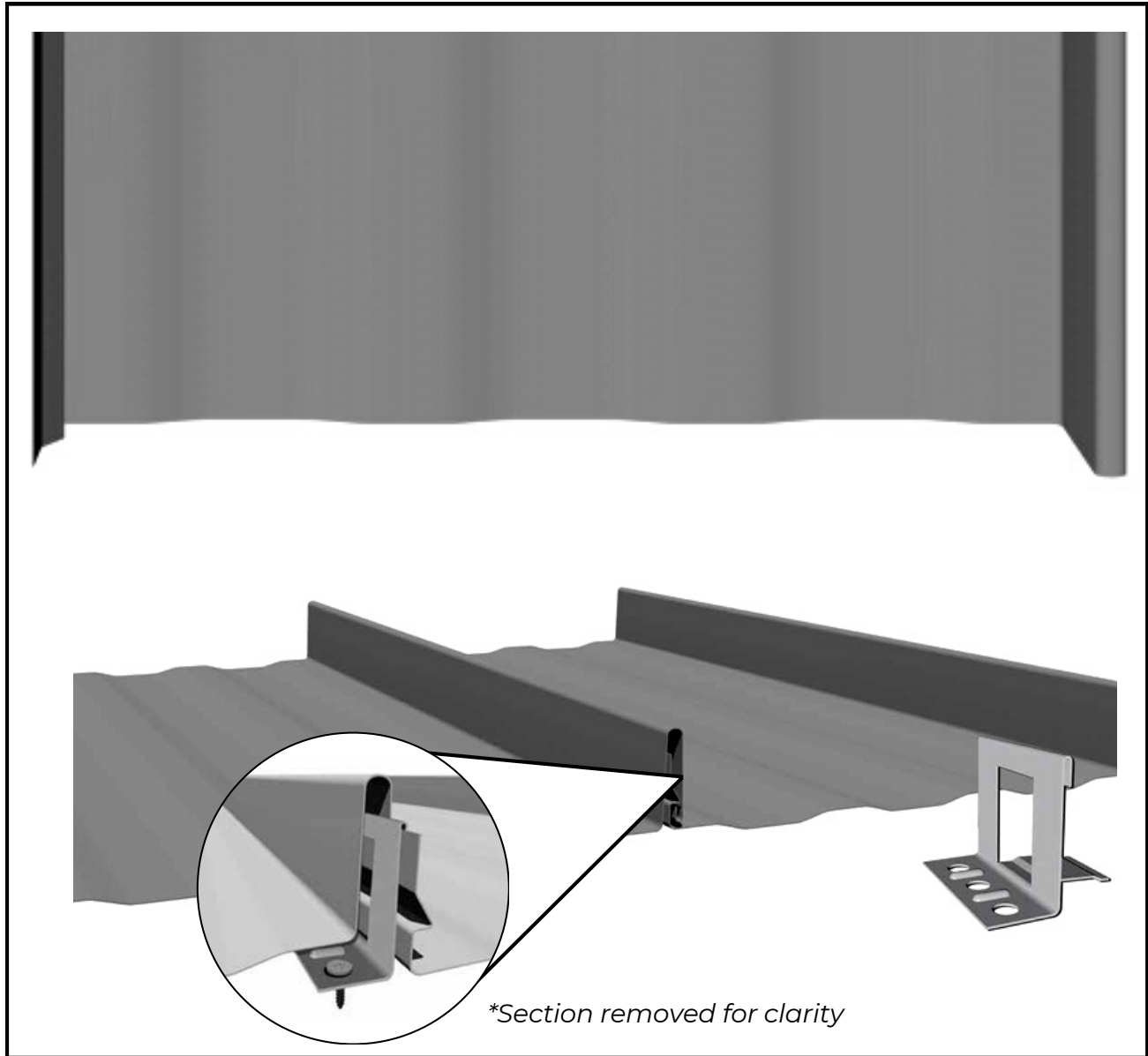
For full details on the fastener type, and spacing, please refer to the Michigan Product Approvals page on our website **www.themetalshopllc.com**

Illustration:

RIDGE

GABLE *GABLE*

C

Step2:
To find "C" you will need to mark a string tied to "A" 4' long and mark another string tied to " B" that is 5' long. Place another nail at "C" where the two measurements come together. This will finish the 3-4-5 triangle.

NOTE: If your line is 3" from the gable at both "A" and "C" the your house is square.

A   B

EAVE

Step 1:
Temporarily place a nail 3" from the eave and gable as shown here as "A". Measure 3' parallel on the eave line and place another nail shown here as "B".

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 an 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 still square with your eave. It is a good idea to continue this process for the entire project and on both sides of your roof.

Illustration:
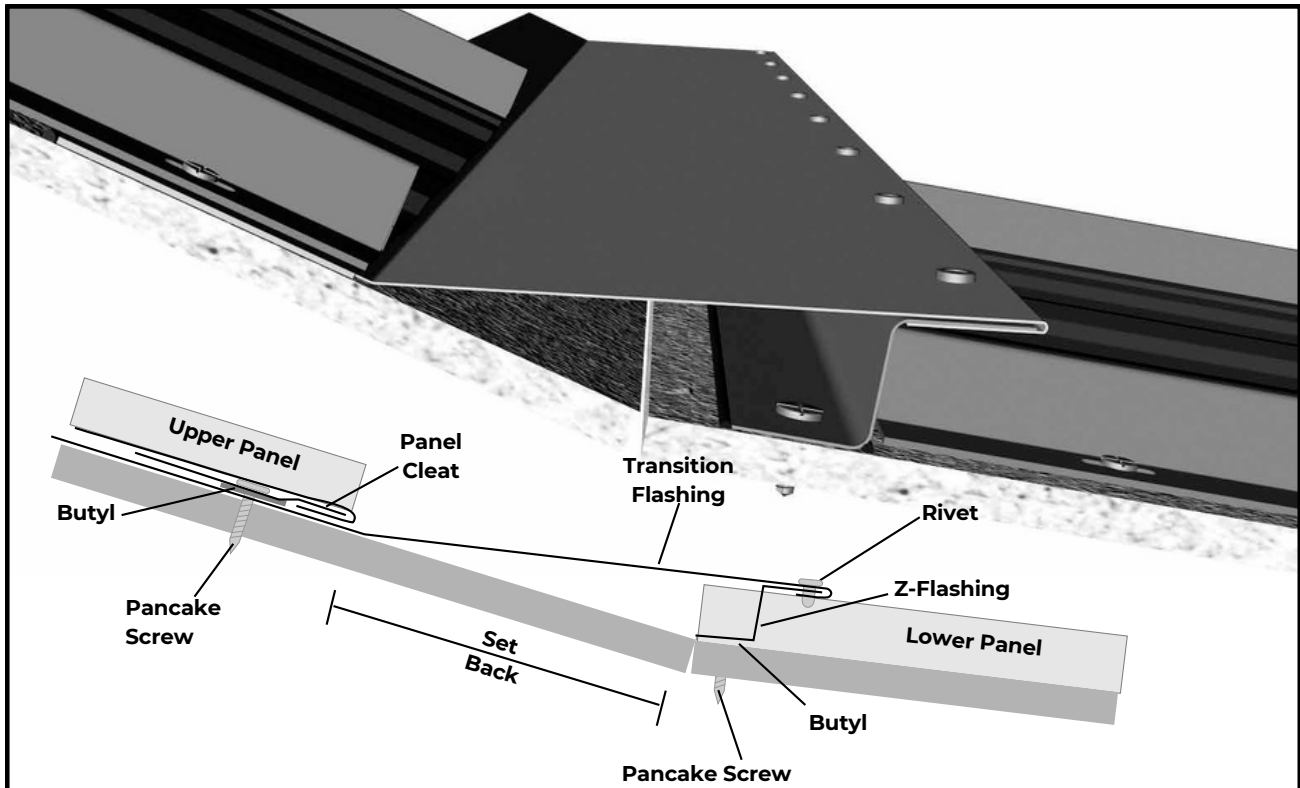
Please specify roof pitch when ordering.

Instructions:

1. Install bottom roofing panels first.
2. Apply Butyl in the flat part of the lower roof panels where the z-flashing is going to be installed.
3. 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.
4. Use TMS Approved Sealant to seal openings created between z-flashing and panel ribs.
5. Slide the transition flashing over the installed z-flashing.
6. Secure transition flashing to z-flashing using rivets every 12" on-center.
7. Apply tacky tape to the top side of the transition flashing.
8. Install a panel starter on top of the Butyl using 1" pancake screws every 4" on-center.
9. 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 Product Approvals, please visit our website: themetalshopllc.com

RECOMMENDED ACCESSORIES:

Butyl (1 roll= 50')
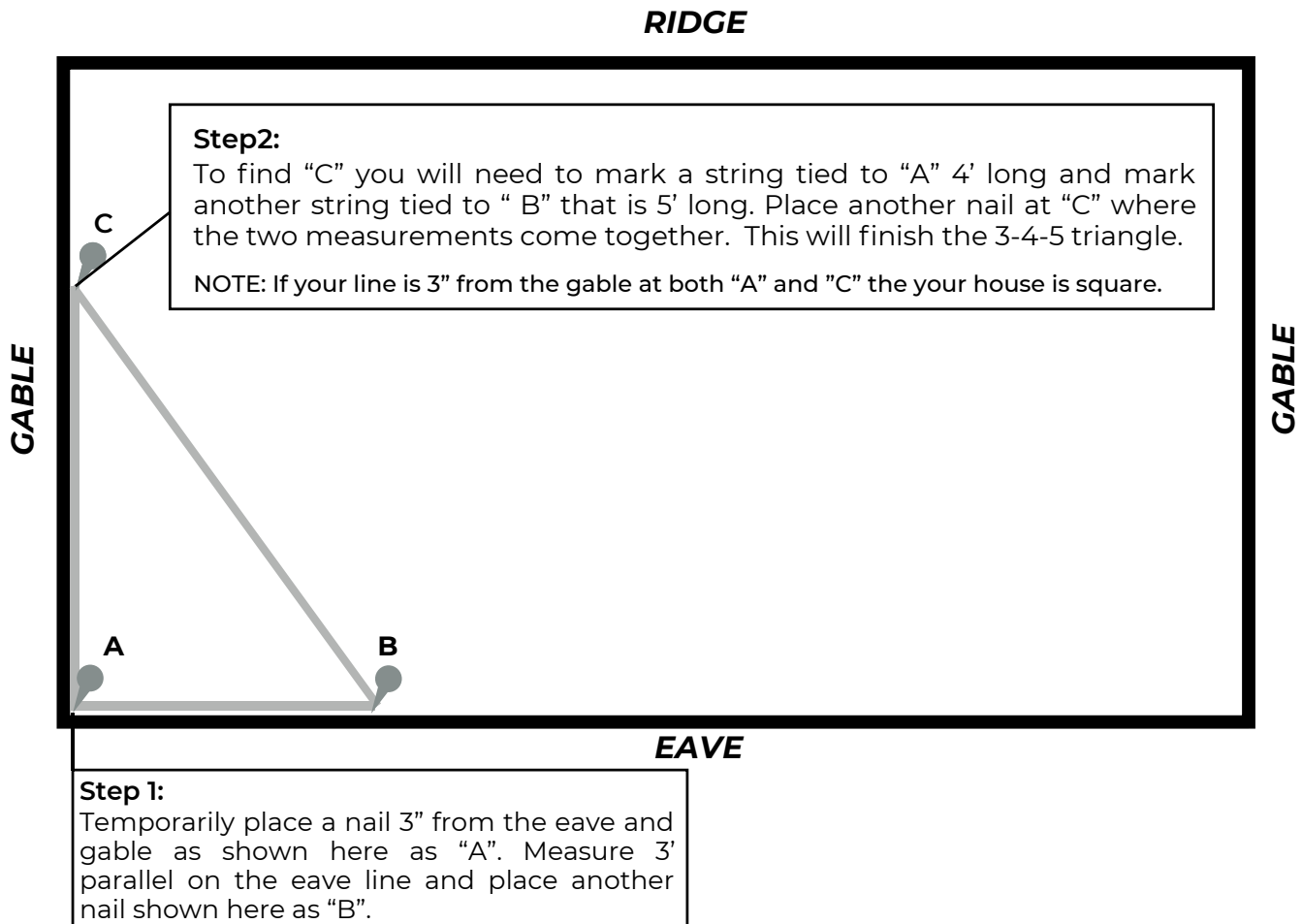TMS Approved Sealant (1 tube = 31 linear feet (1/4" bead)

ENDWALL FLASHING

Illustration:

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

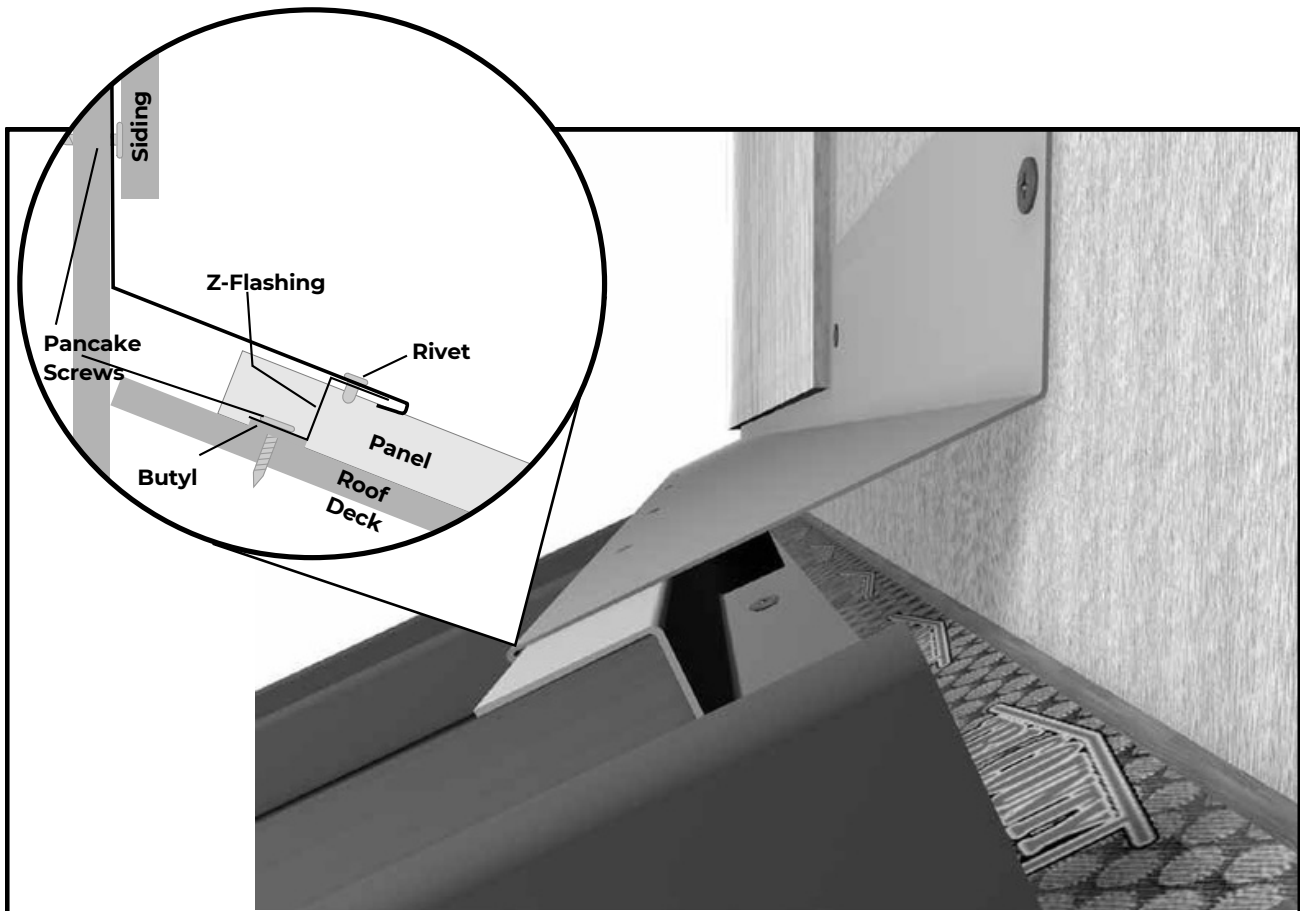## RECOMMENDED ACCESSORIES:

Butyl (1 roll = 50')
TMS Approved Sealant(1 tube = 31 linear feet (1/4" bead))

SIDEWALL FLASHING

Illustration:

Sidewall Trim with Counter Flashing

Sidewall Trim with Kerf Kick Counter Flashing

Sidewall Trim with Kick Added

Siding

Rivet

Z-Flashing

Panel

Pancake Screws

Butyl

Instructions:

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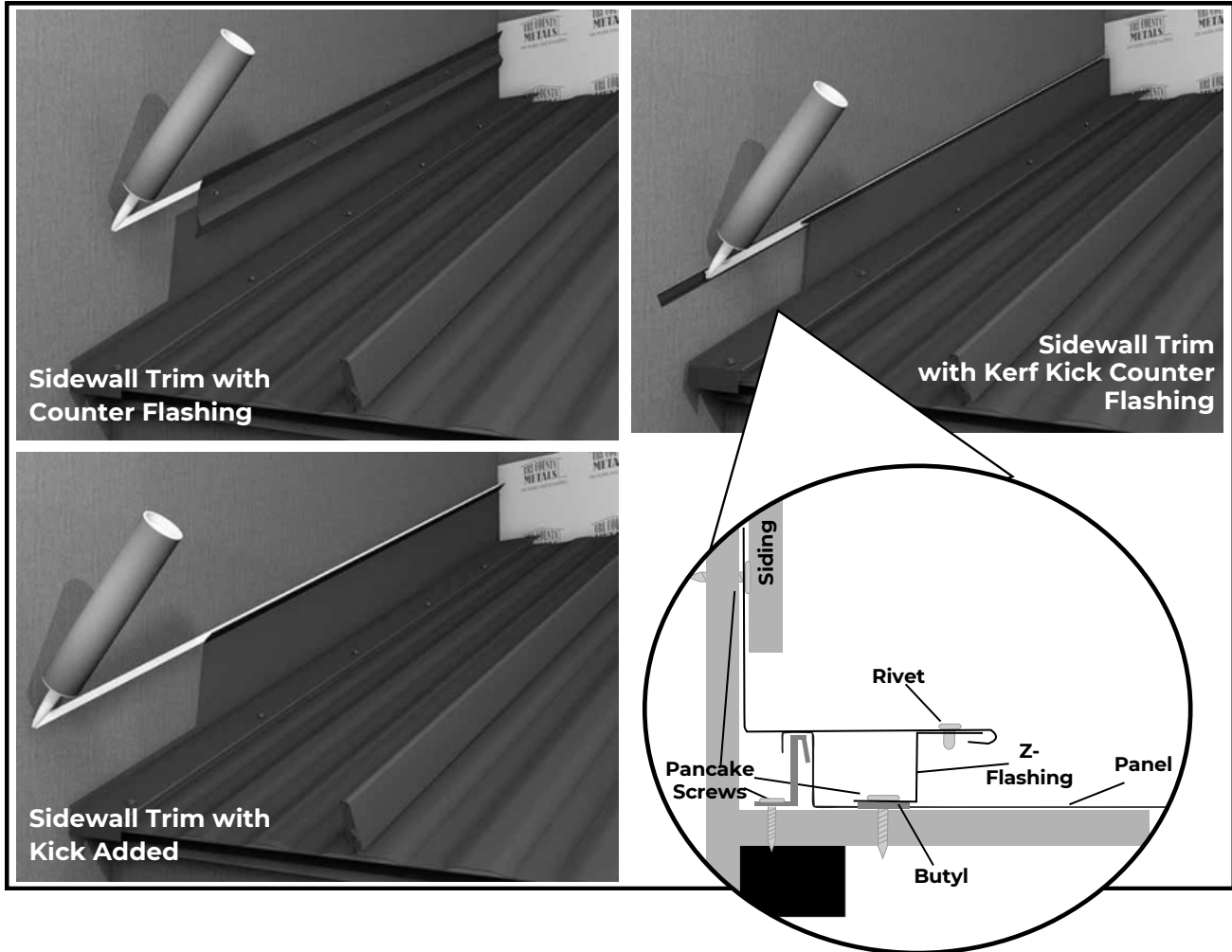6. Cover the sidewall flashing with siding or counter flashing.

RECOMMENDED ACCESSORIES:

Butyl (1 roll = 50' of coverage)

GABLE TRIM

Illustration:
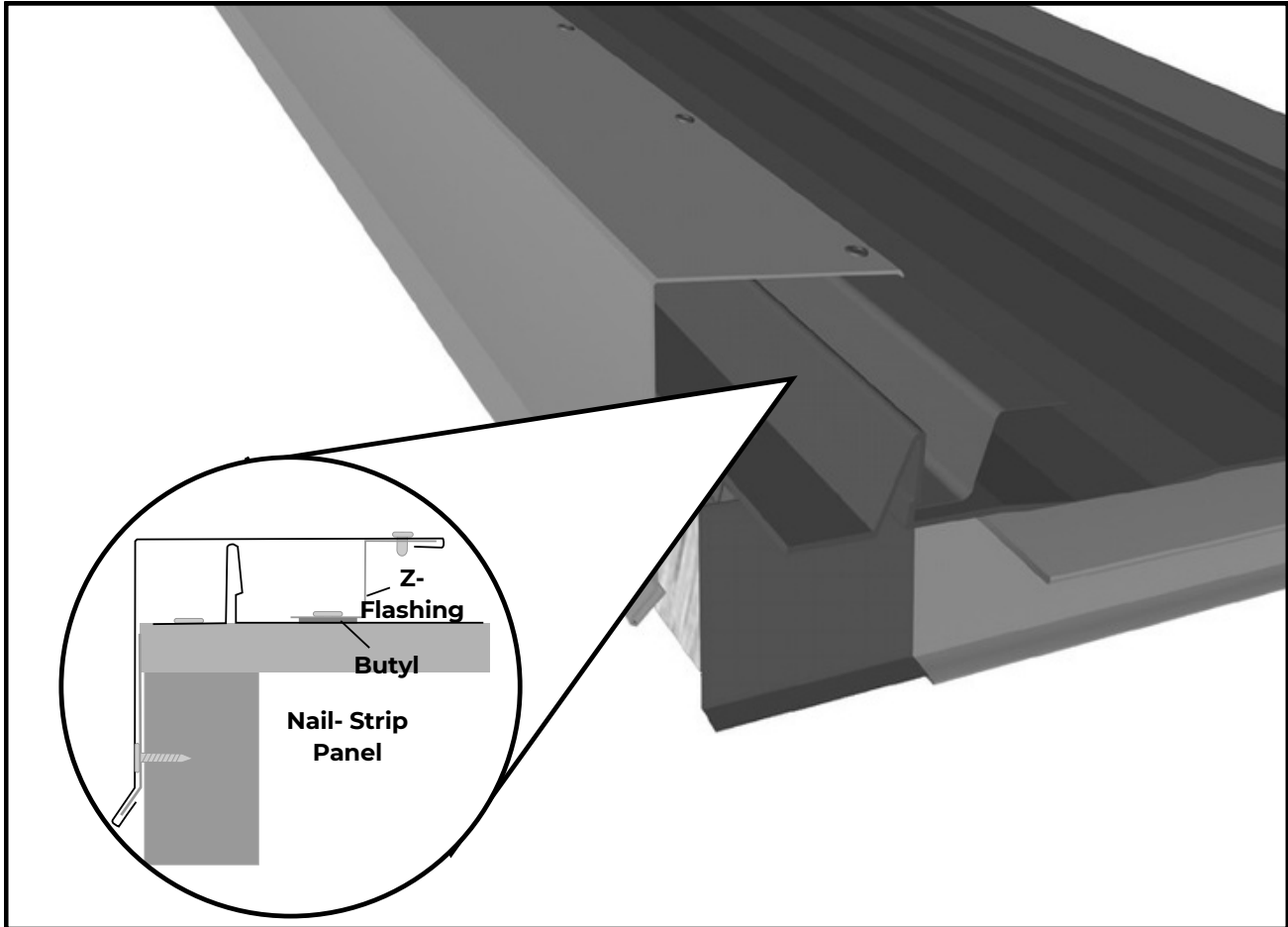
Instructions:

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

RECOMMENDED ACCESSORIES

Butyl (1 roll = 50' of coverage)

Illustration:
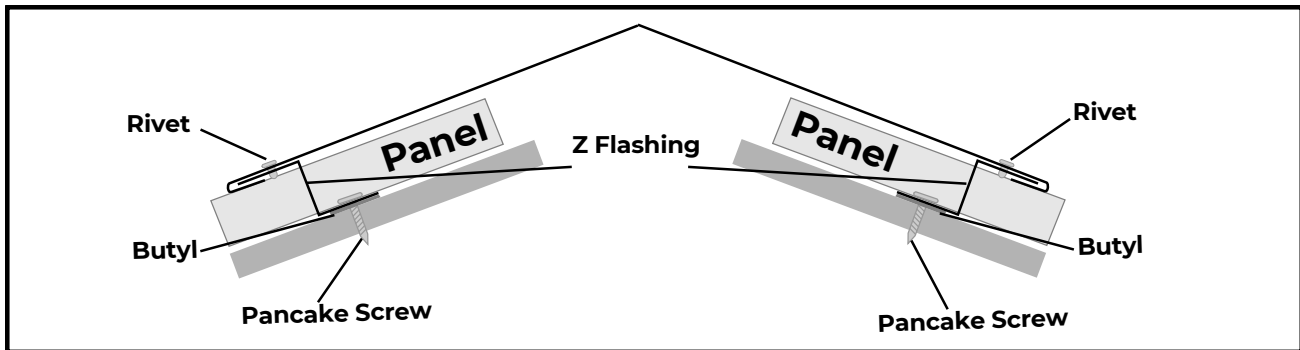
Please specify roof pitch when ordering.

Non-Vented Installation

Non-Vented Installation

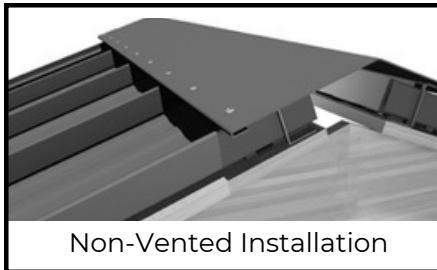1. Stop panels 2" from center line of ridge for vented ridge installation.
2. Apply Butyl to flat part of panel.
3. Notch Z-flashing to fit over the top of the rib or cut pieces to fit in-between ribs.
4. Install z-flashing on top of Butyl and fasten to panel using 1" pancake screws every 6".
5. Use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

Vented Installation
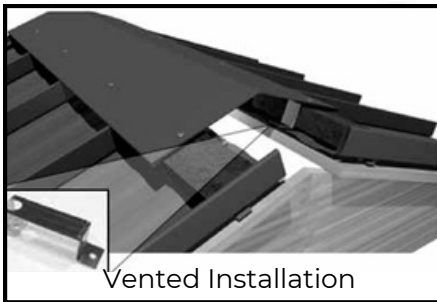
Vented Installation

1. Apply Butyl below the predrill holes in the profile vent clip.
2. Use one clip located in the center of every panel.
3. Install one pancake screw through the large access hole in the top of the anchor clip on the down-slope slide.
4. Slip the Flex-O-Vent underneath the profile vent clip.
5. Insert another pancake screw in the up-slope hole.
6. 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 System
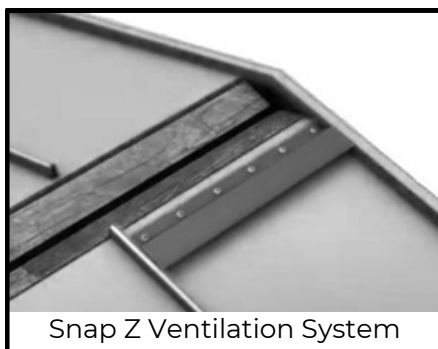
Snap Z Ventilation Installation

1. 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.)
2. Next take the ridge capping and slide it onto the Snap-Z. Then fasten ridge capping to Snap-Z with stainless steel rivets.
3. 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.
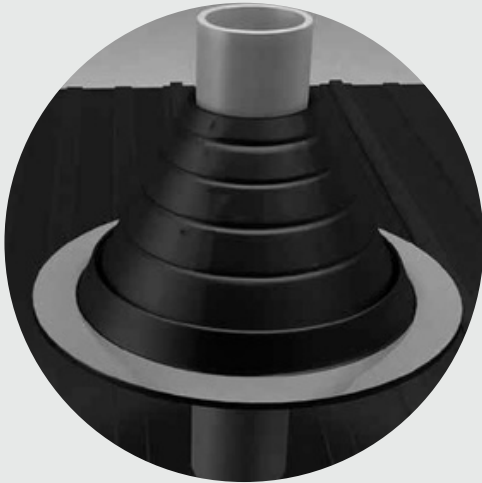
1 Choose appropriate Master Flash with opening at least 20% smaller than pipe diameter. If necessary trim opening to 20% smaller than pipe diameter.

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

3 Apply sealant between base and roof.
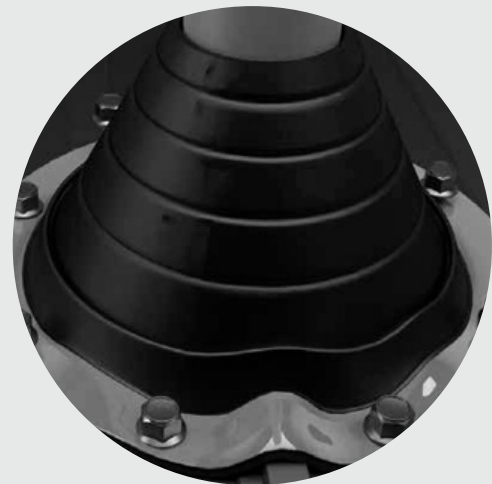
4 Use fasteners to complete sealing. Space screws no more than 2 1/2" apart around the pipe.

SPECIAL TRIM INFORMATION

The Metal Shop LLC can manufacture special trim designs separate from those designs included in the manual.

If your project requires special trim, please provide us with the following information:
- A drawing of the trim design.
- Clearly marked dimensions of each leg of the drawing.
- Clearly marked degrees of each angle.
- Clearly indicate the color side.
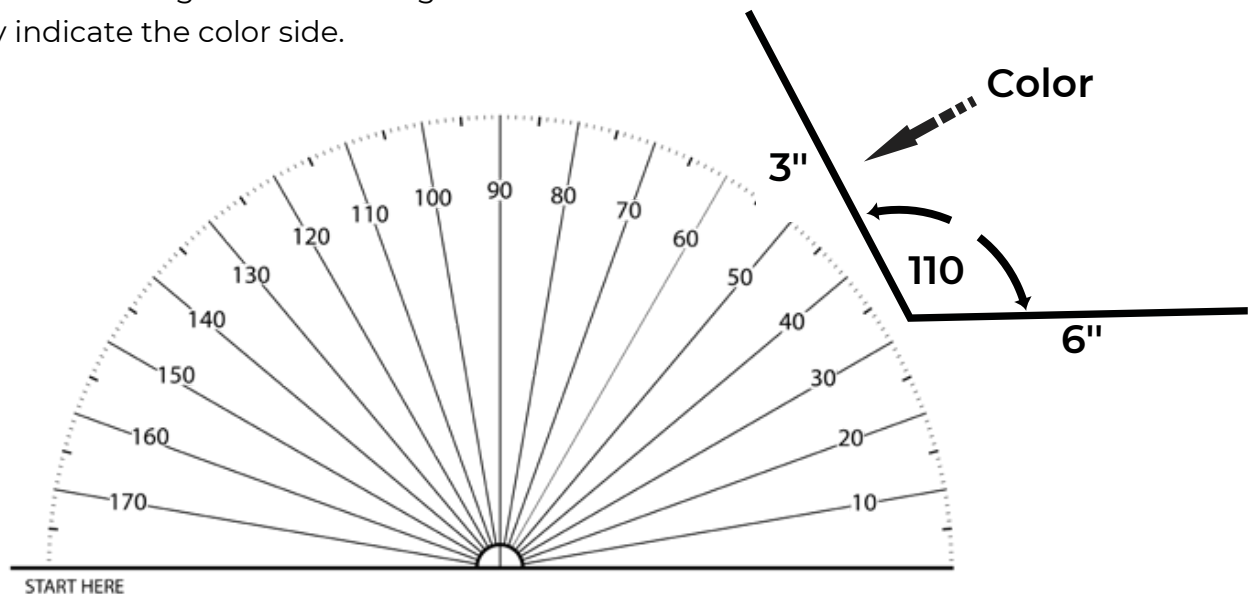
TRIM MANUFACTURING SPECIFICATIONS

- 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".
- Maximum bend break can do is 135 degrees.
- When bending angles opposite of one another, like that of 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. Please talk with a The Metal Shop LLC's representative for assistance.
- For trim pieces that have to slide over another piece where the inside dimensions are critical, please indicate "CRITICAL" measurement.
- Indicate open or closed hems.
- All open

To maintain the original finish of the metal roofing panels, the only regular maintenance necessary is that of 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 0.5% phosphate is not recommended for use in 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, 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 a mild soap (e.g., Ivory) to aid wetting, is recommended.

Once the metal roofing panels is 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 LLC trim is 30 day 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 Production Manager as being in good, clean and resalable condition, free from scratches, mars and other damages. The Metal Shop LLC reserves the right to charge a 20% 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 specifications in this manual, including L Flashing and Fascia) 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, check, Visa, MasterCard, Discover Card and America 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.

SALES TAX: All orders picked up at The Metal Shop LLC, 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 typographic, printing or technical errors.

The success of The Metal Shop LLC has been, and will continue to be, because of our valued customers. We strive to be a company where contractors as well as home owners 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.

Name: .... ☐ Quote ☐ Request order   Phone: ....

Address: .... Job Name: .... Email Address: ....

Pickup Location: ....

Delivery Location: ....

☐ **5-Rib**
Gauge: ....
Color: ....

☐ **PBR**
Gauge: ....
Color: ....

☐ **Board and Batten**
Gauge: ....
Color: ....

☐ **TMS 2 Inch panel** ....
Gauge: ....
Color: ....

☐ **TMS Orange panel**
Gauge: ....
Color: ....

Panel

Enter Panel Sizes

QUANTITY	FEET	INCHES

INSULATION / VENTILATION	QTY
Single Bubble	
FlexPro	
Snap Z	

SEALANTS	QTY
Peel and Seal	
TMS Sealant	
Expanding Foam	
Tacky Tape 1/2"	
Inside Closures	
outside Closures	

UNDERLAYMENT/PURLINS	QTY
Platinum Ice and Water	
Platinum Underlayment	
1 x 4 x 12 SYP	

TRIM	QTY
Drip Edge	
Ridge Cap	
Flat Ridge Cap	
Flat Ridge Cap	
Hip Cap	
Gable Rake	
W-Valley	
Sidewall	
Endwall	
Flat Endwall	
Transition Flashing	
Chimney Flashing	
Panel Starter	
Z-Flashing	
Eave Cleat	

FASTENERS	WOODGRIP SCREW QTY	WOOD BINDER QTY	WOODZAC QTY	WOODGRIP XG QTY
1"				
1 1/2"				
2"				
Pancakes				

FASTENERS	QTY		
Stainless Rivets			
Painted Rivets			
Purlin Screws #9 x 3			
Collated Nails			
Stick Nails			
Trim Nails 1-1/4"			
Felt Nails 1 1/4"			
Stinger Nails			

Note:

FLASHINGS	QTY Standard	QTY High Temp
Roof boots		
#3: 1/4-5" Color:		
#5:4 1/4"-7 1/2"		
#7:6"-11"		
9:9"-19"		
ElectricPipeBoot		
TouchUpPaint		
Spray Paint		
GooseneckVents		

Please sketch our trim and include clear dimension measurements, pitch needed/degrees of each angles needed, and an arrow to help the fabricator know on what side the pain color needs to be oriented

Specially Trim 1
(Attach drawing or draw in box)

QTY:........... Ga:........ Color.......... Stretched Out...........

Specially Trim 2
(Attach drawing or draw in box)

QTY:........... Ga:........ Color.......... Stretched Out...........

BUY DIRECT
AND SAVE!

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