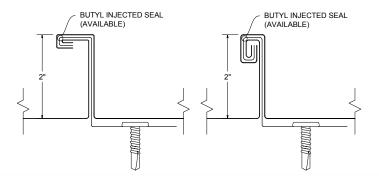


# MS-200™ Installation Guide









# MS-200™

# Flashing and Details Guide



Tal	e	<u>of</u>	Co	<u>nte</u>	<u>nts</u>
_	-	_			

Panel Specifications	2-3
Floating Panel Clip	4
Notes To Designer/Installer	
Taylor Delivery Fleet	
Delivery, Will Call & Loading	9
Standard Eave	10
Hook Eave	
Gutter/Hook Eave	
Standard Ridge	
Vented Ridge	
End Dam Attachment	
Valley Flashing	
Valley Flashing – Low Pitch	
Standard Gable	
Alternate Gable	
Sidewall	
Peak Flashing (R.E.C.)	
Vented Peak Flashing (R.E.C.)	22
Pitch Change	
Endwall	
Vented Endwall	
Saw Cut Endwall	
Back Pan	
Curb Side Wall	
Curb End Wall	
Curb/Pan Cricket	
Eave to Gable Transition	
Pipe Penetration – on Plate	
Pipe Penetration – on Rib	
Pipe Penetration – on Pan	39
Flashing Selection	40-44



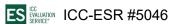
# MS-200<sup>TM</sup> **MECHANICALLY SEAMED**

### **KEY FEATURES**

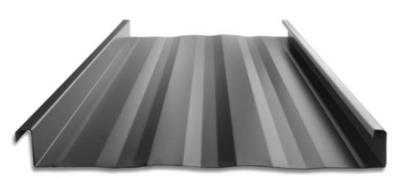
- 12", 14", 16" & 18" options available
- 24 & 22 gauge Tru-Gauge™ and .032" Aluminum
- · Floating clip system: allows for expansion/ contraction of panels in longer lengths
- 2" Mechanical seam rib, 90° or 180°: Factory notching available
- · Factory injected Butyl sealant
- Structural panel that will span up to 5'
- · Concealed fasteners: fasteners cannot leak
- Manufactured in Riverside CA, Sacramento CA & Salem OR
- ES EVALUATION ICC-ESR #5046 with CBC-CRC Supplement
- FM Global Class #4471 Approved
- Code compliance UL Evaluation Report UL ER 25913-01
- UL Construction No. 90, 176, 180, 238, 238 A-C, 435, 435 A, 437, 449, 451, 452, 487, 506, & 506 A-C
- UL 580 Class 90 Wind Uplift, UL 790 Class A Fire rated and UL 2218 Class 4 Impact (hail) rated
- Dade PA 201-94 Class 90 Impact, 140 MPH Wind Uplift
- FM I-75 (60" o.c.) FM I-120 (24" o.c.)
- ASTM E283 Air infiltration (walls) ASTM E331 - Water infiltration (walls)
- ASTM E1592 Structural uniform static air pressure
- ASTM E1646 Water infiltration (roof)
- ASTM E1680 Air infiltration (roof) ASTM E2140 Water test for full immersion hydrostatic roof systems
- · Weather tightness warranty available (Contact TMP representative for details)
- 1/2:12 minimum pitch recommended (For lower pitches, please inquire)
- · Standard panel lengths 5' to 60' not notched Standard panel lengths 1' to 60' - notched (For longer panel lengths, please inquire)
- · On-site roll forming available for long lengths
- · Panel options: Striations, Accent Ribs, and Flat Pan
- · Retro-fit systems available



### PANEL PROFILES



12", 14", 16" & 18" coverage options



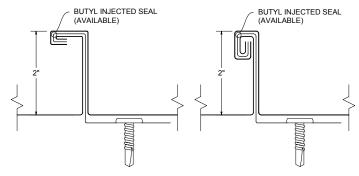
**STRIATIONS** 



ACCENT RIBS 2 Accent ribs for 12" & 14" panel 3 Accent ribs for 16" & 18" panel

### 90° SEAM DETAIL

### 180° SEAM DETAIL



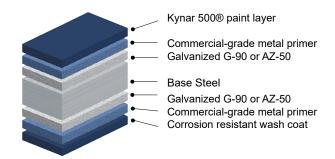
180 degree seams are not considered an architectural detail. The detail improves the weather tightness and wind uplift capabilities of the panel system, but will show stress and waviness in the seam. The detail is recommended for slopes less than 2:12, roof areas not easily viewed from the ground, and for high wind areas. For additional information, contact a TMP representative and DI Seamers for support and information about the proper use of seaming tools.

### **MATERIAL SPECIFICATIONS**

- 24 gauge Kynar 500® Painted Steel .0236" (Thickness prior to painting)
   G-90 Galvanized or AZ-50
- 24 gauge bare Zincalume® Plus AZ-55 (No finish warranty – 25 yr. perforation warranty)
- ▲ 22 gauge Kynar 500® Painted Steel .029" (Thickness prior to painting)
- + .032" Kynar 500® Painted Aluminum
- 22 gauge Rusteel Plus™ (A606)
- 16 and 20 ounce Copper (Please inquire)
- Kynar 500® and substrate testing data available (See website)
- "Oil canning" is an inherent characteristic of roof and wall products, and not a defect, which is not a cause for panel rejection

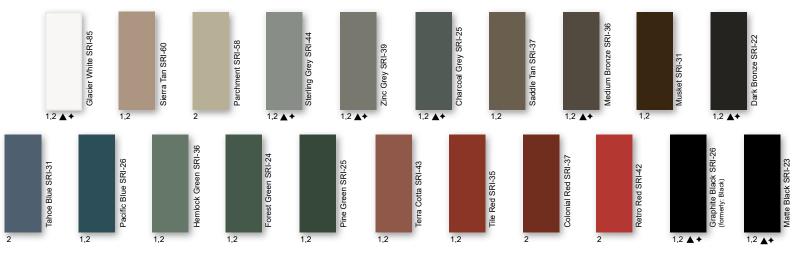
### **KEY FEATURES**

- 21 Standard Colors, 5 Metallic Colors and 4 Specialized Materials
- Kynar 500® Paint System the ultimate in exterior durability and color retention
- "Cool" color pigments are specially designed to reflect infrared light, reducing heat gain to dwelling, and conform with ENERGY STAR® criteria
- Superior Quality, two coat, 70% resin finish, applied at a 1 mil. thickness
- 40 year residential paint warranty
- 20 and 30 year commercial paint warranty: Contact TMP for warranty specifications

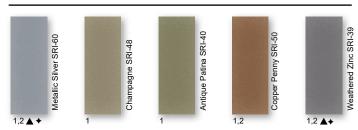


40-Year Residential / 20 and 30 Year Commercial Manufacturer's Limited Warranty

### STANDARD COOL KYNAR 500® COLORS



### PREMIUM METALLIC COOL KYNAR® COLORS



These printed chips provide a close representation of the colors.

Metal samples are available upon request. Coatings are low gloss 10-15% sheen. SRI = Solar Reflective Index. SRI values listed above are in accordance with ASTM E 1980 and are based on actual testing.\*\*\*Oil canning is not a cause for material rejection\*\*\*







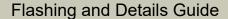


# SPECIALIZED MATERIAL



**Standard Panels** Width Gauge Color LBS SQFT LBS LF 14-5/8" 24 1.36 1.65 18" 24 2 1.28 1.93 18' 22  $\blacktriangle$ 1.61 2.42 15-3/8" .032 Alum 0.6 0.9

# MS-200™





# Taylor Metal Products MS-200™ - UL 90 Floating Clip 18 ga. Base/22 ga. Top



# UL 580 Class 90 Wind Uplift Rated UL Class A Fire Rated

# MS-200™



Flashing and Details Guide

## **Notes to Designer/Installer**

**Taylor Metal Products** is providing the following details as an aid in design. The details in this guide are not inclusive to all design situations. The designer/installer is responsible for modifications and should take into consideration all aspects of the project including climate conditions, such as, snow and wind, as well as, building code requirements, building design, building usage and maintenance requirements.

Installation should be performed only by qualified installers familiar with metal roofing systems and industry standards. For details not shown in this guide, refer to the Sheet Metal and Air Conditioning Contractors National Association (SMACNA) architectural sheet metal manual for proper design. For manufacturer's weather tightness warranties – all details must be preapproved by Taylor Metal Products technical representative.

The Standard gauge for all products in this guide is 24 gauge and the standard finish is Kynar 500®. We recommend specifying all flashings be the same gauge, color, and finish as the panels to insure long-term durability and color match.

### **Substrates**

Details in the manual are all shown over solid substrate. **MS-200**<sup>™</sup> can be used over spaced purlins. For solid substrate, **Taylor Metal Products** recommends 5/8" plywood or metal decking.

### **Underlayment**

Minimum underlayment requirements are 30 lb. ASTM rated felt, a synthetic underlayment with Class A and ASTM UV protection technology or a high temperature self-adhering rubberized membrane. When choosing the underlayment, consider the roof slope, roof design, roof panel, and the climate.

### **Drag Load Requirements**

All panels must be pinned at one end to resist the drag load caused by snow loads, live loads, and the weight of the panel. Drag load is a function of roof slope, actual load and length of panels. Contact **Taylor Metal Products** for specific drag load requirements.

# MS-200<sup>TM</sup>

### Flashing and Details Guide



### **Ventilation/Insulation**

It is the responsibility of the designer to determine the material types needed to control condensation and to insulate and ventilate the roof system. Applications over rigid insulation may require blocking for solid attachment and framing the perimeter for installation of perimeter flashings.

# Oil Canning

Flat metal surfaces will display waviness commonly referred to as "oil canning." Oil canning is caused by a variety of conditions. Steel mill tolerances, variations in or uneven substrates and roofing underlayments. Oil canning is a characteristic of metal roofing, not a defect and is not a cause for rejection. **Taylor Metal Products** offers **MS-200**™ with striations or accent ribs to help minimize oil canning.

### **Thermal Movement**

The Panels and the flashings must be allowed to expand and contract, especially with longer length panels. The panel may need to have a slight gap where the panel hooks the offset cleat to allow for thermal movement of the panels.

## **Snow Design**

The following details do not address all conditions for snow environments. Consult with the designers, engineers, and others for acceptable details to accommodate your project and climate conditions. When possible gutters, valleys, pitch changes or other penetrations should be minimized in snow areas.

All roof penetrations should be located as close to the ridge or "pin point" top of roof. Snow country requires special designs for valleys to accommodate accumulation of snow and ice from uphill panels. Roof design should be considered in snow areas. Roof design should help resist the melting and freezing of snow and ice.

A fit for purpose roof design has the greatest impact on maintaining a damage free roof system in snow areas. Please contact a Taylor Metal Products representative for assistance in detail designs and appropriate panel selection for specific climate and building conditions.



# **Handling / Storage & Safety**

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 Taylor Metal Products 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 panels. Elevate one end of bundle to allow drainage of wet materials.

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.

Always use proper safety equipment and attire to minimize risk of cuts or other injuries.

Do not walk on panels that have not been completely installed.

Do not walk on major ribs of panels.

Metal roofs that are wet or dusty can be extremely slippery. Wear soft soled shoes and a safety harness to minimize risk of falling.

Avoid installing metal panels in windy conditions.

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

# **Taylor Delivery Fleet**



### **Delivery Fleet**

Taylor Metal Products prides itself with quick lead times delivered with our fleet of semi trucks. Our fleet of trucks are owned and operated by TMP. All of our drivers are Taylor Metal Products employees, so when your truck rolls in to deliver, you are dealing with Taylor Metal Products.

Expect consistant and exceptional service with short leadtimes. The inhouse fleet allows for efficient and cost-effective delivery.





Mounted on the rear of our truck's trailer, the trailer-mounted "Piggy-Back" forklift will accompany you right to your place of use, opening up unprecedented possibilities in terms of transportation. It can travel sideways, carrying panels up to 40' long, allowing delivery in locations that would typically be considered impossible to reach.

Save time and effort while avoiding potential loading and transport issues; have experienced TMP personnel deliver and unload your order.





# **Delivery & Will Call/Loading**

### **Delivery**

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.
- Providing adequate resources (1-4 people as needed) for off loading materials.
- A charge of \$100 per hour may be added for deliveries that go beyond their allotted time.
- Checking the shipment at the time of delivery.
- Verifying material quantities against the shipping/packing list.
- Noting any damage or discrepancies upon the paper work at the time of delivery and notifying Taylor Metal Products within 48 hours of delivery.

Delivery times are usually scheduled one day in advance. Taylor Metal Products 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 failures, road closures, etc. which may affect our schedule.

### Will Call & Loading

Flatbed 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.

Unacceptable examples include: 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.

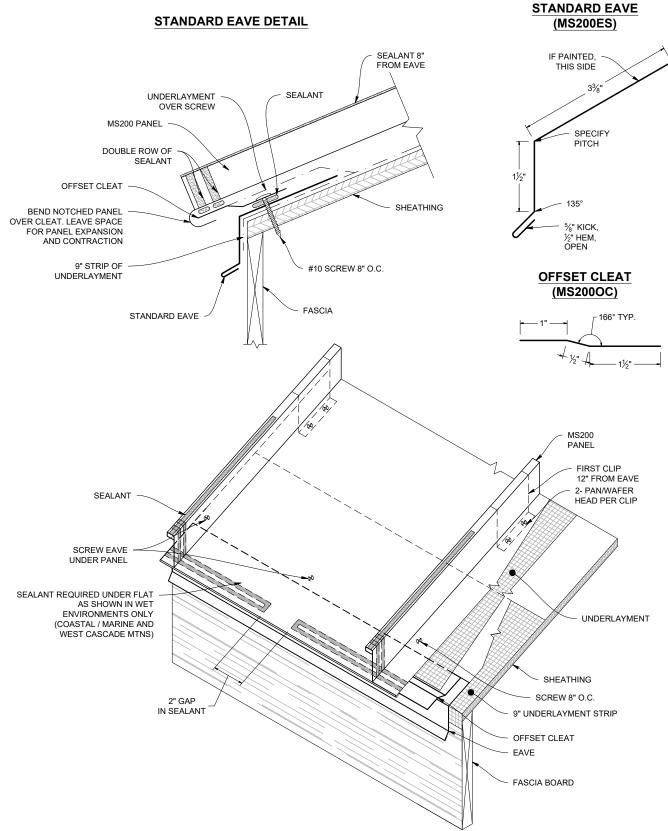
Taylor Metal Products is not responsible to tie down loads nor do we provide any tie down materials. Please bring tie downs to secure your load (string or twine are **not** acceptable for this purpose).

Consider having your order delivered on one of our trucks with a piggy back forklift.



# **Standard Eave**

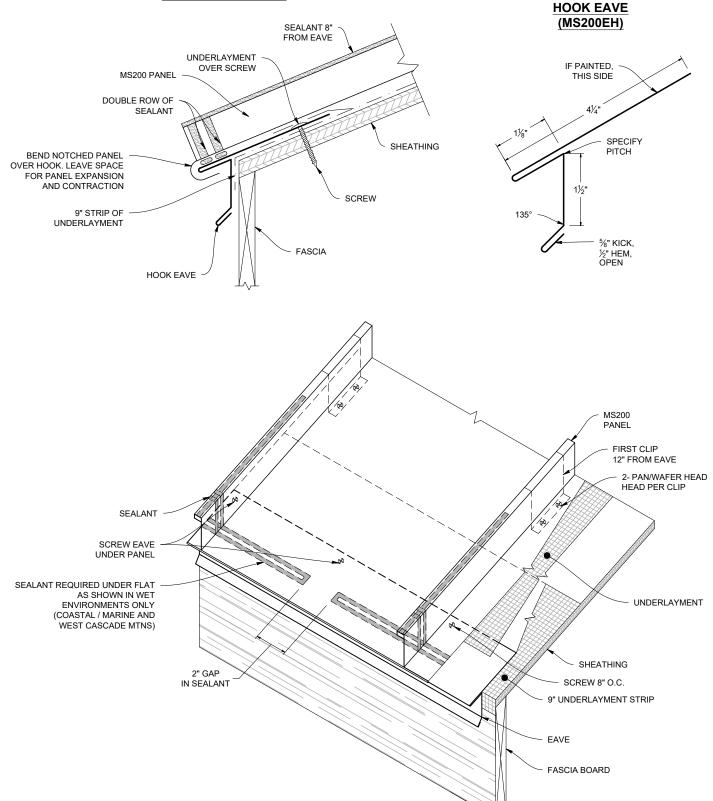






# **Hook Eave**

### **HOOK EAVE DETAIL**

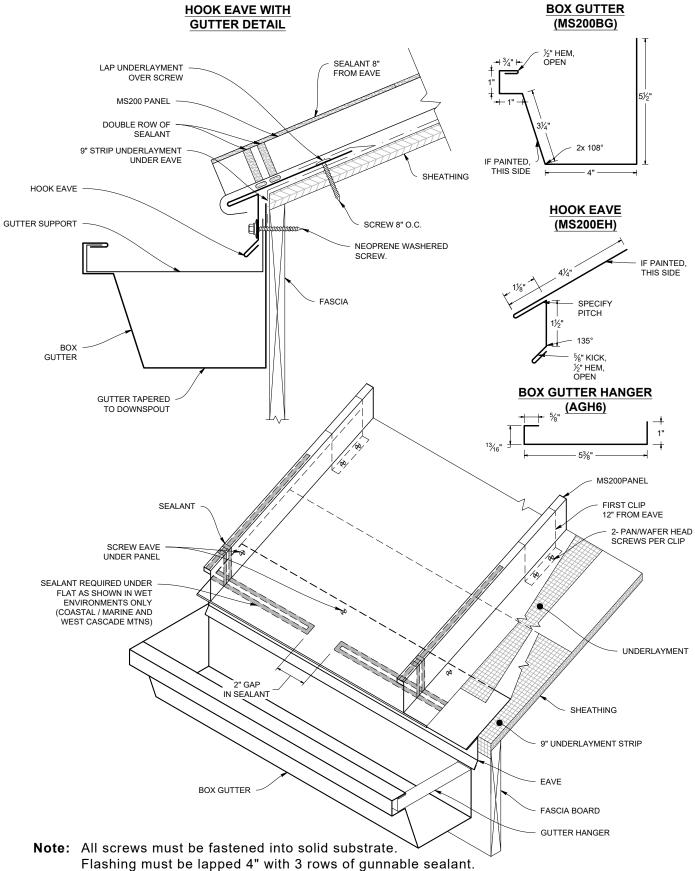


Note: All screws must be fastened into solid substrate.

Flashing must be lapped 4" with 3 rows of gunnable sealant.

# **Gutter / Hook Eave**

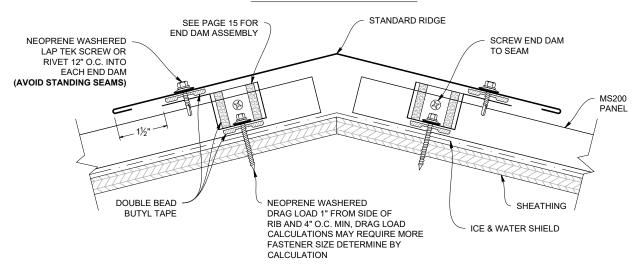




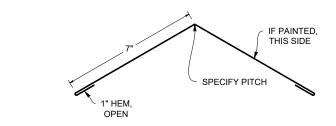


# **Standard Ridge**

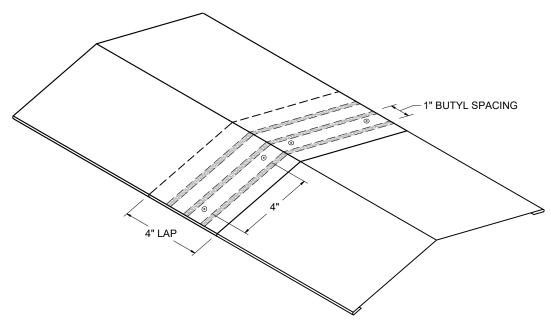
### STANDARD RIDGE DETAIL



# STANDARD RIDGE (MS200RS)



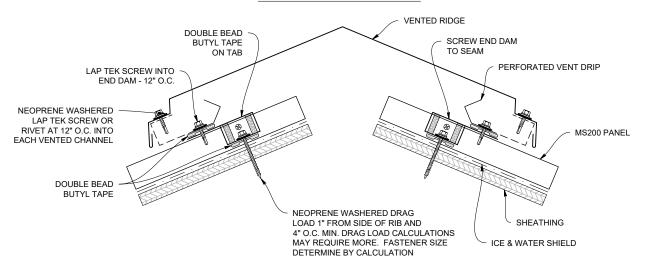
### STANDARD RIDGE LAP



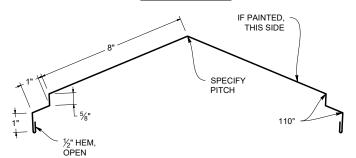
# **Vented Ridge**



### WT VENTED RIDGE DETAIL

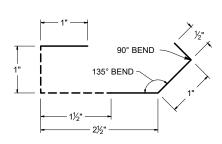


# WT RIDGE FULL VENTED (MS200WTRFV)

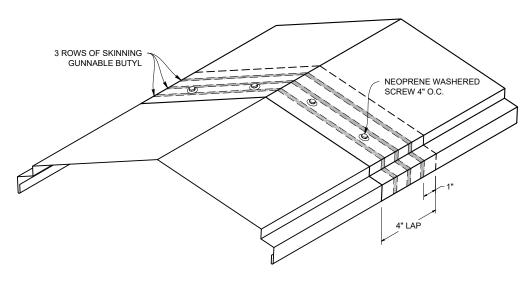


### **VENTED RIDGE LAP**

# PERFORATED VENT DRIP (MS200PVD)

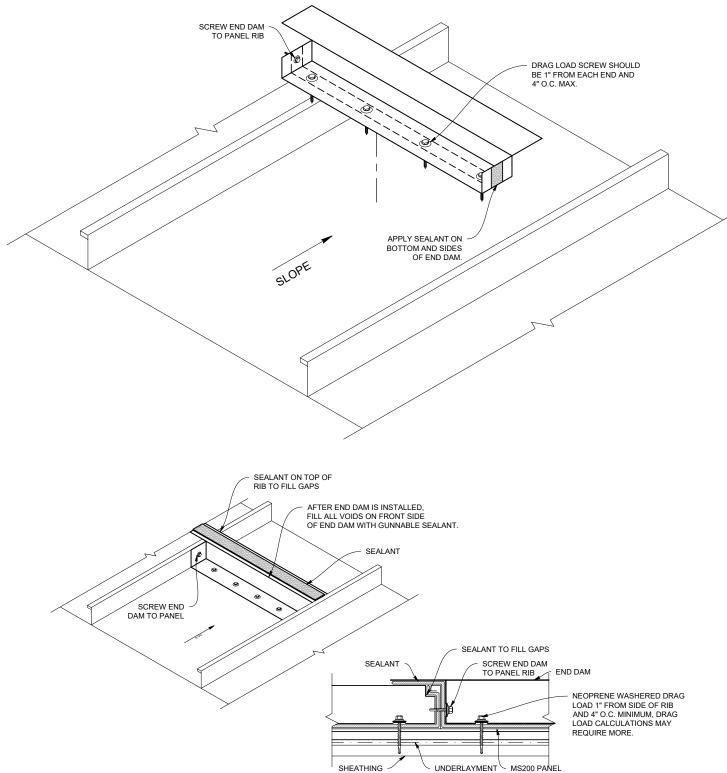


\*\*NOTE: PERFORATED VENT DRIP IS COMPATIBLE WITH WT VENTED RIDGE ONLY\*\*



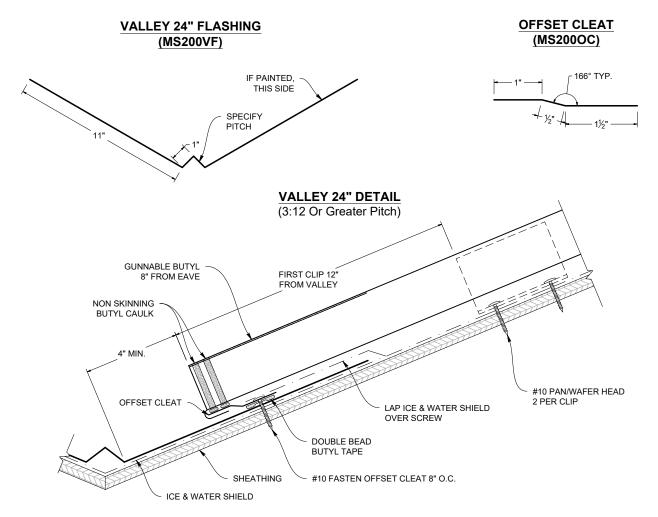


# **End Dam Attachment**



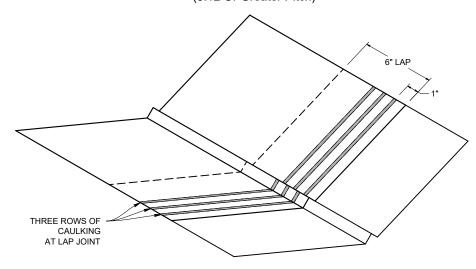
# Valley Flashing Slope 3:12 or Greater





### **VALLEY LAP**

(3:12 Or Greater Pitch)



Note: All screws must be fastened into solid substrate.

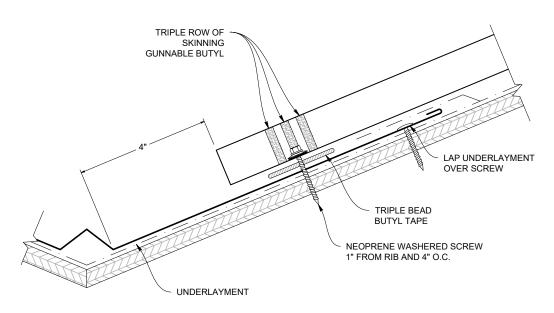
Flashing must be lapped 4" with 3 rows of gunnable sealant.



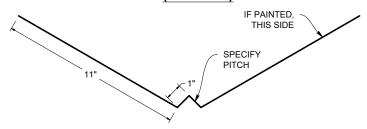
# Valley Flashing - Low Pitch Slope Less than 3:12

### **LOW SLOPE VALLEY DETAIL**

(Less Than 3:12 Pitch)

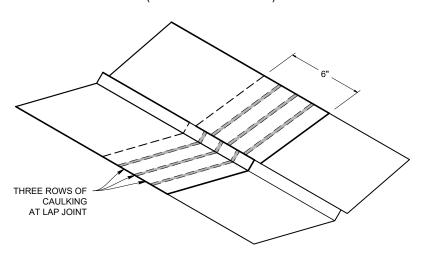


# VALLEY FLASHING (MS200VF)



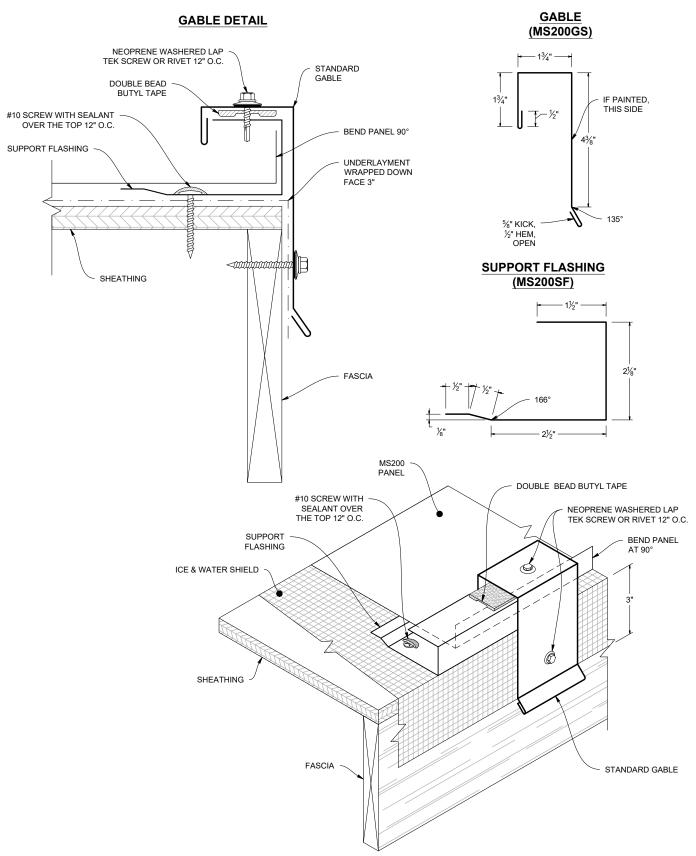
### **LOW SLOPE VALLEY LAP**

(Less Than 3:12 Pitch)



# **Standard Gable**

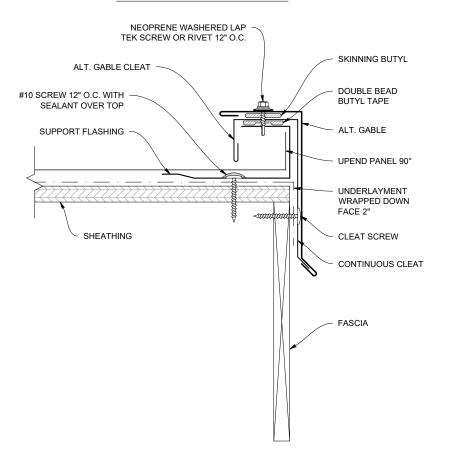




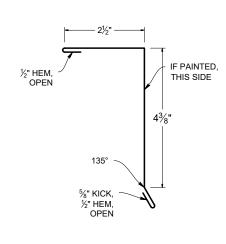
# TAYLOR METAL PRODUCTS

# **Alternate Gable**

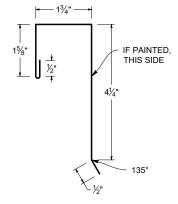
### **ALTERNATE GABLE DETAIL**



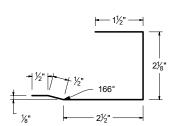
# ALTERNATE GABLE (MS200AG)



# ALTERNATE GABLE CLEAT (MS200AGT)

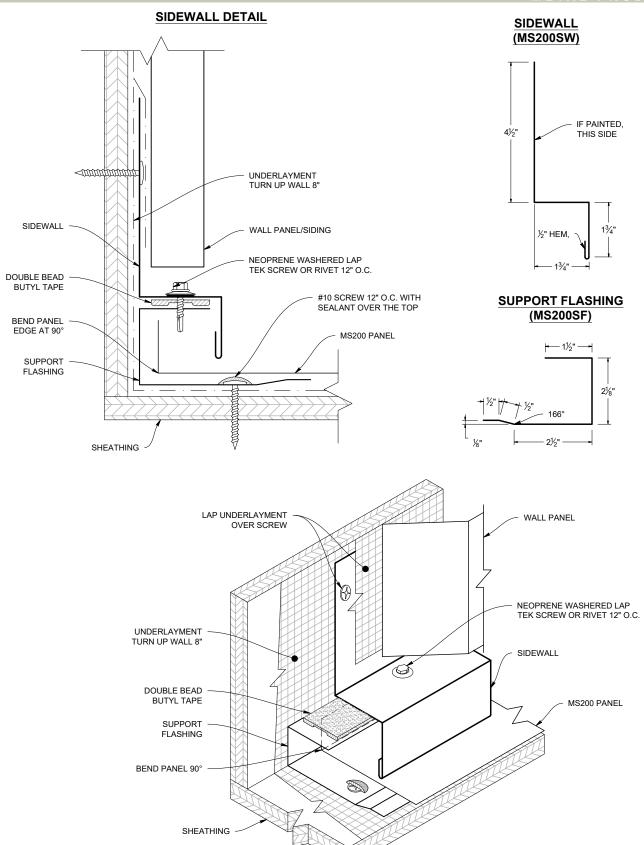


# SUPPORT FLASHING (MS200SF)



# **Sidewall**





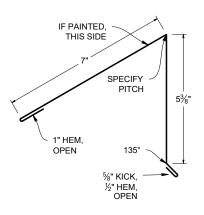


# Peak Flashing (Ridge End Cap)

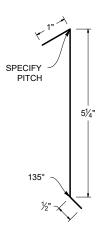
### **PEAK FLASHING DETAIL**

# NEOPRENE WASHERED SCREW OR RIVET 12" O.C. INTO EACH END DAM MS200 PANEL SHEATHING NEOPRENE WASHERED DRAG LOAD 1" FROM SIDE OF RIB AND 4" O.C. MIN, DRAG LOAD CALCULATIONS MAY REQUIRE MORE

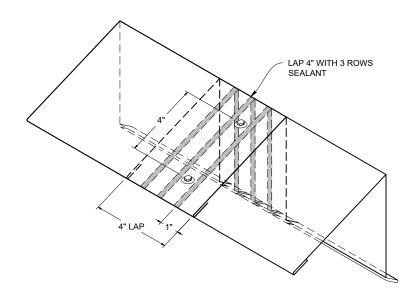
# PEAK FLASHING (MS200REC)



# PEAK CLEAT (MS200RECC)



### **PEAK FLASHING LAP**



# **Vented Peak Flashing**

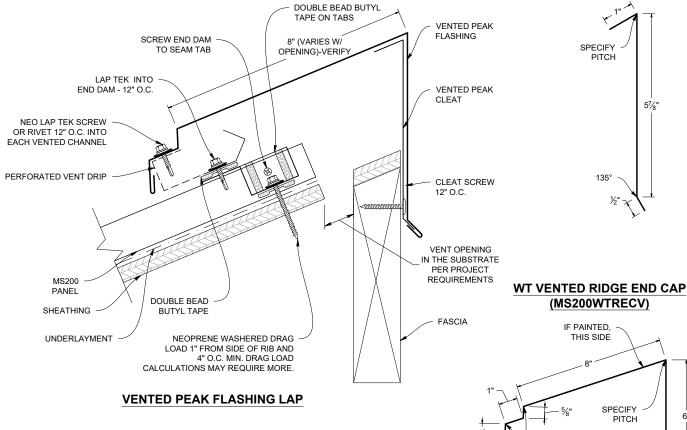
(Ridge End Cap)

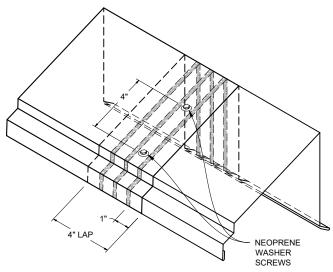


57/8"

### WT VENTED PEAK FLASHING DETAIL (Vented Ridge End Cap)

## **VENTED PEAK CLEAT** (MS200VRECC)





### PERFORATED VENT DRIP (MS200PVD)

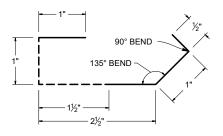
1/2" HEM.

OPEN

135°

%" KICK,

½" HEM, OPEN

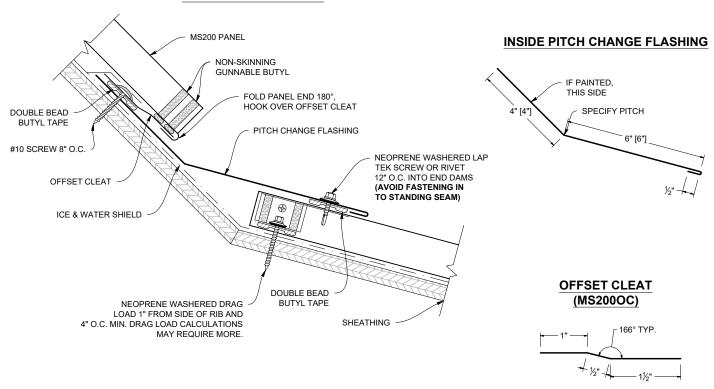


\*\*NOTE: PERFORATED VENT DRIP IS COMPATIBLE WITH WT VENTED PEAK FLASHING ONLY\*\*

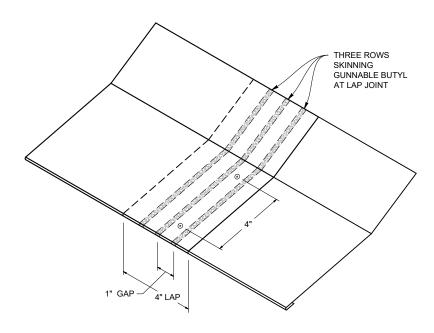


# **Pitch Change**

### **PITCH CHANGE DETAIL**



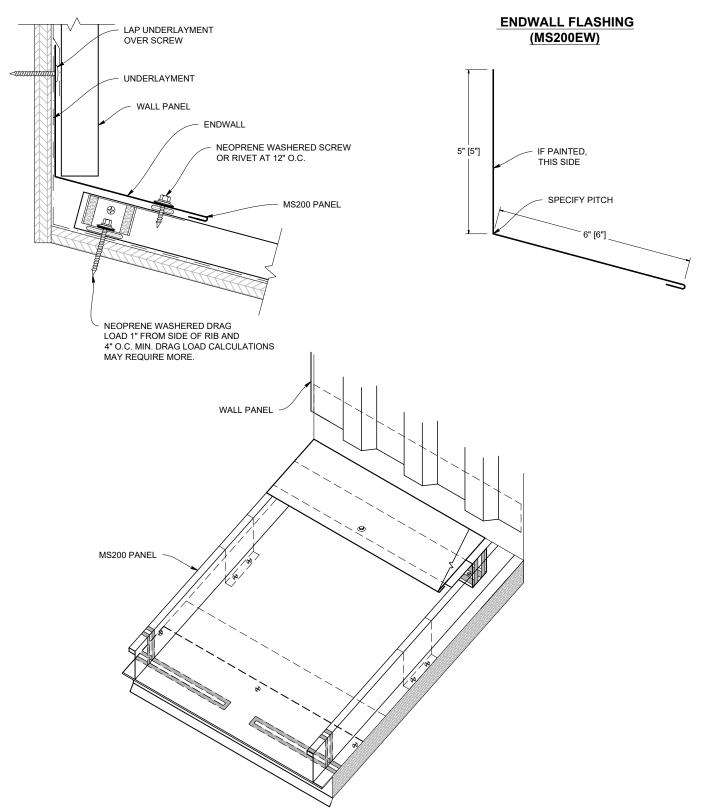
### **PITCH CHANGE LAP**



# **Endwall**



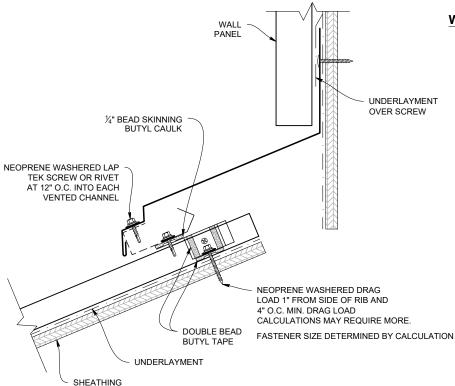
### **ENDWALL DETAIL**



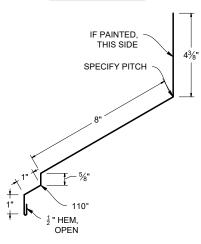


# **Vented Endwall**

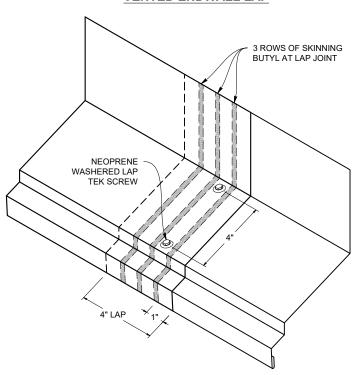
### WT VENTED ENDWALL DETAIL



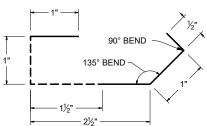
### WT VENTED ENDWALL FLASHING (MS200WTEWV)



### **VENTED ENDWALL LAP**



### PERFORATED VENT DRIP (MS200PVD)



\*\*NOTE: PERFORATED VENT DRIP IS COMPATIBLE WITH WT VENTED ENDWALL ONLY\*\*

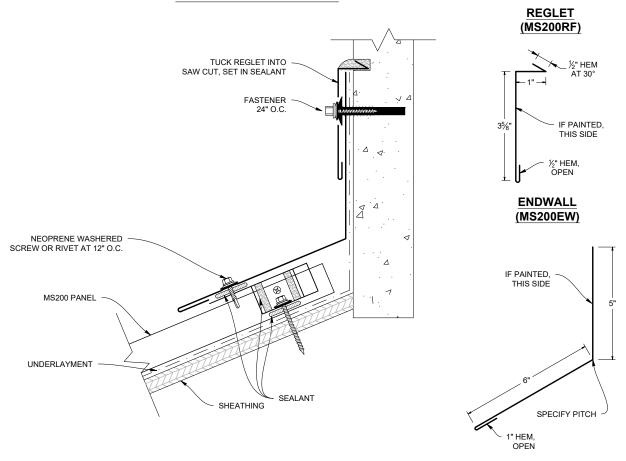
Note: All screws must be fastened into solid substrate.

Flashing must be lapped 4" with 3 rows of gunnable sealant.

# **Endwall w/ Saw Cut Reglet**

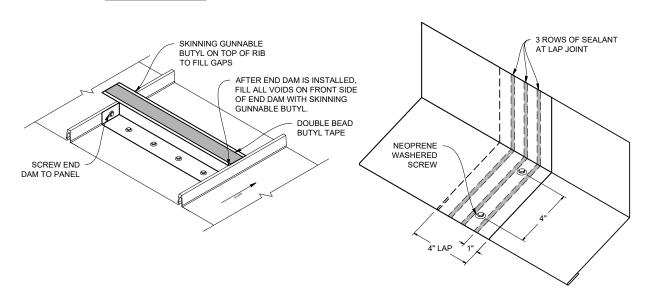


### **SAW CUT ENDWALL DETAIL**



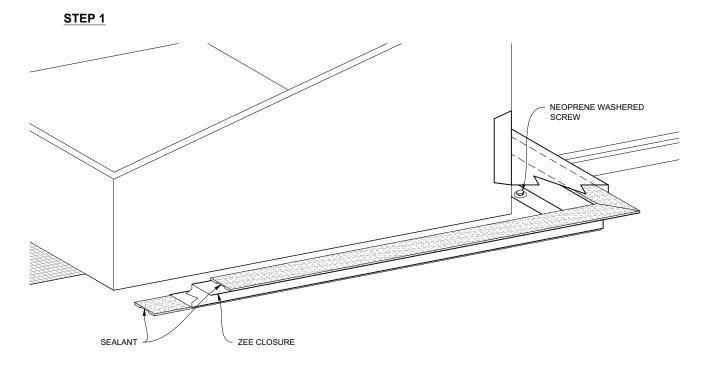
### **END DAM DETAIL**

### **ENDWALL LAP**

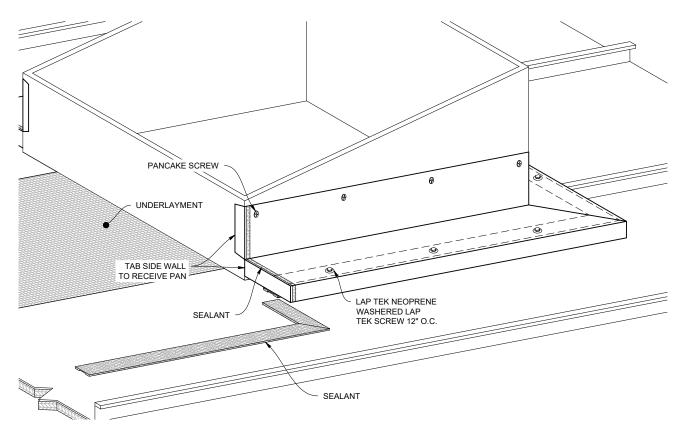




# **Curb Back Pan / Cricket**

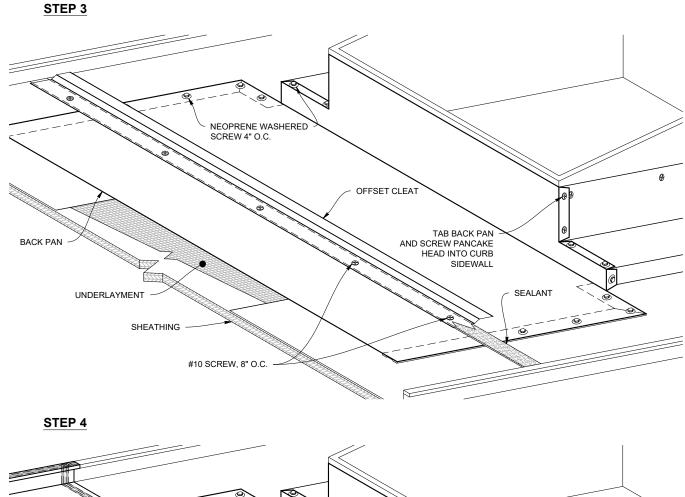


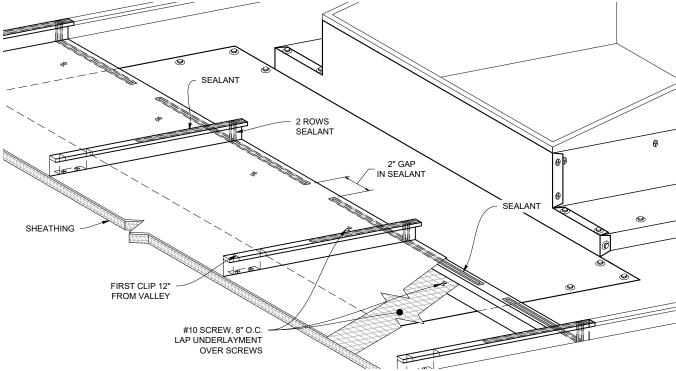
### STEP 2



# **Curb Back Pan / Cricket**

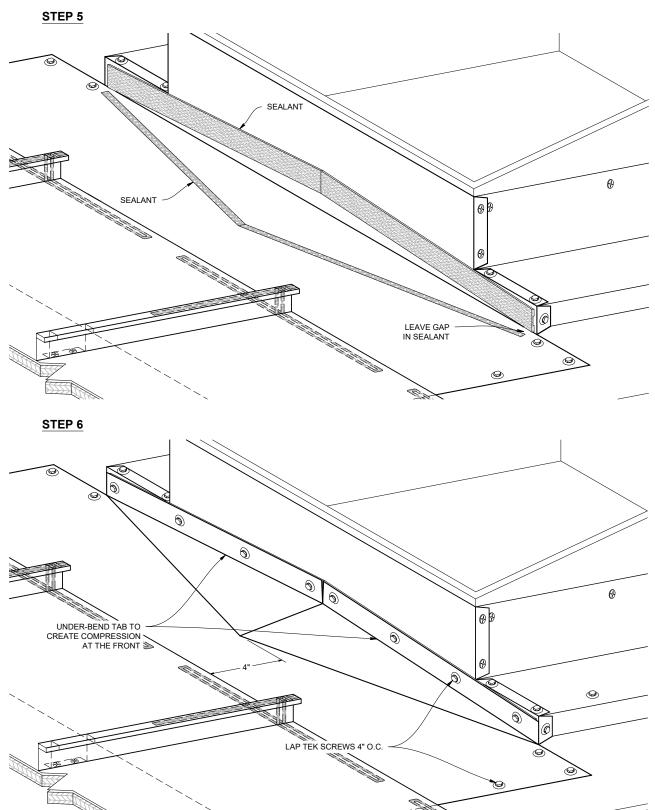








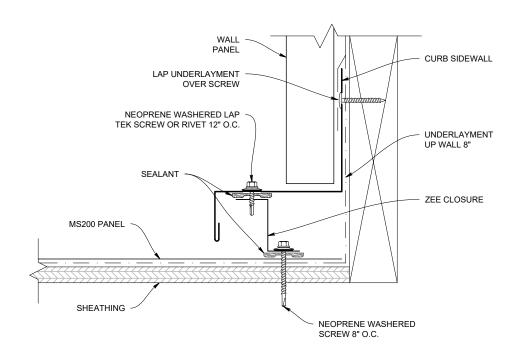
# **Curb Back Pan / Cricket**



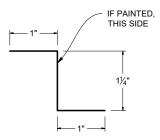
# **Curb Sidewall**



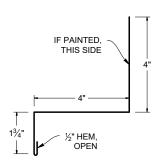
### **CURB SIDEWALL DETAIL**



# ZEE CLOSURE (MS200ZC)

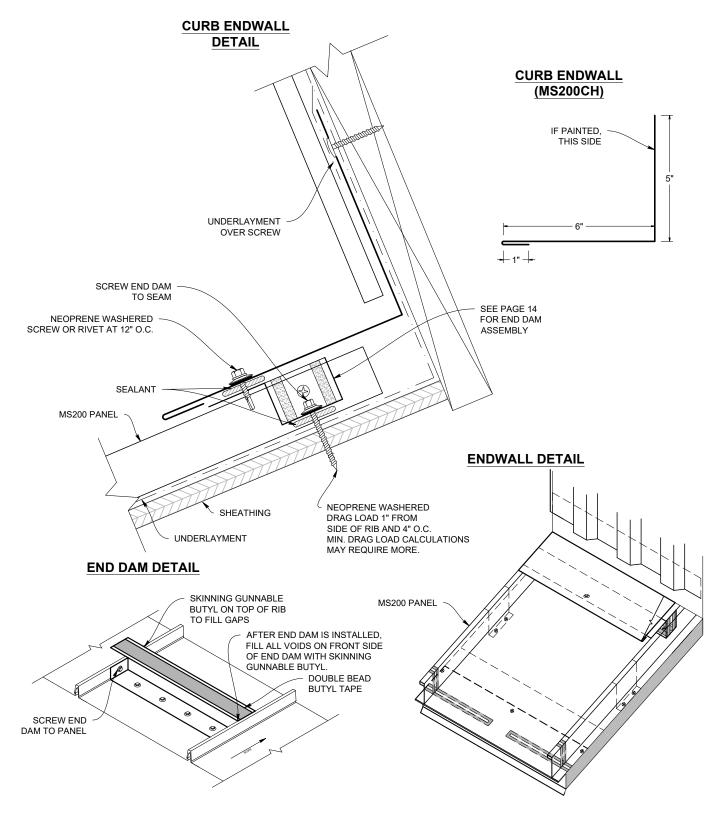


# CURB SIDEWALL (MS200CSW)





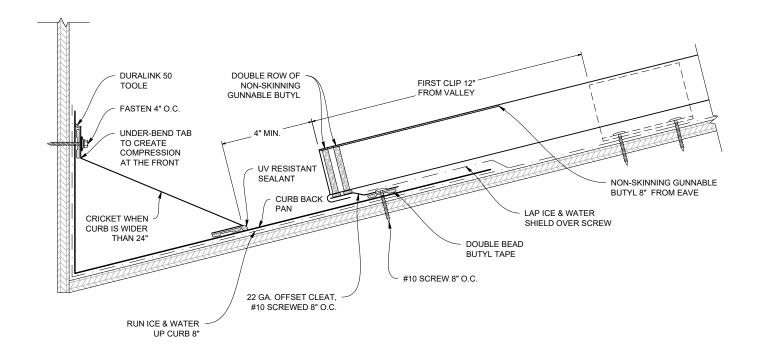
# **Curb Endwall**

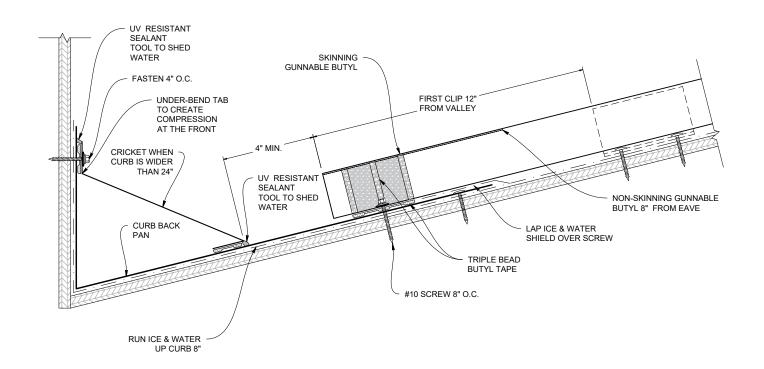


# **Curb / Pan Cricket**

(Slope 3:12 or Greater)



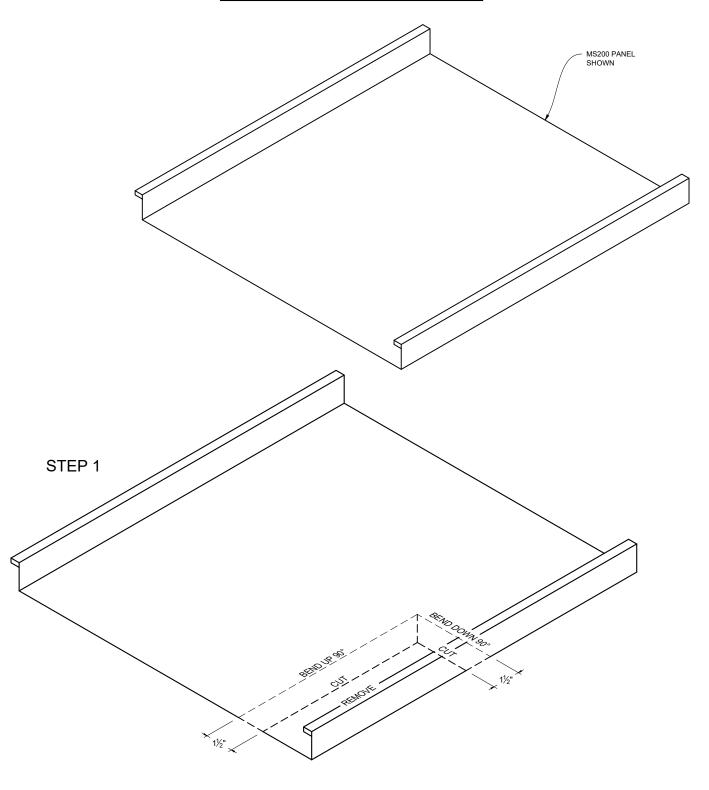






# **Eave to Gable Transition**

# **EAVE TO GABLE TRANSITION**

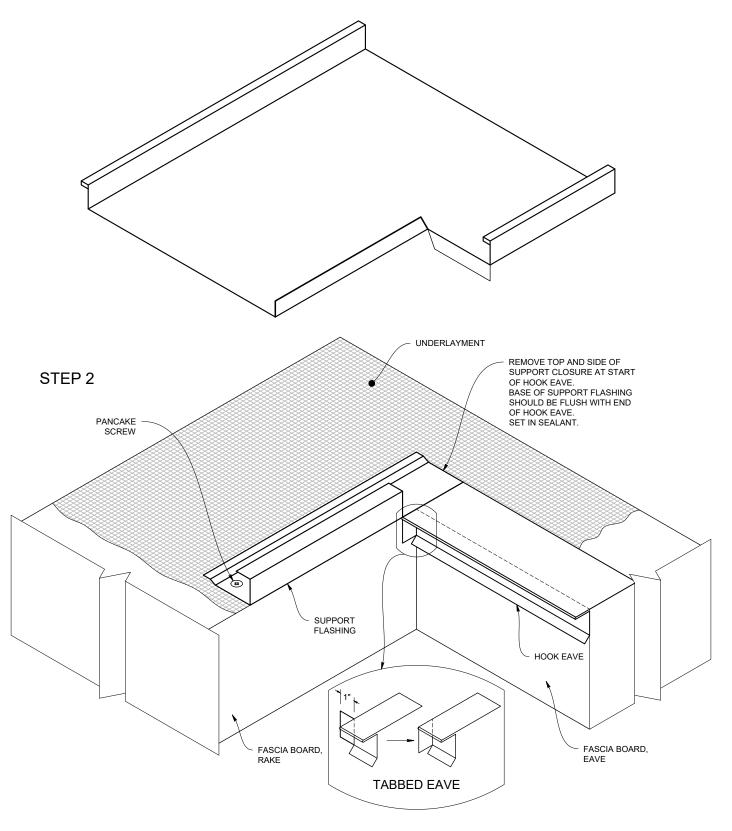


Note: All screws must be fastened into solid substrate.

Flashing must be lapped 4" with 3 rows of gunnable sealant.

# **Eave to Gable Transition**



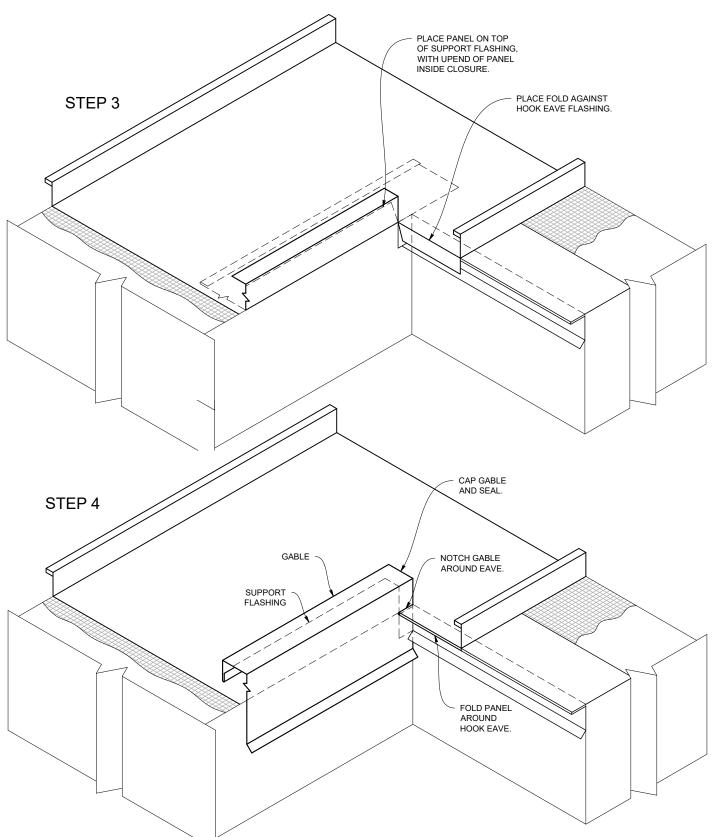


Note: All screws must be fastened into solid substrate.

Flashing must be lapped 4" with 3 rows of gunnable sealant.



## **Eave to Gable Transition**

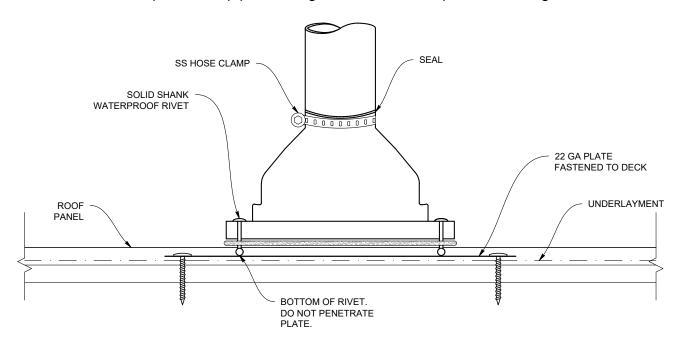


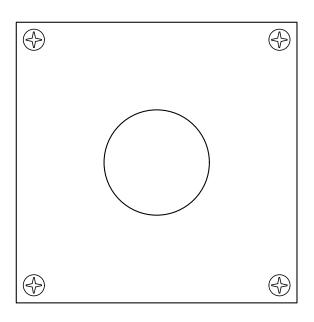
# **Pipe Penetration - on Plate**

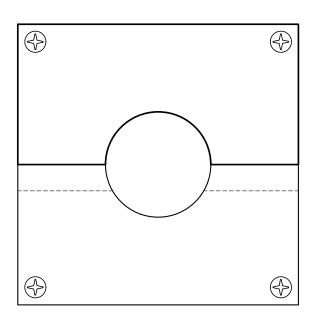


## FOR PIPES LOCATED 20' OR GREATER FROM PIN POINT

Allows panel and pipe flashing to move with temperature change.





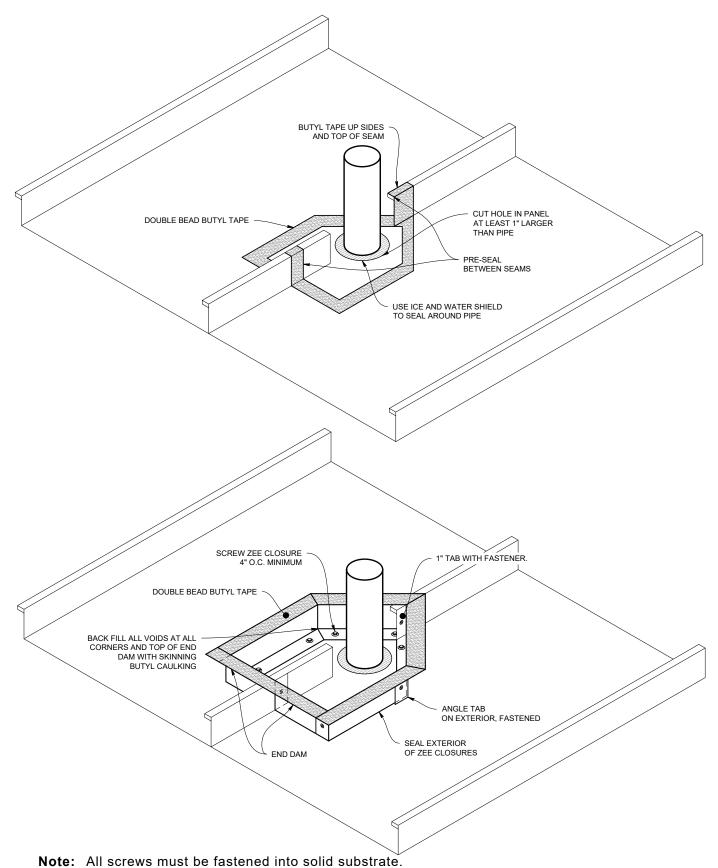


SINGLE 22 GAUGE PLATE

TWO OVERLAPPING 22 GAUGE PLATES



## Pipe Penetration - on Rib

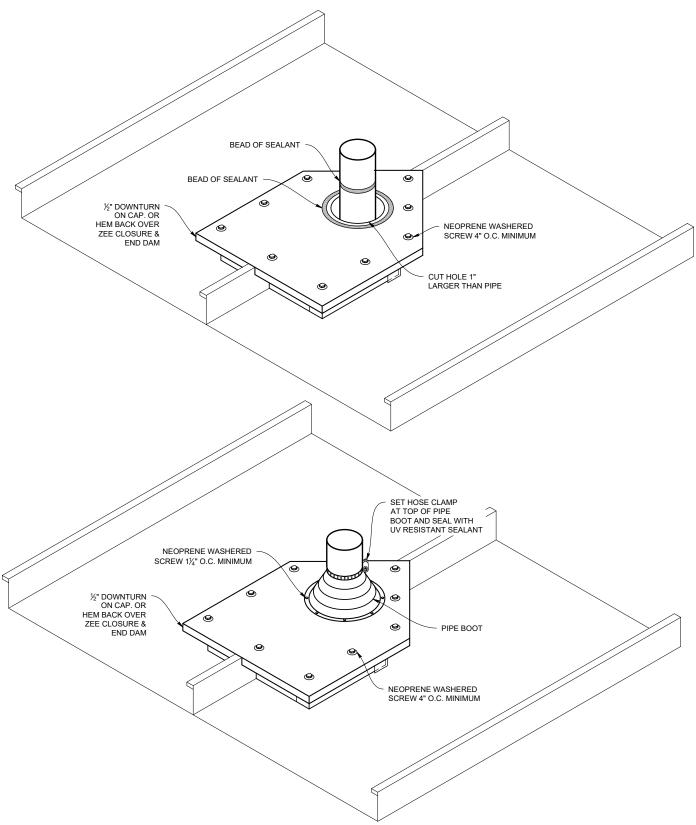


MS-200™ Installation Guide - 2024

Flashing must be lapped 4" with 3 rows of gunnable sealant.

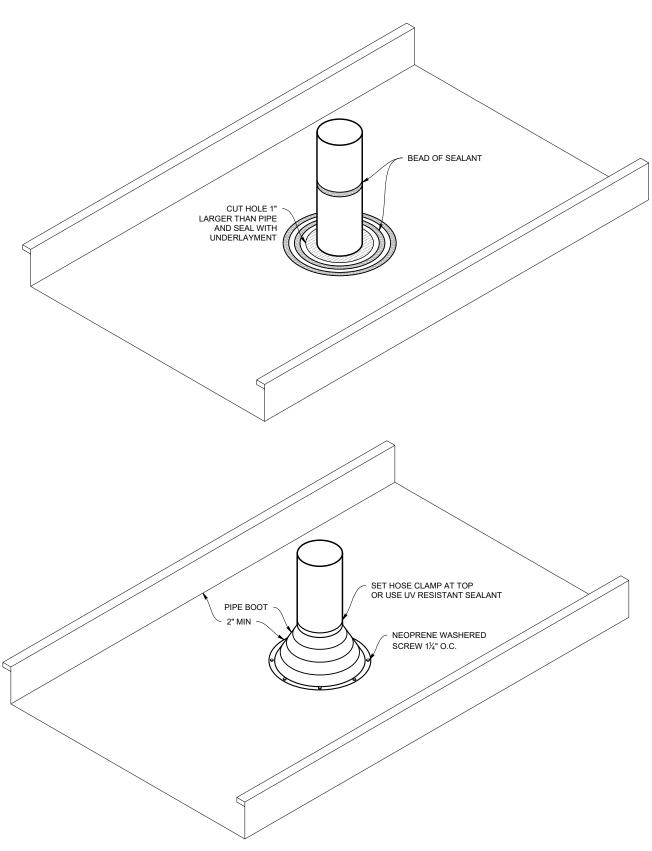
# Pipe Penetration - on Rib



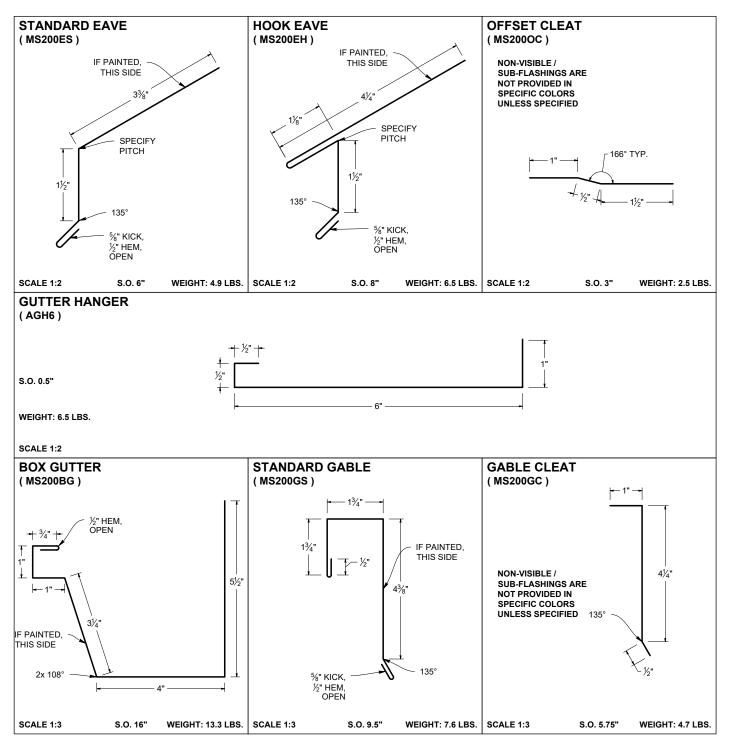




## **Pipe Penetration - on Pan**

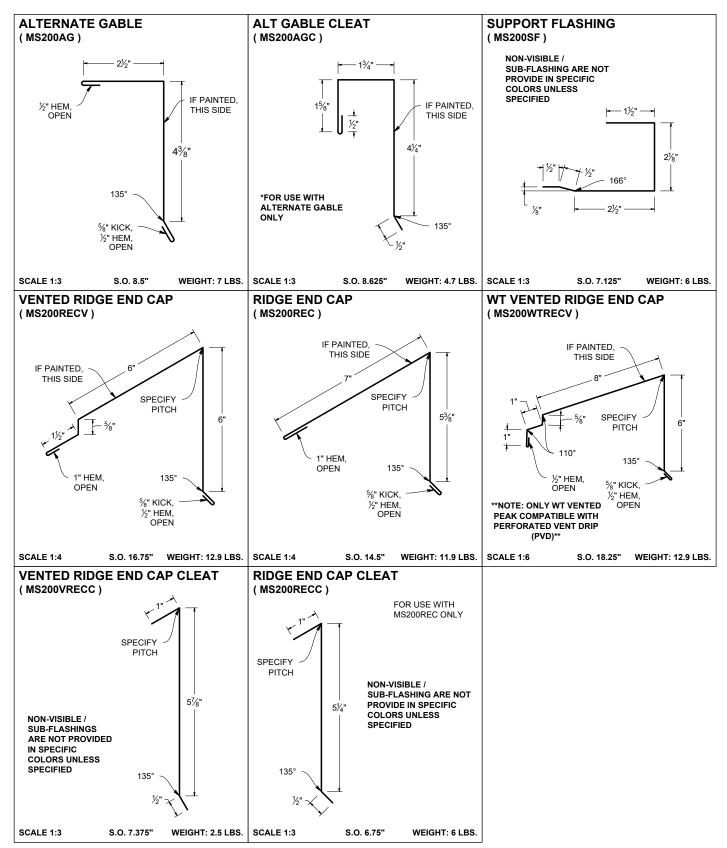


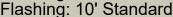




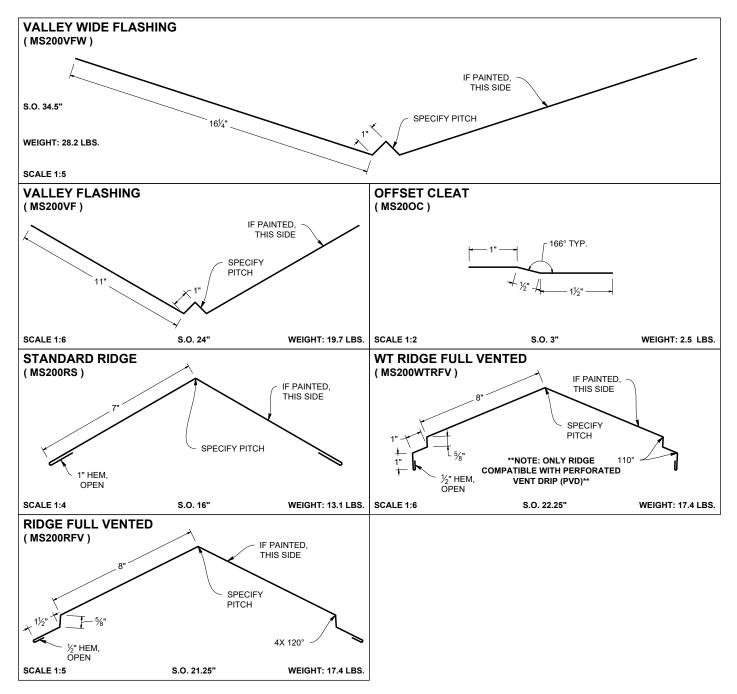




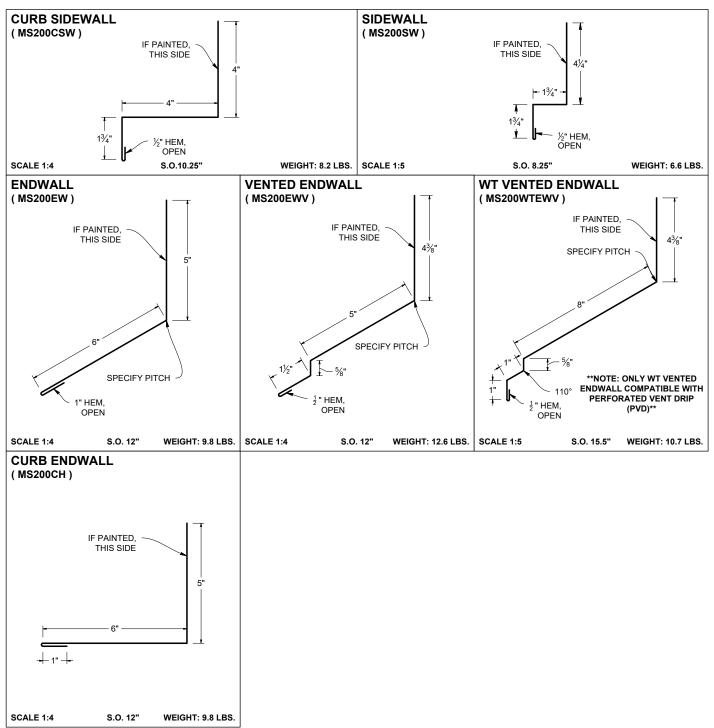




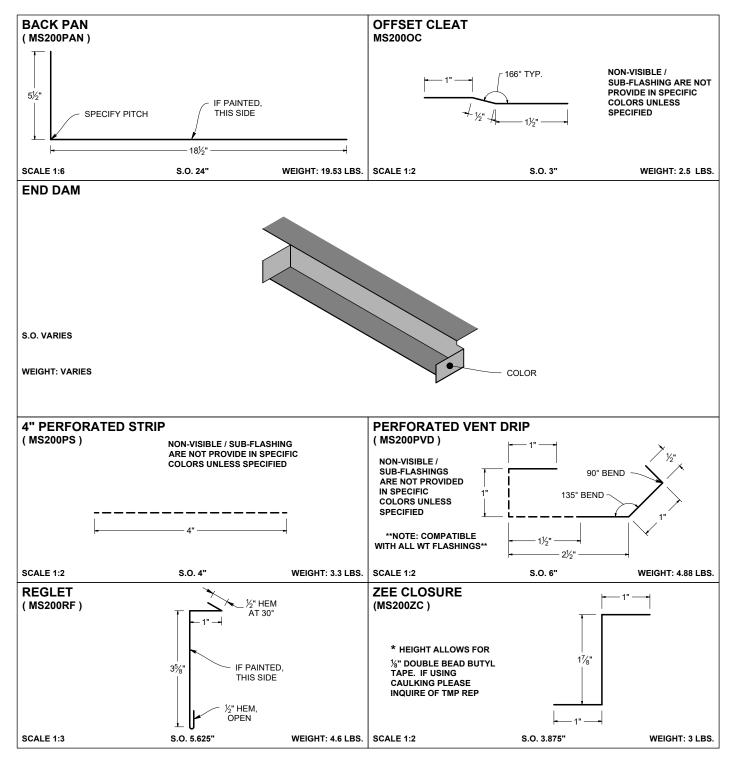












TAYLOR Diew Ord				rder Form					
-			rder	□ Add-	on Ord	er □ Qu	ote		
MEIA	LPRO	DUCTS PO#:			_ Date:				
Sold To:		Job Name: Ship To:							
Order Contact: Phone #: Fax #: Agricultural Standard Panels are in Bold font. PBR Marion "R" Panel Max Corr 2-1/2" Corrugate Classic 7/8" Corru GR-7 HR-34 T-3 Tuff-Rib			_	_					
			_		Call	└─│ Delivery <b></b> Delivery Date:			
		☐ Resident		☐ Commerical Route:					
		Ribs Striations  Notched? Y / N Clip Relief? Y / Notched AND Tabbed? Y / N (REQUIRE Screw Concealer? Y / N (Standard for Rite Striation)  12" Easy-Lock*  16" Easy-Lock*	Flat (Flat on No. Seala Flat on Seala Flat o	int? Y / N syLock & StreamLine) ine**(circle): 1", c 3" Reveal: noothWall** fetime Soffit			Color: Pitch: Gauge: Dmatch: Pallet: 10' 20' 30'  12" Versa-Span*  16" Versa-Span*  18" Versa-Span*  145/8" T-Panel*		
Panel & Flashing Items  *All Kynar Slim-Lock, Easy-Lock, Lifetime Soffit, SmoothWall, ShadowLine, T-Panel, Versa-Span, MS-100, MS-150, & MS-200 flashings are 10' *All ArmorTech StreamLine, T-3, Tuff Rib, GR7, PBR, HR-32, Marion "R", & Corrugated flashings are 12'6"									
Quantity	Length	Item Description	Part #	Quantity	Length	Item Desc	ription	Part #	
			<u> </u>						
			<del>                                     </del>						
Underlayi		Screws?  NE • Salem, OR 97301 •	•	ps? 81-6877 •	Caulkir P: 503-58		Closures? w.taylormetal	l.com	

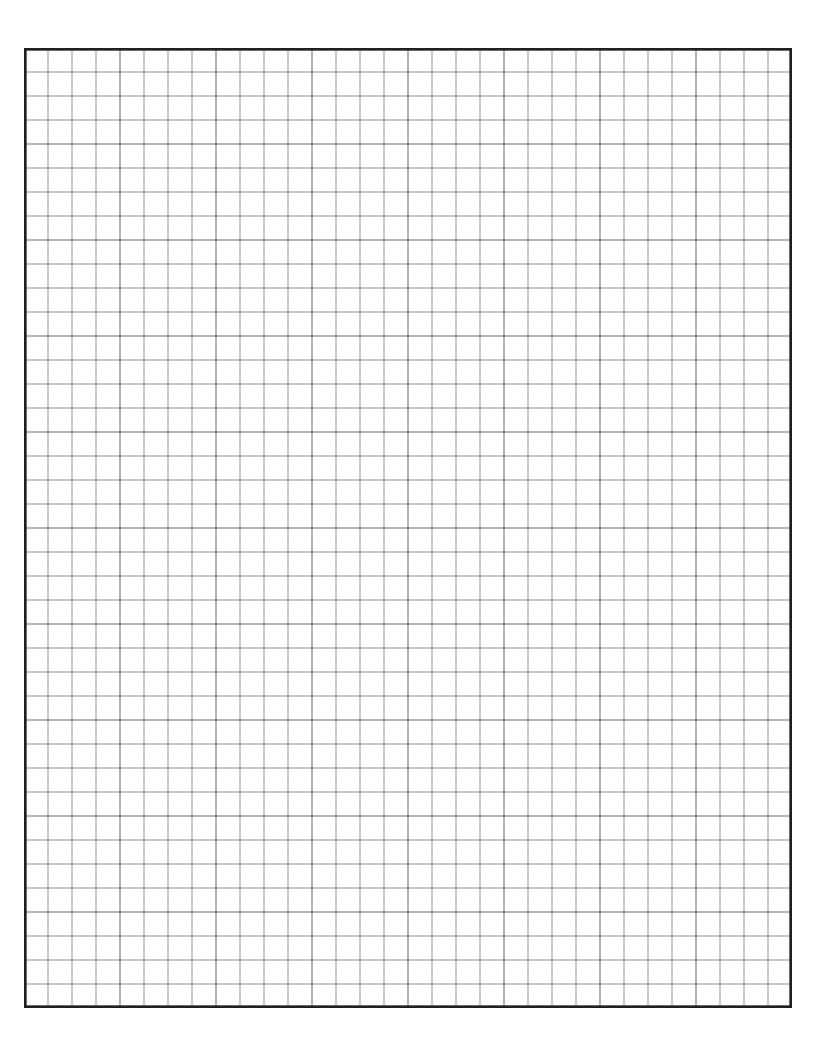
## **Custom Trim Order**

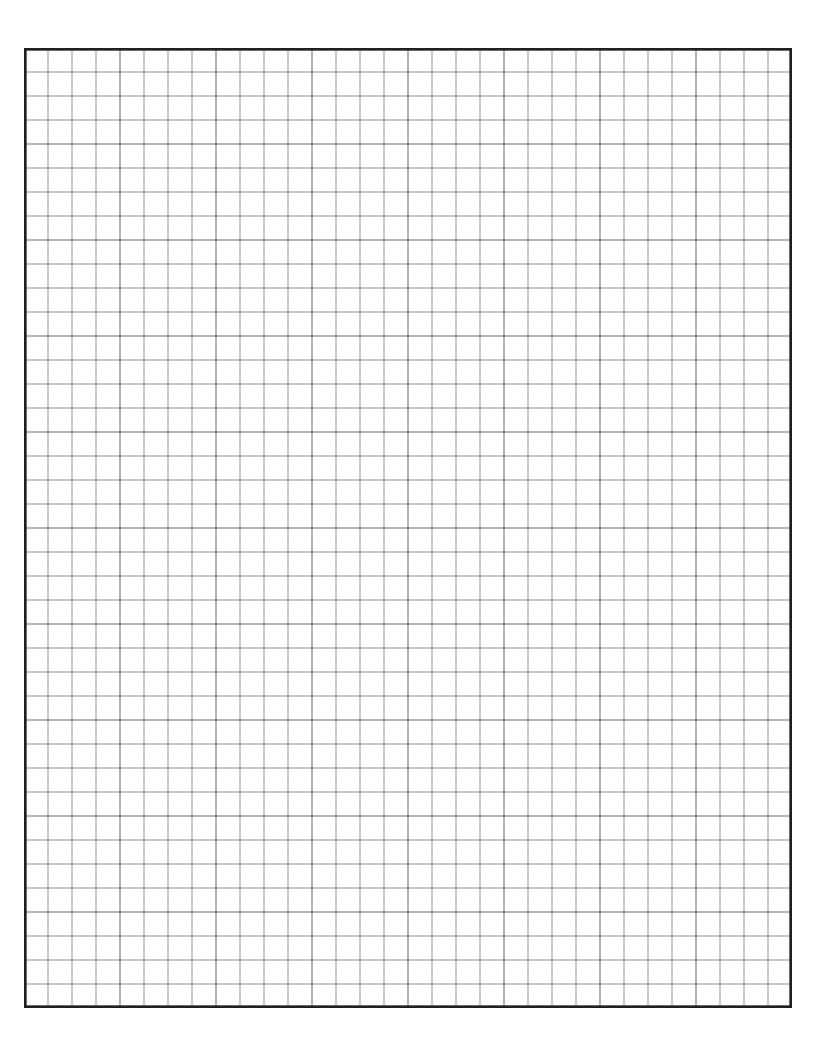


Customer Na	ustomer Name:					Job Name:			
Gauge:		_ Color:			Status:	□ Original □ New			
Specify: □	Angles □	Color Side □	Dimensions	□ Stretcho	ut				
so				so					
Dwg #:	Pitch:	# of Pieces:_		Dwg #:	Pitch:	# of Pieces:			
				Description:					
Description:				Description.					
Hems: $\square$ C	Open □C	losed Slight	ly Open	Hems: C	)pen 🗌 Clo	osed Slightly Open			
so				so					
Dug #:	Ditoh	# of Diagon		Dwa #	Pitch:	# of Pieces:			
Dwg #:	Pitch:	# of Pieces:				# of Pieces:			
		# of Pieces:_			Pitch:				

Please provide a drawing for each flashing with precise measurements and angles Fax to: 503-581-6877

Phone: 503-581-8338 or 1-800-574-1388







# QUALITY PRODUCTS EXCEPTIONAL SERVICE

### **SALEM BRANCH**

4566 Ridge Dr. NE Salem, OR 97301

Office: 503-581-8338
Toll Free: 1-800-574-1388
Fax: 503-581-6877

### **SACRAMENTO BRANCH**

3443 Airport Rd, Sacramento, CA 95834

Office: 916-318-8844
Toll Free: 1-800-574-1388
Fax: 916-993-4123

### **AUBURN BRANCH**

2601 C St. SW Auburn, WA 98001

Office: 206-900-9923 Toll Free: 1-800-574-1388 Fax: 253-804-3545

### **RIVERSIDE BRANCH**

4880 Felspar St. Riverside, CA 92509

Office: 323-407-7457 Toll Free: 1-877-504-1594

## SPOKANE BRANCH

1010 N Nelson St Spokane, WA 99202

Office: 509-535-8667 Toll Free: 800-238-4057 Fax: 509-535-8682