



Corrugated Panel System Installation Guide

innovative cladding design solutions

- **Product Description**
- **Universal Flashing Kit**
- **Supplemental Guide for VM Pro-Zinc Training**

To enroll in a VM PRO-ZINC Training Course contact:
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VMZINC

Corrugated Panel System

Specification and Tolerances

Wall panel substrate and framing designs can vary greatly. The Architect should consult model building code, Umicore Building Products USA's literature, or a building envelope consultant for additional information on appropriate wall designs. Consult Umicore Building Products USA, Inc. for assistance in editing the specific application.

QUALITY ASSURANCE

VM ZINC® Corrugated is a factory-formed, zinc-alloy, metal wall panel system.

- Zinc Alloy: 99.995 percent electrolytic high-grade zinc with alloy additives of copper (0.08 percent to 0.20 percent), titanium (0.07 percent to 0.12 percent), and aluminum (0.015 percent).
- Thickness: .039" (1.00 mm), .031" (0.8 mm).

Dimensional Tolerances:

- Coverage: Plus or minus 1/8" (2.2 mm).
- Flatness at Maximum Deflection: 5/64" on 36" (2 mm on 914 mm).
- Curvature: 1/32" (0.8 mm).

Installer's Qualifications:

- Engage an experienced installer who has completed metal wall panel system installation similar in material, design, forming method, and extent to that indicated for this Project and with a record of successful in-service performance.
- Successful completion of VM PRO-ZINC Training course.

DELIVERY, STORAGE, AND HANDLING

Delivery:

- Inspect delivered materials on arrival. Report damaged materials to Umicore BP within 5 days.
- Deliver materials to site in Umicore BP's original, unopened containers and packaging, with labels clearly identifying product name.
- Deliver materials so as not to be damaged or deformed.
- Package metal wall panels for protection during transportation and handling.
- Leave protective UV-resistant film on metal wall panels; Remove within 90 days after installation.

Storage and Handling:

- Store materials in clean areas in accordance with Umicore BP's instructions.
- Unload, store, and erect metal wall panels in a manner to prevent bending, warping, twisting, and surface damage.

Specifier Notes: Verify product compatibility if products other than those listed in this guide are to be specified and installed in conjunction with the metal wall panels.

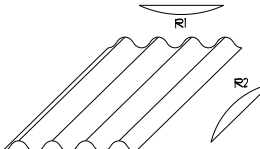
 ASTM Tested HORIZONTAL & VERTICAL	CORRUGATED (2 11/16" x 7/8")						
	Panel Dims:		10'- 0" x 32 3/4" x 7/8"		Panels per crate:	~30 panels	
	On Center:	Vertical	9'- 6"		Coverage:	Per panel	23.2 sq ft
		Horizontal	29 5/16"			Per crate	696 sq ft
	Radius:	Convex	Concave		Thickness:	0.8, 1.0mm	
	R1	30" field	30" field		Weight:	0.8mm	38.72 lb
		R2	30" pre-fab.	30" pre-fab.		1.0mm	48.56 lb
R2		130' field	130' field				



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Flashing and Trim:

- Field-fabricated from zinc-alloy sheets.
- Thickness: [0.031" (0.8 mm)] [0.039" (1.0 mm)].
- Seal against weather.
- Provide finished appearance.
- Provide pull-out resistance and flatness.
- Finish: Same zinc-alloy finish as adjacent metal wall panel system.
- Backside Coating Thickness: 60 microns.

Metal Wall Panels:

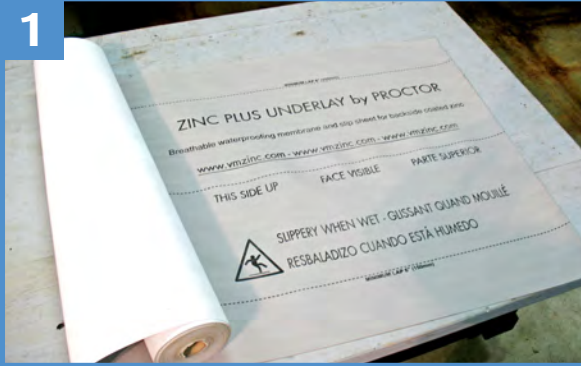
- Form with flat-lock seam at panel edges and smooth, flat pan.
- Field install in sequential order.
- Engage lower edge of each panel to upper edge of panel below and engage right side of preceding panel's left side.
- Mechanically attach panels to supports by locating concealed clips under upper and left edges of panels.

Weather Resistant Barrier

Product Description

Product

Description



Zinc Plus Underlay

Alternative to Type II roofing underlayment and Grade D weather resistive barrier paper specified in the 2006 IBC.

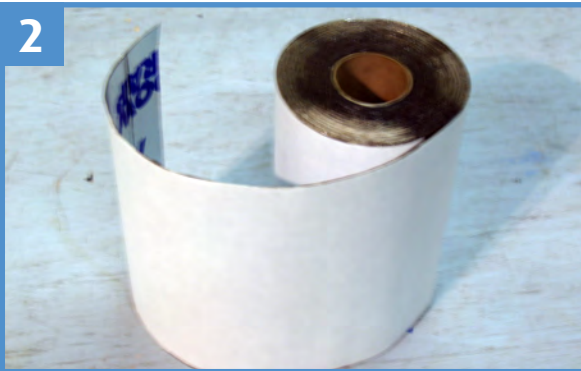
Roll Length: 164 ft (50 m), **Width:** 39" (1 m)

Weight - 164' x 39" roll, is 18 lb (8 kg)

Thickness: .023" (0.6 mm)

Water Vapor: 212 Perms

Transmission: per ASTM E96 Method A



Self - Adhering Waterproofing Membrane

For a list of available products, consult Umicore Building Products



Uncured EPDM Flashing Tape

For a list of available products, consult Umicore Building Products



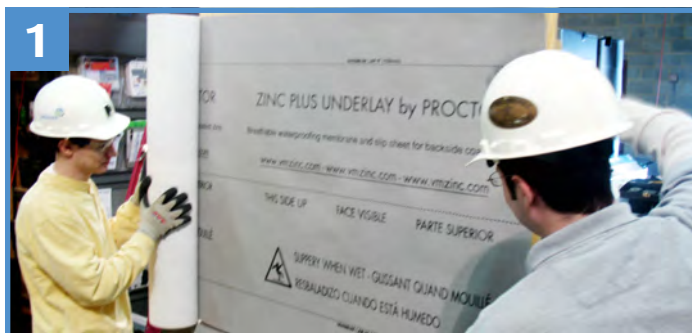
Compatible Sealants:

- DOW 795
- SIKA 1A

Weather Resistant Barrier Product Installation



Zinc Plus Underlay, Weather Resistant Barrier Installation



1 Install zinc plus underlay horizontally with a 6" overlap at seams.



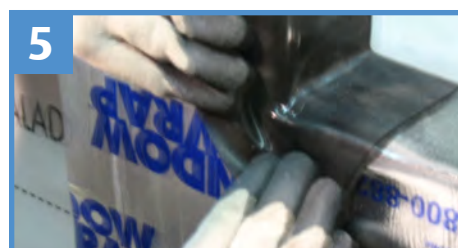
2 Cut the material at openings 45 degrees toward the center of the opening. Fold inward and attach to frame.



3 Apply waterproofing membrane at openings, extend lap 9" beyond opening at the sill.



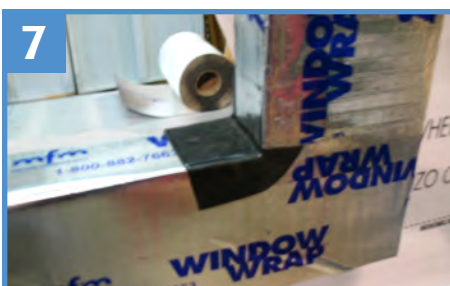
4 Use a roller to bond the waterproofing membrane to the Zinc Plus Underlay. Hot air may be required to help with bonding at temperatures below 65 degrees.



5 Mold the uncured EPDM Flashing Tape into a one piece corner.



6 Apply the waterproofing membrane 9" beyond jamb frame opening. Overlap EPDM molded corner at sill.



7 Installed sill flashing.



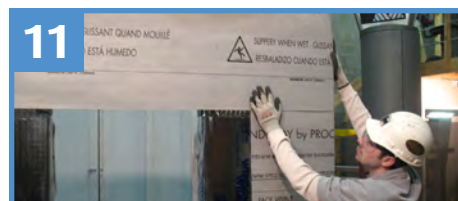
8 Repeat the molded EPDM corner flashing step for corners at window Head.



9 Apply waterproofing membrane 9" above opening at window head.



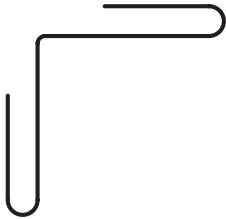
10 Installed corner at window head.

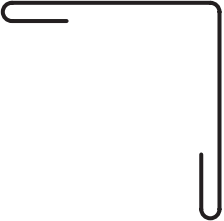


11 Apply cap strip of Zinc Plus Underlay over waterproofing membrane at top of window, even with rough opening. Cap strip to be overlapped by next run of Zinc Plus Underlay.

Corrugated Panel System

Product description: Universal Flashing Kit

Product	Description Code	Aspects	Quantity
	Inside Corner Flashing ISC - 1	 Quartz Zinc Plus	
		 Anthra Zinc Plus	
		 Pigmento Blue Plus	
		 Pigmento Green Plus	
		 Pigmento Red Plus	
	Window Flashing Sill/Jamb WF - S - 1	 Quartz Zinc Plus	
		 Anthra Zinc Plus	
		 Pigmento Blue Plus	
		 Pigmento Green Plus	
		 Pigmento Red Plus	
	Window Flashing Head 1 WF - H - 1	 Quartz Zinc Plus	
		 Anthra Zinc Plus	
		 Pigmento Blue Plus	
		 Pigmento Green Plus	
		 Pigmento Red Plus	
	Window Flashing Head 2 WF - H - 2	 Quartz Zinc Plus	
		 Anthra Zinc Plus	
		 Pigmento Blue Plus	
		 Pigmento Green Plus	
		 Pigmento Red Plus	

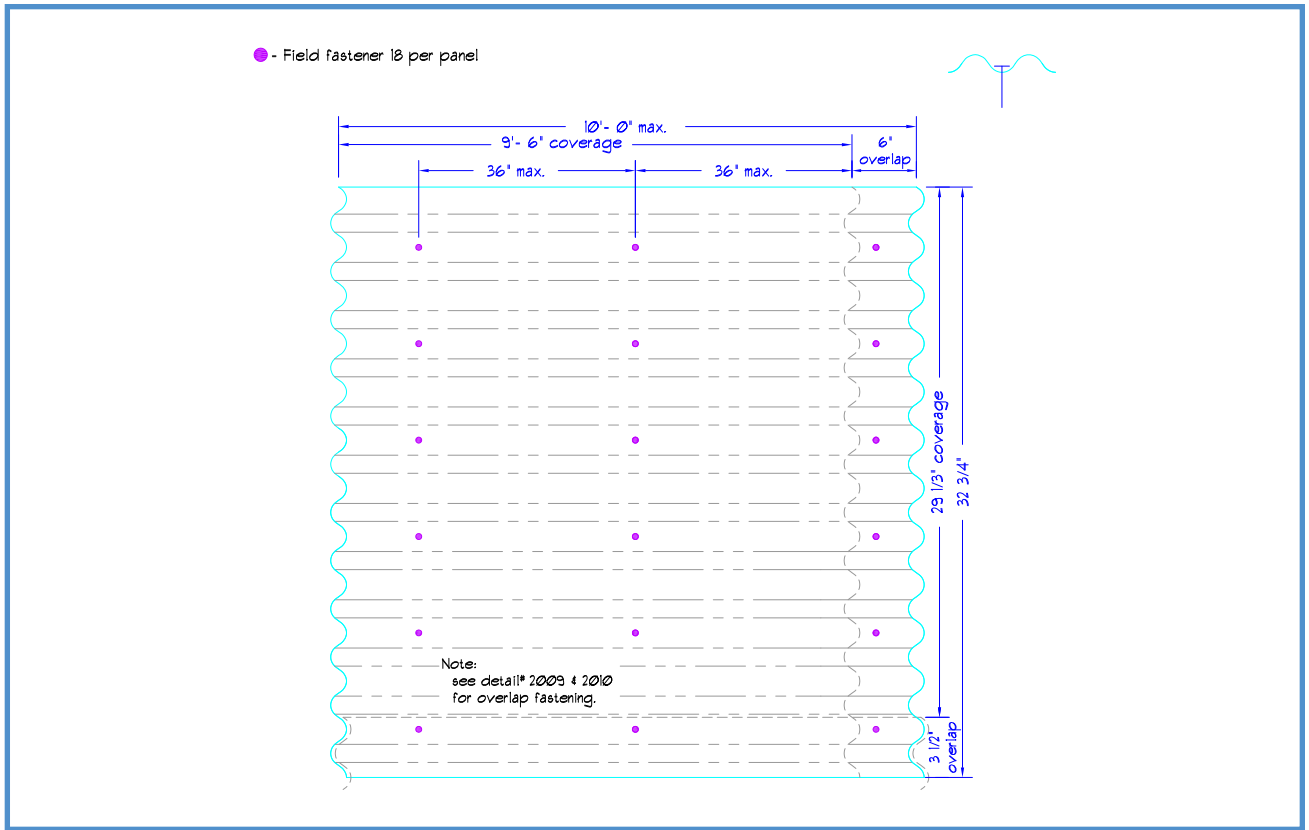
Product	Description Code	Aspects	Quantity
	Outside Corner Flashing OSC - 1	 Quartz Zinc Plus	
		 Anthra Zinc Plus	
		 Pigmento Blue Plus	
		 Pigmento Green Plus	
		 Pigmento Red Plus	

	J - Channel WF - J - 1		
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	Stainless Steel Z- Starter (SSZ-1)		
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	Stainless steel cleat ST - 1		
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Corrugated Panel System Layout



Notes

Corrugated Panel System

Base of Wall



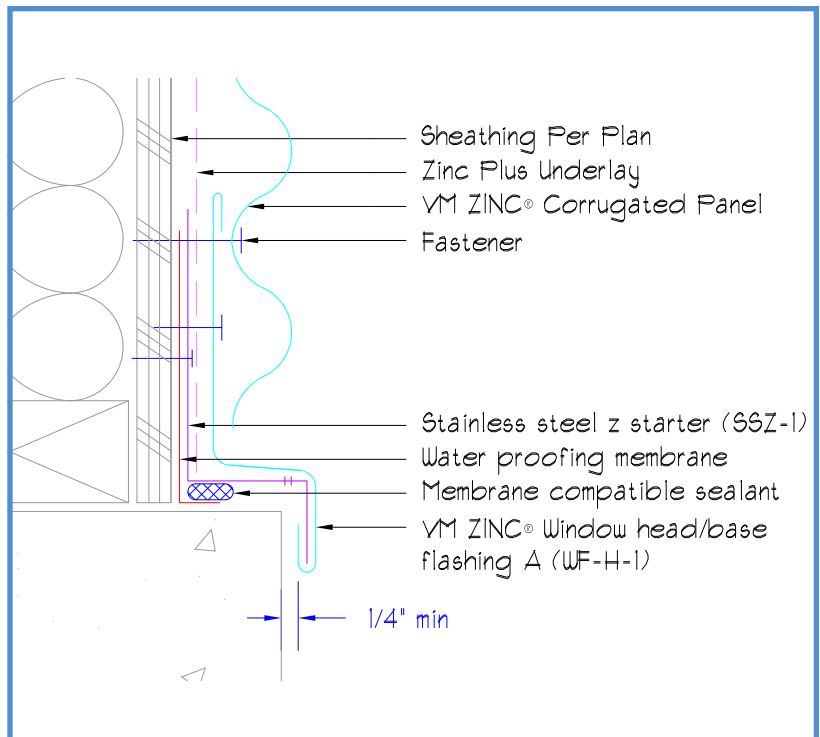
Apply bead of sealant at base of wall.



Bed vented starter SSZ-1 into sealant. Overlap SSZ-1 with ZINC PLUS UNDERLAY.



Install VM ZINC PLUS Z flashing WF-H-1 and secure in place with VM ZINC Flatlock clips 16" on center.



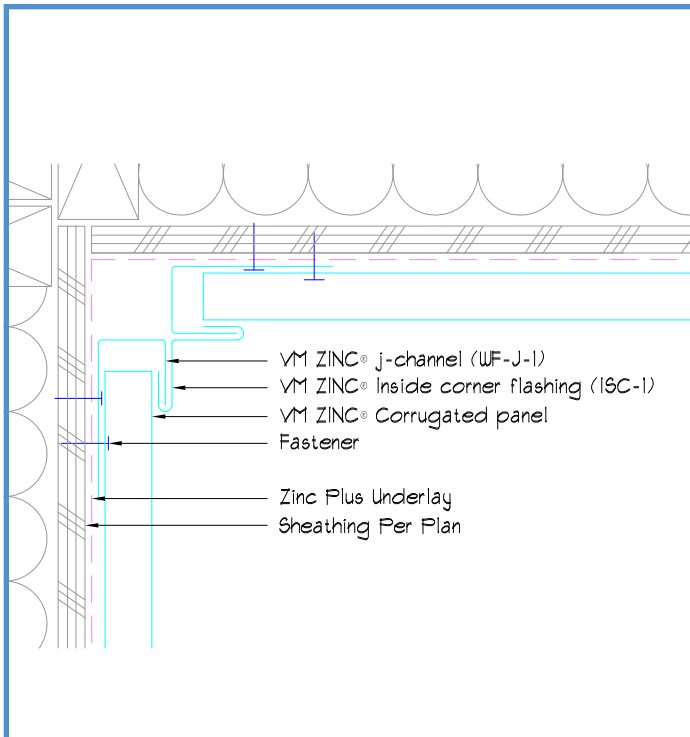
Installation Detail for Base of Wall



Install VM ZINC Corrugated Panels using stainless steel through fasteners with EPDM washers and painted to match. Panels are to be fastened 36" on center or in accordance with project specifications.

Corrugated Panel System

Inside Corner

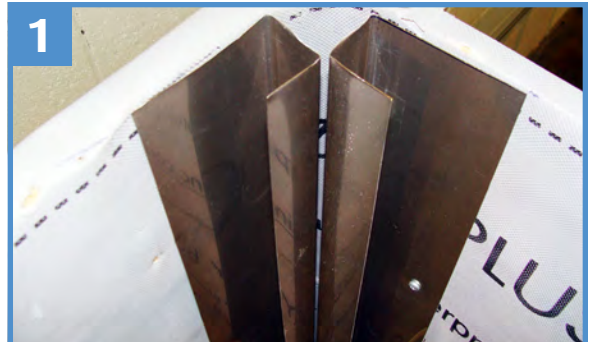


Installation Detail for Inside Corner



Finished

General note: Trims shall be attached using stainless steel pan head screws at 16" on center. Refer to project specifications.



Panels are turned outward with a 90 degree bend to limit moisture ingress and to facilitate a flat panel face. Panel shown is a standard VM ZINC® FLATLOCK square panel on a diagonal bias with seams aligned.



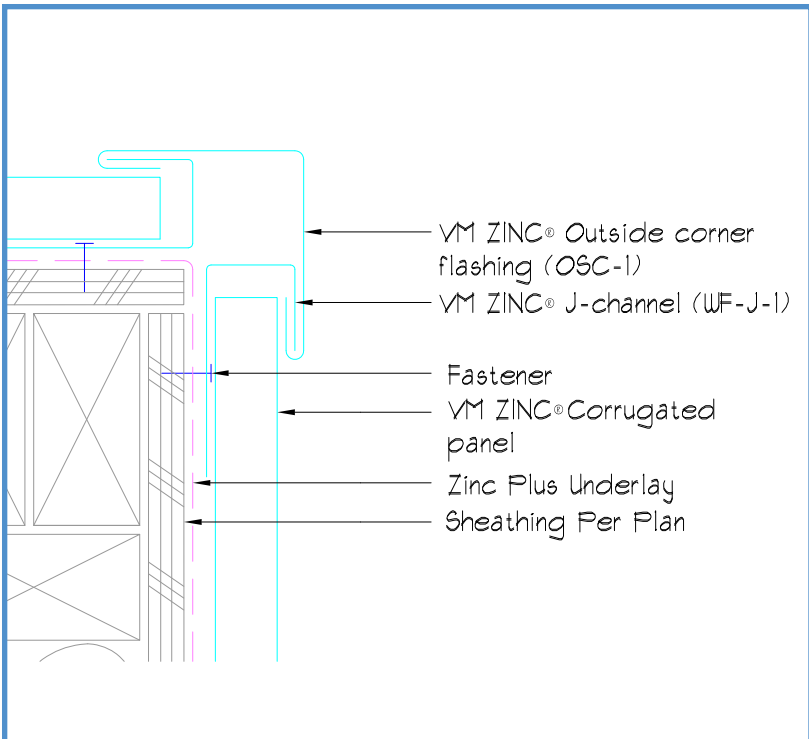
Notch VM ZINC® PLUS corner flashing (ISC-1) to allow overlap of succeeding flashing. Slide on VM ZINC® PLUS inside corner ISC-1 (shown with masking film attached).



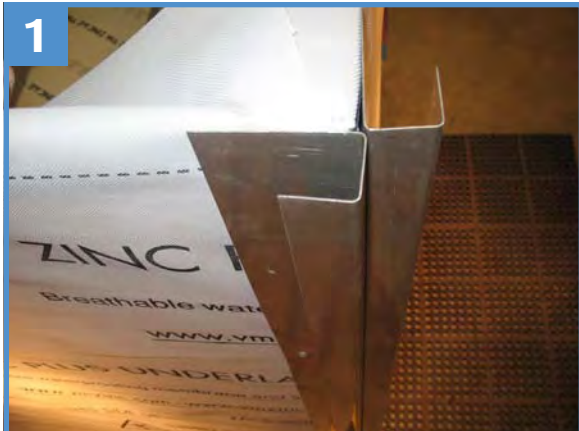
Install panels inside J-Channel as shown.

Corrugated Panel System

Outside Corner



Outside Corner



1
Install stainless steel J-channels WF-J-1 at outside corner.



2
Slide on VM ZINC® PLUS outside corner OSC-1 (shown with masking film attached).



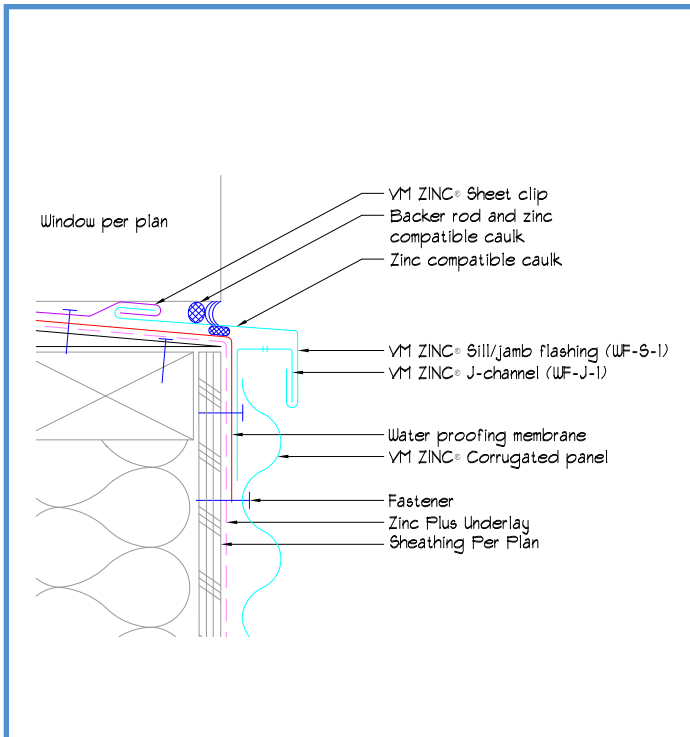
Finished



3
VM ZINC® PLUS outside corner OSC-1 shown with masking film removed. Panels to be installed inside J-channels.

Corrugated Panel System

Sill Flashing



Installation Detail for Still Flashing



Pictured above are two options for preventing cracking when notching corners on panels and trims. Option A) Drill a 1/8" relief hole. Option B) Use a double cut notching tool with a rounded end point.



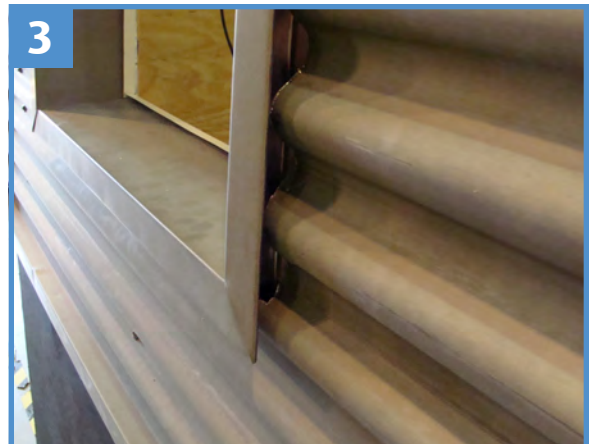
Finished



1 Install pre-punched sill channel 1/2" below window opening. Notch jamb side J-Channel (WF-J-1) to be received as shown.



2 Bed Sill flashing (WF-S-1) into sealant on window sill. Notch and fold ends of sill flashing upward 90 degrees 1-1/2", overlapping jambs as shown. Remove plastic film inside miter and area to be overlapped by jamb flashing.



3 Cut corrugated panel to fit inside J-Channels around opening.

Corrugated Panel System

Jamb Flashing

1



Miter jamb sleeve WF-S-1 45 degrees on front face and 5 degrees on frame side as shown.

2

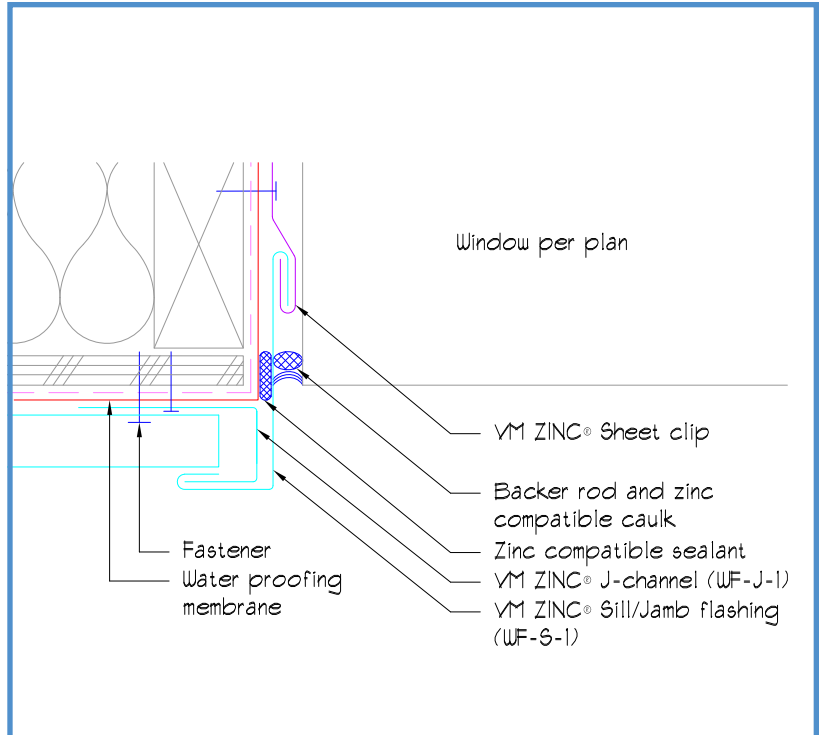


Apply sealant at junction between the waterproofing membrane and J-channel. Bed jamb sleeve in sealant.

3



Fold top of jamb sleeve inward at the head 1" with sealant behind. Cut back masking.



Installation Detail for Jamb Flashing



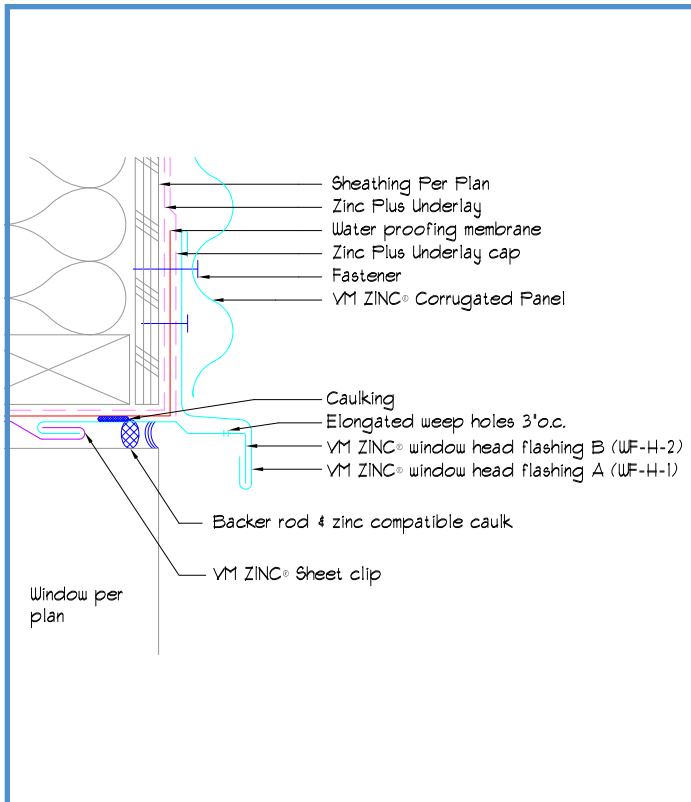
Use only zinc material for cutting the plastic film. This will minimize damage to the VM ZINC® pre-weathered finishes or score the zinc surface. Never use a steel razor utility blade to cut the film.



Finished

Corrugated Panel System

Head Flashing



Install head flashing WF-H-1 and starter strip ST-1. Attach with stainless steel pan head screws. Head flashing must overlap last panel inside jamb side J-channel. Cut head flashing 1-1/2" longer than the overall outside dimension of the jamb sleeves to allow for a 3/4" tab to be folded inward as shown.



Corrugated Panel System

Panel Installation

EXECUTION

- Examine substrates, areas, and conditions for compliance with requirements for installation tolerances, metal wall panel supports, and other conditions affecting performance of work.
- Verify that substrate is plumb, sound, dry, smooth, clean, sloped for drainage, and completely anchored, and that provision has been made for wall drains, flashings, and penetrations through metal wall panels.
- Examine primary and secondary wall framing to verify that purlins, angles, channels, and other structural panel support members and anchorages have been installed correctly.
- Prepare written report, listing conditions detrimental to performance of work of this section. Submit copy of report to architect.
- Examine roughing-in for components and systems penetrating metal wall panels to verify actual locations of penetrations relative to seam locations of metal wall panels before wall panel installation.
- Proceed with installation only after any necessary corrections have been made.

INSTALLATION

- Install metal wall panels in orientation, sizes, and locations indicated on the drawings.
- Install metal wall panels plumb, level, square, true to line, and within installation tolerances.
- Install metal wall panels perpendicular to girts and subgirts, unless otherwise indicated.
- Anchor metal wall panels and other components of the work securely in place, with provisions for thermal and structural movement.
- Do not field-cut metal wall panels by torch.
- Fasten metal wall panels in accordance with manufacturer's instructions.
- Flash and seal metal wall panels with weather closure edges and at perimeter of openings.
- Install flashing and trim as metal wall panel

work proceeds.

- Fasten flashings and trim around openings and similar elements.
- Maintain metal wall panels in clean condition during installation.
- Remove protective film within 90 days of installation.



CLIPS AND FASTENERS

Clips for Metal Wall Panels:

- [300 series stainless steel] [or] [G-90 galvanized steel]. Specify 300 series stainless steel clips for use in marine environments.
- Pre-punched for attachment into substrate.
- Withstand negative load requirements.

Fasteners:

- #12 by 3/4" self drilling, 1/4" hex head 300 series stainless with EPDM gasket.
- Resist negative design load requirements.
- Self-tapping screws, bolts, nuts, self-locking rivets and bolts, end-welded studs, and other suitable fasteners designed to withstand design loads. Material: Stainless steel.
- Exposed Fasteners for attachment from panel to galvanized steel: #12 by 1-1/2" self drilling, 5/16" hex head 300 series stainless with EPDM gasket.
 - a. Material: Stainless steel.
 - b. Heads: Match color of metal wall panels by factory-applied coating.
- Blind Fasteners: High-strength stainless steel rivets.

Corrugated Panel System

Corrugated: A pre-formed panel which has a profile in the form of a “wave”.

The system belongs to the rain-screen family (wall cladding installed on a ventilated air space). This self-supporting system can easily be installed on a non-continuous supporting structure. The VM ZINC® sine wave profiles are installed on a metal framework fixed to the supporting structure (masonry or metal structure). The VM ZINC® sine wave profiles provide increased freedom of choice and design through the play of light and shadow on the cladding.

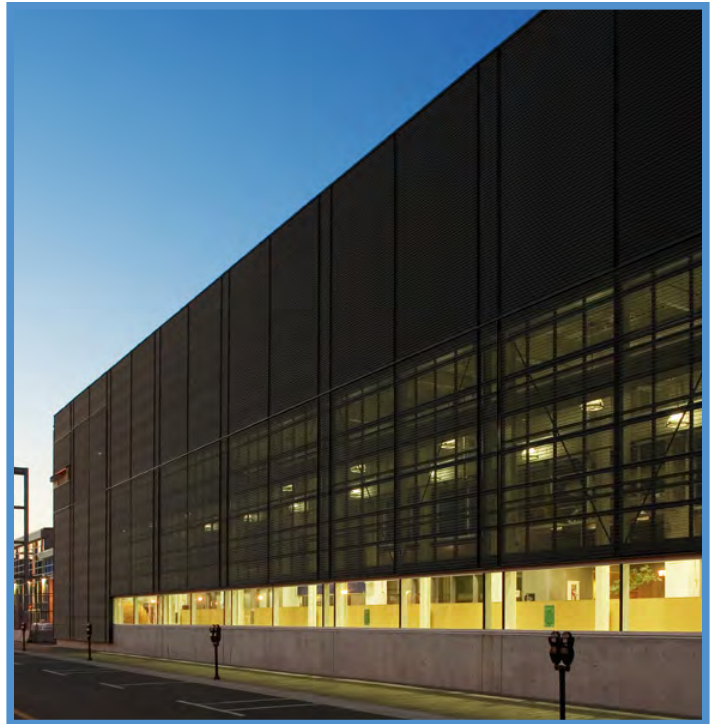
Umicore Building Products Corrugated Panel Systems in VM ZINC® consist of factory-formed panels, flashings and trims. The panels are available in multiple dimensions, providing a variety of design possibilities.

The panels engage one another by overlapping 3-1/2” and are attached with stainless steel through fasteners.

VM ZINC® sine wave profiles are manufactured from VM ZINC® in compliance with BS EN 988:1997. They are available in QUARTZ-ZINC®, ANTHRA-ZINC® and in PIGMENTO

Key Advantages

- Versatile System with an Industrial look
- Economical
- Vertical, Diagonal, and Horizontal Installation
- Range of Components offering a wide Variety of Flashing Details.
- Easy to Install



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