



Installation Guide
CONTEMPERA SERIES

metalsales.us.com

The application and detail drawings in this manual are strictly for illustration purposes and may not be applicable to all building designs or product installations. All projects should conform to applicable building codes for that particular area. It is recommended to follow all building regulations and standard industry practices.

Metal Sales Manufacturing Corporation is not responsible for the performance of the wall system if it is not installed in accordance with the suggested instructions referenced in this manual. If there is a conflict between this manual and the actual erection drawings, the erection drawings are to take precedence.

Prior to ordering and installing materials, all dimensions should be verified by field measurements.

Metal Sales reserves the right to modify, without notice, any details, recommendations or suggestions. Any questions you may have regarding proper installation of these Concealed Fastened Wall Panel systems should be directed to your local Metal Sales representative (see pages 2 and 3).

Oil canning is not a cause for rejection. Oil canning can be described as the amount of waviness found in the flat areas of metal panels. Oil canning is an inherent characteristic of light gauge cold formed metal products, particularly those with broad flat areas. There are many factors which may contribute to oil canning that Metal Sales is not able to control. These factors include: misalignment of the support system, over driving of fasteners used on the panels, stress (whether inherent in the panel or induced), thermal expansion and contraction of the panel, improper material handling, width, gauge, length, color of panels and improper installation (reference Metal Construction Association "Oil Canning Position Paper"- Appendix A).

Consult your local Metal Sales Branch for any additional information not outlined in this manual.

This manual is designed to be utilized as a guide when installing a Concealed Fastened Wall Panel system. It is the responsibility of the erector to ensure the safe installation of this product system.

SAFETY

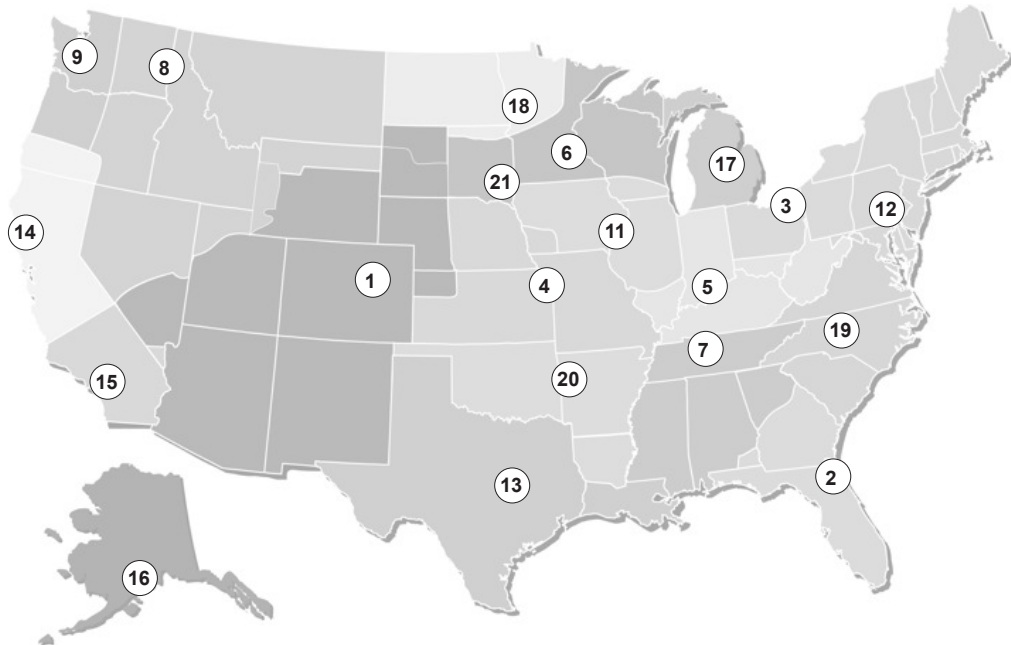
STUDY APPLICABLE OSHA AND OTHER SAFETY REQUIREMENTS BEFORE FOLLOWING THESE INSTRUCTIONS.

The installation of metal wall systems is a dangerous procedure and should be supervised by trained knowledgeable erectors. **USE EXTREME CARE WHILE INSTALLING WALL PANELS.** It is not possible for Metal Sales to be aware of all the possible job site situations that could cause an unsafe condition to exist. The erector of the wall system is responsible for reading these instructions and determining the safest way to install the wall system.

These instructions are provided only as a guide to show a knowledgeable, trained erector the correct relationship of parts to one another. If following any of the installation steps would endanger a worker, the erector should stop work and decide upon a corrective action.

Fall protection for workers installing wall panels must be provided.

ms Metal Sales™



NOTE: Shaded areas represent territories served by each location.



1. DENVER

7990 East I-25 Frontage Road
 Longmont, CO 80504
 303.702.5440
 800.289.7663
 800.289.1617 Fax

2. JACKSONVILLE

7110 Stuart Avenue
 Jacksonville, FL 32254
 904.783.3660
 800.394.4419
 904.783.9175 Fax
 800.413.3292 Fax

3. JEFFERSON

352 East Erie Street
 Jefferson, OH 44047
 440.576.9070
 800.321.5833
 440.576.9242 Fax
 800.233.5719 Fax

4. INDEPENDENCE

1306 South Powell Road
 Independence, MO 64057
 816.796.0900
 800.747.0012
 816.796.0906 Fax

5. SELLERSBURG

7800 Highway 60
 Sellersburg, IN 47172
 812.246.1866
 800.999.7777
 812.246.0893 Fax
 800.477.9318 Fax

6. ROGERS

22651 Industrial Boulevard
 Rogers, MN 55374
 763.428.8080
 800.328.9316
 763.428.8525 Fax
 800.938.9119 Fax

7. NASHVILLE

4314 Hurricane Creek Boulevard
 Antioch, TN 37013
 615.641.7100
 800.251.8508
 615.641.7118 Fax
 800.419.4372 Fax

8. SPOKANE

2727 East Trent Avenue
 Spokane, WA 99202
 509.536.6000
 800.572.6565
 509.534.4427 Fax

9. SEATTLE

20213 84th Avenue, South
 Kent, WA 98032
 253.872.5750
 800.431.3470 (Outside WA)
 800.742.7900 (Inside WA)
 253.872.2008 Fax

11. ROCK ISLAND

8111 West 29th Street
 Rock Island, IL 61201
 309.787.1200
 800.747.1206
 309.787.1833 Fax

12. DEER LAKE

29 Pinedale Industrial Road
 Orwigsburg, PA 17961
 570.366.2020
 800.544.2577
 570.366.1648 Fax
 800.544.2574 Fax

13. TEMPLE

3838 North General Bruce Drive
 Temple, TX 76501
 254.791.6650
 800.543.4415
 254.791.6655 Fax
 800.543.4473 Fax

14. WOODLAND

1326 Paddock Place
 Woodland, CA 95776
 530.668.5690
 800.759.6019
 530.668.0901 Fax

15. FONTANA

14213 Whittram Avenue
 Fontana, CA 92335
 909.829.8618
 800.782.7953
 909.829.9083 Fax

16. ANCHORAGE

4637 Old Seward Highway
 Anchorage, AK 99503
 907.646.7663
 866.640.7663
 907.646.7664 Fax

17. BAY CITY

5209 Mackinaw Road
 Bay City, MI 48706
 989.686.5879
 888.777.7640
 989.686.5870 Fax
 888.777.0112 Fax

18. DETROIT LAKES

1435 Egret Avenue
 Detroit Lakes, MN 56501
 218.847.2988
 888.594.1394
 218.847.4835 Fax
 888.594.1454 Fax

19. MOCKSVILLE

188 Quality Drive
 Mocksville, NC 27028
 336.751.6381
 800.228.6119
 336.751.6301 Fax
 800.228.7916 Fax

20. FORT SMITH

7510 Ball Road
 Fort Smith, AR 72908
 479.646.1176
 877.452.3915
 479.646.5204 Fax

21. SIOUX FALLS

2700 West 3rd Street, Suite 4
 Sioux Falls, SD 57104
 605.335.2745
 888.299.0024

TECHNICAL SUPPORT

TECHNICAL SERVICES

7800 Highway 60
 Sellersburg, IN 47172
 502.855.4300
 800.406.7387
 800.944.6884 Fax

Important Information	1
Branch Map	2
Branch Locations	3
Table of Contents	4
General Instructions	5
Panel Profiles	6 - 8
Flashing Profiles	9 - 13
Accessories	14
Fasteners	15
Design Information	16 - 25
DETAILS	
Base - H, V	26, 27
Sill - H, V	28, 29
Jamb - H, V	30, 31
Head - H, V	32, 33
Outside Corner - H, V	34, 35
Inside Corner - H, V	36, 37
Coping - H, V	38, 39
Vertical Transition with Reveal - H	40
Vertical Transition - H to V	41
Horizontal Transition - V over H	42
Horizontal Transition - H over V	43
Horizontal Transition - V	44
Panel End - H	45
Care and Maintenance	46
Notes	47

'H' indicates horizontal panels, 'V' indicates vertical panels

Safety Use proper safety gear, safe equipment and safe processes. Safety gear includes gloves, arm guards, safety goggles and fall protection. Safe equipment includes maintained screw gun, saw, snips and folder. Safe processes include being aware of dangers and taking appropriate measures to avoid them.

Material Availability Panels are available in 24 ga, 22 ga and 20 ga steel and 0.032" and 0.040" aluminum. Flashings are available in 24 ga and 22 ga steel and 0.032" aluminum. Only 24 ga panel and flashing materials, in standard colors, are stocked. Custom 24 ga colors, all 22 ga, all 20 ga, all 0.032" and all 0.040" materials are secured per project and require minimum order quantities. Not all materials are available at all producing branches.

Material Receipt Upon receipt of material, confirm all parts have been delivered and that there is no damage. Any shortages should be reported to the Metal Sales contact. Transit damage must be noted on the bill of lading.

Material Storage Material not used right away, should be stored inside, out of the elements. If inside storage is not available, cover the materials with a tarp such that air can circulate. Elevate the crates off the ground and slope so that water will run off.

Handling Transport panels in the crates to the installation site. Adequate support for individual panels every 6' to 8' is necessary. When carrying a panel, grasp the panel by one side and let the other side hang down. Handling panels with care can avoid a cause of oil-canning.

Wall Condition Before installing panels, ensure the wall support material is plumb, square and true. Variance from in-plane should not exceed 1/4" in 10'.

Wall Assembly Cover building envelope sheathing with a moisture barrier, such as peel-and-stick underlayment or synthetic building wrap for resistance to air and water penetration through the wall assembly. Install the moisture barrier horizontally from the bottom upward, overlapping each run over the previous, lower run.

Spacers Spacers with a minimum depth of 1/4" are recommended at clips and trims to hold the wall assembly off of the wall line and allow water to drain. Spacers may be shims, hat channels or furring strips installed to not hold water.

Plan the Work Before installing panels on a wall section, plan for alignment with panels on adjacent wall sections. Consider the locations of wall penetrations and openings and how the panels will align. Decide if the first panel will be a full or partial panel.

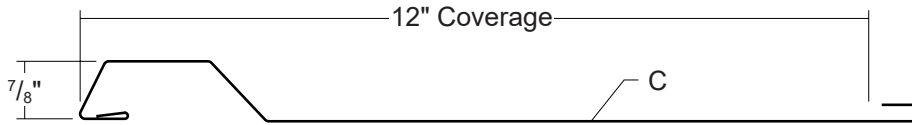
Clip Fasteners Do not overtighten the panel clip fasteners. The fasteners should be brought just to firm contact between the clip, panel and support material. The panel must be capable of sliding along its length after the clips are installed. A clip must be installed within 6" of each end of the panels.

Installation Practice For horizontal panels, start at the bottom of the wall and work up the wall toward the top. Always 'shingle' panels and trims so that water will run down off of one member on to the next. Ensure every surface has adequate slope to permit water to run off and not collect on any surface. When installing panels, give effort to stay on module by checking the coverage of each panel.

Strippable Film Panels and trim are typically provided with strippable film as protection against minor fabrication, transit and handling damage. The strippable film must be removed just before installation. Waiting until after panel installation to remove the strippable film or after significant exposure to sunlight or heat can make removal very difficult.

Cutting Material When panel and trim parts must be cut, Metal Sales recommends the use of shears, such as power shears or double-cut shears. Saw cutting is not recommended as it tends to damage the paint film near the cut and leave a rough edge that is prone to excessive red rusting on steel panels. When materials are saw-cut, it is recommended to conceal such cuts by the use of hems or cutting the end that will be concealed by covering at a lap or by covering with a piece of trim, such as at the top of wall condition.

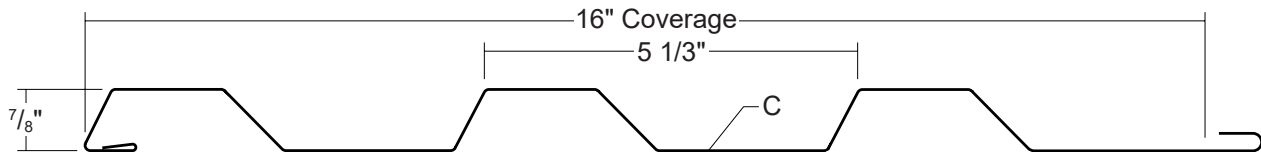
CN88-1212 Asymmetrical Rib



Panel can be produced in lengths from 6' to 30'.

Product No.	Coverage	Description	Thick	Finish
2769041	12"	1 rib	24 ga	Galvalume® (ACG)
27690XX	12"	1 rib	24 ga	PVDF
2969041	12"	1 rib	22 ga	Galvalume® (ACG)
29690XX	12"	1 rib	22 ga	PVDF
30690XX	12"	1 rib	20 ga	PVDF
29690XXA	12"	1 rib	0.032"	PVDF Aluminum
27690XXA	12"	1 rib	0.040"	PVDF Aluminum

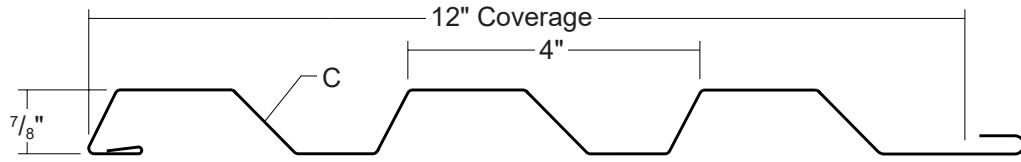
CN88-1653 Asymmetrical Rib



Panel can be produced in lengths from 6' to 30'.

Product No.	Coverage	Description	Thick	Finish
2769541	16"	3 ribs	24 ga	Galvalume® (ACG)
27695XX	16"	3 ribs	24 ga	PVDF
2969541	16"	3 ribs	22 ga	Galvalume® (ACG)
29695XX	16"	3 ribs	22 ga	PVDF
30695XX	16"	3 ribs	20 ga	PVDF
29695XXA	16"	3 ribs	0.032"	PVDF Aluminum
27695XXA	16"	3 ribs	0.040"	PVDF Aluminum

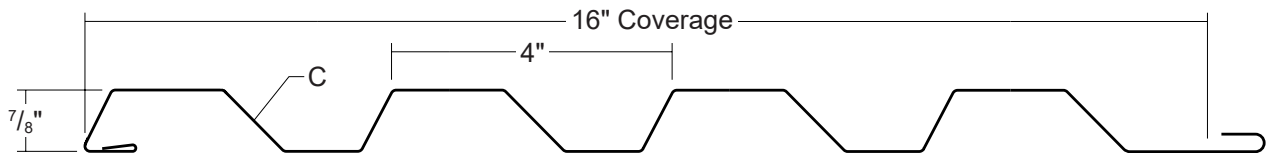
CN88-124 Asymmetrical Rib



Panel can be produced in lengths from 6' to 30'.

Product No.	Coverage	Description	Thick	Finish
2764741	12"	3 ribs	24 ga	Galvalume® (ACG)
27647XX	12"	3 ribs	24 ga	PVDF Painted
2764841	12"	3 ribs	22 ga	Galvalume® (ACG)
27648XX	12"	3 ribs	22 ga	PVDF
27649XX	12"	3 ribs	20 ga	PVDF
27647XXA	12"	3 ribs	0.032"	PVDF Aluminum
27648XXA	12"	3 ribs	0.040"	PVDF Aluminum

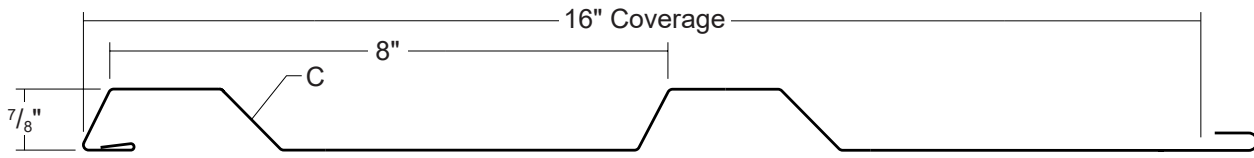
CN88-164 Asymmetrical Rib



Panel can be produced in lengths from 6' to 30'.

Product No.	Coverage	Description	Thick	Finish
2764041	16"	4 ribs	24 ga	Galvalume® (ACG)
27640XX	16"	4 ribs	24 ga	PVDF
2764141	16"	4 ribs	22 ga	Galvalume® (ACG)
27641XX	16"	4 ribs	22 ga	PVDF
27642XX	16"	4 ribs	20 ga	PVDF
27640XXA	16"	4 ribs	0.032"	PVDF Aluminum
27641XXA	16"	4 ribs	0.040"	PVDF Aluminum

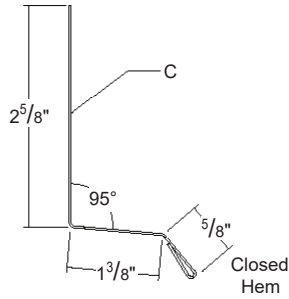
CN88-168 Asymmetrical Rib



Panel can be produced in lengths from 6' to 30'.

Product No.	Coverage	Description	Thick	Finish
2764341	16"	2 ribs	24 ga	Galvalume® (ACG)
27643XX	16"	2 ribs	24 ga	PVDF
2764441	16"	2 ribs	22 ga	Galvalume® (ACG)
27644XX	16"	2 ribs	22 ga	PVDF
27645XX	16"	2 ribs	20 ga	PVDF
27643XXA	16"	2 ribs	0.032"	PVDF Aluminum
27644XXA	16"	2 ribs	0.040"	PVDF Aluminum

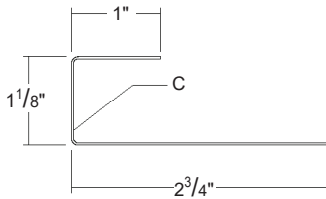
BASE TRIM 7/8"



Product No.	Length	Thick	Finish
5870641	10'-2"	24 ga	Galvalume® (ACG)
58706XX	10'-2"	24 ga	PVDF Painted
6070641	10'-2"	22 ga	Galvalume® (ACG)
60706XX	10'-2"	22 ga	PVDF Painted
58706XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 5 1/8"

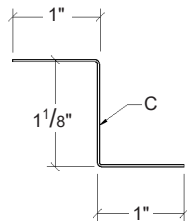
C-CLOSURE 7/8"



Product No.	Length	Thick	Finish
5871041	10'-2"	24 ga	Galvalume® (ACG)
58710XX	10'-2"	24 ga	PVDF Painted
6071041	10'-2"	22 ga	Galvalume® (ACG)
60710XX	10'-2"	22 ga	PVDF Painted
58710XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 4 7/8"

Z-CLOSURE 7/8"

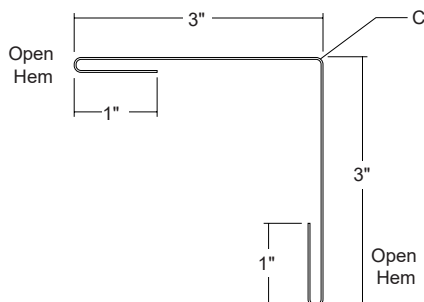


Product No.	Length	Thick	Finish
5872541	10'-2"	24 ga	Galvalume® (ACG)
58725XX	10'-2"	24 ga	PVDF Painted
6072541	10'-2"	22 ga	Galvalume® (ACG)
60725XX	10'-2"	22 ga	PVDF Painted
58725XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 3 1/8"

This Flashing can be used as an alternate to C-Closure.

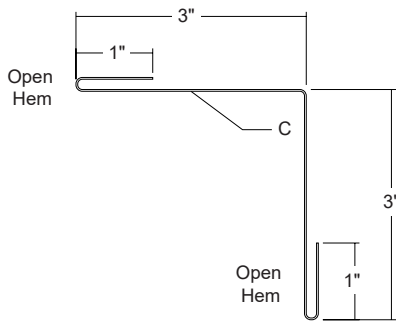
OUTSIDE CORNER



Product No.	Length	Thick	Finish
5872441	10'-2"	24 ga	Galvalume® (ACG)
58724XX	10'-2"	24 ga	PVDF Painted
6072441	10'-2"	22 ga	Galvalume® (ACG)
60724XX	10'-2"	22 ga	PVDF Painted
58724XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 8 1/8"

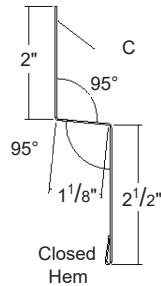
INSIDE CORNER



Product No.	Length	Thick	Finish
5872641	10'-2"	24 ga	Galvalume® (ACG)
58726XX	10'-2"	24 ga	PVDF Painted
6072641	10'-2"	22 ga	Galvalume® (ACG)
60726XX	10'-2"	22 ga	PVDF Painted
58726XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 8¹/₈"

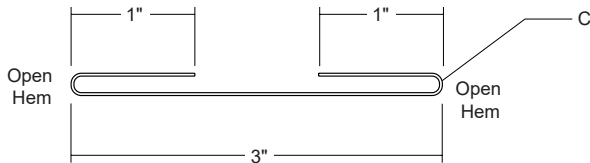
TRANSITION 7/8"



Product No.	Length	Thick	Finish
5873641	10'-2"	24 ga	Galvalume® (ACG)
58736XX	10'-2"	24 ga	PVDF Painted
6073641	10'-2"	22 ga	Galvalume® (ACG)
60736XX	10'-2"	22 ga	PVDF Painted
58736XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 6¹/₈"

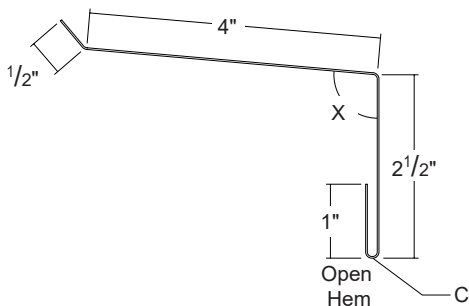
REVEAL



Product No.	Length	Thick	Finish
5874041	10'-2"	24 ga	Galvalume® (ACG)
58740XX	10'-2"	24 ga	PVDF Painted
6074041	10'-2"	22 ga	Galvalume® (ACG)
60740XX	10'-2"	22 ga	PVDF Painted
58740XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 5¹/₈"

SILL/JAMB TRIM

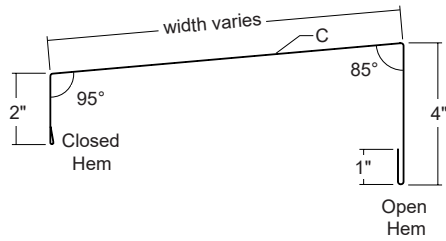


Product No.	Length	Thick	Finish
5871841	10'-2"	24 ga	Galvalume® (ACG)
58718XX	10'-2"	24 ga	PVDF Painted
6071841	10'-2"	22 ga	Galvalume® (ACG)
60718XX	10'-2"	22 ga	PVDF Painted
58718XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 8"

X= 95° for Sill or 90° for Jamb

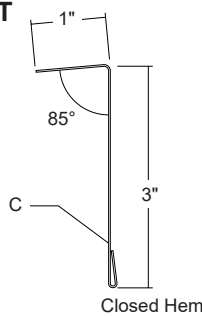
COPING



Width	Product No.	Length	Thick	Finish
8"	58714XX	10'-2"	24 ga	PVDF Painted
10"	58715XX	10'-2"	24 ga	PVDF Painted
12"	58716XX	10'-2"	24 ga	PVDF Painted
8"	60714XX	10'-2"	22 ga	PVDF Painted
10"	60715XX	10'-2"	22 ga	PVDF Painted
12"	60716XX	10'-2"	22 ga	PVDF Painted
8"	58714XXA	10'-2"	0.032"	PVDF Aluminum
10"	58715XXA	10'-2"	0.032"	PVDF Aluminum
12"	58716XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 15 1/2" for 8" Coping

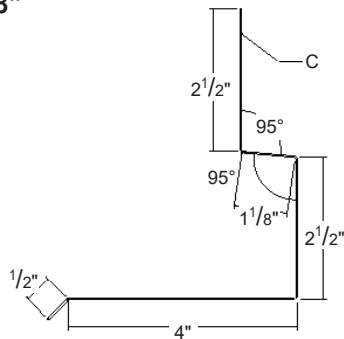
COPING CLEAT



Product No.	Length	Thick	Finish
5873441	10'-2"	24 ga	Galvalume® (ACG)
58734XX	10'-2"	24 ga	PVDF Painted
6073441	10'-2"	22 ga	Galvalume® (ACG)
60734XX	10'-2"	22 ga	PVDF Painted
58734XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 4 1/2"

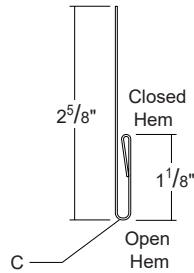
HEAD TRIM 7/8"



Product No.	Length	Thick	Finish
5872041	10'-2"	24 ga	Galvalume® (ACG)
58720XX	10'-2"	24 ga	PVDF Painted
6072041	10'-2"	22 ga	Galvalume® (ACG)
60720XX	10'-2"	22 ga	PVDF Painted
58720XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 10 5/8"

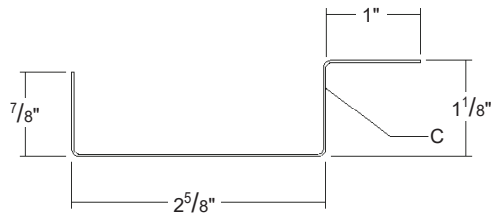
PANEL STARTER



Product No.	Length	Thick	Finish
5872841	10'-2"	24 ga	Galvalume® (ACG)
58728XX	10'-2"	24 ga	PVDF Painted
6072841	10'-2"	22 ga	Galvalume® (ACG)
60728XX	10'-2"	22 ga	PVDF Painted
58728XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 4³/₈"

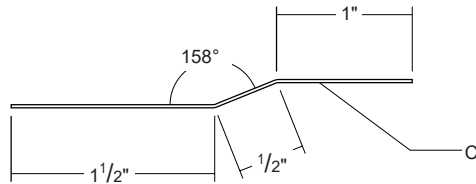
PANEL END CLOSURE 7/8"



Product No.	Length	Thick	Finish
5873041	10'-2"	24 ga	Galvalume® (ACG)
58730XX	10'-2"	24 ga	PVDF Painted
6073041	10'-2"	22 ga	Galvalume® (ACG)
60730XX	10'-2"	22 ga	PVDF Painted
58730XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 5⁵/₈"

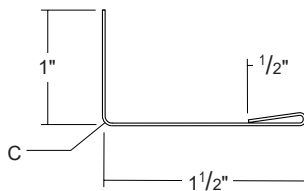
OFFSET CLEAT



Product No.	Length	Thick	Finish
5806499	10'-2"	24 ga	PVDF Painted

Flashing Stretch Out = 3"

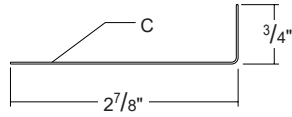
MITER TRIM



Product No.	Length	Thick	Finish
5865441	10'-2"	24 ga	Galvalume® (ACG)
58654XX	10'-2"	24 ga	PVDF
6065441	10'-2"	22 ga	Galvalume® (ACG)
60654XX	10'-2"	22 ga	PVDF
58654XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 3"
See pages 33, 42 and 44.

JAMB SUPPORT

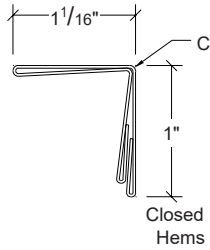


Product No.	Length	Thick	Finish
5735241	10'-2"	24 ga	Galvalume® (ACG)
57352XX	10'-2"	24 ga	PVDF Painted
5935441	10'-2"	22 ga	Galvalume® (ACG)
59354XX	10'-2"	22 ga	PVDF Painted
59655XX	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 3⁵/₈"

See Page 45.

OPENING TRIM 7/8"

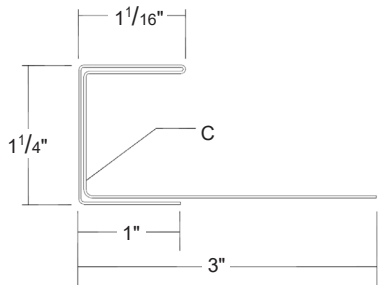


Product No.	Length	Thick	Finish
5837141	10'-2"	24 ga	Galvalume® (ACG)
58371XX	10'-2"	24 ga	PVDF Painted
5837241	10'-2"	22 ga	Galvalume® (ACG)
58372XX	10'-2"	22 ga	PVDF Painted
58373XX	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 5¹/₈"

See page 45.

WINDOW CLOSURE 7/8"



Product No.	Length	Thick	Finish
5874241	10'-2"	24 ga	Galvalume® (ACG)
58742XX	10'-2"	24 ga	PVDF Painted
6074241	10'-2"	22 ga	Galvalume® (ACG)
60742XX	10'-2"	22 ga	PVDF Painted
58742XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 8⁵/₈"
See page 45.

CONCEALED WALL CLIP - 4" LOW



Product No.	Size	WT/100	Finish
4934600	1 3/4" x 4" x 3/8"	16 lbs	G90 Galv
49346F01	1 3/4" x 4" x 3/8"	16 lbs	Stainless

UNIVERSAL CLOSURE



Product No.	Description	WT/Each	Type
6411100	1" x 1 1/2" x 50'	4.00 lbs	Foam
6411199	1" x 1 1/2" x 10'	0.80 lbs	Foam

DOUBLE BEAD TAPE SEALANT



Product No.	Description	WT/Ctn.	Type
6403899	7/8" x 3/16" x 25' 20 Rolls per Carton	40.00 lbs	Butyl

TUBE SEALANT



Product No.	Description	WT/Each	Color
6402800	Acrylic Tube Sealant	3.31 lbs	Clear
64028XX	Tube Sealant	3.31 lbs	Color Match

POP RIVET



Product No.	Description	WT/250	Finish
8240201	1/8" x 3/8" Pop Rivet	0.75 lbs	Bare
82402XX	1/8" x 3/8" Pop Rivet	0.75 lbs	Painted

Used to attach trim to trim or trim to panel.

PANCAKE HEAD WOOD SCREW



Product No.	Description	WT/250	Finish
8243100	#10-12 x 1" Pancake Head Wood Screw	1.90 lbs	Plated

Used to attach trim to wood supports.

PANCAKE HEAD DRILLER



Product No.	Description	WT/250	Finish
8242100	#10-16 x 1" Pancake Head Driller	1.90 lbs	Plated

Used to attach trim or panel clip to steel framing supports.

LOW PROFILE WOOD SCREW



Product No.	Description	WT/250	Finish
8244100	#12-11 x 1 1/2" Low Profile Wood Screw	2.75 lbs	Plated

Used to attach panel clip to wood supports.

WOOD SCREW XL



Product No.	Description	WT/250	Finish
8212300	#10-14 x 1 1/2" Wood Screw XL	3.75 lbs	Plated
82123XX	#10-14 x 1 1/2" Wood Screw XL	3.75 lbs	Painted

Used to attach a vertical panel to wood supports.

SELF DRILLER XL

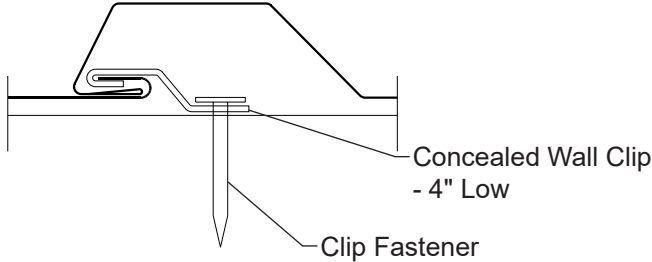


Product No.	Description	WT/250	Finish
8235300	#12-14 x 1 1/4" Self Driller XL	3.75 lbs	Plated
82353XX	#12-14 x 1 1/4" Self Driller XL	3.75 lbs	Painted

Used to attach a vertical panel to steel framing supports.

CN88-1212 Asymmetrical Rib

PANEL ATTACHMENT



FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1³/₄" x 4" x 3/₈", from 16 ga, G90 material with 2 fastener holes.
- Clip Fastener(s) should be driven just to contact between fastener head / clip / support. Over-driven fasteners can cause panel distortions.
- Fasteners should extend 1/2" or more past the inside face of the support material for steel and wood sheathing support materials.
- Clip Fasteners:
 - Attaching to Wood:
 - #12-11 x 1¹/₂" Low Profile Wood Screw
 - Attaching to Steel:
 - < 18 ga: 1/4"-13 Deck Screw
 - ≥ 18 ga, ≤ 12 ga: #10-16 Pancake Head Driller
 - > 12 ga: 1/4"-14 Self Driller, No Washer

INSTALLATION DIRECTION

Horizontally-oriented panels must be installed from the bottom to the top.

Vertically-oriented panels may be installed from the right-to-left or left-to-right.

STEEL SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load					Outward Load				
				lxx in ⁴ /ft	Sxx in ³ /ft	lxx in ⁴ /ft	Sxx in ³ /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.20	0.0240	0.0321	0.0190	0.0376	117	60	38	27	21	100	60	42	30	21
22	12	50	1.57	0.0348	0.0469	0.0267	0.0500	117	60	38	27	21	100	60	42	30	21
20	12	33	1.91	0.0488	0.0673	0.0364	0.0630	117	60	38	27	21	100	60	42	30	21

1. Theoretical section properties have been calculated per AISI S100 2016(20) 'North American Specification for the Design of Cold-Formed Steel Structural Members'. lxx and Sxx are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI S100 specification considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts. Allowable load does not consider other support conditions such as, web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal spans condition.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

ALUMINUM SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Thick in	Width in	Yield ksi	Weight psf	I in ⁴ /ft	S _{Top} in ³ /ft	S _{Bottom} in ³ /ft	Z in ³ /ft	Inward Load						Outward Load					
								2'	2.5'	3'	4'	5'	6'	2'	2.5'	3'	4'	5'	6'
0.032	12	17	0.58	0.0450	0.0623	0.2244	0.087	98	63	45	26	13	-	65	46	35	23	13	-
0.040	12	17	0.72	0.0560	0.0770	0.2937	0.109	98	63	45	26	13	-	65	46	35	23	13	-

1. Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
2. Allowable load is calculated in accordance with 2015 Aluminum Design Manual considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts. Allowable loads do not consider other support conditions, including: web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal span case.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

CN88-1212 on 16 ga Girts

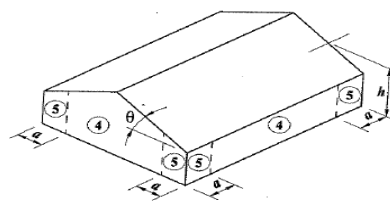
Wall Clip Spacing (feet)

Wind Speed (mph) Exposure Category	20 ft, Mean Roof Height			40 ft, Mean Roof Height			60 ft, Mean Roof Height		
	Thickness	Field -25.1 psf	Edge -31 psf	Thickness	Field -29.1 psf	Edge -35.9 psf	Thickness	Field -31.7 psf	Edge -39.1 psf
100C	24 ga	6.00	6.00	24 ga	6.00	5.50	24 ga	6.00	5.50
	22 ga	6.00	6.00	22 ga	6.00	5.50	22 ga	6.00	5.50
	20 ga	6.00	6.00	20 ga	6.00	5.50	20 ga	6.00	5.50
	0.032"	4.00	4.00	0.032"	4.00	4.00	0.032"	4.00	3.50
110C	24 ga	6.00	5.50	24 ga	5.50	5.00	24 ga	5.50	5.00
	22 ga	6.00	5.50	22 ga	5.50	5.00	22 ga	5.50	5.00
	20 ga	6.00	5.50	20 ga	5.50	5.00	20 ga	5.50	5.00
	0.032"	4.00	4.00	0.032"	4.00	3.50	0.032"	3.50	3.00
120C	24 ga	5.50	5.00	24 ga	5.00	4.50	24 ga	5.00	4.50
	22 ga	5.50	5.00	22 ga	5.00	4.50	22 ga	5.00	4.50
	20 ga	5.50	5.00	20 ga	5.00	4.50	20 ga	5.00	4.50
	0.032"	4.00	3.50	0.032"	3.50	3.00	0.032"	3.50	3.00
130C	24 ga	5.00	4.50	24 ga	5.00	4.50	24 ga	4.50	4.00
	22 ga	5.00	4.50	22 ga	5.00	4.50	22 ga	4.50	4.00
	20 ga	5.00	4.50	20 ga	5.00	4.50	20 ga <td 5.00	4.00	
	0.032"	3.50	3.00	0.032"	3.00	2.50	0.032"	3.00	2.50
140C	24 ga	5.00	4.50	24 ga	4.50	3.50	24 ga	4.00	3.50
	22 ga	5.00	4.50	22 ga	4.50	3.50	22 ga	4.00	3.50
	20 ga	5.00	4.50	20 ga	4.50	3.50	20 ga	4.00	3.50
	0.032"	3.00	2.50	0.032"	3.00	2.50	0.032"	2.50	2.00
150C	24 ga	4.50	4.00	24 ga	4.00	3.50	24 ga	3.50	3.00
	22 ga	4.50	4.00	22 ga	4.00	3.50	22 ga	3.50	3.00
	20 ga	4.50	4.00	20 ga	4.00	3.50	20 ga	3.50	3.00
	0.032"	3.00	2.50	0.032"	2.50	2.00	0.032"	2.50	2.00
160C	24 ga	4.00	3.50	24 ga	3.50	3.00	24 ga	3.50	2.00
	22 ga	4.00	3.50	22 ga	3.50	3.00	22 ga	3.50	2.00
	20 ga	4.00	3.50	20 ga	3.50	3.00	20 ga	3.50	2.00
	0.032"	2.50	2.00	0.032"	2.50	2.00	0.032"	2.00	2.00
170C	24 ga	3.50	3.00	24 ga	3.00	2.00	24 ga	3.00	2.00
	22 ga	3.50	3.00	22 ga	3.00	2.00	22 ga	3.00	2.00
	20 ga	3.50	3.00	20 ga	3.00	2.00	20 ga	3.00	2.00
	0.032"	2.50	2.00	0.032"	2.00	2.00	0.032"	-	-

Notes:

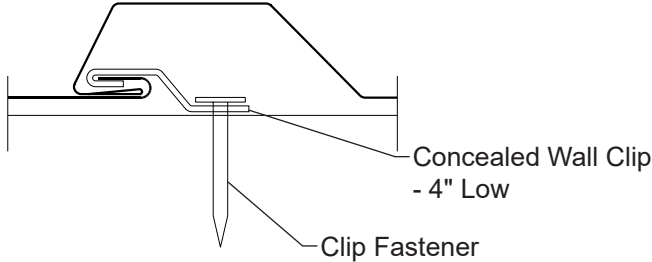
1. Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
2. Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. Assumptions include a tributary area of 10 square feet, an Enclosed building, a Topographic Factor of 1.0 and panel bearing length of 2.5 inches.
3. Allowable spacing is determined using IBC 2018 combinations. For wind suction and pressure, the combination is 0.6W. The arrangement is 3 or more equal spans.
4. Testing is the basis for the load carrying capacity.

- ④ - FIELD
 - ⑤ - EDGE
- a* - LEAST OF 10% MINIMUM BUILDING WIDTH OR 40% OF MEAN ROOF HEIGHT BUT NOT LESS THAN 3'.



CN88-1653 Asymmetrical Rib

PANEL ATTACHMENT



FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1³/₄" x 4" x 3/₈", from 16 ga, G90 material with 2 fastener holes.
- Clip Fastener(s) should be driven just to contact between fastener head / clip / support. Over-driven fasteners can cause panel distortions.
- Fasteners should extend 1/2" or more past the inside face of the support material for steel and wood sheathing support materials.
- Clip Fasteners:
 - Attaching to Wood:
 - #12-11 x 1¹/₂" Low Profile Wood Screw
 - Attaching to Steel:
 - < 18 ga: 1/4"-13 Deck Screw
 - ≥ 18 ga, ≤ 12 ga: #10-16 Pancake Head Driller
 - > 12 ga: 1/4"-14 Self Driller, No Washer

INSTALLATION DIRECTION

Horizontally-oriented panels must be installed from the bottom to the top.
Vertically-oriented panels may be installed from the right-to-left or left-to-right.

STEEL SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load					Outward Load				
				I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	16	50	1.22	0.0383	0.0638	0.0353	0.0749	117	60	38	27	21	87	52	37	28	23
22	16	50	1.59	0.0548	0.0936	0.0495	0.1062	117	60	38	27	21	87	52	37	28	23
20	16	33	1.93	0.0750	0.1345	0.0690	0.1339	117	60	38	27	21	87	52	37	28	23

- Theoretical section properties have been calculated per AISI S100 2016(20) 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I_{xx} and S_{xx} are effective section properties for deflection and bending.
- Allowable load is calculated in accordance with AISI S100 specification including bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing on comparable profiles. Allowable load does not consider other support conditions such as, web crippling, fasteners or support material. Panel weight is not considered.
- Allowable load considers the three or more equal spans condition.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase for wind.

ALUMINUM SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Thick in	Width in	Yield ksi	Weight psf	I in ⁴ /ft	S _{Top} in ³ /ft	S _{Bottom} in ³ /ft	Z in ³ /ft	Inward Load						Outward Load					
								2'	2.5'	3'	4'	5'	6'	2'	2.5'	3'	4'	5'	6'
0.032	16	17	0.58	0.0683	0.1244	0.1837	0.166	98	63	45	26	13	-	71	54	43	31	24	18
0.040	16	17	0.73	0.0848	0.1529	0.2240	0.205	98	63	45	26	13	-	71	54	43	31	24	18

- Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
- Allowable load is calculated in accordance with 2015 Aluminum Design Manual considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Allowable loads do not consider other support conditions, including: web crippling, fasteners or support material. Panel weight is not considered.
- Allowable load considers the three or more equal span case.
- Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
- Allowable loads do not include a 1/3 stress increase for wind.

CN88-1653 on 16 ga Girts

Wall Clip Spacing (feet)

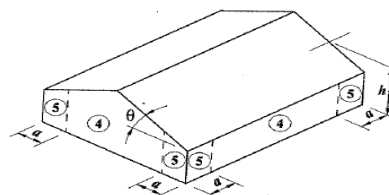
Wind Speed (mph) Exposure Category	20 ft, Mean Roof Height			40 ft, Mean Roof Height			60 ft, Mean Roof Height		
	Thickness	Field	Edge	Thickness	Field	Edge	Thickness	Field	Edge
100C		-25.1 psf	-31 psf		-29.1 psf	-35.9 psf		-31.7 psf	-39.1 psf
	24 ga	6.00	6.00	24 ga	6.00	6.00	24 ga	6.00	5.50
	22 ga	6.00	6.00	22 ga	6.00	6.00	22 ga	6.00	5.50
	20 ga	6.00	6.00	20 ga	6.00	6.00	20 ga	6.00	5.50
	0.032"	6.00	5.50	0.032"	6.00	5.50	0.032"	5.50	5.00
110C		-30.4 psf	-37.5 psf		-35.2 psf	-43.4 psf		-38.3 psf	-47.3 psf
	24 ga	6.00	6.00	24 ga	6.00	5.00	24 ga	5.50	4.50
	22 ga	6.00	6.00	22 ga	6.00	5.00	22 ga	5.50	4.50
	20 ga	6.00	6.00	20 ga	6.00	5.00	20 ga	5.50	4.50
	0.032"	5.50	5.00	0.032"	5.50	4.50	0.032"	5.00	4.00
120C		-36.2 psf	-44.7 psf		-41.9 psf	-51.7 psf		-45.6 psf	-56.3 psf
	24 ga	6.00	5.00	24 ga	5.50	4.50	24 ga	5.00	4.00
	22 ga	6.00	5.00	22 ga	5.50	4.50	22 ga	5.00	4.00
	20 ga	6.00	5.00	20 ga	5.50	4.50	20 ga	5.00	4.00
	0.032"	5.50	4.50	0.032"	4.50	4.00	0.032"	4.00	3.50
130C		-42.5 psf	-52.4 psf		-49.1 psf	-60.6 psf		-53.5 psf	-66 psf
	24 ga	5.00	4.50	24 ga	4.50	4.00	24 ga	4.00	3.50
	22 ga	5.00	4.50	22 ga	4.50	4.00	22 ga	4.00	3.50
	20 ga	5.00	4.50	20 ga	4.50	4.00	20 ga	4.00	3.50
	0.032"	4.50	3.50	0.032"	4.00	3.00	0.032"	3.50	3.00
140C		-49.2 psf	-60.8 psf		-57 psf	-70.3 psf		-62 psf	-76.6 psf
	24 ga	4.50	4.00	24 ga	4.00	3.50	24 ga	3.50	3.00
	22 ga	4.50	4.00	22 ga	4.00	3.50	22 ga	3.50	3.00
	20 ga	4.50	4.00	20 ga	4.00	3.50	20 ga	3.50	3.00
	0.032"	4.00	3.00	0.032"	3.50	3.00	0.032"	3.00	2.50
150C		-56.5 psf	-69.8 psf		-65.4 psf	-80.7 psf		-71.2 psf	-87.9 psf
	24 ga	4.00	3.50	24 ga	3.50	3.00	24 ga	3.50	2.50
	22 ga	4.00	3.50	22 ga	3.50	3.00	22 ga	3.50	2.50
	20 ga	4.00	3.50	20 ga	3.50	3.00	20 ga	3.50	2.50
	0.032"	3.50	3.00	0.032"	3.00	2.50	0.032"	3.00	2.50
160C		-64.3 psf	-79.4 psf		-74.4 psf	-91.9 psf		-81 psf	-100 psf
	24 ga	3.50	3.00	24 ga	3.00	2.50	24 ga	3.00	2.50
	22 ga	3.50	3.00	22 ga	3.00	2.50	22 ga	3.00	2.50
	20 ga	3.50	3.00	20 ga	3.00	2.50	20 ga	3.00	2.50
	0.032"	3.00	2.50	0.032"	2.50	2.00	0.032"	2.50	2.00
170C		-72.6 psf	-89.6 psf		-84 psf	-103.7 psf		-91.5 psf	-112.9 psf
	24 ga	3.00	2.50	24 ga	3.00	2.50	24 ga	2.50	2.00
	22 ga	3.00	2.50	22 ga	3.00	2.50	22 ga	2.50	2.00
	20 ga	3.00	2.50	20 ga	3.00	2.50	20 ga	2.50	2.00
	0.032"	2.50	2.00	0.032"	2.50	2.00	0.032"	2.00	2.00

Notes:

1. Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
2. Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. Assumptions include a tributary area of 10 square feet, an Enclosed building, a Topographic Factor of 1.0 and panel bearing length of 2.5 inches.
3. Allowable spacing is determined using IBC 2018 combinations. For wind suction and pressure, the combination is 0.6W. The arrangement is 3 or more equal spans.
4. Testing is the basis for the load carrying capacity.

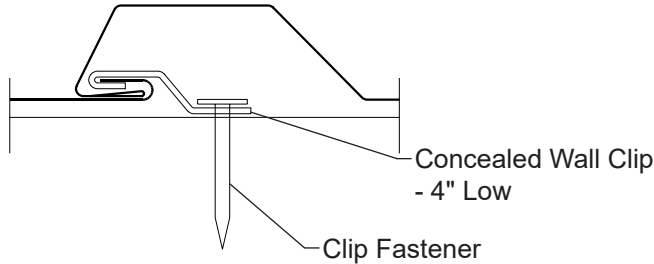
- ④ - FIELD
- ⑤ - EDGE

a - LEAST OF 10% MINIMUM BUILDING WIDTH OR 40% OF MEAN ROOF HEIGHT BUT NOT LESS THAN 3'.



CN88-124 Asymmetrical Rib

PANEL ATTACHMENT



FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1³/₄" x 4" x 3/₈", from 16 ga, G90 material with 2 fastener holes.
- Clip Fastener(s) should be driven just to contact between fastener head / clip / support. Over-driven fasteners can cause panel distortions.
- Fasteners should extend 1/2" or more past the inside face of the support material for steel and wood sheathing support materials.
- Clip Fasteners:
 - Attaching to Wood:
 - #12-11 x 1¹/₂" Low Profile Wood Screw
 - Attaching to Steel:
 - < 18 ga: 1/4"-13 Deck Screw
 - ≥ 18 ga, ≤ 12 ga: #10-16 Pancake Head Driller
 - > 12 ga: 1/4"-14 Self Driller, No Washer

INSTALLATION DIRECTION

Horizontally-oriented panels must be installed from the bottom to the top.

Vertically-oriented panels may be installed from the right-to-left or left-to-right.

STEEL SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load					Outward Load				
				I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.32	0.0413	0.0789	0.0454	0.0946	117	60	38	27	21	87	52	37	28	23
22	12	50	1.73	0.0586	0.1158	0.0627	0.1339	117	60	38	27	21	87	52	37	28	23
20	12	33	2.09	0.0788	0.1645	0.0788	0.1684	117	60	38	27	21	87	52	37	28	23

1. Theoretical section properties have been calculated per AISI S100 2016(20) 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I_{xx} and S_{xx} are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI S100 specification considering bending, shear, combined bending & shear, deflection and load testing of comparable profiles on 16 ga girts. Allowable load does not consider other support conditions such as, web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal spans condition.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

ALUMINUM SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Thick in	Width in	Yield ksi	Weight psf	I in ⁴ /ft	S _{Top} in ³ /ft	S _{Bottom} in ³ /ft	Z in ³ /ft	Inward Load						Outward Load					
								2'	2.5'	3'	4'	5'	6'	2'	2.5'	3'	4'	5'	6'
0.032	12	17	0.64	0.0725	0.1538	0.1605	0.185	98	63	45	26	17	12	71	54	43	31	24	19
0.040	12	17	0.79	0.0900	0.1885	0.1956	0.229	98	63	45	26	17	12	71	54	43	31	24	19

1. Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
2. Allowable load is calculated in accordance with 2015 Aluminum Design Manual considering bending, shear, combined bending & shear, deflection and load testing of comparable profiles on 16 ga girts. Allowable loads do not consider other support conditions, including: web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal span case.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

CN88-124 on 16 ga Girts

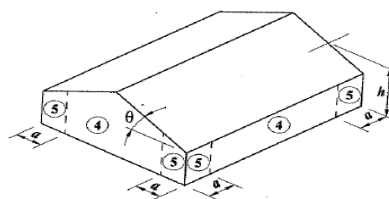
Wall Clip Spacing (feet)

Wind Speed (mph) Exposure Category	20 ft, Mean Roof Height			40 ft, Mean Roof Height			60 ft, Mean Roof Height		
	Thickness	Field	Edge	Thickness	Field	Edge	Thickness	Field	Edge
100C	24 ga	6.00	6.00	24 ga	6.00	6.00	24 ga	6.00	5.50
	22 ga	6.00	6.00	22 ga	6.00	6.00	22 ga	6.00	5.50
	20 ga	6.00	6.00	20 ga	6.00	6.00	20 ga	6.00	5.50
	0.032"	6.00	5.50	0.032"	6.00	5.50	0.032"	5.50	5.00
110C	24 ga	6.00	6.00	24 ga	6.00	5.00	24 ga	5.50	4.50
	22 ga	6.00	6.00	22 ga	6.00	5.00	22 ga	5.50	4.50
	20 ga	6.00	6.00	20 ga	6.00	5.00	20 ga	5.50	4.50
	0.032"	5.50	5.00	0.032"	5.50	4.50	0.032"	5.00	4.00
120C	24 ga	6.00	5.00	24 ga	5.50	4.50	24 ga	5.00	4.00
	22 ga	6.00	5.00	22 ga	5.50	4.50	22 ga	5.00	4.00
	20 ga	6.00	5.00	20 ga	5.50	4.50	20 ga	5.00	4.00
	0.032"	5.50	4.50	0.032"	4.50	4.00	0.032"	4.00	3.50
130C	24 ga	5.00	4.50	24 ga	4.50	4.00	24 ga	4.00	3.50
	22 ga	5.00	4.50	22 ga	4.50	4.00	22 ga	4.00	3.50
	20 ga	5.00	4.50	20 ga	4.50	4.00	20 ga	4.00	3.50
	0.032"	4.50	3.50	0.032"	4.00	3.00	0.032"	3.50	3.00
140C	24 ga	4.50	4.00	24 ga	4.00	3.50	24 ga	3.50	3.00
	22 ga	4.50	4.00	22 ga	4.00	3.50	22 ga	3.50	3.00
	20 ga	4.50	4.00	20 ga	4.00	3.50	20 ga	3.50	3.00
	0.032"	4.00	3.00	0.032"	3.50	3.00	0.032"	3.00	2.50
150C	24 ga	4.00	3.50	24 ga	3.50	3.00	24 ga	3.50	2.50
	22 ga	4.00	3.50	22 ga	3.50	3.00	22 ga	3.50	2.50
	20 ga	4.00	3.50	20 ga	3.50	3.00	20 ga	3.50	2.50
	0.032"	3.50	3.00	0.032"	3.00	2.50	0.032"	3.00	2.50
160C	24 ga	3.50	3.00	24 ga	3.00	2.50	24 ga	3.00	2.50
	22 ga	3.50	3.00	22 ga	3.00	2.50	22 ga	3.00	2.50
	20 ga	3.50	3.00	20 ga	3.00	2.50	20 ga	3.00	2.50
	0.032"	3.00	2.50	0.032"	2.50	2.00	0.032"	2.50	2.00
170C	24 ga	3.00	2.50	24 ga	3.00	2.50	24 ga	2.50	2.00
	22 ga	3.00	2.50	22 ga	3.00	2.50	22 ga	2.50	2.00
	20 ga	3.00	2.50	20 ga	3.00	2.50	20 ga	2.50	2.00
	0.032"	2.50	2.00	0.032"	2.50	2.00	0.032"	2.00	2.00

Notes:

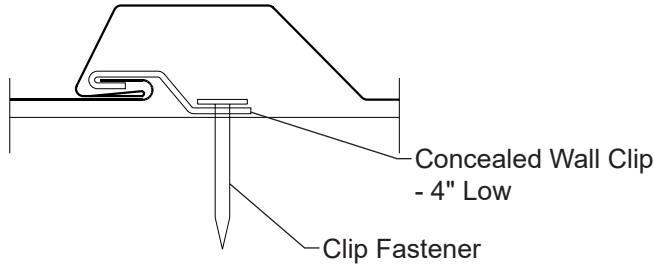
1. Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
2. Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. Assumptions include a tributary area of 10 square feet, an Enclosed building, a Topographic Factor of 1.0 and panel bearing length of 2.5 inches.
3. Allowable spacing is determined using IBC 2018 combinations. For wind suction and pressure, the combination is 0.6W. The arrangement is 3 or more equal spans.
4. Testing is the basis for the load carrying capacity.

- ④ - FIELD
 - ⑤ - EDGE
- a* - LEAST OF 10% MINIMUM BUILDING WIDTH OR 40% OF MEAN ROOF HEIGHT BUT NOT LESS THAN 3'.



CN88-164 Asymmetrical Rib

PANEL ATTACHMENT



FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1³/₄" x 4" x 3/₈", from 16 ga, G90 material with 2 fastener holes.
- Clip Fastener(s) should be driven just to contact between fastener head / clip / support. Over-driven fasteners can cause panel distortions.
- Fasteners should extend 1/2" or more past the inside face of the support material for steel and wood sheathing support materials.
- Clip Fasteners:
 - Attaching to Wood:
 - #12-11 x 1¹/₂" Low Profile Wood Screw
 - Attaching to Steel:
 - < 18 ga: 1/4"-13 Deck Screw
 - ≥ 18 ga, ≤ 12 ga: #10-16 Pancake Head Driller
 - > 12 ga: 1/4"-14 Self Driller, No Washer

INSTALLATION DIRECTION

Horizontally-oriented panels must be installed from the bottom to the top.

Vertically-oriented panels may be installed from the right-to-left or left-to-right.

STEEL SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load					Outward Load				
				I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	16	50	1.27	0.0398	0.0779	0.0443	0.0894	117	60	38	27	21	88	46	30	22	17
22	16	50	1.66	0.0570	0.1142	0.0608	0.1265	117	60	38	27	21	88	46	30	22	17
20	16	33	2.01	0.0758	0.1619	0.0758	0.1595	117	60	38	27	21	88	46	30	22	17

1. Theoretical section properties have been calculated per AISI S100 2016(20) 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I_{xx} and S_{xx} are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI S100 specification considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Allowable load does not consider other support conditions such as, web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal spans condition.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

ALUMINUM SECTION PROPERTIES

ALLOWABLE UNIFORM LOADS, psf for various clip spacings

Thick in	Width in	Yield ksi	Weight psf	I in ⁴ /ft	S _{Top} in ³ /ft	S _{Bottom} in ³ /ft	Z in ³ /ft	Inward Load						Outward Load					
								2'	2.5'	3'	4'	5'	6'	2'	2.5'	3'	4'	5'	6'
0.032	16	17	0.61	0.0698	0.1512	0.1489	0.179	98	63	45	26	17	12	35	27	21	15	12	10
0.040	16	17	0.76	0.0863	0.1850	0.1814	0.222	98	63	45	26	17	12	35	27	21	15	12	10

1. Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
2. Allowable load is calculated in accordance with 2015 Aluminum Design Manual considering bending, shear, combined bending & shear, deflection and load testing of comparable profiles on 16 ga girts. Allowable loads do not consider other support conditions, including: web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal span case.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

CN88-164 on 16 ga Girts

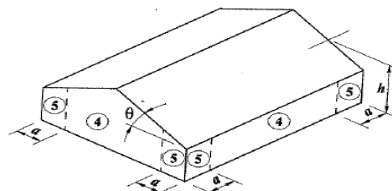
Wall Clip Spacing (feet)

Wind Speed (mph) Exposure Category	20 ft. Mean Roof Height			40 ft. Mean Roof Height			60 ft. Mean Roof Height		
	Thickness	Field	Edge	Thickness	Field	Edge	Thickness	Field	Edge
100C	24 ga	-25.1 psf	-31 psf	24 ga	-29.1 psf	-35.9 psf	24 ga	-31.7 psf	-39.1 psf
	22 ga	6.00	5.50	22 ga	5.50	5.00	22 ga	5.50	4.50
	20 ga	6.00	5.50	20 ga	5.50	5.00	20 ga	5.50	4.50
	0.032"	6.00	5.00	0.032"	5.00	4.50	0.032"	5.00	4.00
110C	24 ga	-30.4 psf	-37.5 psf	24 ga	-35.2 psf	-43.4 psf	24 ga	-38.3 psf	-47.3 psf
	22 ga	5.50	4.50	22 ga	4.50	4.00	22 ga	4.50	4.00
	20 ga	5.50	4.50	20 ga	4.50	4.00	20 ga	4.50	4.00
	0.032"	5.00	4.00	0.032"	4.50	3.50	0.032"	4.00	3.50
120C	24 ga	-36.2 psf	-44.7 psf	24 ga	-41.9 psf	-51.7 psf	24 ga	-45.6 psf	-56.3 psf
	22 ga	5.00	4.00	22 ga	4.50	3.50	22 ga	4.00	3.50
	20 ga	5.00	4.00	20 ga	4.50	3.50	20 ga	4.00	3.50
	0.032"	4.50	3.50	0.032"	4.00	3.00	0.032"	3.50	3.00
130C	24 ga	-42.5 psf	-52.4 psf	24 ga	-49.1 psf	-60.6 psf	24 ga	-53.5 psf	-66 psf
	22 ga	4.00	3.50	22 ga	4.00	3.50	22 ga	3.50	3.00
	20 ga	4.00	3.50	20 ga	4.00	3.50	20 ga	3.50	3.00
	0.032"	3.50	3.00	0.032"	3.50	3.00	0.032"	3.00	2.50
140C	24 ga	-49.2 psf	-60.8 psf	24 ga	-57 psf	-70.3 psf	24 ga	-62 psf	-76.6 psf
	22 ga	4.00	3.50	22 ga	3.50	3.00	22 ga	3.00	2.50
	20 ga	4.00	3.50	20 ga	3.50	3.00	20 ga	3.00	2.50
	0.032"	3.50	3.00	0.032"	3.00	2.50	0.032"	3.00	2.50
150C	24 ga	-56.5 psf	-69.8 psf	24 ga	-65.4 psf	-80.7 psf	24 ga	-71.2 psf	-87.9 psf
	22 ga	3.50	3.00	22 ga	3.00	2.50	22 ga	3.00	2.50
	20 ga	3.50	3.00	20 ga	3.00	2.50	20 ga	3.00	2.50
	0.032"	3.00	2.50	0.032"	2.50	2.00	0.032"	2.50	2.00
160C	24 ga	-64.3 psf	-79.4 psf	24 ga	-74.4 psf	-91.9 psf	24 ga	-81 psf	-100 psf
	22 ga	3.00	2.50	22 ga	3.00	2.50	22 ga	2.50	2.50
	20 ga	3.00	2.50	20 ga	3.00	2.50	20 ga	2.50	2.50
	0.032"	2.50	2.50	0.032"	2.50	2.00	0.032"	2.00	2.00
170C	24 ga	-72.6 psf	-89.6 psf	24 ga	-84 psf	-103.7 psf	24 ga	-91.5 psf	-112.9 psf
	22 ga	3.00	2.50	22 ga	2.50	2.00	22 ga	2.50	2.00
	20 ga	3.00	2.50	20 ga	2.50	2.00	20 ga	2.50	2.00
	0.032"	2.50	2.00	0.032"	2.00	2.00	0.032"	-	-

Notes:

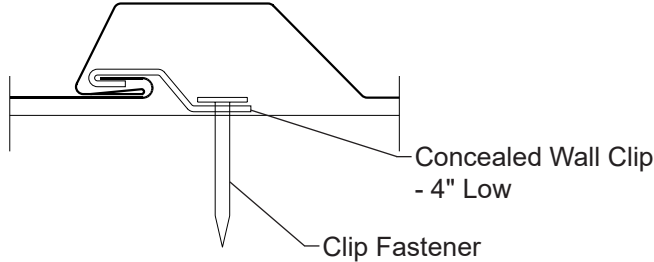
- Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
- Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. Assumptions include a tributary area of 10 square feet, an Enclosed building, a Topographic Factor of 1.0 and panel bearing length of 2.5 inches.
- Allowable spacing is determined using IBC 2018 combinations. For wind suction and pressure, the combination is 0.6W. The arrangement is 3 or more equal spans.
- Testing is the basis for the load carrying capacity.

- ④ - FIELD
 - ⑤ - EDGE
- a* - LEAST OF 10% MINIMUM BUILDING WIDTH OR 40% OF MEAN ROOF HEIGHT BUT NOT LESS THAN 3'.



CN88-168 Asymmetrical Rib

PANEL ATTACHMENT



FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1³/₄" x 4" x 3/₈", from 16 ga, G90 material with 2 fastener holes.
- Clip Fastener(s) should be driven just to contact between fastener head / clip / support. Over-driven fasteners can cause panel distortions.
- Fasteners should extend 1/2" or more past the inside face of the support material for steel and wood sheathing support materials.
- Clip Fasteners:
 - Attaching to Wood:
 - #12-11 x 1¹/₂" Low Profile Wood Screw
 - Attaching to Steel:
 - < 18 ga: 1/4"-13 Deck Screw
 - ≥ 18 ga, ≤ 12 ga: #10-16 Pancake Head Driller
 - > 12 ga: 1/4"-14 Self Driller, No Washer

INSTALLATION DIRECTION

Horizontally-oriented panels must be installed from the bottom to the top.
Vertically-oriented panels may be installed from the right-to-left or left-to-right.

STEEL SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf for various clip spacings									
Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load					Outward Load				
				I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	I _{xx} in ⁴ /ft	S _{xx} in ³ /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	16	50	1.17	0.0315	0.0456	0.0248	0.0544	117	60	38	27	21	87	46	30	22	17
22	16	50	1.53	0.0450	0.0669	0.0360	0.0726	117	60	38	27	21	87	46	30	22	17
20	16	33	1.86	0.0623	0.0951	0.0495	0.0912	117	60	38	27	21	87	46	30	22	17

1. Theoretical section properties have been calculated per AISI S100 2016(20) 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I_{xx} and S_{xx} are effective section properties for deflection and bending.
2. Allowable load is calculated in accordance with AISI S100 specification considering bending, shear, combined bending & shear, deflection and load testing of comparable profiles on 16 ga girts. Allowable load does not consider other support conditions such as, web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal spans condition.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

ALUMINUM SECTION PROPERTIES								ALLOWABLE UNIFORM LOADS, psf for various clip spacings											
Thick in	Width in	Yield ksi	Weight psf	I in ⁴ /ft	S _{Top} in ³ /ft	S _{Bottom} in ³ /ft	Z in ³ /ft	Inward Load						Outward Load					
								2'	2.5'	3'	4'	5'	6'	2'	2.5'	3'	4'	5'	6'
0.032	16	17	0.56	0.0578	0.0890	0.2168	0.122	98	63	45	26	17	12	71	54	43	31	22	13
0.040	16	17	0.70	0.0713	0.1098	0.2639	0.152	98	63	45	26	17	12	71	54	43	31	22	13

1. Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
2. Allowable load is calculated in accordance with 2015 Aluminum Design Manual considering bending, shear, combined bending & shear, deflection and load testing of comparable profiles on 16 ga girts. Allowable loads do not consider other support conditions, including: web crippling, fasteners or support material. Panel weight is not considered.
3. Allowable load considers the three or more equal span case.
4. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
5. Allowable loads do not include a 1/3 stress increase for wind.

CN88-168 on 16 ga Girts

Wall Clip Spacing (feet)

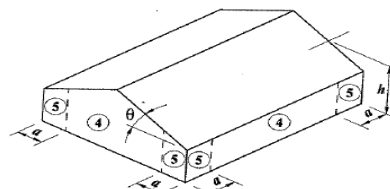
Wind Speed (mph) Exposure Category	20 ft, Mean Roof Height			40 ft, Mean Roof Height			60 ft, Mean Roof Height		
	Thickness	Field	Edge	Thickness	Field	Edge	Thickness	Field	Edge
100C	24 ga	-25.1 psf	-31 psf	24 ga	-29.1 psf	-35.9 psf	24 ga	-31.7 psf	-39.1 psf
	22 ga	6.00	5.50	22 ga	5.50	5.00	22 ga	5.50	4.50
	20 ga	6.00	5.50	20 ga	5.50	5.00	20 ga	5.50	4.50
	0.032"	5.50	5.00	0.032"	5.00	5.00	0.032"	5.00	4.50
110C	24 ga	-30.4 psf	-37.5 psf	24 ga	-35.2 psf	-43.4 psf	24 ga	-38.3 psf	-47.3 psf
	22 ga	5.50	4.50	22 ga	4.50	4.00	22 ga	4.50	4.00
	20 ga	5.50	4.50	20 ga	4.50	4.00	20 ga	4.50	4.00
	0.032"	5.00	4.50	0.032"	5.00	4.50	0.032"	4.50	4.00
120C	24 ga	-36.2 psf	-44.7 psf	24 ga	-41.9 psf	-51.7 psf	24 ga	-45.6 psf	-56.3 psf
	22 ga	5.00	4.00	22 ga	4.50	3.50	22 ga	4.00	3.50
	20 ga	5.00	4.00	20 ga	4.50	3.50	20 ga	4.00	3.50
	0.032"	5.00	4.50	0.032"	4.50	4.00	0.032"	4.00	3.50
130C	24 ga	-42.5 psf	-52.4 psf	24 ga	-49.1 psf	-60.6 psf	24 ga	-53.5 psf	-66 psf
	22 ga	4.00	3.50	22 ga	4.00	3.50	22 ga	3.50	3.00
	20 ga	4.00	3.50	20 ga	4.00	3.50	20 ga	3.50	3.00
	0.032"	4.50	3.50	0.032"	4.00	3.00	0.032"	3.50	3.00
140C	24 ga	-49.2 psf	-60.8 psf	24 ga	-57 psf	-70.3 psf	24 ga	-62 psf	-76.6 psf
	22 ga	4.00	3.50	22 ga	3.50	3.00	22 ga	3.00	2.50
	20 ga	4.00	3.50	20 ga	3.50	3.00	20 ga	3.00	2.50
	0.032"	4.00	3.00	0.032"	3.50	3.00	0.032"	3.00	2.50
150C	24 ga	-56.5 psf	-69.8 psf	24 ga	-65.4 psf	-80.7 psf	24 ga	-71.2 psf	-87.9 psf
	22 ga	3.50	3.00	22 ga	3.00	2.50	22 ga	3.00	2.50
	20 ga	3.50	3.00	20 ga	3.00	2.50	20 ga	3.00	2.50
	0.032"	3.50	3.00	0.032"	3.00	2.50	0.032"	3.00	2.50
160C	24 ga	-64.3 psf	-79.4 psf	24 ga	-74.4 psf	-91.9 psf	24 ga	-81 psf	-100 psf
	22 ga	3.00	2.50	22 ga	3.00	2.50	22 ga	2.50	2.50
	20 ga	3.00	2.50	20 ga	3.00	2.50	20 ga	2.50	2.50
	0.032"	3.00	2.50	0.032"	2.50	2.00	0.032"	2.50	2.00
170C	24 ga	-72.6 psf	-89.6 psf	24 ga	-84 psf	-103.7 psf	24 ga	-91.5 psf	-112.9 psf
	22 ga	3.00	2.50	22 ga	2.50	2.00	22 ga	2.50	2.00
	20 ga	3.00	2.50	20 ga	2.50	2.00	20 ga	2.50	2.00
	0.032"	2.50	2.00	0.032"	2.50	2.00	0.032"	2.00	2.00

Notes:

- Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
- Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. Assumptions include a tributary area of 10 square feet, an Enclosed building, a Topographic Factor of 1.0 and panel bearing length of 2.5 inches.
- Allowable spacing is determined using IBC 2018 combinations. For wind suction and pressure, the combination is 0.6W. The arrangement is 3 or more equal spans.
- Testing is the basis for the load carrying capacity.

- ④ - FIELD
- ⑤ - EDGE

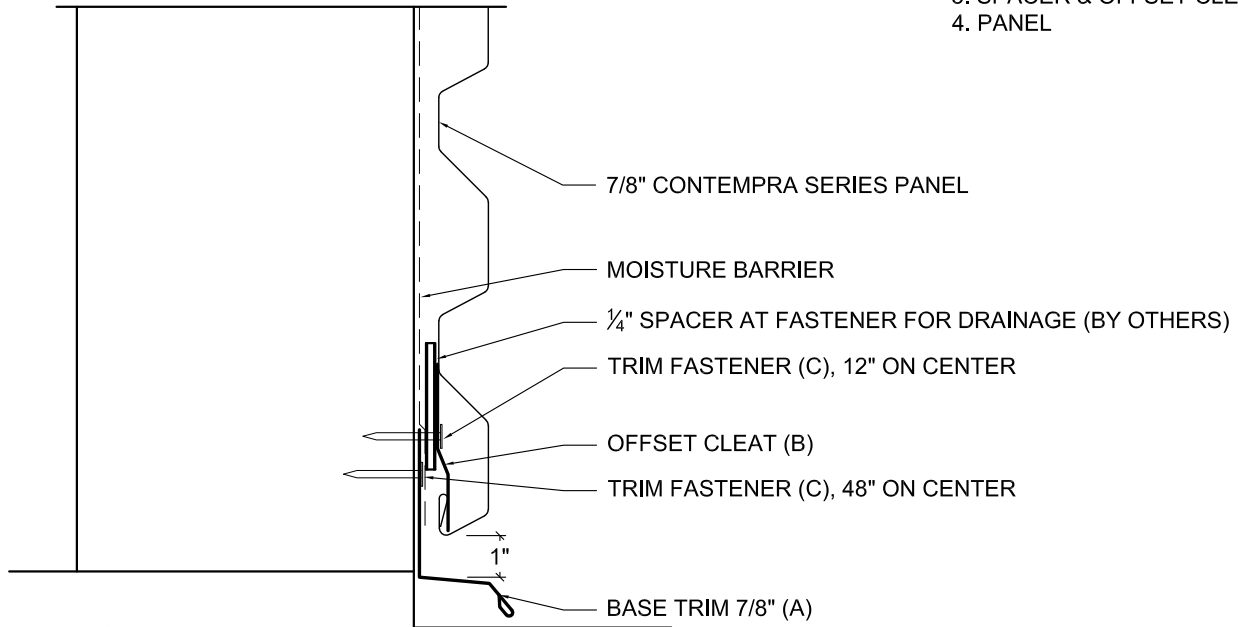
a - LEAST OF 10% MINIMUM BUILDING WIDTH OR 40% OF MEAN ROOF HEIGHT BUT NOT LESS THAN 3".



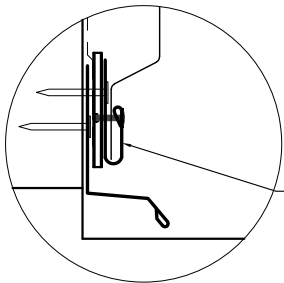
INSTALL ORDER

1. BASE TRIM 7/8"
2. MOISTURE BARRIER
3. SPACER & OFFSET CLEAT
4. PANEL

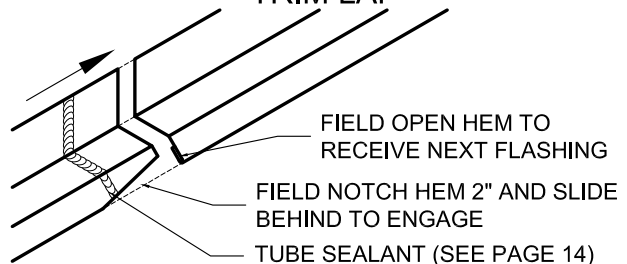
ELEVATION VIEW



AT LOW RIB



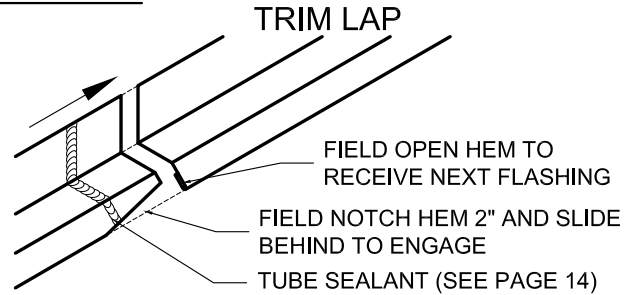
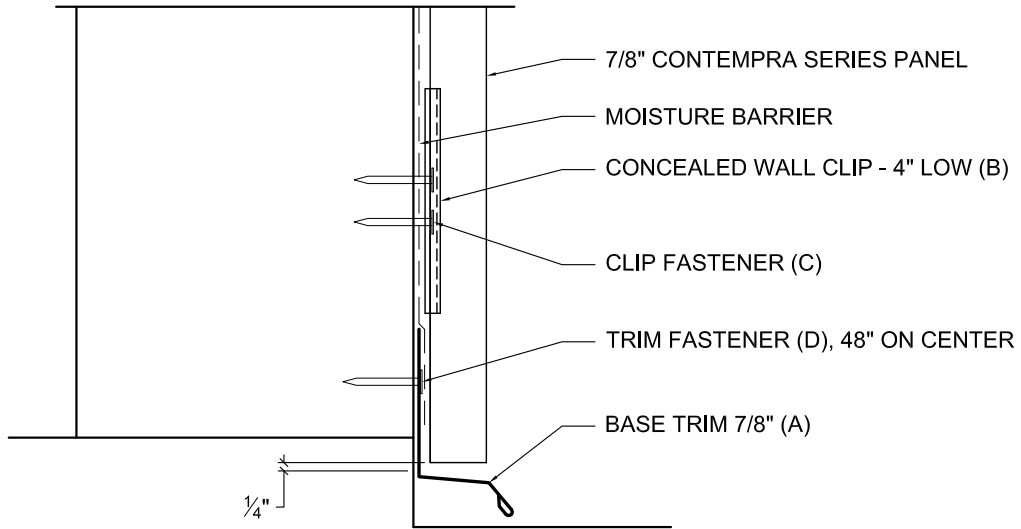
TRIM LAP



NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
(A)	 Base Trim 7/8", 24 Ga Base Trim 7/8", 22 Ga Base Trim 7/8", 0.032"	58706XX 60706XX 58706XXA	10'-2"	Install Moisture Barrier over top of Base Trim
(B)	 Offset Cleat, 24 Ga	5806499	10'-2"	Install 2" x 2" x 1/4" spacer behind Offset Cleat. Hook panel onto 1" leg of Offset Cleat.
(C)	 #10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
(C)	 #10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing

ELEVATION VIEW

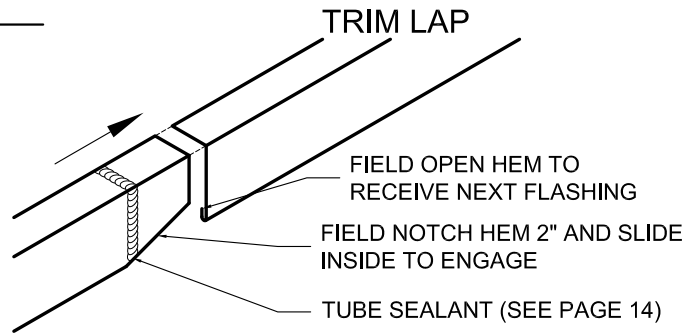
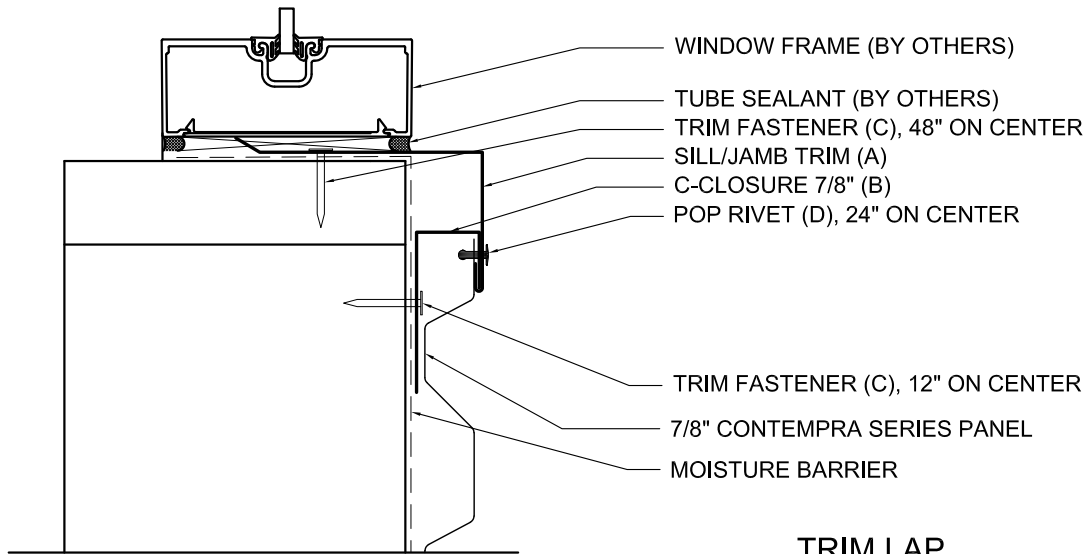


- INSTALL ORDER**
 1. BASE TRIM 7/8"
 2. MOISTURE BARRIER
 3. PANEL

NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
(A)	<p>Base Trim 7/8", 24 Ga Base Trim 7/8", 22 Ga Base Trim 7/8", 0.032"</p>	58706XX 60706XX 58706XXA	10'-2"	Install Moisture Barrier over top of Base Trim
(B)	<p>Concealed Wall Clip 4" Low 16 Ga Galv</p>	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(C)	<p>#12-11 x 1 1/2" Low Profile Wood Screw</p>	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(C), (D)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For clip / trim attachment to steel framing
(D)	<p>#10-12 x 1" Pancake Head Wood Screw</p>	8243100	1"	For trim attachment to wood sheathing or framing

ELEVATION VIEW



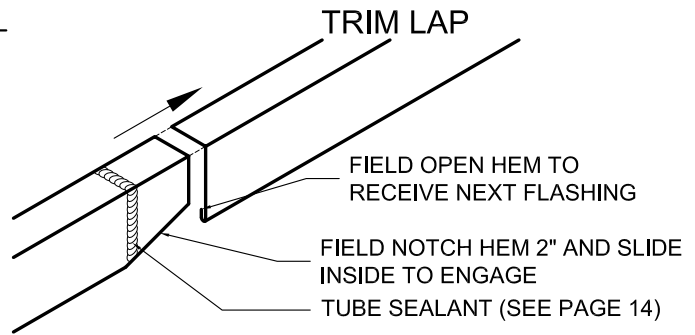
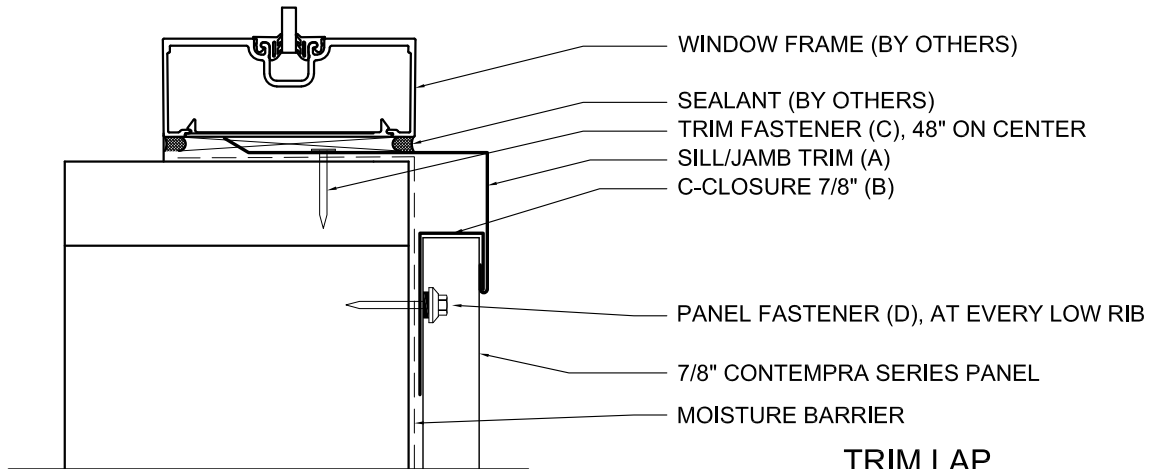
INSTALL ORDER

1. MOISTURE BARRIER
2. C-CLOSURE 7/8"
3. PANEL
4. SILL/JAMB TRIM
5. WINDOW FRAME

NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
(A)	Sill/Jamb Trim, 24 Ga Sill/Jamb Trim, 22 Ga Sill/Jamb Trim, 0.032"	58718XX 60718XX 58718XXA	10'-2"	Hook Sill/Jamb Trim onto C-Closure and fasten in place. Ensure Sill/Jamb Trim is installed with slope to allow for water drainage.
(B)	C-Closure 7/8", 24 Ga C-Closure 7/8", 22 Ga C-Closure 7/8", 0.032"	58710XX 60710XX 58710XXA	10'-2"	Install C-Closure and hook Sill/Jamb Trim over 1" leg.
(C)	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
(C)	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(D)	1/8" x 3/8" Pop Rivet	82402XX		For Sill/Jamb attachment to C-Closure and panel.

ELEVATION VIEW

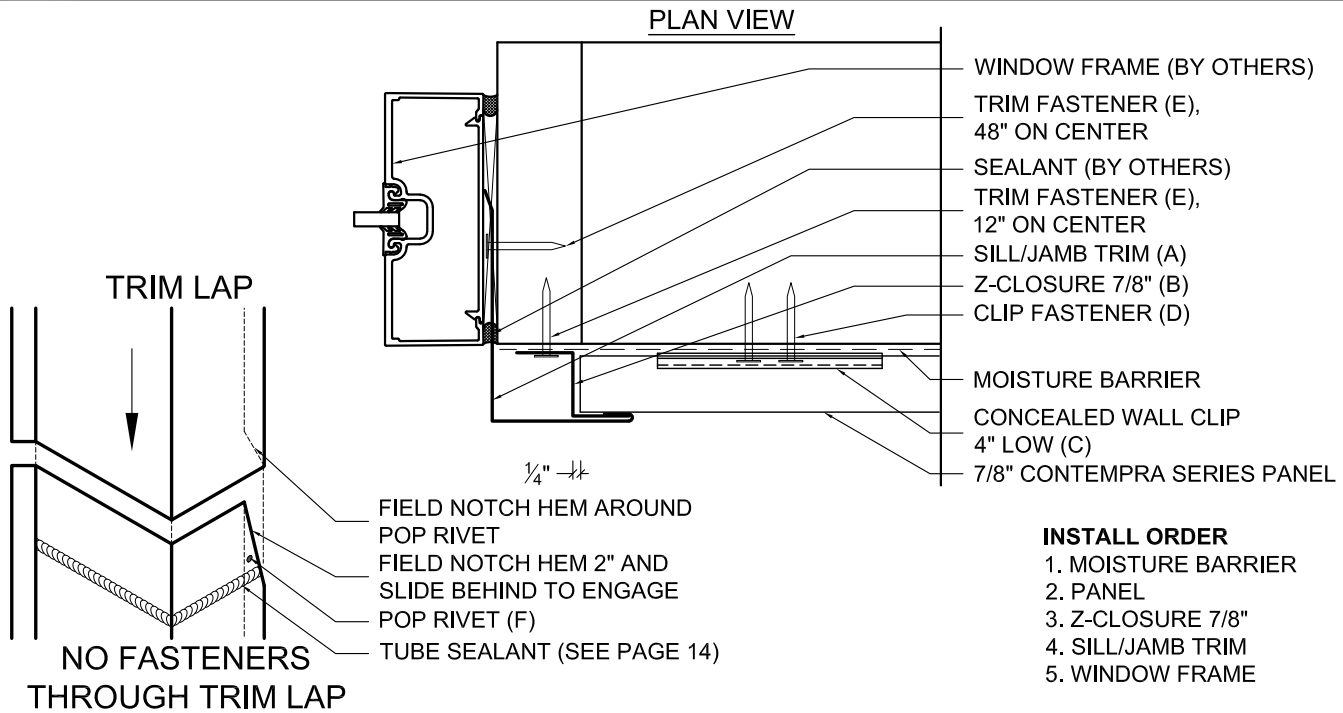


INSTALL ORDER

1. MOISTURE BARRIER
2. C-CLOSURE 7/8"
3. PANEL
4. SILL/JAMB TRIM
5. WINDOW FRAME

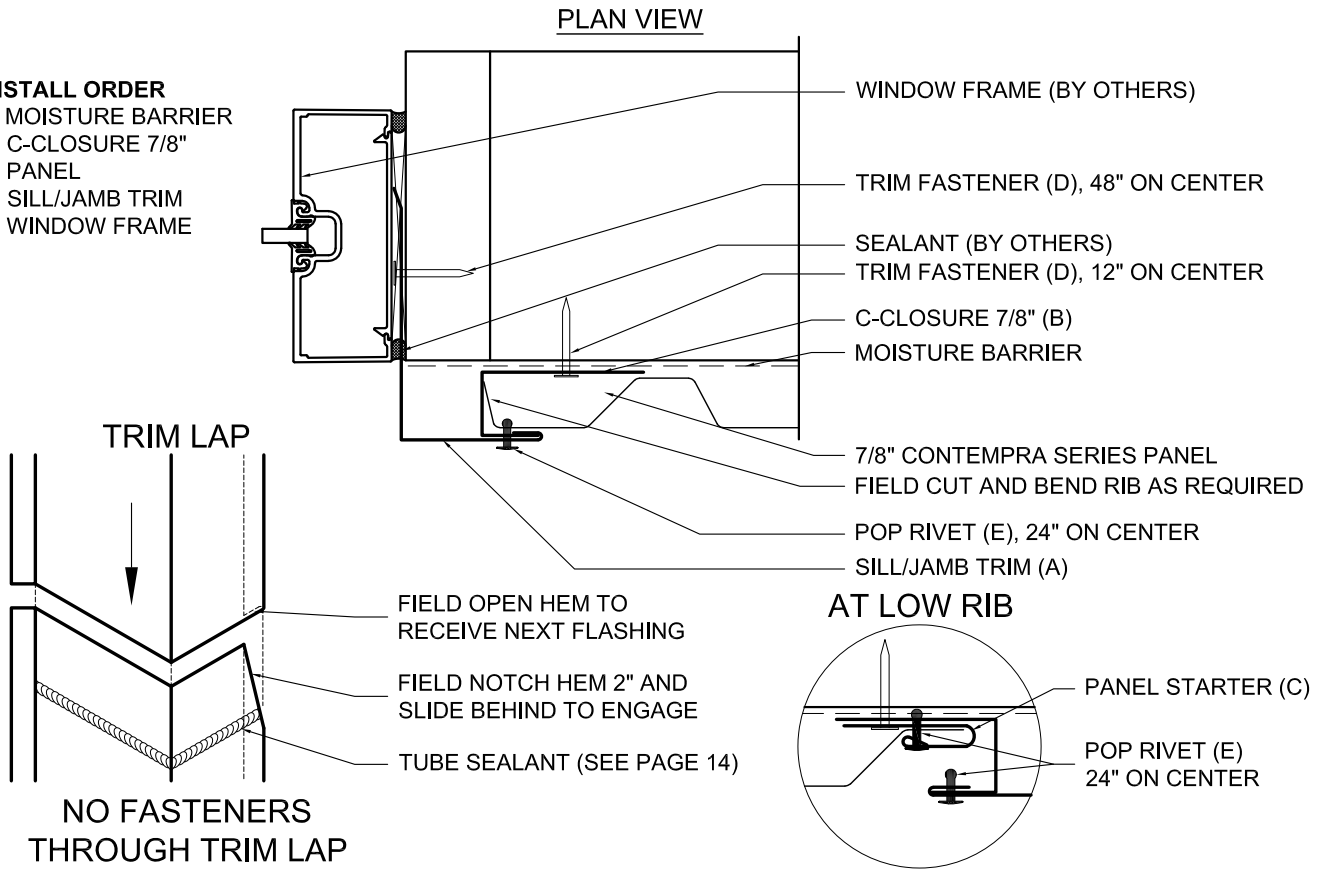
NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
<p>(A)</p>	<p>Sill/Jamb Trim, 24 Ga Sill/Jamb Trim, 22 Ga Sill/Jamb Trim, 0.032"</p>	<p>58718XX 60718XX 58718XXA</p>	10'-2"	Hook Sill/Jamb Trim onto C-Closure and fasten in place. Ensure Sill/Jamb Trim is installed with slope to allow for water drainage.
<p>(B)</p>	<p>C-Closure 7/8", 24 Ga C-Closure 7/8", 22 Ga C-Closure 7/8", 0.032"</p>	<p>58710XX 60710XX 58710XXA</p>	10'-2"	Install C-Closure and hook Sill/Jamb Trim over 1" leg.
<p>(C)</p>	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For trim attachment to steel framing
<p>(C)</p>	<p>#10-12 x 1" Pancake Head Wood Screw</p>	8243100	1"	For trim attachment to wood sheathing or framing
<p>(D)</p>	<p>#12-14 x 1 1/4" Self Driller XL</p>	82353XX	1 1/4"	For panel attachment to steel framing
<p>(D)</p>	<p>#10-14 x 1 1/2" Wood Screw XL</p>	82123XX	1 1/2"	For panel attachment to wood sheathing or framing



Part	Description	Product #	Length	Installation Information
(A)	<p>Sill/Jamb Trim, 24 Ga Sill/Jamb Trim, 22 Ga Sill/Jamb Trim, 0.032"</p>	58718XX 60718XX 58718XXA	10'-2"	Hook Sill/Jamb Trim onto Z-Closure and fasten into place.
(B)	<p>Z-Closure 7/8", 24 Ga Z-Closure 7/8", 22 Ga Z-Closure 7/8", 0.032"</p>	58725XX 60725XX 58725XXA	10'-2"	Install Z-Closure and hook Sill/Jamb Trim over 1" leg.
(C)	<p>Concealed Wall Clip 4" Low 16 Ga Galv</p>	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(D)	<p>#12-11 x 1 1/2" Low Profile Wood Screw</p>	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(D), (E)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For clip / trim attachment to steel framing
(E)	<p>#10-12 x 1" Pancake Head Wood Screw</p>	8243100	1"	For trim attachment to wood sheathing or framing
(F)	<p>1/8" x 3/8" Pop Rivet</p>	82402XX		For Sill/Jamb Trim attachment to Z-Closure

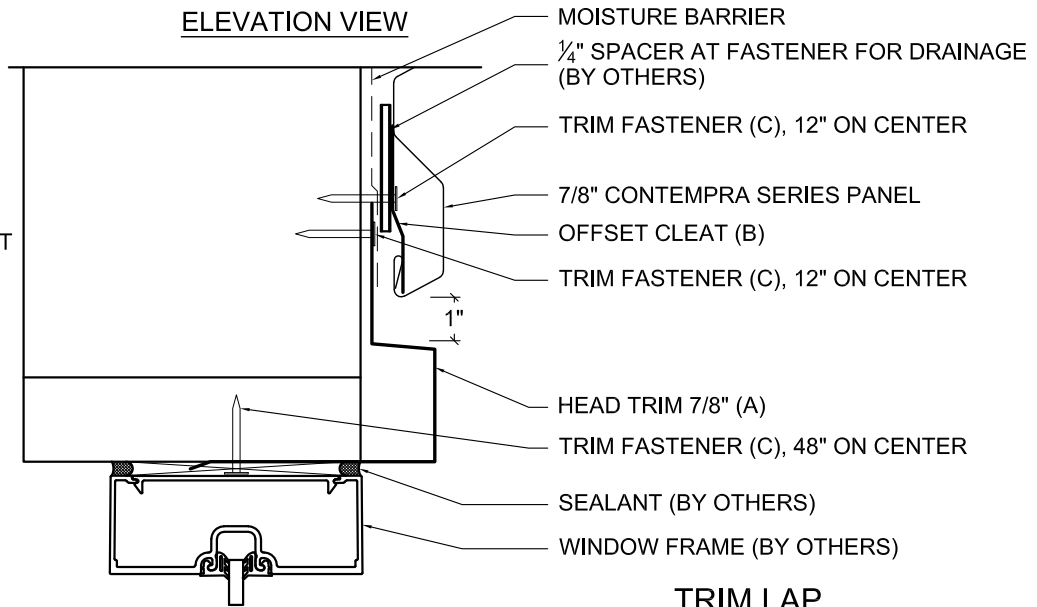
- INSTALL ORDER**
1. MOISTURE BARRIER
 2. C-CLOSURE 7/8"
 3. PANEL
 4. SILL/JAMB TRIM
 5. WINDOW FRAME



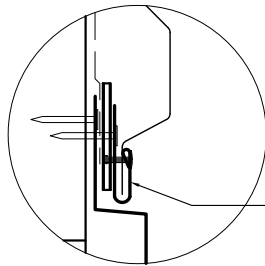
Part	Description	Product #	Length	Installation Information	
(A)		Sill/Jamb Trim, 24 Ga Sill/Jamb Trim, 22 Ga Sill/Jamb Trim, 0.032"	58718XX 60718XX 58718XXA	10'-2"	Hook Sill/Jamb Trim onto C-Closure and fasten into place.
(B)		C-Closure 7/8", 24 Ga C-Closure 7/8", 22 Ga C-Closure 7/8", 0.032"	58710XX 60710XX 58710XXA	10'-2"	Install C-Closure and hook Sill/Jamb Trim over 1" leg.
(C)		Panel Starter, 24 Ga Panel Starter, 22 Ga Panel Starter, 0.032"	58728XX 60728XX 58728XXA	10'-2"	Fasten to face of C-Closure, slide low rib of panel into open hem.
(D)		#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
(D)		#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(E)		1/8" x 3/8" Pop Rivet	82402XX		For Sill/Jamb attachment to C-Closure and panel.

INSTALL ORDER

1. HEAD TRIM 7/8"
2. MOISTURE BARRIER
2. SPACER & OFFSET CLEAT
3. PANEL
4. WINDOW FRAME

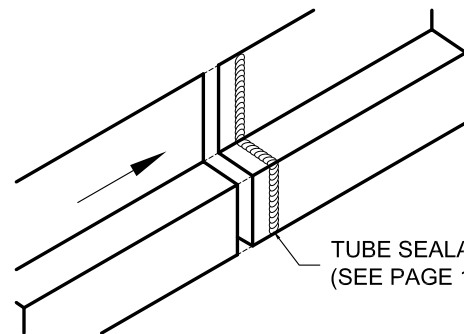


AT LOW RIB



PANEL STARTER
(SEE PAGE 12)

TRIM LAP

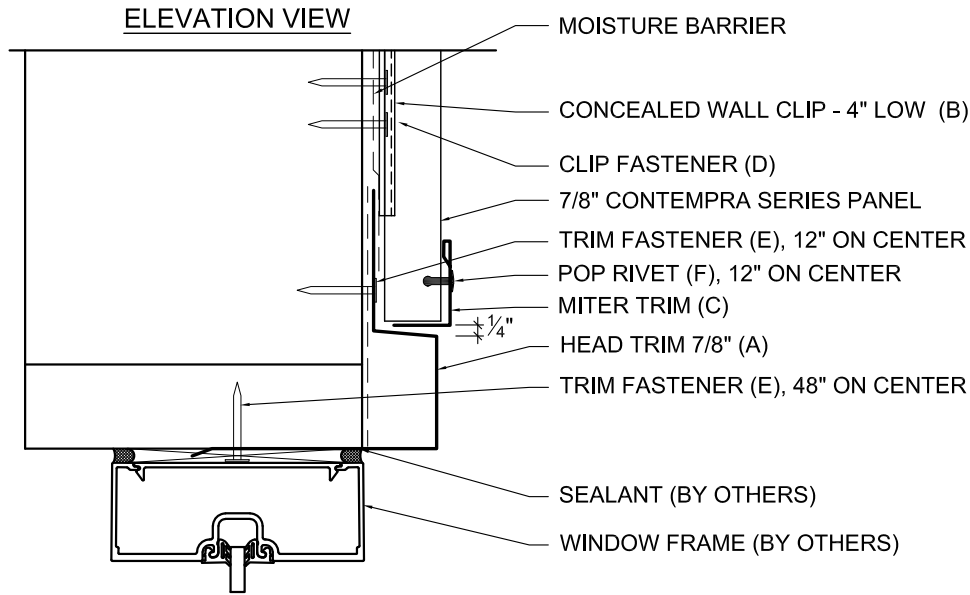


TUBE SEALANT
(SEE PAGE 14)

NO FASTENERS THROUGH TRIM LAP

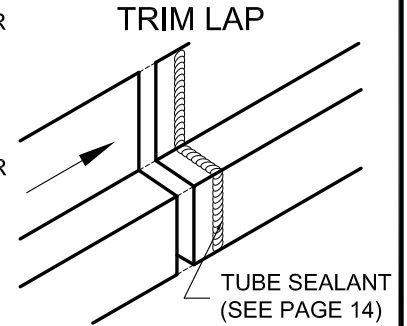
Part	Description	Product #	Length	Installation Information
(A)	<p>Head Trim 7/8", 24 Ga Head Trim 7/8", 22 Ga Head Trim 7/8", 0.032"</p>	58720XX 60720XX 58720XXA	10'-2"	Install Moisture Barrier over top of Head Trim and fasten in place. Ensure Head Trim is installed with slope to allow for water drainage.
(B)	<p>Offset Cleat, 24 Ga</p>	5806499	10'-2"	Install 2" x 2" x 1/4" spacer behind Offset Cleat. Hook panel onto 1" leg of Offset Cleat.
(C)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For trim attachment to steel framing
(C)	<p>#10-12 x 1" Pancake Head Wood Screw</p>	8243100	1"	For trim attachment to wood sheathing or framing

CONTEMPRA SERIES INSTALL GUIDE Head - Vertical Panels



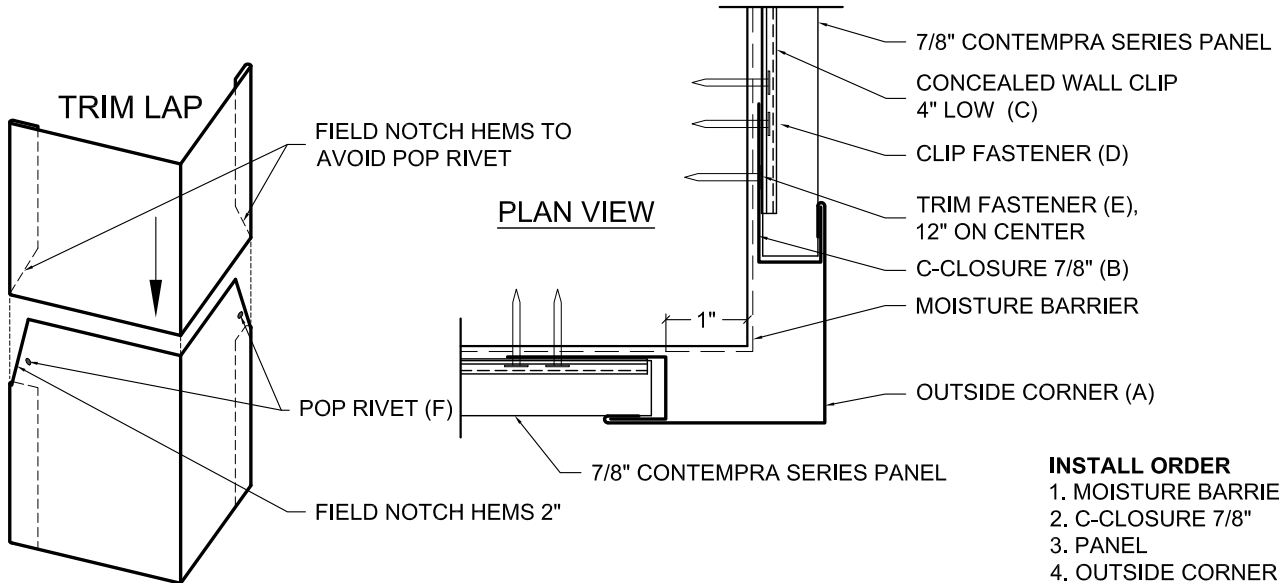
INSTALL ORDER

1. HEAD TRIM 7/8"
2. MOISTURE BARRIER
3. PANEL
4. WINDOW FRAME



NO FASTENERS THROUGH TRIM LAP

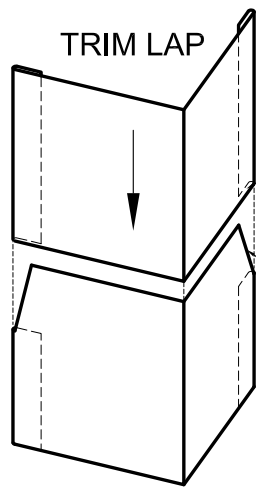
Part	Description	Product #	Length	Installation Information
(A)	<p>Head Trim 7/8", 24 Ga Head Trim 7/8", 22 Ga Head Trim 7/8", 0.032"</p>	58720XX 60720XX 58720XXA	10'-2"	Install Head Trim and fasten in place with Moisture Barrier over the top of the Head Trim. Ensure Head Trim is installed with slope to allow for water drainage.
(B)	<p>Concealed Wall Clip 4" Low 16 Ga Galv</p>	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(C)	<p>Miter Trim, 24 Ga Miter Trim, 22 Ga Miter Trim, 0.032"</p>	58654XX 60654XX 58654XXA	10'-2"	Install at bottom of panels above header, attach with Pop Rivets.
(D)	<p>#12-11 x 1 1/2" Low Profile Wood Screw</p>	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(D), (E)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For clip / trim attachment to steel framing
(E)	<p>#10-12 x 1" Pancake Head Wood Screw</p>	8243100	1"	For trim attachment to wood sheathing or framing
(F)	<p>1/8" x 3/8" Pop Rivet</p>	82402XX		For Sill/Jamb attachment to C-Closure and panel.



- INSTALL ORDER**
1. MOISTURE BARRIER
 2. C-CLOSURE 7/8"
 3. PANEL
 4. OUTSIDE CORNER
 5. C-CLOSURE 7/8"
 6. PANEL

NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
(A)	<p>Outside Corner, 24 Ga Outside Corner, 22 Ga Outside Corner, 0.032"</p>	58724XX 60724XX 58724XXA	10'-2"	Hook Outside Corner around C-Closure, pull C-Closure into place. Pop Rivet to C-Closures under trim lap.
(B)	<p>C-Closure 7/8", 24 Ga C-Closure 7/8", 22 Ga C-Closure 7/8", 0.032"</p>	58710XX 60710XX 58710XXA	10'-2"	Install C-Closure before panel. An alternate is to use Z-Closure to ease panel installation.
(C)	<p>Concealed Wall Clip 4" Low 16 Ga Galv</p>	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(D)	<p>#12-11 x 1 1/2" Low Profile Wood Screw</p>	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(D), (E)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For clip / trim attachment to steel framing
(E)	<p>#10-12 x 1" Pancake Head Wood Screw</p>	8243100	1"	For trim attachment to wood sheathing or framing
(F)	<p>1/8" x 3/8" Pop Rivet</p>	82402XX		For Outside Corner attachment to C-Closures

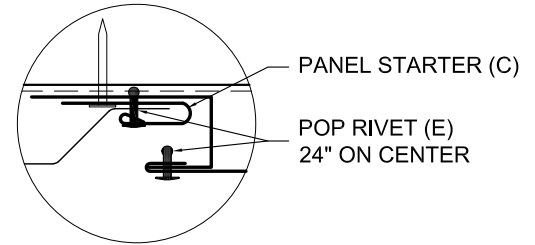


FIELD OPEN HEMS TO RECEIVE NEXT FLASHING

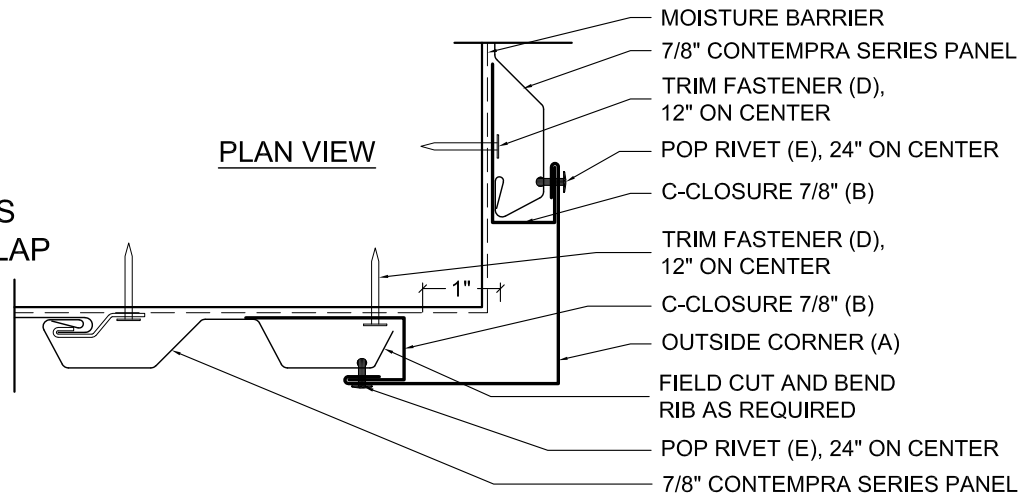
NO FASTENERS THROUGH TRIM LAP

- INSTALL ORDER**
1. MOISTURE BARRIER
 2. C-CLOSURE 7/8"
 3. PANEL
 4. OUTSIDE CORNER
 5. C-CLOSURE 7/8"
 6. PANEL

AT LOW RIB



PLAN VIEW

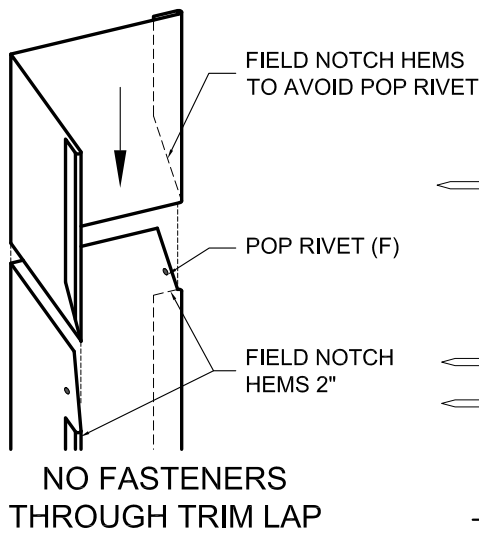


Part	Description	Product #	Length	Installation Information
<p>(A)</p>	Outside Corner, 24 Ga Outside Corner, 22 Ga Outside Corner, 0.032"	58724XX 60724XX 58724XXA	10'-2"	Hook Outside Corner around C-Closures. Pop Rivet to panel and C-Closures.
<p>(B)</p>	C-Closure 7/8", 24 Ga C-Closure 7/8", 22 Ga C-Closure 7/8", 0.032"	58710XX 60710XX 58710XXA	10'-2"	Install C-Closure to start panel.
<p>(C)</p>	Panel Starter, 24 Ga Panel Starter, 22 Ga Panel Starter, 0.032"	58728XX 60728XX 58728XXA	10'-2"	Fasten to face of C-Closure, slide low rib of panel into open hem.
<p>(D)</p>	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
<p>(D)</p>	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
<p>(E)</p>	1/8" x 3/8" Pop Rivet	82402XX		For Outside Corner attachment to C-Closures

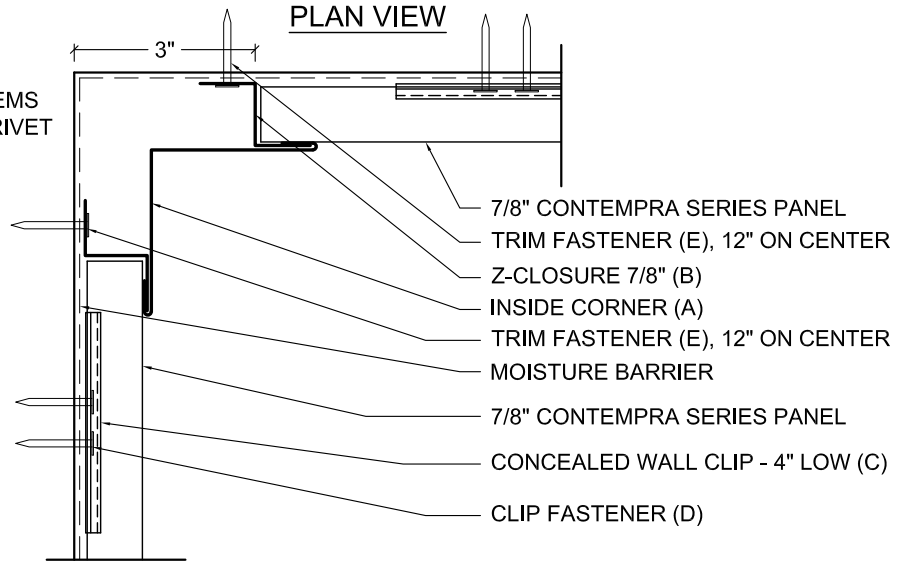
CONTEMPRA SERIES INSTALL GUIDE Inside Corner - Horiz. Panels



TRIM LAP



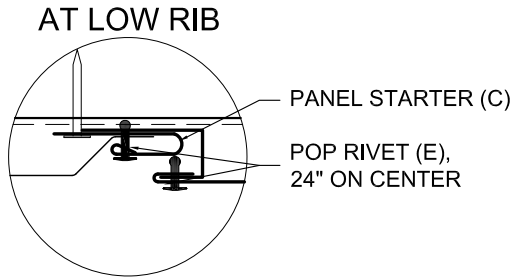
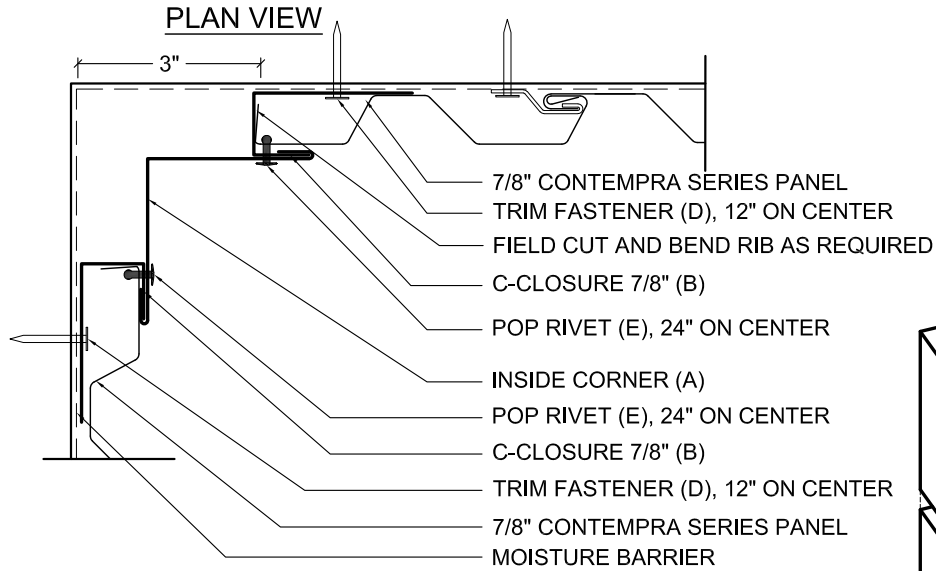
PLAN VIEW



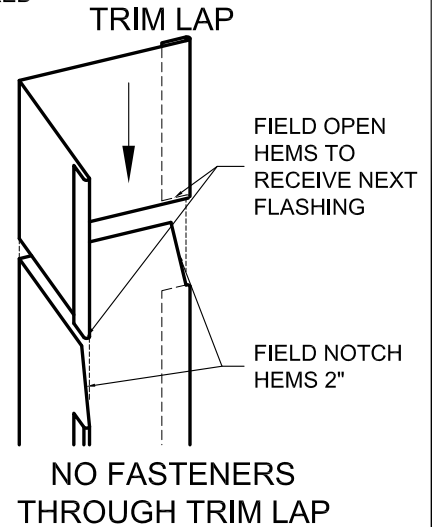
INSTALL ORDER

1. MOISTURE BARRIER
2. Z-CLOSURE 7/8"
3. PANEL
4. INSIDE CORNER
5. Z-CLOSURE 7/8"
6. PANEL

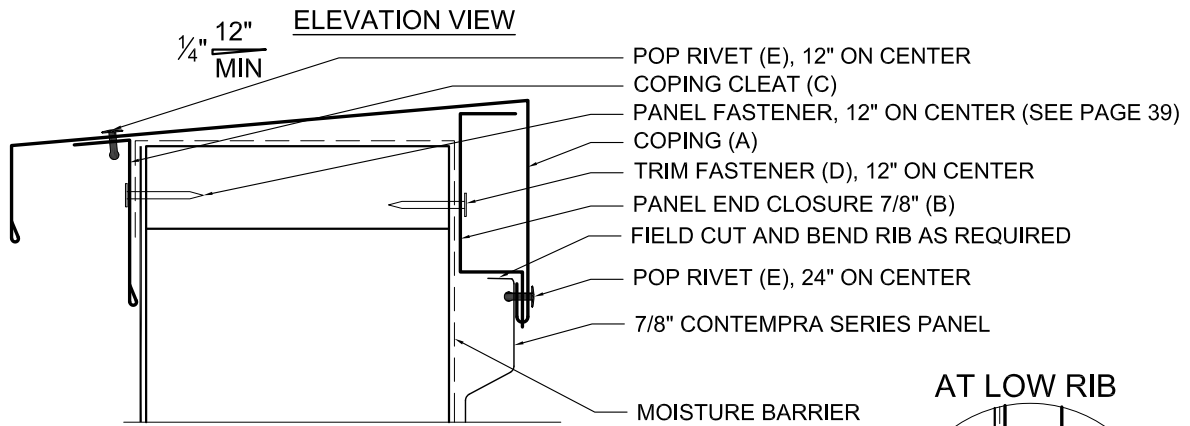
	Part	Description	Product #	Length	Installation Information
(A)		Inside Corner, 24 Ga Inside Corner, 22 Ga Inside Corner, 0.032"	58726XX 60726XX 58726XXA	10'-2"	Hook Inside Corner around Z-Closures into place. Pop Rivet to Z-Closures under trim lap.
(B)		Z-Closure 7/8", 24 Ga Z-Closure 7/8", 22 Ga Z-Closure 7/8", 0.032"	58725XX 60725XX 58725XXA	10'-2"	Install Z-Closure on each side of corner.
(C)		Concealed Wall Clip 4" Low 16 Ga Galv	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(D)		#12-11 x 1 1/2" Low Profile Wood Screw	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(D), (E)		#10-16 x 1" Pancake Head Driller	8242100	1"	For clip / trim attachment to steel framing
(E)		#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(F)		1/8" x 3/8" Pop Rivet	82402XX		For Inside Corner attachment to Z-Closures



- INSTALL ORDER**
1. MOISTURE BARRIER
 2. C-CLOSURE 7/8"
 3. PANEL
 4. INSIDE CORNER
 5. C-CLOSURE 7/8"
 6. PANEL

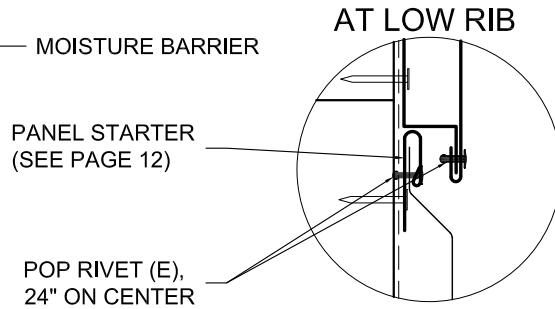


	Part	Description	Product #	Length	Installation Information
(A)		Inside Corner, 24 Ga Inside Corner, 22 Ga Inside Corner, 0.032"	58726XX 60726XX 58726XXA	10'-2"	Hook Inside Corner Trim around C-Closures. Pop Rivet to closure trims and panel 24" on center.
(B)		C-Closure 7/8", 24 Ga C-Closure 7/8", 22 Ga C-Closure 7/8", 0.032"	58710XX 60710XX 58710XXA	10'-2"	Install C-Closure on each side of corner.
(C)		Panel Starter, 24 Ga Panel Starter, 22 Ga Panel Starter, 0.032"	58728XX 60728XX 58728XXA	10'-2"	Fasten to face of C-Closure, slide low rib of panel into open hem.
(D)		#10-16 x 1" Pancake Head Drill	8242100	1"	For trim attachment to steel framing
(D)		#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(E)		1/8" x 3/8" Pop Rivet	82402XX		For Inside Corner attachment to C-Closures

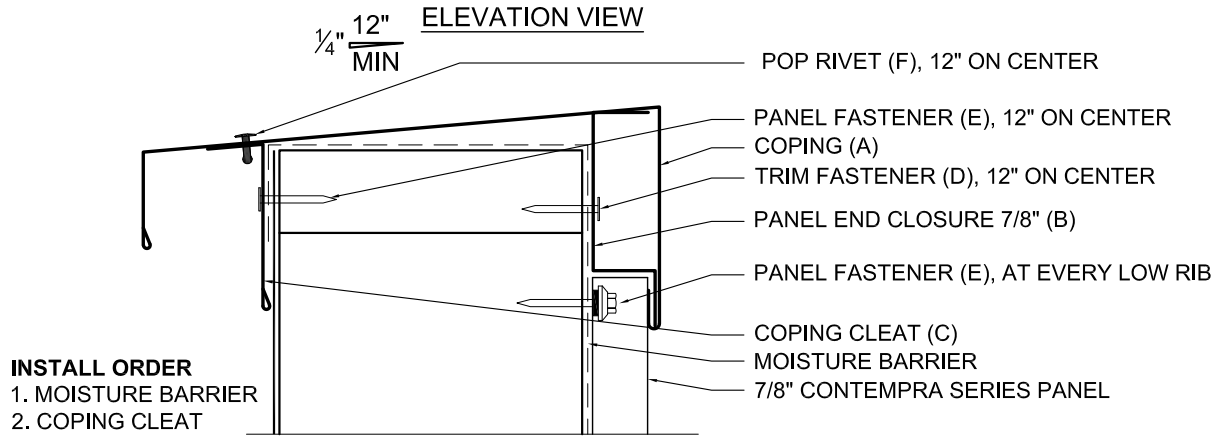


INSTALL ORDER

1. MOISTURE BARRIER
2. COPING CLEAT
3. PANEL END CLOSURE 7/8"
4. COPING
5. PANEL



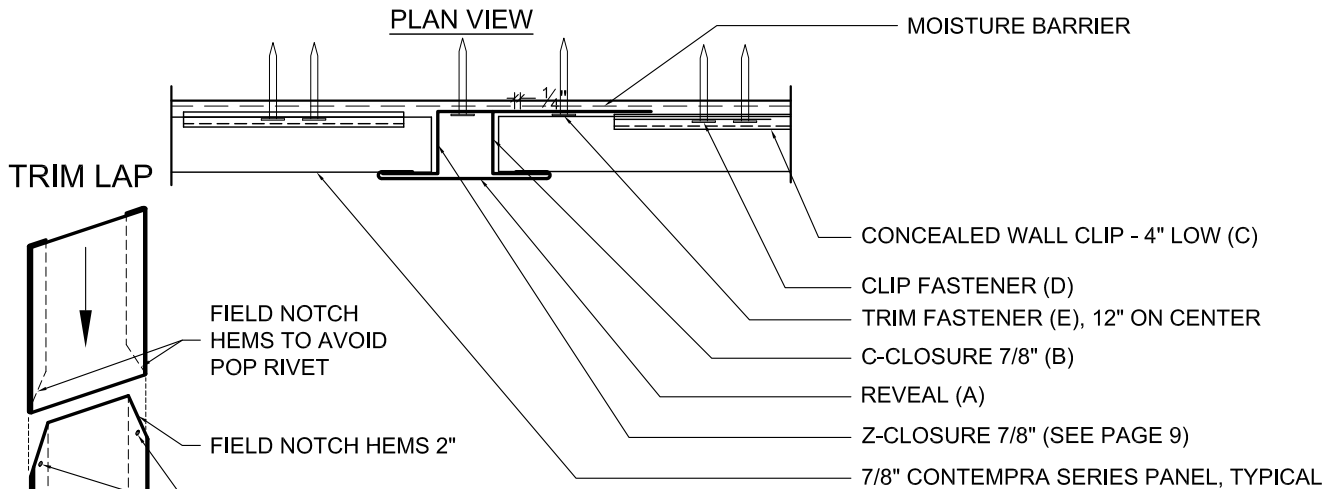
Part	Description	Product #	Length	Installation Information
<p>(A)</p>	Coping 8", 24 Ga Coping 8", 22 Ga Coping 10", 24 Ga Coping 10", 22 Ga Coping 12", 24 Ga Coping 12", 22 Ga	58714XX 60714XX 58715XX 60715XX 58716XX 60716XX	10'-2"	Hook Coping onto Panel End Closure and Pop Rivet to Coping Cleat.
<p>(B)</p>	Panel End Closure 7/8", 24 Ga Panel End Closure 7/8", 22 Ga Panel End Closure 7/8", 0.032"	58730XX 60730XX 58730XXA	10'-2"	Carefully locate Panel End Closure to support Coping.
<p>(C)</p>	Coping Cleat, 24 Ga Coping Cleat, 22 Ga Coping Cleat, 0.032"	58734XX 60734XX 58734XXA	10'-2"	Install Coping Cleat to accept Coping attachment.
<p>(D)</p>	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
<p>(D)</p>	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
<p>(E)</p>	1/8" x 3/8" Pop Rivet	82402XX		For trim attachment



- INSTALL ORDER**
1. MOISTURE BARRIER
 2. COPING CLEAT
 3. PANEL
 4. PANEL END CLOSURE 7/8"
 5. COPING

Part	Description	Product #	Length	Installation Information
<p>(A)</p>	Coping 8", 24 Ga Coping 8", 22 Ga Coping 10", 24 Ga Coping 10", 22 Ga Coping 12", 24 Ga Coping 12", 22 Ga	58714XX 60714XX 58715XX 60715XX 58716XX 60716XX	10'-2"	Hook Coping onto Panel End Closure and Pop Rivet to Coping Cleat.
<p>(B)</p>	Panel End Closure 7/8", 24 Ga Panel End Closure 7/8", 22 Ga Panel End Closure 7/8", 0.032"	58730XX 60730XX 58730XXA	10'-2"	Carefully locate Panel End Closure to support Coping.
<p>(C)</p>	Coping Cleat, 24 Ga Coping Cleat, 22 Ga Coping Cleat, 0.032"	58734XX 60734XX 58734XXA	10'-2"	Install Coping Cleat to accept Coping attachment.
<p>(D)</p>	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
<p>(D)</p>	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
<p>(E)</p>	#12-14 x 1/4" Self Driller XL	82353XX	1/4"	For panel attachment to steel framing
<p>(E)</p>	#10-14 x 1/2" Wood Screw XL	82123XX	1/2"	For panel attachment to wood sheathing or framing
<p>(F)</p>	1/8" x 3/8" Pop Rivet	82402XX		For trim attachment

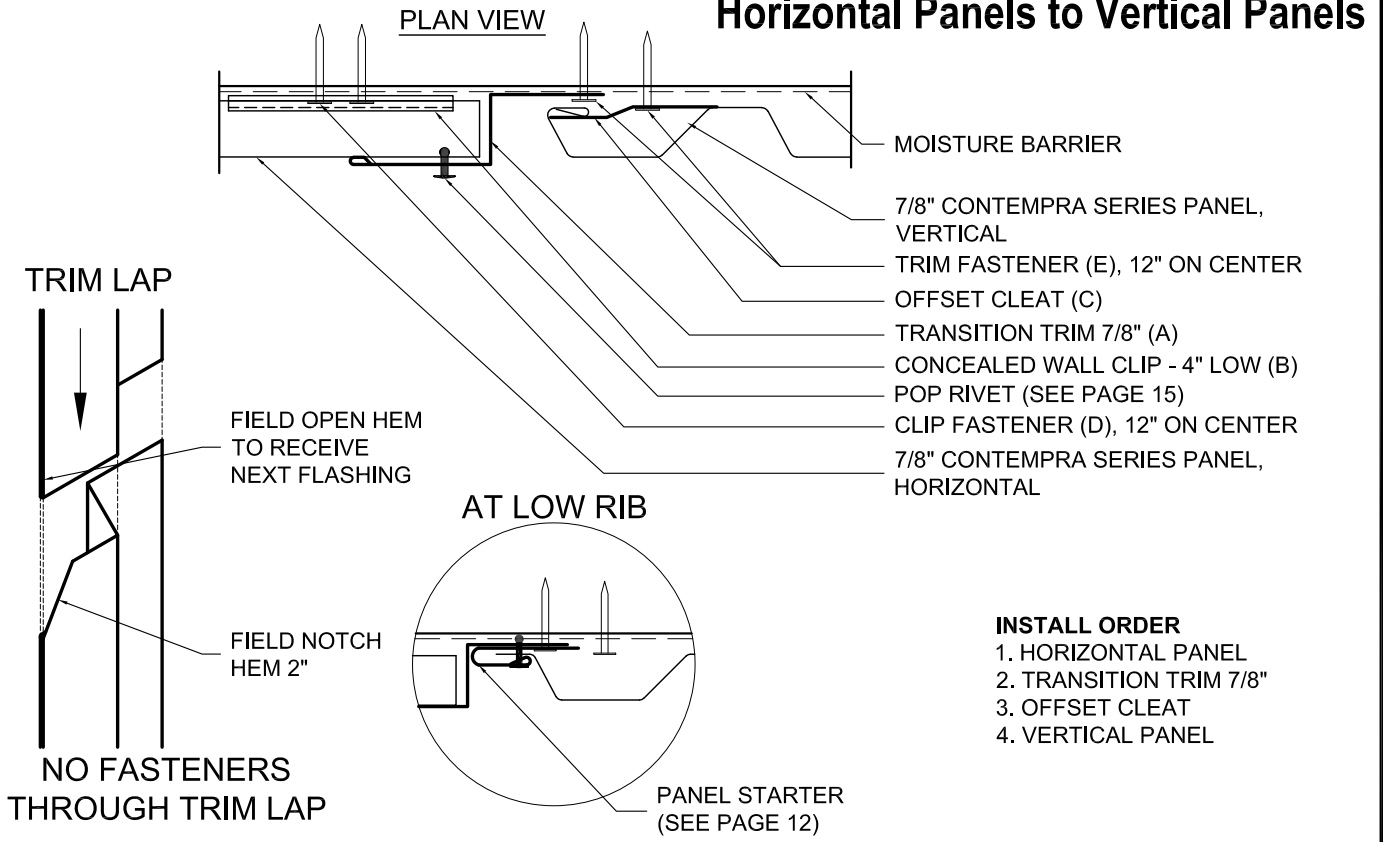
Reveal - Horizontal Panels



- INSTALL ORDER**
1. MOISTURE BARRIER
 2. PANEL
 3. Z-CLOSURE 7/8"
 4. REVEAL
 5. C-CLOSURE 7/8"
 6. PANEL

Part	Description	Product #	Length	Installation Information
(A)	Reveal, 24 Ga Reveal, 22 Ga Reveal, 0.032"	58740XX 60740XX 58740XXA	10'-2"	Hook Reveal on Z-Closure and engage C-Closure. Pop Rivet to Closures at trim lap.
(B)	C-Closure 7/8", 24 Ga C-Closure 7/8", 22 Ga C-Closure 7/8", 0.032"	58710XX 60710XX 58710XXA	10'-2"	Install C-Closure to restrain Reveal. Leave 1/4" gap between end of panels and back of C-Closure.
(C)	Concealed Wall Clip 4" Low 16 Ga Galv	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(D)	#12-11 x 1 1/2" Low Profile Wood Screw	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(D), (E)	#10-16 x 1" Pancake Head Driller	8242100	1"	For clip / trim attachment to steel framing
(E)	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(F)	1/8" x 3/8" Pop Rivet	82402XX		For Reveal attachment to Closures at trim lap

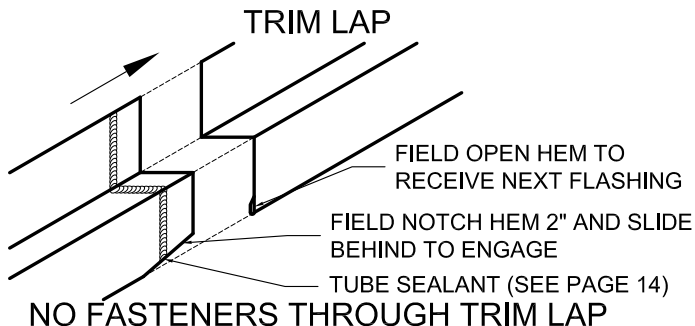
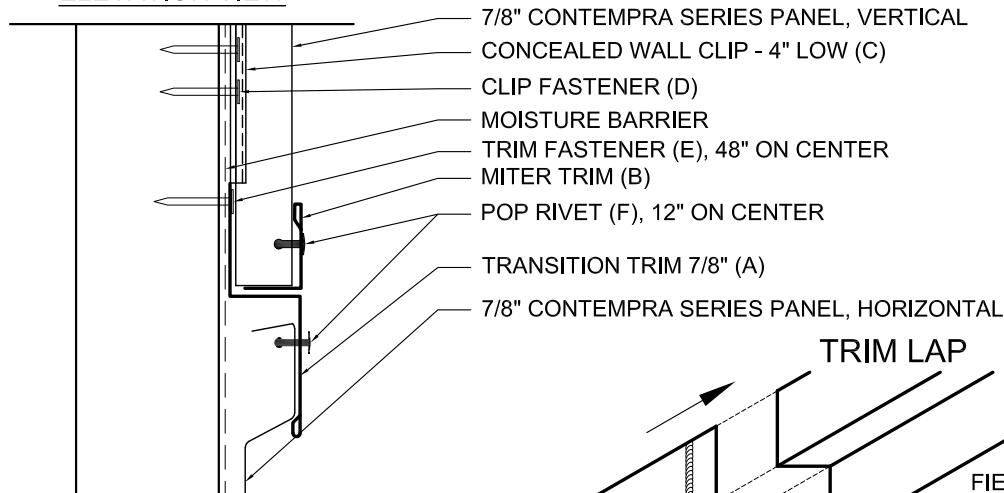
Horizontal Panels to Vertical Panels



Part	Description	Product #	Length	Installation Information
<p>(A)</p>	Transition Trim 7/8", 24 Ga Transition Trim 7/8", 22 Ga Transition Trim 7/8", 0.032"	58736XX 60736XX 58736XXA	10'-2"	Install Transition Trim over Z-Closure and Panel. Attach to Panel with Pop Rivet.
<p>(B)</p>	Concealed Wall Clip 4" Low 16 Ga Galv	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
<p>(C)</p>	Offset Cleat, 24 Ga	5806499	10'-2"	Hook panel onto 1" leg of Offset Cleat.
<p>(D)</p>	#12-11 x 1/2" Low Profile Wood Screw	8244100	1 1/2"	For clip attachment to wood sheathing or framing
<p>(D), (E)</p>	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
<p>(E)</p>	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing

Panels over Horizontal Panels

ELEVATION VIEW



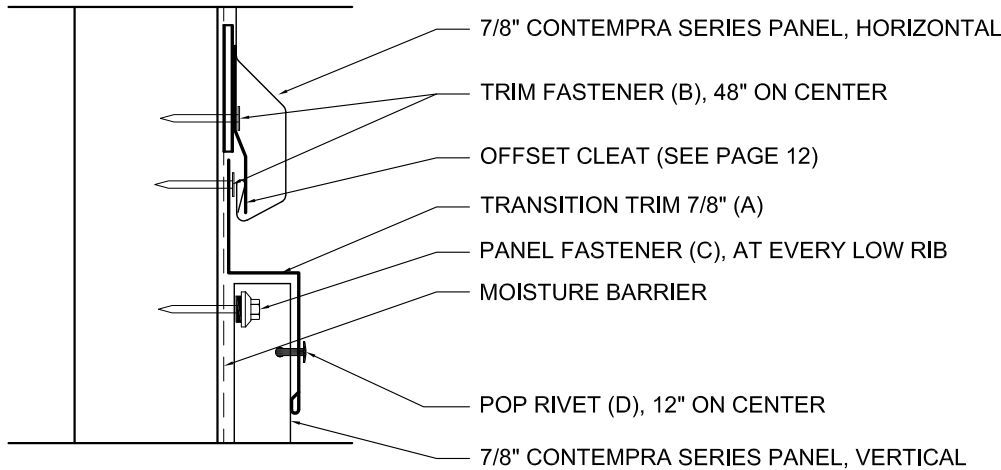
INSTALL ORDER

1. HORIZONTAL PANEL
2. TRANSITION TRIM 7/8"
3. VERTICAL PANEL
4. MITER TRIM

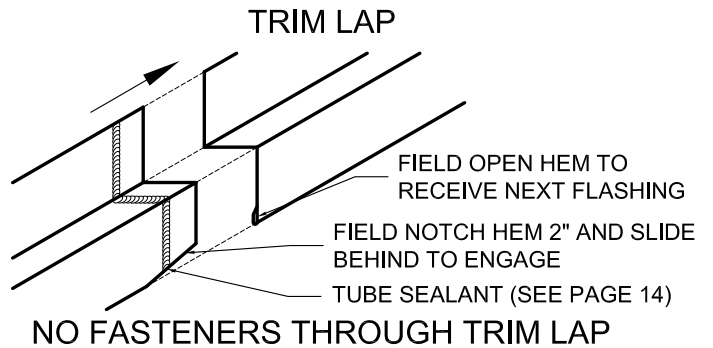
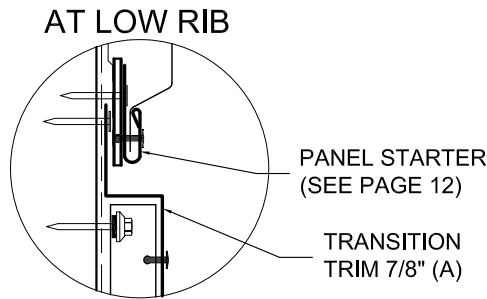
Part	Description	Product #	Length	Installation Information
(A)	Transition Trim 7/8", 24 Ga Transition Trim 7/8", 22 Ga Transition Trim 7/8", 0.032"	58736XX 60736XX 58736XXA	10'-2"	Install Transition Trim over horizontal panel and attach with Pop Rivet.
(B)	Miter Trim, 24 Ga Miter Trim, 22 Ga Miter Trim, 0.032"	58654XX 60654XX 58654XXA	10'-2"	Install at bottom of panels above header, attach with Pop Rivets.
(C)	Concealed Wall Clip 4" Low 16 Ga Galv	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(D)	#12-11 x 1 1/2" Low Profile Wood Screw	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(D), (E)	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
(E)	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(F)	1/8" x 3/8" Pop Rivet	82402XX		For Trim attachment to Panel

Horizontal Panels over Vert. Panels

ELEVATION VIEW

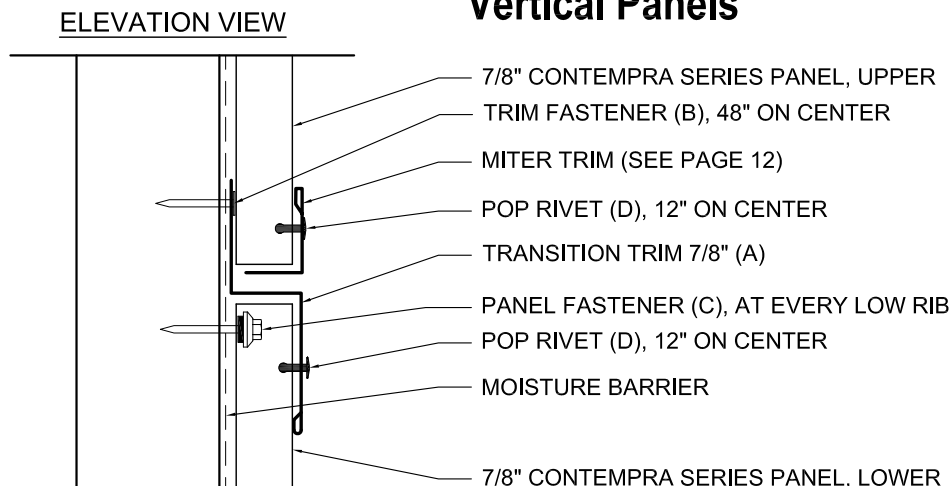


- INSTALL ORDER**
1. VERTICAL PANEL
 2. PANEL FASTENER
 3. TRANSITION TRIM 7/8"
 4. OFFSET CLEAT
 5. HORIZONTAL PANEL



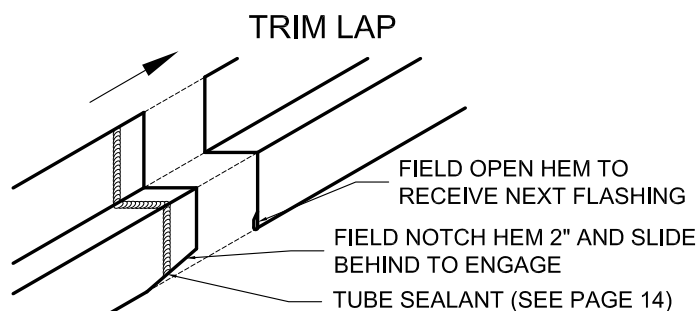
Part	Description	Product #	Length	Installation Information	
(A)		Transition Trim 7/8", 24 Ga Transition Trim 7/8", 22 Ga Transition Trim 7/8", 0.032"	58736XX 60736XX 58736XXA	10'-2"	Install Transition Trim over vertical panel and attach with Pop Rivet.
(B)		#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
(B)		#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(C)		#12-14 x 1/4" Self Driller XL	82353XX	1/4"	For panel attachment to steel framing
(C)		#10-14 x 1/2" Wood Screw XL	82123XX	1/2"	For panel attachment to wood sheathing or framing
(D)		1/8" x 3/8" Pop Rivet	82402XX		For Transition Trim attachment to Panel

Vertical Panels



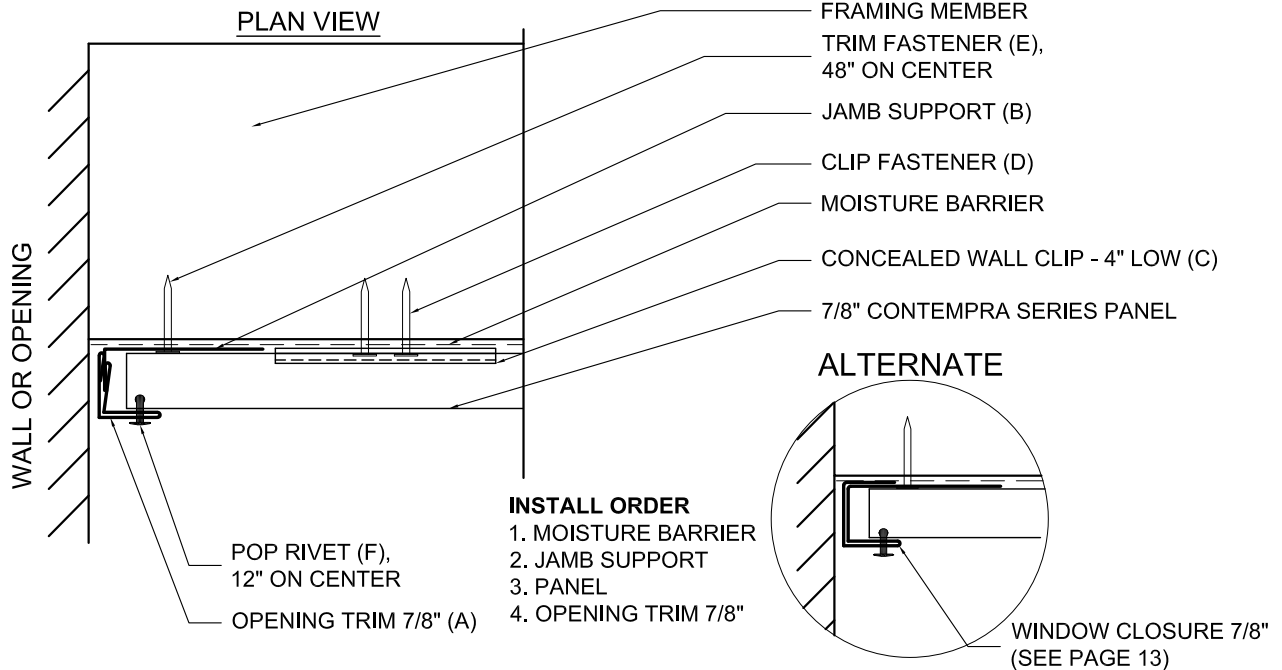
INSTALL ORDER

1. LOWER PANEL
2. TRANSITION TRIM 7/8"
3. UPPER PANEL
4. MITER TRIM



NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
(A)	Transition Trim 7/8", 24 Ga Transition Trim 7/8", 22 Ga Transition Trim 7/8", 0.032"	58736XX 60736XX 58736XXA	10'-2"	Install Transition Trim over lower panel and attach with Pop Rivet at Outside Closure.
(B)	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
(B)	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
(C)	#12-14 x 1/4" Self Driller XL	82353XX	1/4"	For panel attachment to steel framing
(C)	#10-14 x 1/2" Wood Screw XL	82123XX	1/2"	For panel attachment to wood sheathing or framing
(D)	1/8" x 3/8" Pop Rivet	82402XX		For trim attachment to panel



Part	Description	Product #	Length	Installation Information
(A)	<p>Opening Trim 7/8", 24 Ga Opening Trim 7/8", 22 Ga Opening Trim 7/8", 0.032"</p>	58371XX 58372XX 58373XX	10'-2"	Engage Opening Trim onto Jamb Support. Attach to panel with Pop Rivets. Sealant may be needed at adjacent wall.
(B)	<p>Jamb Support, 24 Ga Jamb Support, 22 Ga Jamb Support, 0.032"</p>	57352XX 59354XX 59355XX	10'-2"	Jamb Support and Opening Trim can ease the installation of panels as opposed to using C-Closures at both ends of a panel.
(C)	<p>Concealed Wall Clip 4" Low 16 Ga Galv</p>	4934600	4"	Install along the length of every panel spaced per design and within 6" of the panel ends.
(D)	<p>#12-11 x 1 1/2" Low Profile Wood Screw</p>	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(D), (E)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For clip / trim attachment to steel framing
(E)	<p>#10-12 x 1" Pancake Head Wood Screw</p>	8243100	1"	For trim attachment to wood sheathing or framing
(F)	<p>1/8" x 3/8" Pop Rivet</p>	82402XX		For trim attachment to panel

Though factory-applied pre-painted finishes are very durable and will last many years, eventually it may be desirable to thoroughly clean or repaint them.

Dirt pickup may cause apparent discoloration of the paint when it has been exposed in some dirt-laden atmospheres for long periods of time. In areas of strong sunlight, slight chalking may cause some change in appearance. A good cleaning will often restore the appearance of these buildings and render repainting unnecessary. An occasional light cleaning will help maintain a good appearance.

In many cases, simply washing the building with plain water using a hose or pressure sprayer will be adequate. In areas where heavy dirt deposits dull the surface, a cloth or soft bristle brush and solution of water and detergent ($\frac{1}{3}$ cup of laundry detergent per gallon of water for example) may be used. This should be followed by an adequate rinse of water. Do not use wire brushes, abrasives, or cleaning tools which will scratch the coating surface.

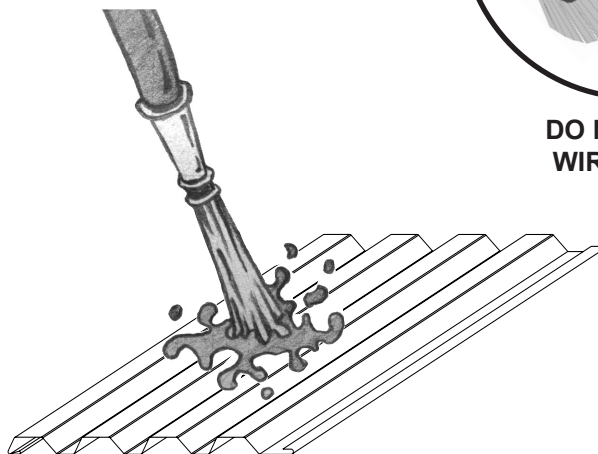
Mildew may occur in areas subject to high humidity but is not normally a problem due to the high inherent mildew resistance of the baked finish that is used. However, mildew can grow on dirt and spore deposits in some cases. To remove mildew along with the dirt, the following solution is recommended.

- $\frac{1}{3}$ cup detergent (Tide® or equivalent)
- $\frac{2}{3}$ cup trisodium phosphate (Solex® or equivalent)
- 1 quart of 5% sodium hypochlorite solution (Clorox® or equivalent)
- 3 quarts of water

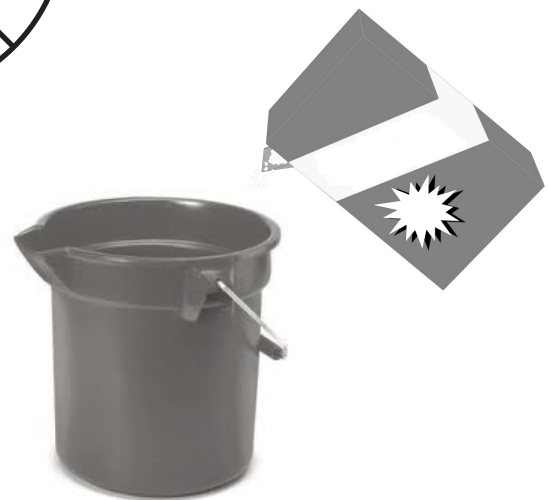
Strong solvents and abrasive type cleaners should be avoided. Most organic solvents are flammable and toxic and must be handled accordingly. When using a solvent, consult maintenance professionals and label instructions for proper handling and disposal of washings. If required, a mild solvent such as mineral spirits can be used to remove caulking compounds, oil, grease, tars, wax and similar substances. Use a cloth dampened with mineral spirits and apply only to areas which are contaminated. Follow up the use of this mild solvent with detergent cleaning and rinsing.



**DO NOT USE A
WIRE BRUSH**



**HOSE OR PRESSURE SPRAY
FOR ADEQUATE CLEANING**



**USE MILD DETERGENT AND WATER
FOR HEAVY DIRT DEPOSITS**

