

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

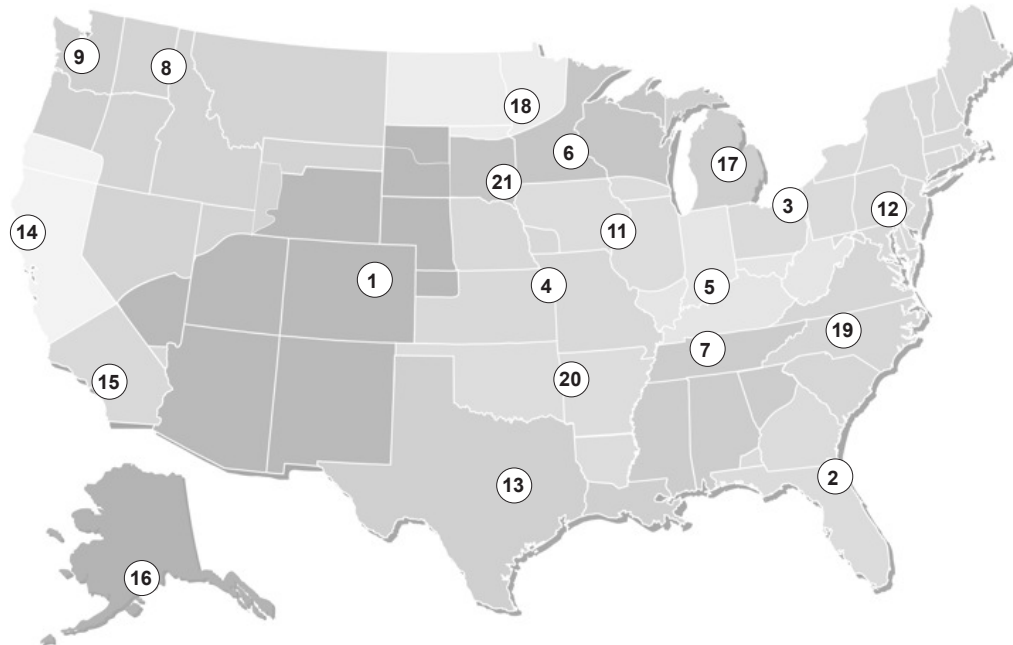
STUDY APPLICABLE OSHA AND OTHER SAFETY REQUIREMENTS BEFORE FOLLOWING THESE INSTRUCTIONS.

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 - 9
Flashing Profiles .....	10 - 13
Accessories .....	14
Fasteners .....	15
Design Information .....	16 - 31
<b>DETAILS</b>	
Base - H, V .....	32, 33
Sill - H, V .....	34, 35
Jamb - H, V .....	36, 37
Head - H, V .....	38, 39
Outside Corner - H, V .....	40, 41
Inside Corner - H, V .....	42, 43
Coping - H, V .....	44, 45
Sill To Soffit - H, V .....	46, 47
Vertical Transition with Reveal - H .....	48
Vertical Transition - H to V .....	49
Horizontal Transition - V over H .....	50
Horizontal Transition - H over V .....	51
Horizontal Transition - V .....	52
Panel End - H .....	53
Care and Maintenance .....	54
Notes .....	55

*'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.

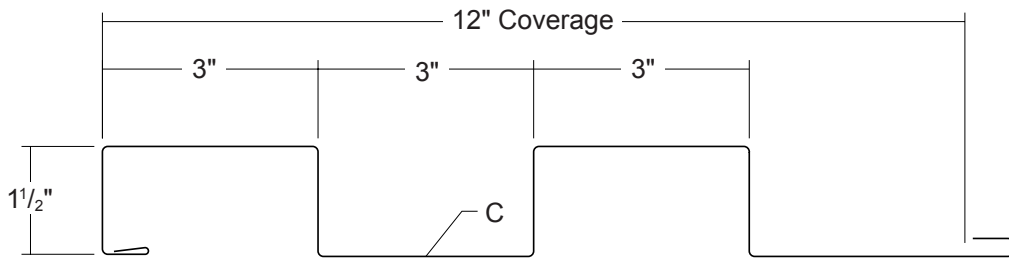
**Clip Fasteners** Do not overtighten the panel clip fasteners. The fasteners should be brought just to firm contact between the clip, panel and support material. The panel must be capable of sliding along its length after the clips are installed. A clip must be installed within 6" of each end of the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

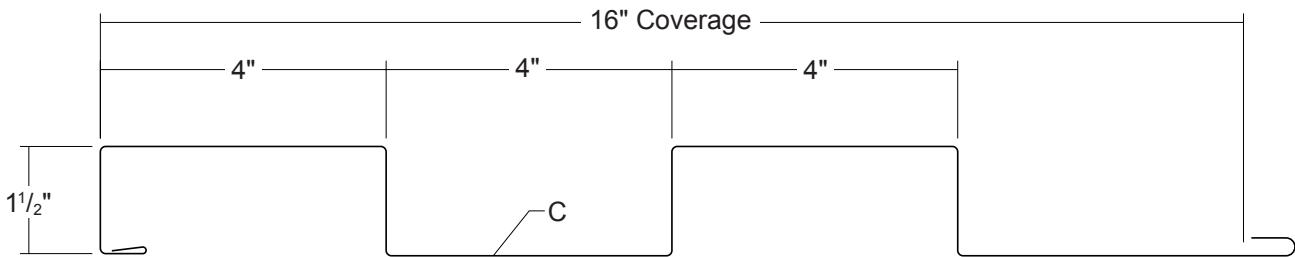
**EM15-126 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2774041	12"	2 ribs	24 ga	Galvalume® (ACG)
27740XX	12"	2 ribs	24 ga	PVDF
2974041	12"	2 ribs	22 ga	Galvalume® (ACG)
29740XX	12"	2 ribs	22 ga	PVDF
30740XX	12"	2 ribs	20 ga	PVDF
27740XXA	12"	2 ribs	0.032"	PVDF Aluminum
29740XXA	12"	2 ribs	0.040"	PVDF Aluminum

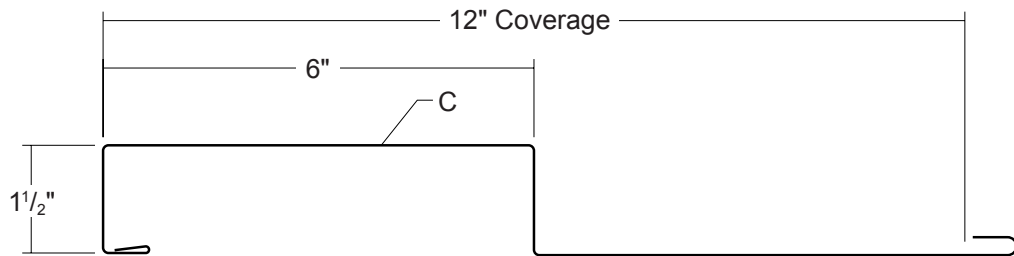
**EM15-168 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2774241	16"	2 ribs	24 ga	Galvalume® (ACG)
27742XX	16"	2 ribs	24 ga	PVDF
2974241	16"	2 ribs	22 ga	Galvalume® (ACG)
29742XX	16"	2 ribs	22 ga	PVDF
30742XX	16"	2 ribs	20 ga	PVDF
27742XXA	16"	2 ribs	0.032"	PVDF Aluminum
29742XXA	16"	2 ribs	0.040"	PVDF Aluminum

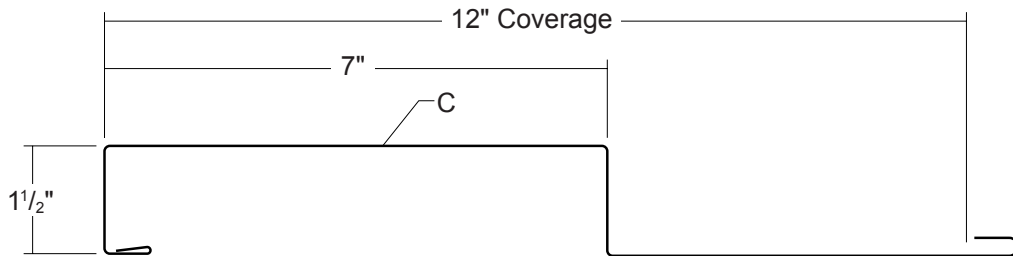
**EM15-1266 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2777041	12"	1 rib	24 ga	Galvalume® (ACG)
27770XX	12"	1 rib	24 ga	PVDF Painted
2977041	12"	1 rib	22 ga	Galvalume® (ACG)
29770XX	12"	1 rib	22 ga	PVDF
30770XX	12"	1 rib	20 ga	PVDF
27770XXA	12"	1 rib	0.032"	PVDF Aluminum
29770XXA	12"	1 rib	0.040"	PVDF Aluminum

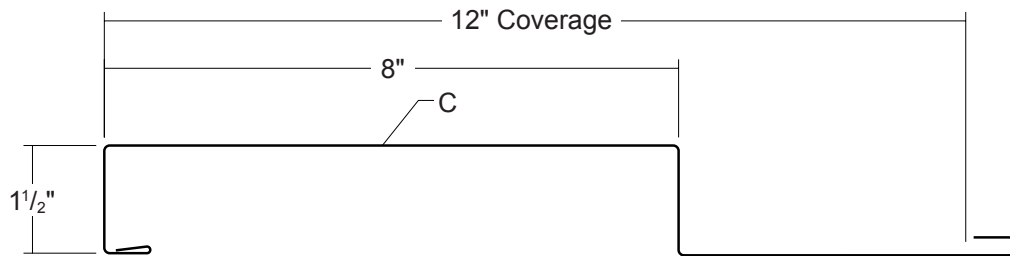
**EM15-1275 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2777541	12"	1 rib	24 ga	Galvalume® (ACG)
27775XX	12"	1 rib	24 ga	PVDF
2977541	12"	1 rib	22 ga	Galvalume® (ACG)
29775XX	12"	1 rib	22 ga	PVDF
30775XX	12"	1 rib	20 ga	PVDF
27775XXA	12"	1 rib	0.032"	PVDF Aluminum
29775XXA	12"	1 rib	0.040"	PVDF Aluminum

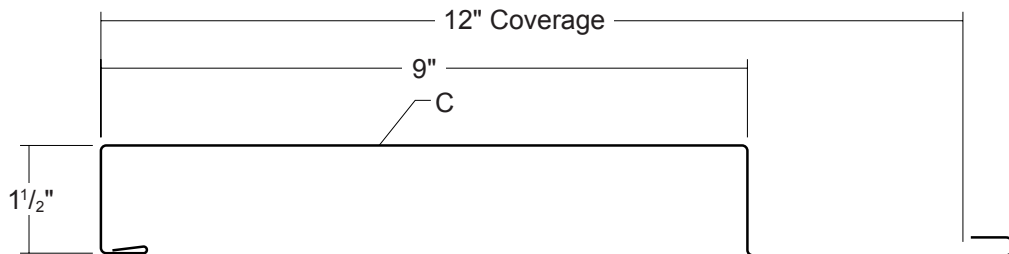
**EM15-1284 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2778041	12"	1 rib	24 ga	Galvalume® (ACG)
27780XX	12"	1 rib	24 ga	PVDF
2978041	12"	1 rib	22 ga	Galvalume® (ACG)
29780XX	12"	1 rib	22 ga	PVDF
30780XX	12"	1 rib	20 ga	PVDF
27780XXA	12"	1 rib	0.032"	PVDF Aluminum
29780XXA	12"	1 rib	0.040"	PVDF Aluminum

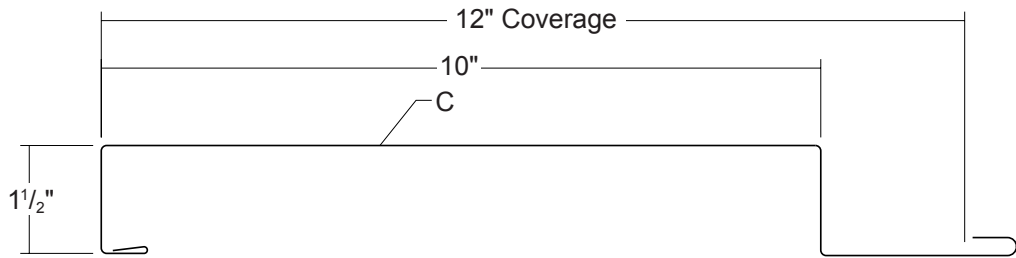
**EM15-1293 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2778541	12"	1 rib	24 ga	Galvalume® (ACG)
27785XX	12"	1 rib	24 ga	PVDF
2978541	12"	1 rib	22 ga	Galvalume® (ACG)
29785XX	12"	1 rib	22 ga	PVDF
30785XX	12"	1 rib	20 ga	PVDF
27785XXA	12"	1 rib	0.032"	PVDF Aluminum
29785XXA	12"	1 rib	0.040"	PVDF Aluminum

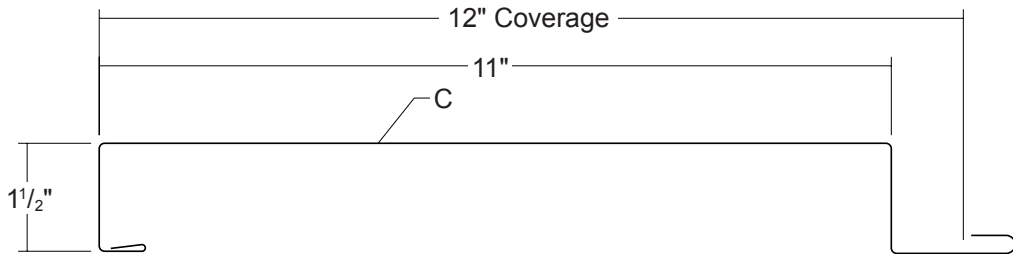
**EM15-1210 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2773941	12"	1 rib	24 ga	Galvalume® (ACG)
27739XX	12"	1 rib	24 ga	PVDF Painted
2775241	12"	1 rib	22 ga	Galvalume® (ACG)
27752XX	12"	1 rib	22 ga	PVDF
27753XX	12"	1 rib	20 ga	PVDF
27739XXA	12"	1 rib	0.032"	PVDF Aluminum
27752XXA	12"	1 rib	0.040"	PVDF Aluminum

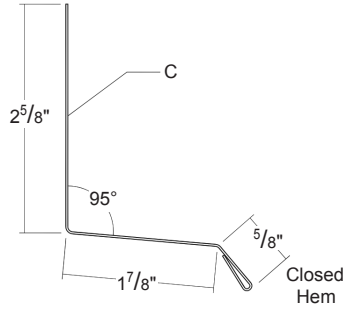
**EM15-1211 Box Rib**



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

Product No.	Coverage	Description	Thick	Finish
2780141	12"	1 rib	24 ga	Galvalume® (ACG)
27801XX	12"	1 rib	24 ga	PVDF
2780241	12"	1 rib	22 ga	Galvalume® (ACG)
27802XX	12"	1 rib	22 ga	PVDF
27803XX	12"	1 rib	20 ga	PVDF
27801XXA	12"	1 rib	0.032"	PVDF Aluminum
27802XXA	12"	1 rib	0.040"	PVDF Aluminum

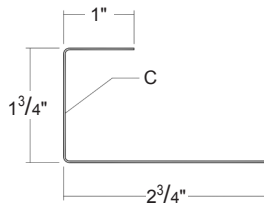
## BASE TRIM 1.5"



Product No.	Length	Thick	Finish
5870841	10'-2"	24 ga	Galvalume® (ACG)
58708XX	10'-2"	24 ga	PVDF Painted
6070841	10'-2"	22 ga	Galvalume® (ACG)
60708XX	10'-2"	22 ga	PVDF Painted
58708XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 5<sup>5</sup>/<sub>8</sub>"

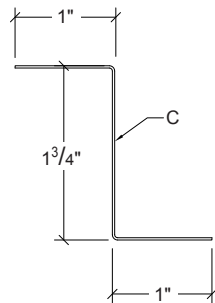
## C-CLOSURE 1.5"



Product No.	Length	Thick	Finish
5871241	10'-2"	24 ga	Galvalume® (ACG)
58712XX	10'-2"	24 ga	PVDF Painted
6071241	10'-2"	22 ga	Galvalume® (ACG)
60712XX	10'-2"	22 ga	PVDF Painted
58712XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 5<sup>1</sup>/<sub>2</sub>"

## Z-CLOSURE 1.5"

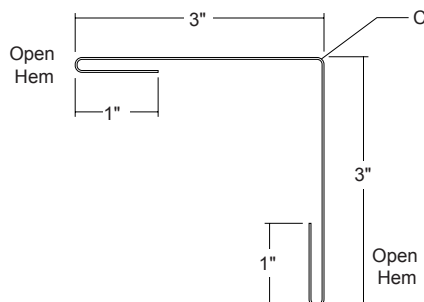


Product No.	Length	Thick	Finish
5872941	10'-2"	24 ga	Galvalume® (ACG)
58729XX	10'-2"	24 ga	PVDF Painted
6072941	10'-2"	22 ga	Galvalume® (ACG)
60729XX	10'-2"	22 ga	PVDF Painted
58729XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 3<sup>3</sup>/<sub>4</sub>"

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

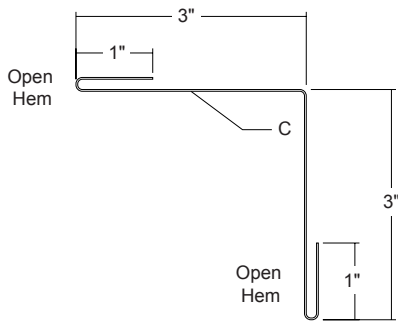
## OUTSIDE CORNER



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<sup>1</sup>/<sub>8</sub>"

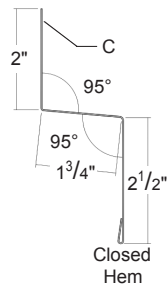
## INSIDE CORNER



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 = 8<sup>1</sup>/<sub>8</sub>"

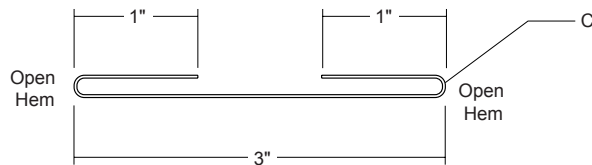
## TRANSITION 1.5"



Product No.	Length	Thick	Finish
5873841	10'-2"	24 ga	Galvalume® (ACG)
58738XX	10'-2"	24 ga	PVDF Painted
6073841	10'-2"	22 ga	Galvalume® (ACG)
60738XX	10'-2"	22 ga	PVDF Painted
58738XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 6<sup>3</sup>/<sub>4</sub>"

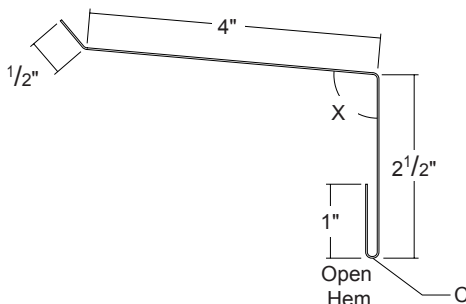
## REVEAL



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 = 5<sup>1</sup>/<sub>8</sub>"

## SILL/JAMB TRIM

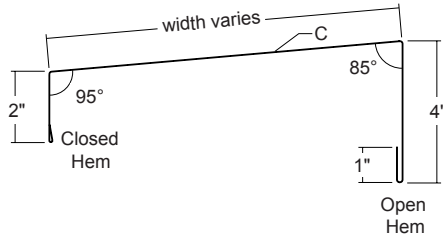


Product No.	Length	Thick	Finish
5871841	10'-2"	24 ga	Galvalume® (ACG)
58718XX	10'-2"	24 ga	PVDF Painted
6071841	10'-2"	22 ga	Galvalume® (ACG)
60718XX	10'-2"	22 ga	PVDF Painted
58718XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 8"

X= 95° for Sill or 90° for Jamb

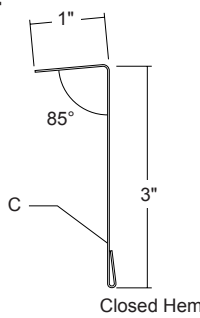
## COPING



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

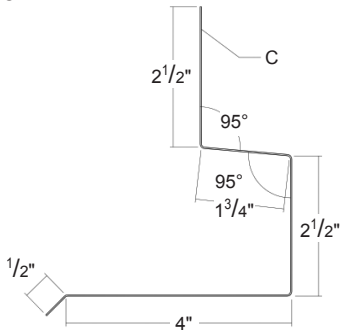
## COPING CLEAT



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"

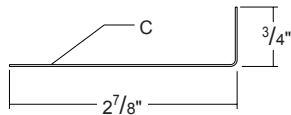
## HEAD TRIM 1.5"



Product No.	Length	Thick	Finish
5872241	10'-2"	24 ga	Galvalume® (ACG)
58722XX	10'-2"	24 ga	PVDF Painted
6072241	10'-2"	22 ga	Galvalume® (ACG)
60722XX	10'-2"	22 ga	PVDF Painted
58722XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 11 1/8"

## JAMB SUPPORT

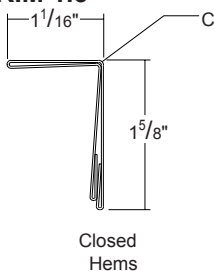


Product No.	Length	Thick	Finish
5735241	10'-2"	24 ga	Galvalume® (ACG)
57352XX	10'-2"	24 ga	PVDF Painted
5935441	10'-2"	22 ga	Galvalume® (ACG)
59354XX	10'-2"	22 ga	PVDF Painted
59655XX	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 3 5/8"

See Page 53.

## OPENING TRIM 1.5"

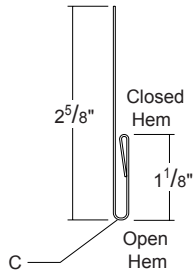


Product No.	Length	Thick	Finish
5837741	10'-2"	24 ga	Galvalume® (ACG)
58377XX	10'-2"	24 ga	PVDF Painted
5837841	10'-2"	22 ga	Galvalume® (ACG)
58378XX	10'-2"	22 ga	PVDF Painted
58379XX	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 6 1/4"

See page 53.

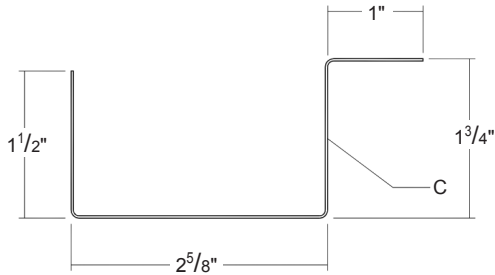
## PANEL STARTER



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 = 4<sup>3</sup>/<sub>8</sub>"

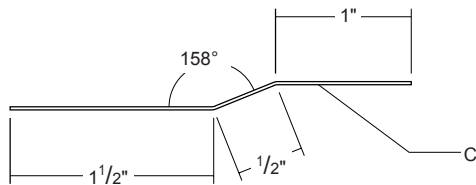
## PANEL END CLOSURE 1.5"



Product No.	Length	Thick	Finish
5873241	10'-2"	24 ga	Galvalume® (ACG)
58732XX	10'-2"	24 ga	PVDF Painted
6073241	10'-2"	22 ga	Galvalume® (ACG)
60732XX	10'-2"	22 ga	PVDF Painted
58732XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 6<sup>7</sup>/<sub>8</sub>"

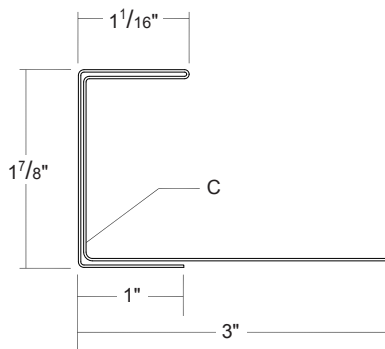
## OFFSET CLEAT



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

Flashing Stretch Out = 3"

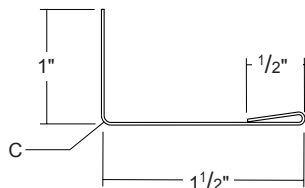
## WINDOW CLOSURE 1.5"



Product No.	Length	Thick	Finish
5874441	10'-2"	24 ga	Galvalume® (ACG)
58744XX	10'-2"	24 ga	PVDF Painted
6074441	10'-2"	22 ga	Galvalume® (ACG)
60744XX	10'-2"	22 ga	PVDF Painted
58744XXA	10'-2"	0.032"	PVDF Aluminum

Flashing Stretch Out = 9<sup>7</sup>/<sub>8</sub>"  
See page 53.

## 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 39, 47, 50 and 52.

### CONCEALED WALL CLIP - 4" LOW



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

### UNIVERSAL CLOSURE



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

### DOUBLE BEAD TAPE SEALANT



Product No.	Description	WT/Ctn.	Type
6403899	7 <sup>7</sup> / <sub>8</sub> " x 3 <sup>3</sup> / <sub>16</sub> " 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**

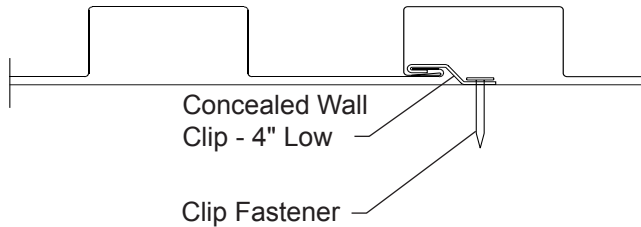


Product No.	Description	WT/250	Finish
8235300	#12-14 x 1 1/4" Self Driller XL	3.75 lbs	Plated
82353XX	#12-14 x 1 1/4" Self Driller XL	3.75 lbs	Painted

Used to attach a vertical panel to steel framing supports.

# EM15-126 Box Rib

## PANEL ATTACHMENT



## FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" Low Profile Wood Screw
  - Attaching to Steel:
    - < 18 ga: 1/4"-13 Deck Screw
    - ≥ 18 ga, ≤ 12 ga: #10-16 Pancake Head Drill
    - > 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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.56	0.1189	0.1156	0.1324	0.1549	117	60	38	27	21	78	43	29	21	17
22	12	50	2.04	0.1702	0.1710	0.1845	0.2248	117	60	38	27	21	78	43	29	21	17
20	12	33	2.49	0.2390	0.2550	0.2480	0.3239	117	60	38	27	21	78	43	29	21	17

- Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
- Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending and shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
- Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /ft	Inward Load						Outward Load					
								2'	2.5'	3'	4'	5'	6'	2'	2.5'	3'	4'	5'	6'
0.032	12	17	0.75	0.2680	0.3189	0.4068	0.385	98	63	45	26	17	12	58	46	38	29	23	19
0.040	12	17	0.93	0.3300	0.3930	0.5002	0.477	98	63	45	26	17	12	58	46	38	29	23	19

- Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
- Allowable loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
- 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 in uplift.

# EM15-126 on 16 ga Girts

## Wall Clip Spacing (feet)

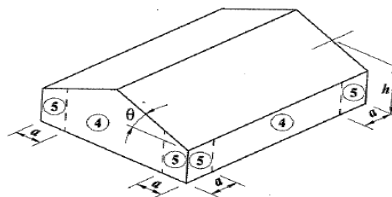
Wind Speed (mph) Exposure Category	20 ft, Mean Roof Height	40 ft, Mean Roof Height	60 ft, Mean Roof Height
	Thickness   Field   Edge	Thickness   Field   Edge	Thickness   Field   Edge
100C	24 ga   6.00   -25.1 psf	24 ga   5.50   -29.1 psf	24 ga   5.00   -31.7 psf
	22 ga   6.00   -31 psf	22 ga   5.50 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

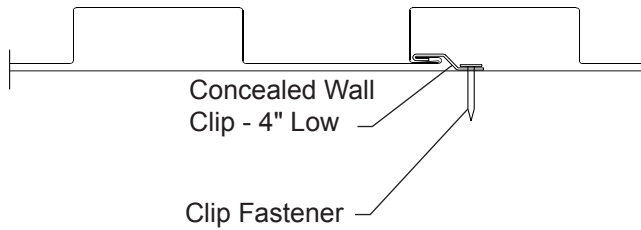
- ④ - FIELD
- ⑤ - EDGE

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



# EM15-168 Box Rib

## PANEL ATTACHMENT



## FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" 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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	16	50	1.39	0.0960	0.0895	0.1118	0.1208	117	60	38	27	21	78	43	29	21	17
22	16	50	1.82	0.1380	0.1331	0.1568	0.1758	117	60	38	27	21	78	43	29	21	17
20	16	33	2.22	0.1973	0.2012	0.2138	0.2558	117	60	38	27	21	78	43	29	21	17

1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
2. Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
3. Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /ft	Inward Load						Outward Load					
								2'	2.5'	3'	4'	5'	6'	2'	2.5'	3'	4'	5'	6'
0.032	16	17	0.67	0.2520	0.3066	0.3723	0.358	98	63	45	26	17	12	58	46	38	29	23	19
0.040	16	17	0.83	0.3105	0.3782	0.4583	0.444	98	63	45	26	17	12	58	46	38	29	23	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 loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
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 in uplift.

# EM15-168 on 16 ga Girts

## Wall Clip Spacing (feet)

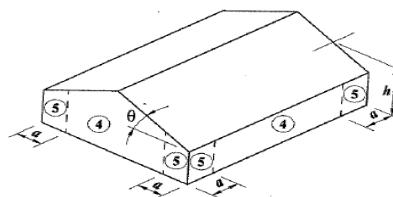
Wind Speed (mph) Exposure Category	20 ft. Mean Roof Height			40 ft. Mean Roof Height			60 ft. Mean Roof Height		
	Thickness	Field	Edge	Thickness	Field	Edge	Thickness	Field	Edge
100C		-25.1 psf	-31 psf		-29.1 psf	-35.9 psf		-31.7 psf	-39.1 psf
	24 ga	6.00	5.50	24 ga	5.50	4.50	24 ga	5.00	4.50
	22 ga	6.00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

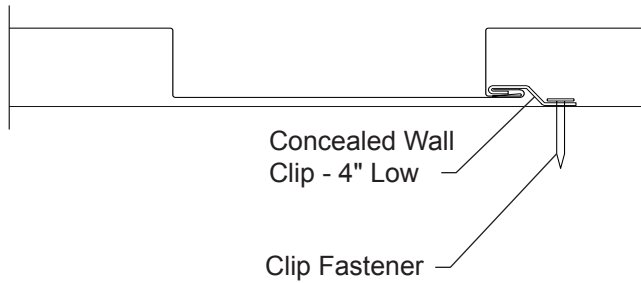
- ④ - FIELD
- ⑤ - EDGE

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



**EM15-1266 Box Rib**

**PANEL ATTACHMENT**



**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.

**FASTENING INFORMATION**

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" 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

**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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.33	0.0726	0.0623	0.1016	0.1062	117	60	38	27	21	100	55	37	27	21
22	12	50	1.74	0.1058	0.0930	0.1417	0.1531	117	60	38	27	21	100	55	37	27	21
20	12	33	2.12	0.1545	0.1423	0.1914	0.2188	117	60	38	27	21	100	55	37	27	21

1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
2. Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
3. Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /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	0.2500	0.2958	0.3827	0.341	98	63	45	26	17	12	95	64	47	29	20	15
0.040	12	17	0.80	0.3090	0.3653	0.4712	0.423	98	63	45	26	17	12	95	64	47	29	20	15

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 loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
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 in uplift.

# EM15-1266 on 16 ga Girts

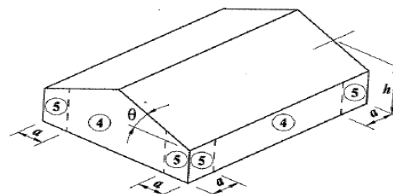
## Wall Clip Spacing (feet)

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	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"	6.00	5.00	0.032"	5.50	4.50	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	6.00	5.50	22 ga	6.00	5.00	22 ga	5.50	4.50
	20 ga	6.00	5.50	20 ga	6.00	5.00	20 ga	5.50	4.50
	0.032"	5.00	4.50	0.032"	4.50	4.00	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	5.50	5.00	22 ga	5.00	4.50	22 ga	4.50	4.00
	20 ga	5.50	5.00	20 ga	5.00	4.50	20 ga	4.50	4.00
	0.032"	4.50	4.00	0.032"	4.00	3.50	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	5.00	4.00	22 ga	4.50	4.00	22 ga	4.00	3.50
	20 ga	5.00	4.00	20 ga	4.50	4.00	20 ga	4.00	3.50
	0.032"	4.00	3.50	0.032"	3.50	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	4.50	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"	3.50	3.00	0.032"	3.50	3.00	0.032"	3.00	3.00
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	4.00	3.50	22 ga	3.50	3.00	22 ga	3.50	3.00
	20 ga	4.00	3.50	20 ga	3.50	3.00	20 ga	3.50	3.00
	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	3.50	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"	3.00	2.50	0.032"	2.50	2.50
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	3.50	3.00	22 ga	3.00	2.50	22 ga	2.50	2.50
	20 ga	3.50	3.00	20 ga	3.00	2.50	20 ga	2.50	2.50
	0.032"	3.00	2.50	0.032"	2.50	2.50	0.032"	2.50	2.00

**Notes:**

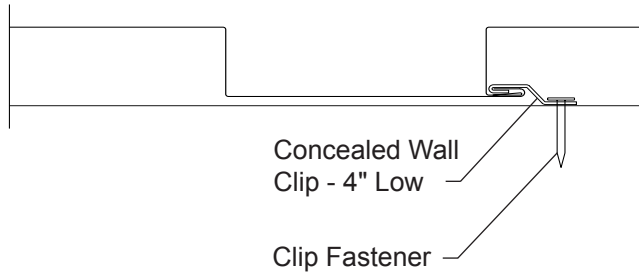
1. Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
2. Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. 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      a - LEAST OF 10% MINIMUM BUILDING WIDTH OR 40% OF MEAN ROOF HEIGHT BUT NOT LESS THAN 3'  
 ⑤ - EDGE



# EM15-1275 Box Rib

## PANEL ATTACHMENT



## 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.

## FASTENING INFORMATION

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" 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

## 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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.33	0.0690	0.0602	0.1072	0.1072	117	60	38	27	21	100	55	37	27	21
22	12	50	1.74	0.1024	0.0924	0.1497	0.1545	117	60	38	27	21	100	55	37	27	21
20	12	33	2.12	0.1494	0.1419	0.2028	0.2205	117	60	38	27	21	100	55	37	27	21

- Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
- Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
- Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /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	0.2550	0.3352	0.3460	0.364	98	63	45	26	17	12	68	49	38	26	19	15
0.040	12	17	0.80	0.3150	0.4138	0.4260	0.451	98	63	45	26	17	12	68	49	38	26	19	15

- Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
- Allowable loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
- 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 in uplift.

# EM15-1275 on 16 ga Girts

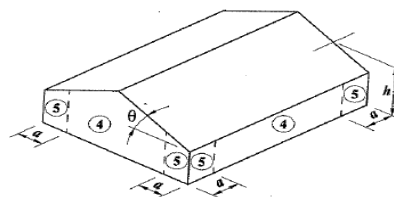
## Wall Clip Spacing (feet)

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	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"	6.00	5.00	0.032"	5.00	4.50	0.032"	5.00	4.00
110C		-30.4 psf	-37.5 psf		-35.2 psf	-43.4 psf		-38.3 psf	-47.3 psf
	24 ga	6.00	5.50	24 ga	6.00	5.00	24 ga	5.50	4.50
	22 ga	6.00	5.50	22 ga	6.00	5.00	22 ga	5.50	4.50
	20 ga	6.00	5.50	20 ga	6.00	5.00	20 ga	5.50	4.50
	0.032"	5.00	4.00	0.032"	4.50	3.50	0.032"	4.00	3.50
120C		-36.2 psf	-44.7 psf		-41.9 psf	-51.7 psf		-45.6 psf	-56.3 psf
	24 ga	5.50	5.00	24 ga	5.00	4.50	24 ga	4.50	4.00
	22 ga	5.50	5.00	22 ga	5.00	4.50	22 ga	4.50	4.00
	20 ga	5.50	5.00	20 ga	5.00	4.50	20 ga	4.50	4.00
	0.032"	4.50	3.50	0.032"	4.00	3.00	0.032"	3.50	3.00
130C		-42.5 psf	-52.4 psf		-49.1 psf	-60.6 psf		-53.5 psf	-66 psf
	24 ga	5.00	4.00	24 ga	4.50	4.00	24 ga	4.00	3.50
	22 ga	5.00	4.00	22 ga	4.50	4.00	22 ga	4.00	3.50
	20 ga	5.00	4.00	20 ga	4.50	4.00	20 ga	4.00	3.50
	0.032"	4.00	3.00	0.032"	3.50	3.00	0.032"	3.00	2.50
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"	3.50	3.00	0.032"	3.00	2.50	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	3.00
	22 ga	4.00	3.50	22 ga	3.50	3.00	22 ga	3.50	3.00
	20 ga	4.00	3.50	20 ga	3.50	3.00	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		-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"	2.50	2.00	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	3.50	3.00	24 ga	3.00	2.50	24 ga	2.50	2.50
	22 ga	3.50	3.00	22 ga	3.00	2.50	22 ga	2.50	2.50
	20 ga	3.50	3.00	20 ga	3.00	2.50	20 ga	2.50	2.50
	0.032"	2.50	2.00	0.032"	2.00	2.00	0.032"	2.00	2.00

**Notes:**

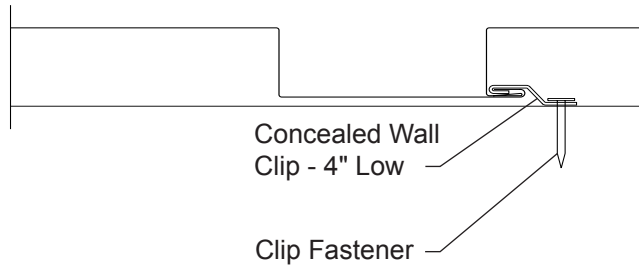
1. Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
2. Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. 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'.



**EM15-1284 Box Rib**

**PANEL ATTACHMENT**



**FASTENING INFORMATION**

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" Low Profile Wood Screw
  - Attaching to Steel:
    - < 18 ga: 1/<sub>4</sub>"-13 Deck Screw
    - ≥ 18 ga, ≤ 12 ga: #10-16 Pancake Head Driller
    - > 12 ga: 1/<sub>4</sub>"-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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.33	0.0671	0.0605	0.1118	0.1080	117	60	38	27	21	100	55	37	27	21
22	12	50	1.74	0.0982	0.0915	0.1564	0.1553	117	60	38	27	21	100	55	37	27	21
20	12	33	2.12	0.1428	0.1409	0.2121	0.2209	117	60	38	27	21	100	55	37	27	21

- Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
- Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
- Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /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	0.2520	0.3727	0.3071	0.359	98	63	45	26	17	12	68	49	38	26	19	15
0.040	12	17	0.80	0.3110	0.4598	0.3780	0.444	98	63	45	26	17	12	68	49	38	26	19	15

- Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
- Allowable loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
- 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 in uplift.

# EM15-1284 on 16 ga Girts

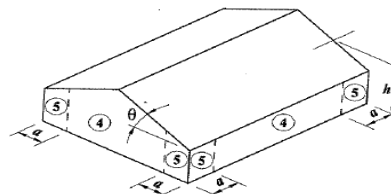
## Wall Clip Spacing (feet)

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	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"	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	6.00	5.50	22 ga	6.00	5.00	22 ga	5.50	4.50
	20 ga	6.00	5.50	20 ga	6.00	5.00	20 ga	5.50	4.50
	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	5.50	5.00	22 ga	5.00	4.50	22 ga	4.50	4.00
	20 ga	5.50	5.00	20 ga	5.00	4.50	20 ga	4.50	4.00
	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	5.00	4.00	22 ga	4.50	4.00	22 ga	4.00	3.50
	20 ga	5.00	4.00	20 ga	4.50	4.00	20 ga	4.00	3.50
	0.032"	4.00	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	4.50	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"	3.50	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	4.00	3.50	22 ga	3.50	3.00	22 ga	3.50	3.00
	20 ga	4.00	3.50	20 ga	3.50	3.00	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	-64.3 psf	-79.4 psf	24 ga	-74.4 psf	-91.9 psf	24 ga	-81 psf	-100 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"	2.50	2.00	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	3.50	3.00	22 ga	3.00	2.50	22 ga	2.50	2.50
	20 ga	3.50	3.00	20 ga	3.00	2.50	20 ga	2.50	2.50
	0.032"	2.50	2.00	0.032"	2.00	2.00	0.032"	2.00	2.00

**Notes:**

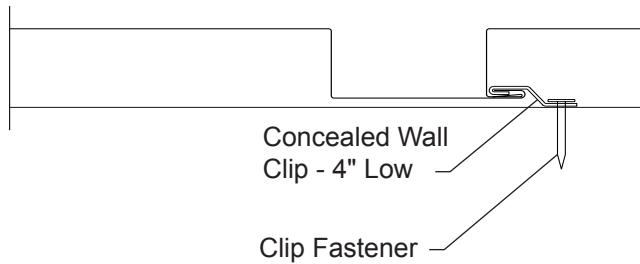
1. Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
2. Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. 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'.



**EM15-1293 Box Rib**

**PANEL ATTACHMENT**



**FASTENING INFORMATION**

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" 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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.33	0.0640	0.0600	0.1156	0.1083	117	60	38	27	21	103	58	39	30	24
22	12	50	1.74	0.0929	0.0901	0.1618	0.1555	117	60	38	27	21	103	58	39	30	24
20	12	33	2.12	0.1346	0.1392	0.2191	0.2198	117	60	38	27	21	103	58	39	30	24

1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
2. Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
3. Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /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	0.2420	0.4072	0.2667	0.322	98	63	45	26	17	12	68	52	42	30	24	19
0.040	12	17	0.80	0.2980	0.5023	0.3282	0.398	98	63	45	26	17	12	68	52	42	30	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 loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
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 in uplift.

# EM15-1293 on 16 ga Girts

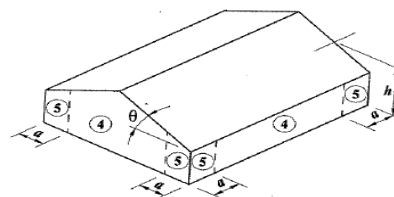
## Wall Clip Spacing (feet)

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	6.00
	22 ga	6.00	6.00	22 ga	6.00	6.00	22 ga	6.00	6.00
	20 ga	6.00	6.00	20 ga	6.00	6.00	20 ga	6.00	6.00
	0.032"	6.00	6.00	0.032"	6.00	5.00	0.032"	6.00	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	5.50	24 ga	6.00	5.00
	22 ga	6.00	6.00	22 ga	6.00	5.50	22 ga	6.00	5.00
	20 ga	6.00	6.00	20 ga	6.00	5.50	20 ga	6.00	5.00
	0.032"	6.00	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	4.50
	22 ga	6.00	5.00	22 ga	5.50	4.50	22 ga	5.00	4.50
	20 ga	6.00	5.00	20 ga	5.50	4.50	20 ga	5.00	4.50
	0.032"	5.00	4.00	0.032"	4.50	3.50	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	5.50	4.50	24 ga	5.00	4.00	24 ga	4.50	3.50
	22 ga	5.50	4.50	22 ga	5.00	4.00	22 ga	4.50	3.50
	20 ga	5.50	4.50	20 ga	5.00	4.00	20 ga	4.50	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	5.00	4.00	24 ga	4.00	3.50	24 ga	4.00	3.50
	22 ga	5.00	4.00	22 ga	4.00	3.50	22 ga	4.00	3.50
	20 ga	5.00	4.00	20 ga	4.00	3.50	20 ga	4.00	3.50
	0.032"	4.00	3.00	0.032"	3.50	2.50	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	4.50	3.50	24 ga	4.00	3.00	24 ga	3.50	3.00
	22 ga	4.50	3.50	22 ga	4.00	3.00	22 ga	3.50	3.00
	20 ga	4.50	3.50	20 ga	4.00	3.00	20 ga	3.50	3.00
	0.032"	3.50	3.00	0.032"	3.00	2.50	0.032"	2.50	2.00
160C		-64.3 psf	-79.4 psf		-74.4 psf	-91.9 psf		-81 psf	-100 psf
	24 ga	4.00	3.00	24 ga	3.50	3.00	24 ga	3.00	2.50
	22 ga	4.00	3.00	22 ga	3.50	3.00	22 ga	3.00	2.50
	20 ga	4.00	3.00	20 ga	3.50	3.00	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	3.50	3.00	24 ga	2.00	2.50	24 ga	3.00	2.50
	22 ga	3.50	3.00	22 ga	2.00	2.50	22 ga	3.00	2.50
	20 ga	3.50	3.00	20 ga	2.00	2.50	20 ga	3.00	2.50
	0.032"	2.50	2.00	0.032"	2.50	2.00	0.032"	2.00	2.00

**Notes:**

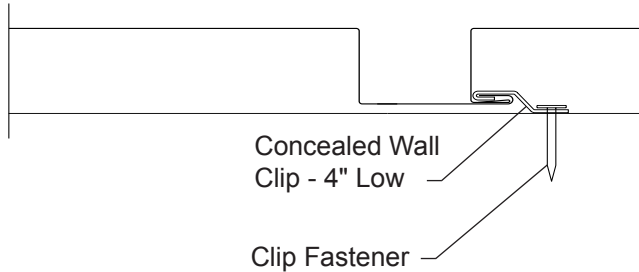
- Allowable spacing is based on capacities determined in AISI 2016, North American Specification for the Design of Cold-Structural Members and ADM 2015, Aluminum Design Manual.
- Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. 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'.



**EM15-1210 Box Rib**

**PANEL ATTACHMENT**



**FASTENING INFORMATION**

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" 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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.33	0.0596	0.0586	0.1185	0.1081	117	60	38	27	-	78	49	35	28	-
22	12	50	1.74	0.0863	0.0881	0.1655	0.1545	117	60	38	27	-	78	49	35	28	-
20	12	33	2.12	0.1240	0.1364	0.2230	0.2157	117	60	38	27	-	78	49	35	28	-

- Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
- Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
- Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /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	0.2230	0.4382	0.2252	0.276	98	63	45	26	17	-	68	52	42	30	24	-
0.040	12	17	0.80	0.2740	0.5395	0.2769	0.341	98	63	45	26	17	-	68	52	42	30	24	-

- Theoretical section properties have been calculated per 2015 Aluminum Design Manual. I, S and Z are section properties for deflection and bending.
- Allowable loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection and load testing on 16 ga girts of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
- 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 in uplift.

# EM15-1210 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	5.50	5.50	24 ga	5.50	5.50	24 ga	5.50	5.50
	22 ga	5.50	5.50	22 ga	5.50	5.50	22 ga	5.50	5.50
	20 ga	5.50	5.50	20 ga	5.50	5.50	20 ga	5.50	5.50
	0.032"	5.50	5.50	0.032"	5.50	5.00	0.032"	5.50	4.50
110C	24 ga	5.50	5.50	24 ga	5.50	5.00	24 ga	5.50	4.50
	22 ga	5.50	5.50	22 ga	5.50	5.00	22 ga	5.50	4.50
	20 ga	5.50	5.50	20 ga	5.50	5.00	20 ga	5.50	4.50
	0.032"	5.50	5.00	0.032"	5.00	4.00	0.032"	4.50	4.00
120C	24 ga	5.50	5.00	24 ga	5.50	4.50	24 ga	5.00	4.00
	22 ga	5.50	5.00	22 ga	5.50	4.50	22 ga	5.00	4.00
	20 ga	5.50	5.00	20 ga	5.50	4.50	20 ga	5.00	4.00
	0.032"	5.00	4.00	0.032"	4.50	3.50	0.032"	4.00	3.50
130C	24 ga	5.00	4.00	24 ga	4.50	3.50	24 ga	4.00	3.50
	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
140C	24 ga	4.50	3.50	24 ga	4.00	3.00	24 ga	3.50	3.00
	22 ga	4.50	3.50	22 ga	4.00	3.00	22 ga	3.50	3.00
	20 ga	4.50	3.50	20 ga	4.00	3.00	20 ga	3.50	3.00
	0.032"	4.00	3.00	0.032"	3.50	2.50	0.032"	3.00	2.50
150C	24 ga	4.00	3.00	24 ga	3.50	3.00	24 ga	3.00	2.50
	22 ga	4.00	3.00	22 ga	3.50	3.00	22 ga	3.00	2.50
	20 ga	4.00	3.00	20 ga	3.50	3.00	20 ga	3.00	2.50
	0.032"	3.50	2.50	0.032"	3.00	2.50	0.032"	2.50	2.00
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	2.50	2.00	24 ga	2.50	2.00
	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:**

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.

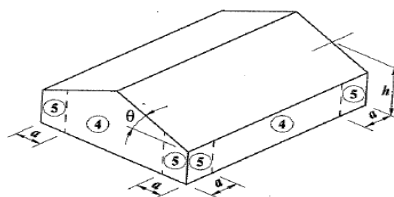
2. Allowable spacing is based on an applied load determined using ASCE 7-16 for the wind speeds and Wind Exposures tabulated. Assumptions include a tributary area of 10 square feet, an Enclosed building, a Topographic Factor of 1.0 and panel bearing length of 2.5 inches.

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.

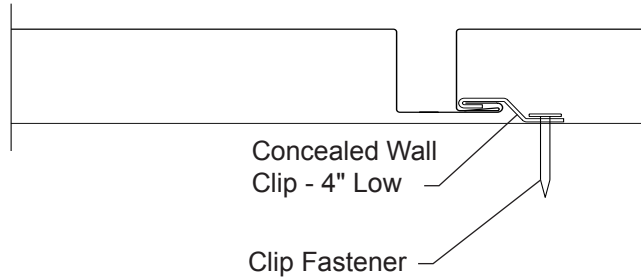
- ④ - FIELD
- ⑤ - EDGE

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



**EM15-1211 Box Rib**

**PANEL ATTACHMENT**



**FASTENING INFORMATION**

- Concealed Wall Clip - 4" Low is 1<sup>3</sup>/<sub>4</sub>" x 4" x 3/<sub>8</sub>", 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 1<sup>1</sup>/<sub>2</sub>" 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 <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	I <sub>xx</sub> in <sup>4</sup> /ft	S <sub>xx</sub> in <sup>3</sup> /ft	2'	3'	4'	5'	6'	2'	3'	4'	5'	6'
24	12	50	1.33	0.0541	0.0566	0.1191	0.1057	117	60	38	27	-	78	53	40	32	-
22	12	50	1.74	0.0780	0.0852	0.1660	0.1505	117	60	38	27	-	78	53	40	32	-
20	12	33	2.12	0.1120	0.1322	0.2190	0.2033	117	60	38	27	-	78	53	40	32	-

1. Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. I<sub>xx</sub> and S<sub>xx</sub> are effective section properties for deflection and bending.
2. Allowable loads are calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support materials.
3. Allowable loads consider 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 <sup>4</sup> /ft	S <sub>Top</sub> in <sup>3</sup> /ft	S <sub>Bottom</sub> in <sup>3</sup> /ft	Z in <sup>3</sup> /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	0.1960	0.4625	0.1828	0.230	98	63	45	26	17	-	77	59	48	34	27	-
0.040	12	17	0.80	0.2140	0.5684	0.2245	0.284	98	63	45	26	17	-	77	59	48	34	27	-

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 loads are calculated in accordance with 2015 Aluminum Design Manual specifications considering bending, shear, combined bending & shear, deflection, load testing on 16 ga girts and load testing of comparable profiles. Panel weight is not considered. Allowable loads do not consider other support conditions, including web crippling, fasteners or support material.
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 in uplift.

# EM15-1211 on 16 ga Girts

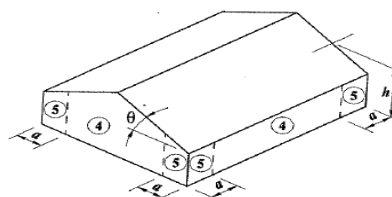
## Wall Clip Spacing (feet)

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	5.50	5.50	24 ga	5.50	5.50	24 ga	5.50	5.50
	22 ga	5.50	5.50	22 ga	5.50	5.50	22 ga	5.50	5.50
	20 ga	5.50	5.50	20 ga	5.50	5.50	20 ga	5.50	5.50
	0.032"	5.50	5.50	0.032"	5.50	5.50	0.032"	5.50	5.50
110C		-30.4 psf	-37.5 psf		-35.2 psf	-43.4 psf		-38.3 psf	-47.3 psf
	24 ga	5.50	5.50	24 ga	5.50	5.50	24 ga	5.50	5.50
	22 ga	5.50	5.50	22 ga	5.50	5.50	22 ga	5.50	5.50
	20 ga	5.50	5.50	20 ga	5.50	5.50	20 ga	5.50	5.50
	0.032"	5.50	5.50	0.032"	5.50	5.00	0.032"	5.50	4.50
120C		-36.2 psf	-44.7 psf		-41.9 psf	-51.7 psf		-45.6 psf	-56.3 psf
	24 ga	5.50	5.50	24 ga	5.50	5.00	24 ga	5.50	4.50
	22 ga	5.50	5.50	22 ga	5.50	5.00	22 ga	5.50	4.50
	20 ga	5.50	5.50	20 ga	5.50	5.00	20 ga	5.50	4.50
	0.032"	5.50	5.00	0.032"	5.00	4.00	0.032"	4.50	4.00
130C		-42.5 psf	-52.4 psf		-49.1 psf	-60.6 psf		-53.5 psf	-66 psf
	24 ga	5.50	5.00	24 ga	5.00	4.00	24 ga	4.50	4.00
	22 ga	5.50	5.00	22 ga	5.00	4.00	22 ga	4.50	4.00
	20 ga	5.50	5.00	20 ga	5.00	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
140C		-49.2 psf	-60.8 psf		-57 psf	-70.3 psf		-62 psf	-76.6 psf
	24 ga	5.00	4.00	24 ga	4.50	3.50	24 ga	4.00	3.00
	22 ga	5.00	4.00	22 ga	4.50	3.50	22 ga	4.00	3.00
	20 ga	5.00	4.00	20 ga	4.50	3.50	20 ga	4.00	3.00
	0.032"	4.50	3.50	0.032"	4.00	3.00	0.032"	3.50	3.00
150C		-56.5 psf	-69.8 psf		-65.4 psf	-80.7 psf		-71.2 psf	-87.9 psf
	24 ga	4.50	3.50	24 ga	4.00	3.00	24 ga	3.50	2.50
	22 ga	4.50	3.50	22 ga	4.00	3.00	22 ga	3.50	2.50
	20 ga	4.50	3.50	20 ga	4.00	3.00	20 ga	3.50	2.50
	0.032"	4.00	3.00	0.032"	3.50	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	4.00	3.00	24 ga	3.50	2.50	24 ga	3.00	2.50
	22 ga	4.00	3.00	22 ga	3.50	2.50	22 ga	3.00	2.50
	20 ga	4.00	3.00	20 ga	3.50	2.50	20 ga	3.00	2.50
	0.032"	3.50	3.00	0.032"	3.00	2.50	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	3.50	2.50	24 ga	3.00	2.50	24 ga	2.50	2.00
	22 ga	3.50	2.50	22 ga	3.00	2.50	22 ga	2.50	2.00
	20 ga	3.50	2.50	20 ga	3.00	2.50	20 ga	2.50	2.00
	0.032"	3.00	2.50	0.032"	2.50	2.00	0.032"	2.50	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.

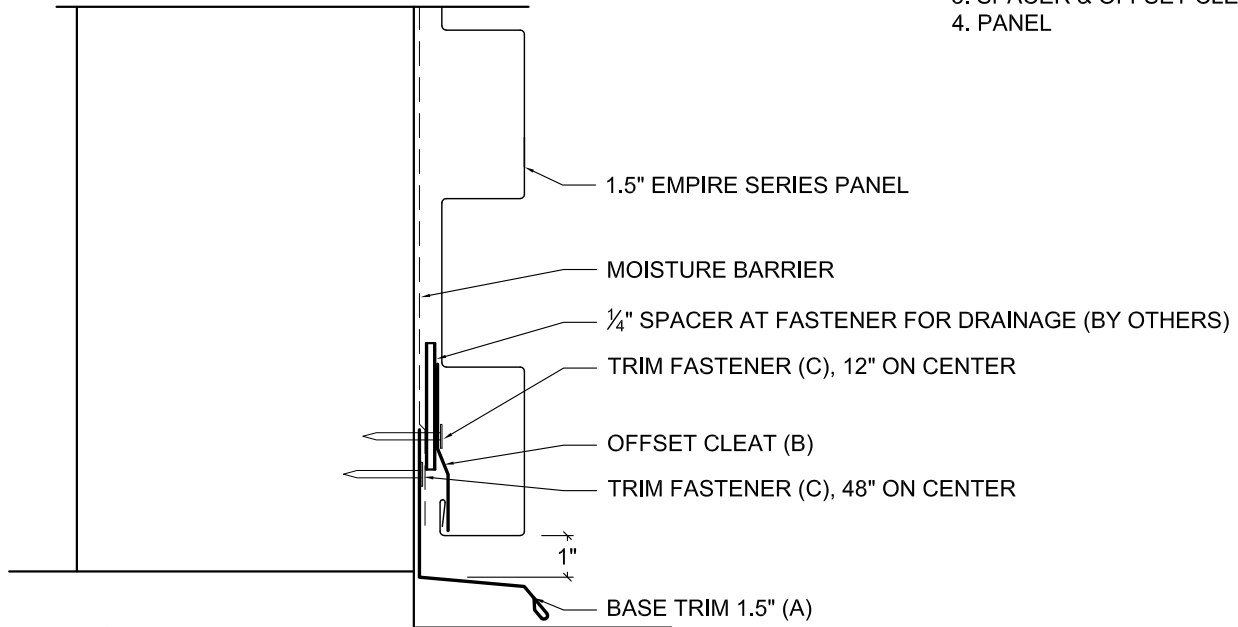
④ - FIELD      a - LEAST OF 10% MINIMUM BUILDING WIDTH OR 40% OF MEAN ROOF HEIGHT BUT NOT LESS THAN 3'.  
 ⑤ - EDGE



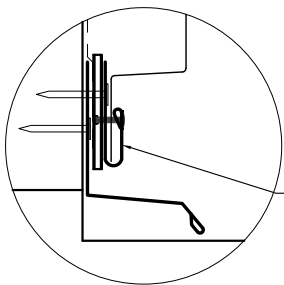
**INSTALL ORDER**

1. BASE TRIM
2. MOISTURE BARRIER
3. SPACER & OFFSET CLEAT
4. PANEL

ELEVATION VIEW

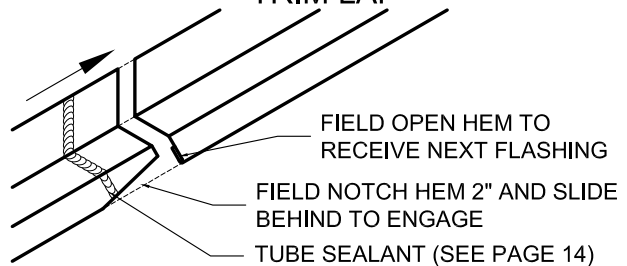


**AT LOW RIB**

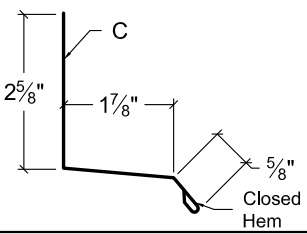
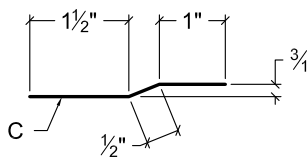
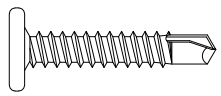
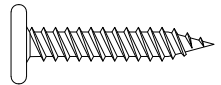


PANEL STARTER  
(SEE PAGE 13)

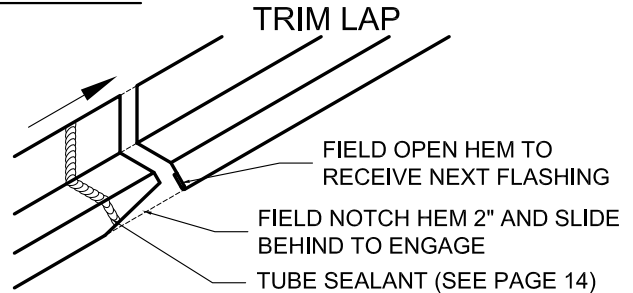
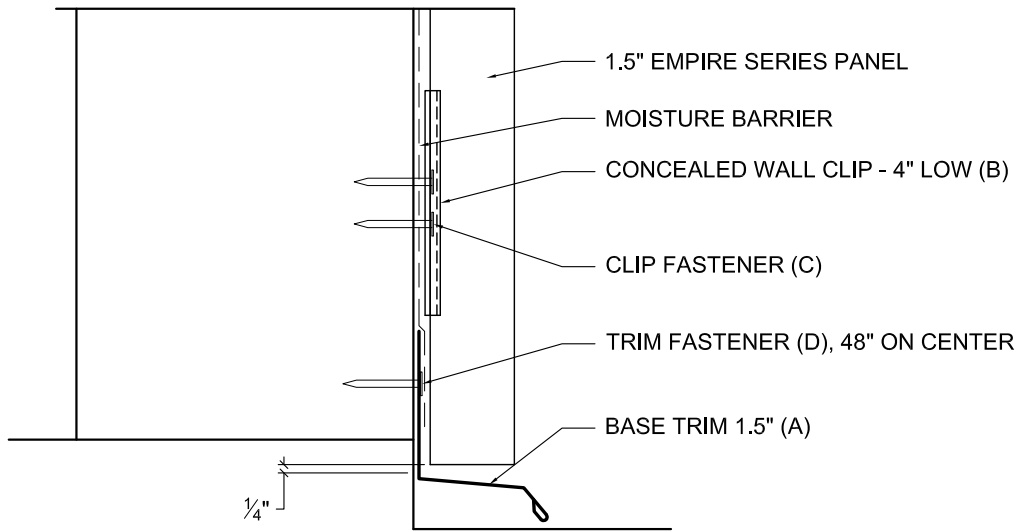
**TRIM LAP**



**NO FASTENERS THROUGH TRIM LAP**

Part	Description	Product #	Length	Installation Information
(A) 	Base Trim 1.5", 24 Ga Base Trim 1.5", 22 Ga Base Trim 1.5", 0.032"	58708XX 60708XX 58708XXA	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

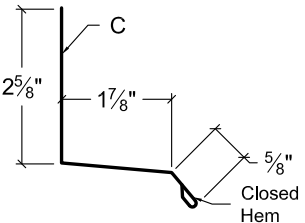
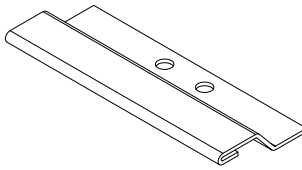
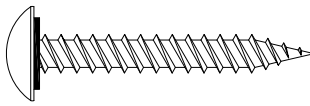
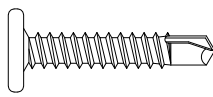
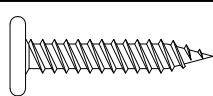
ELEVATION VIEW

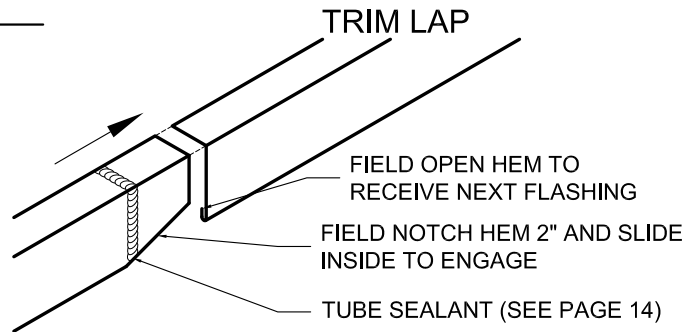
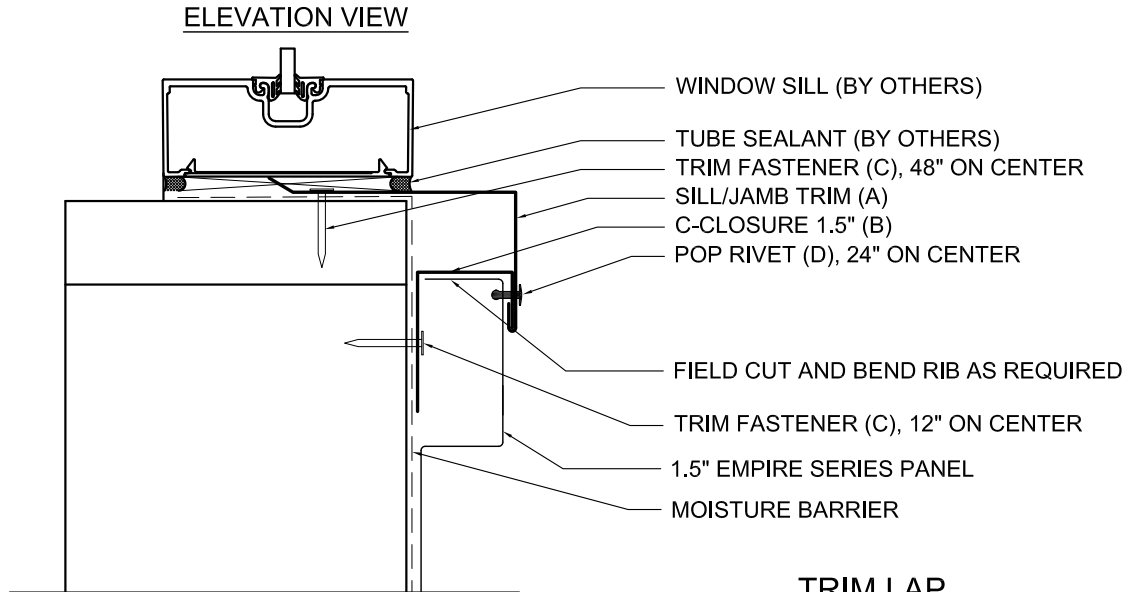


INSTALL ORDER

1. BASE TRIM
2. MOISTURE BARRIER
3. PANEL

NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
(A) 	Base Trim 1.5", 24 Ga Base Trim 1.5", 22 Ga Base Trim 1.5", 0.032"	58708XX 60708XX 58708XXA	10'-2"	Install Moisture Barrier over top of Base Trim
(B) 	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.
(C) 	#12-11 x 1 1/2" Low Profile Wood Screw	8244100	1 1/2"	For clip attachment to wood sheathing or framing
(C), (D) 	#10-16 x 1" Pancake Head Driller	8242100	1"	For clip / trim attachment to steel framing
(D) 	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing



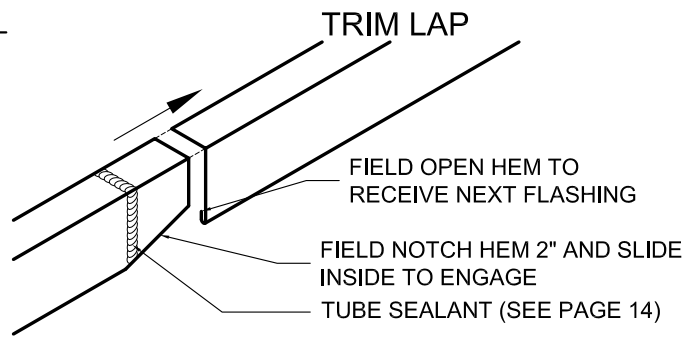
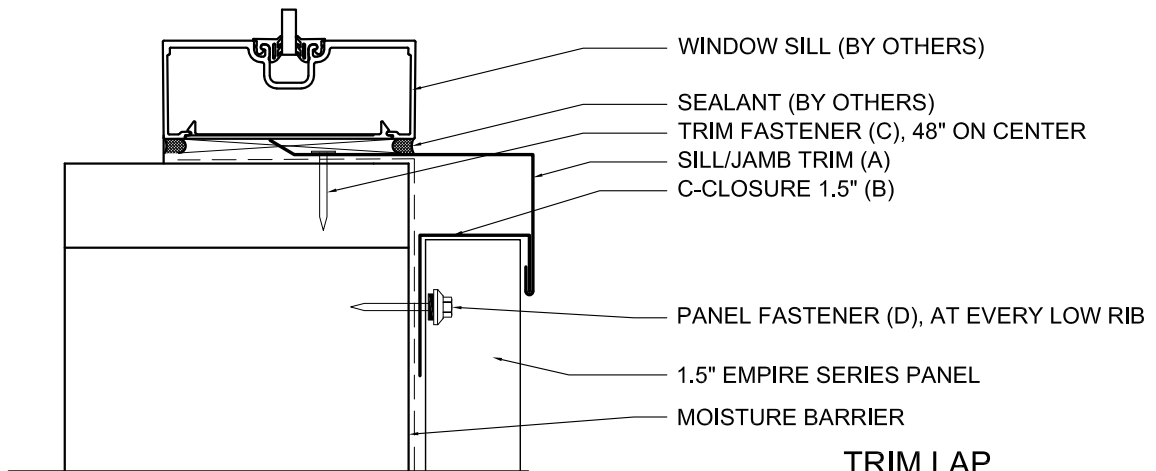
**INSTALL ORDER**

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

**NO FASTENERS THROUGH TRIM LAP**

Part	Description	Product #	Length	Installation Information
<p><b>(A)</b></p>	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.
<p><b>(B)</b></p>	C-Closure 1.5", 24 Ga C-Closure 1.5", 22 Ga C-Closure 1.5", 0.032"	58712XX 60712XX 58712XXA	10'-2"	Install C-Closure and hook Sill/Jamb Trim over 1" leg.
<p><b>(C)</b></p>	#10-16 x 1" Pancake Head Drill	8242100	1"	For trim attachment to steel framing
<p><b>(C)</b></p>	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
<p><b>(D)</b></p>	1/8" x 3/8" Pop Rivet	82402XX		For Sill/Jamb attachment to C-Closure and panel.

ELEVATION VIEW

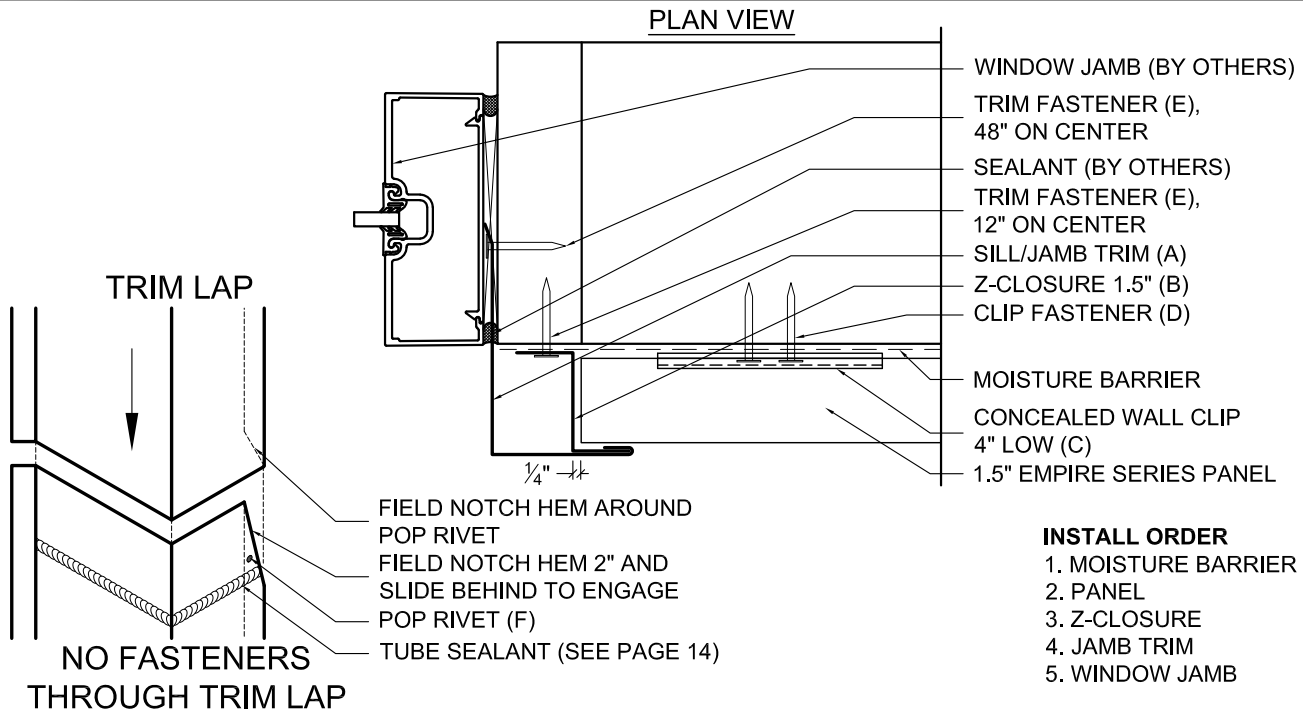


INSTALL ORDER

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

NO FASTENERS THROUGH TRIM LAP

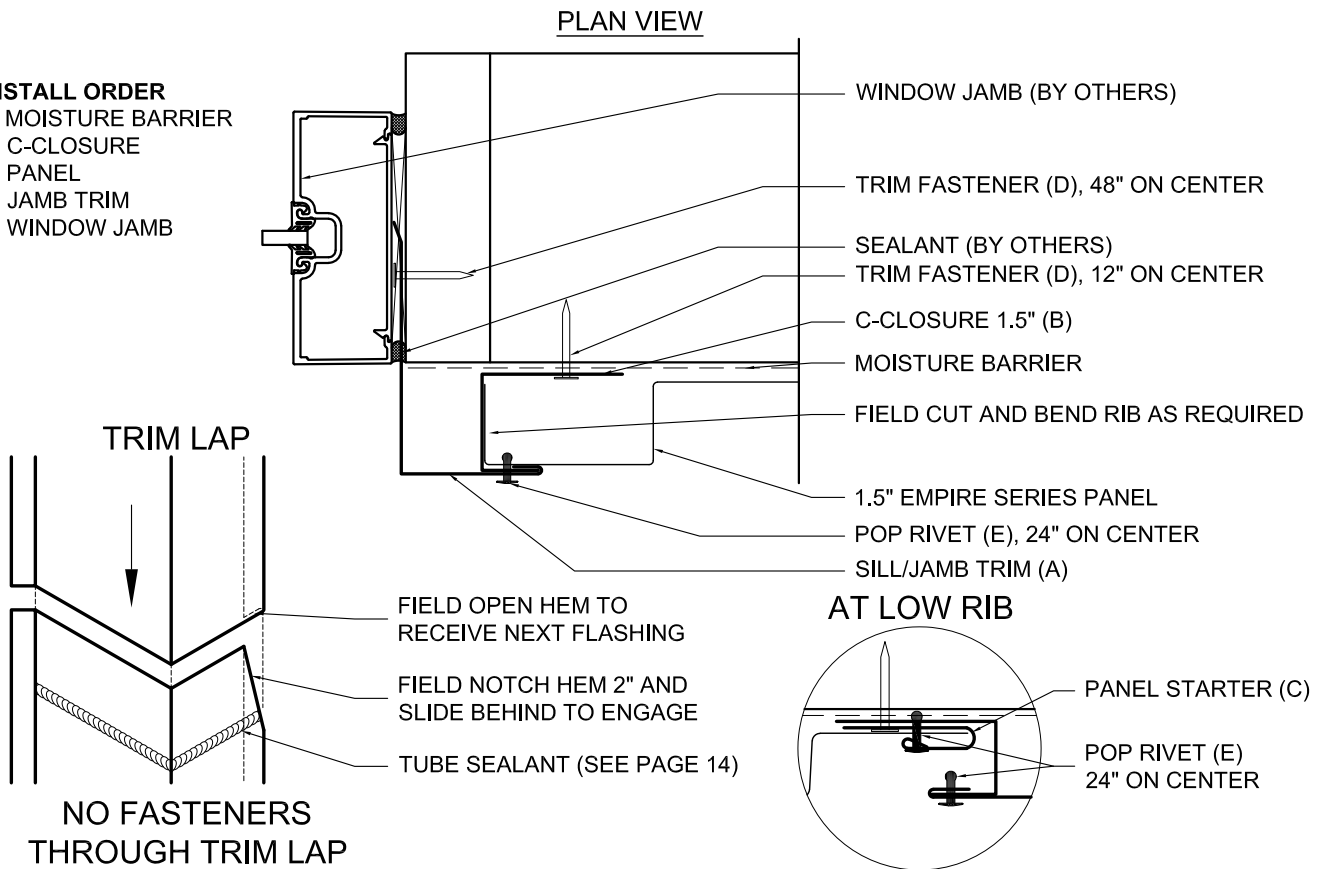
Part	Description	Product #	Length	Installation Information
(A)	Sill/Jamb Trim, 24 Ga Sill/Jamb Trim, 22 Ga Sill/Jamb Trim, 0.032"	58718XX 60718XX 58718XXA	10'-2"	Hook Sill/Jamb Trim onto C-Closure and fasten in place. Ensure Sill/Jamb Trim is installed with slope to allow for water drainage.
(B)	C-Closure 1.5", 24 Ga C-Closure 1.5", 22 Ga C-Closure 1.5", 0.032"	58712XX 60712XX 58712XXA	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)	#12-14 x 1 1/4" Self Driller XL	82353XX	1 1/4"	For panel attachment to steel framing
(D)	#10-14 x 1 1/2" Wood Screw XL	82123XX	1 1/2"	For panel attachment to wood sheathing or framing



- INSTALL ORDER**
1. MOISTURE BARRIER
  2. PANEL
  3. Z-CLOSURE
  4. JAMB TRIM
  5. WINDOW JAMB

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 1.5", 24 Ga Z-Closure 1.5", 22 Ga Z-Closure 1.5", 0.032"</p>	58729XX 60729XX 58729XXA	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 Drill</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

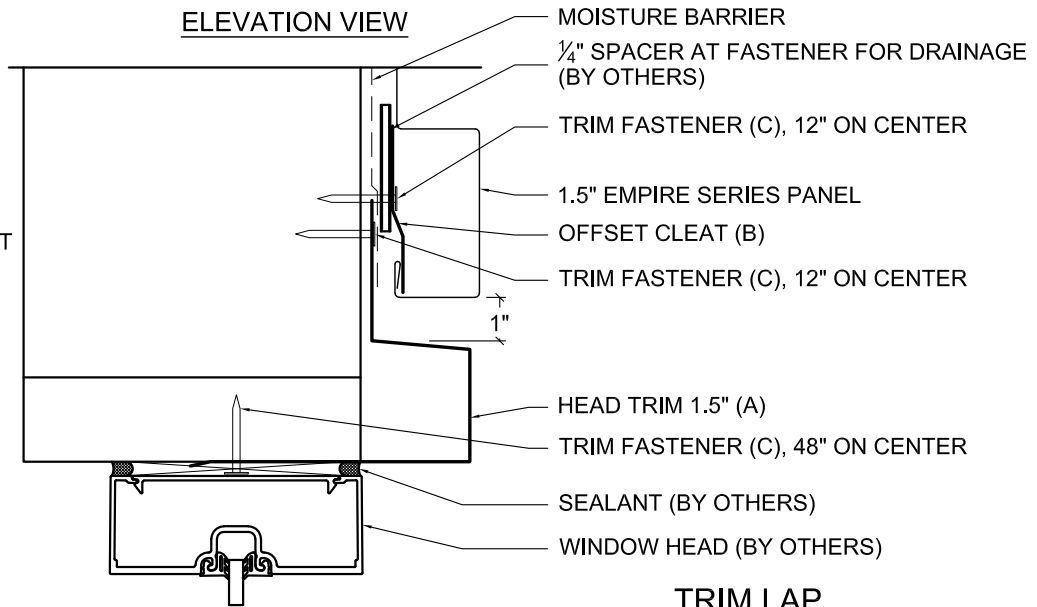
- INSTALL ORDER**
1. MOISTURE BARRIER
  2. C-CLOSURE
  3. PANEL
  4. JAMB TRIM
  5. WINDOW JAMB



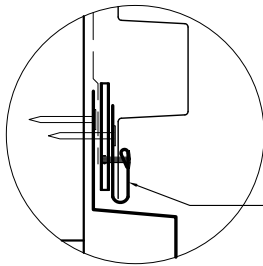
Part	Description	Product #	Length	Installation Information
(A)	<p>Sill/Jamb Trim, 24 Ga Sill/Jamb Trim, 22 Ga Sill/Jamb Trim, 0.032"</p>	58718XX 60718XX 58718XXA	10'-2"	Hook Sill/Jamb Trim onto C-Closure and fasten into place.
(B)	<p>C-Closure 1.5", 24 Ga C-Closure 1.5", 22 Ga C-Closure 1.5", 0.032"</p>	58712XX 60712XX 58712XXA	10'-2"	Install C-Closure and hook Sill/Jamb Trim over 1" leg.
(C)	<p>Panel Starter, 24 Ga Panel Starter, 22 Ga Panel Starter, 0.032"</p>	58728XX 60728XX 58728XXA	10'-2"	Fasten to face of C-Closure, slide low rib of panel into open hem.
(D)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For 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
(E)	<p>1/8" x 3/8" Pop Rivet</p>	82402XX		For Sill/Jamb attachment to C-Closure and panel.

**INSTALL ORDER**

1. HEAD TRIM
2. MOISTURE BARRIER
2. SPACER & OFFSET CLEAT
3. PANEL
4. WINDOW HEAD

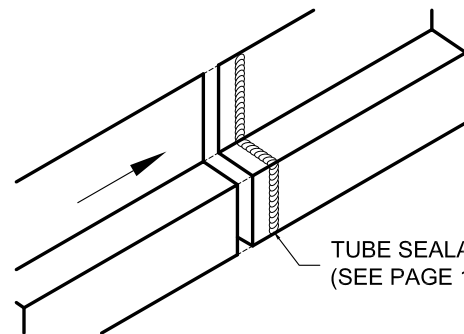


**AT LOW RIB**



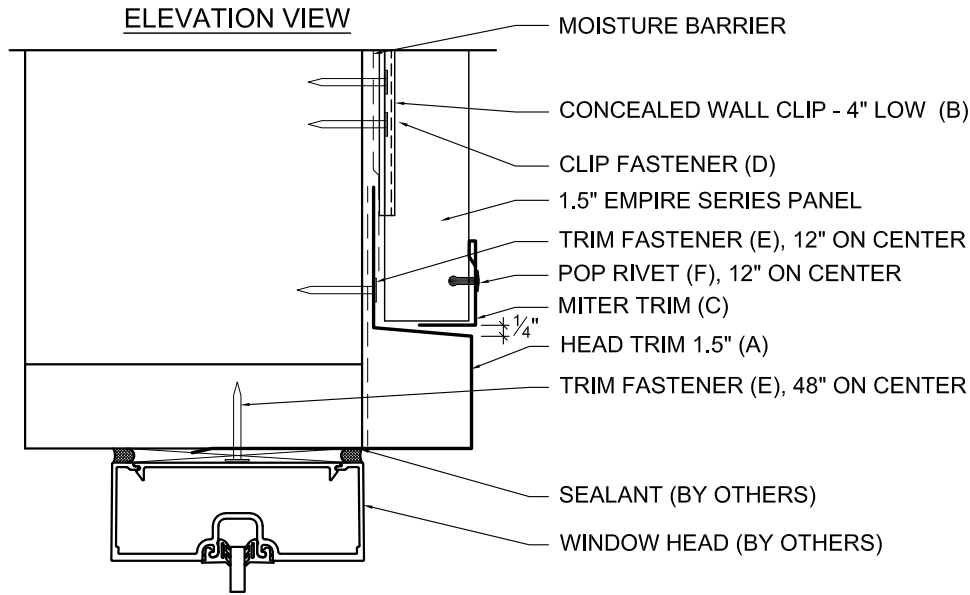
PANEL STARTER  
(SEE PAGE 13)

**TRIM LAP**



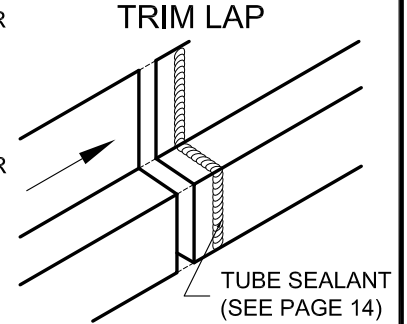
NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information	
(A)		Head Trim 1.5", 24 Ga Head Trim 1.5", 22 Ga Head Trim 1.5", 0.032"	58722XX 60722XX 58722XXA	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)		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



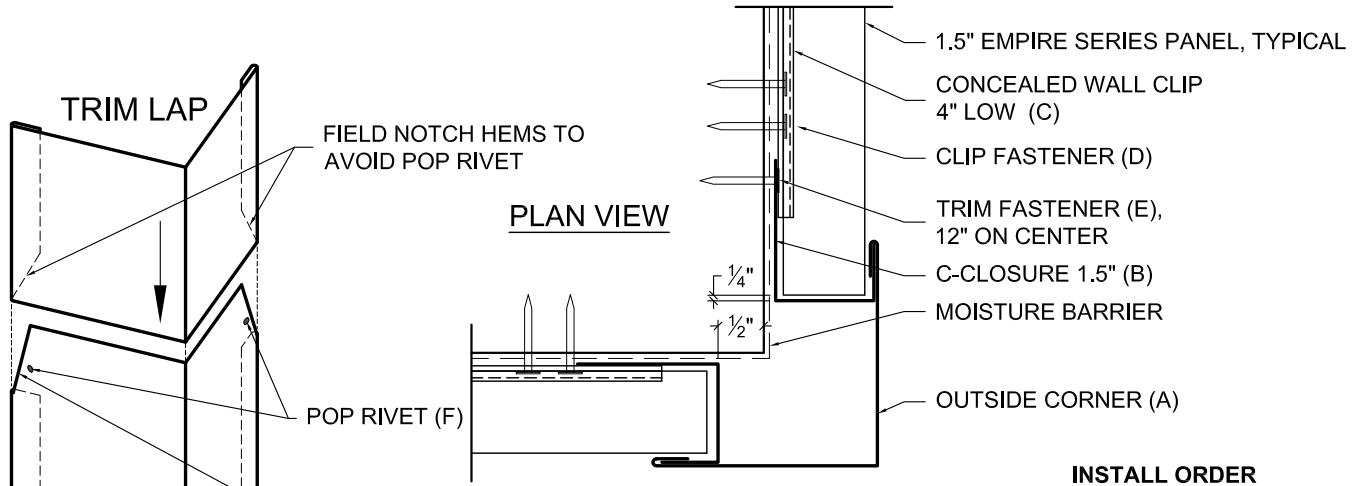
**INSTALL ORDER**

1. HEAD TRIM
2. MOISTURE BARRIER
3. PANEL
4. WINDOW HEAD



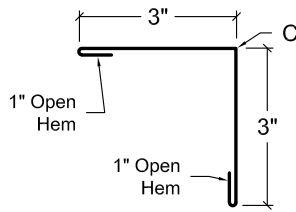
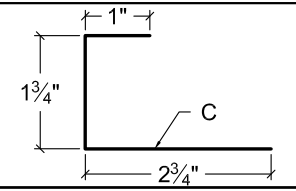
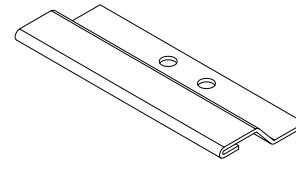
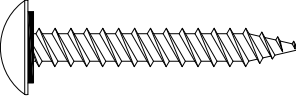
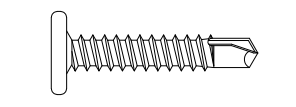
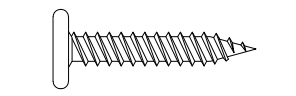
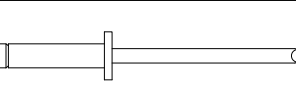
**NO FASTENERS THROUGH TRIM LAP**

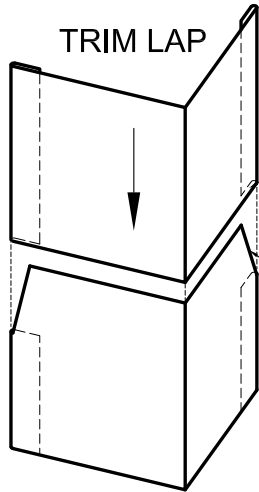
Part	Description	Product #	Length	Installation Information
(A)	<p>Head Trim 1.5", 24 Ga Head Trim 1.5", 22 Ga Head Trim 1.5", 0.032"</p>	58722XX 60722XX 58722XXA	10'-2"	Install Head Trim and fasten in place with Moisture Barrier over the top of the Head Trim. Ensure Head Trim is installed with slope 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
  3. PANEL
  4. OUTSIDE CORNER
  5. C-CLOSURE
  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 1.5", 24 Ga                      C-Closure 1.5", 22 Ga                      C-Closure 1.5", 0.032"</p>	58712XX 60712XX 58712XXA	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 Drill</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

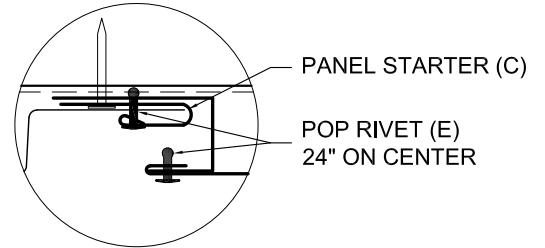


NO FASTENERS THROUGH TRIM LAP

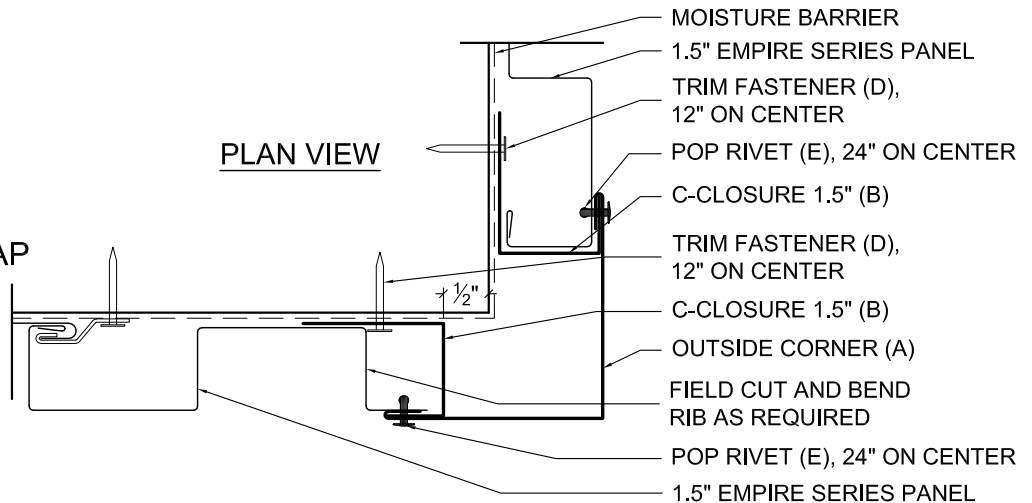
**INSTALL ORDER**

1. MOISTURE BARRIER
2. C-CLOSURE
3. PANEL
4. OUTSIDE CORNER
5. C-CLOSURE
6. PANEL

AT LOW RIB

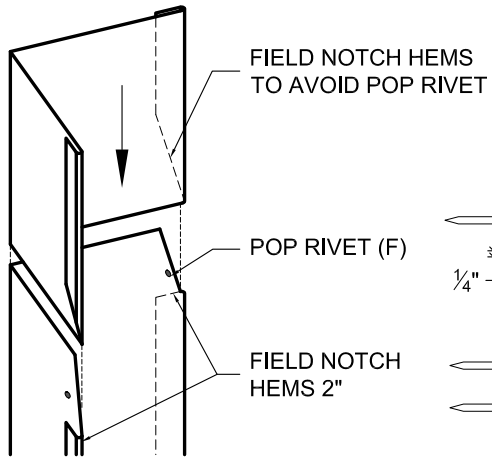


PLAN VIEW

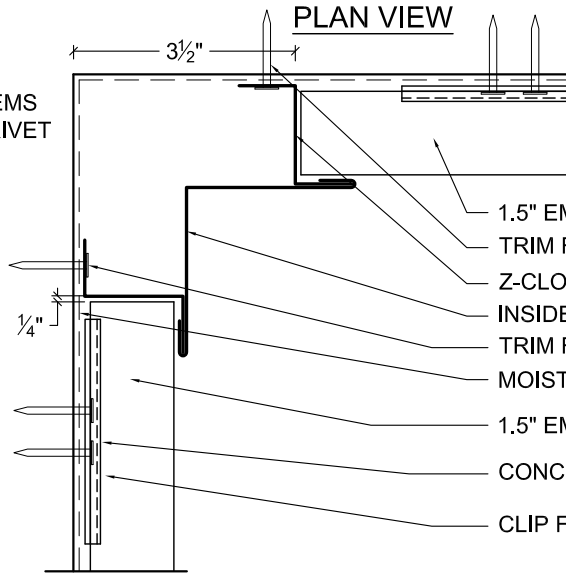


Part	Description	Product #	Length	Installation Information
(A)	<p>Outside Corner, 24 Ga Outside Corner, 22 Ga Outside Corner, 0.032"</p>	58724XX 60724XX 58724XXA	10'-2"	Hook Outside Corner around C-Closures. Pop Rivet to panel and C-Closures.
(B)	<p>C-Closure 1.5", 24 Ga C-Closure 1.5", 22 Ga C-Closure 1.5", 0.032"</p>	58712XX 60712XX 58712XXA	10'-2"	Install C-Closure to start panel.
(C)	<p>Panel Starter, 24 Ga Panel Starter, 22 Ga Panel Starter, 0.032"</p>	58728XX 60728XX 58728XXA	10'-2"	Fasten to face of C-Closure, slide low rib of panel into open hem.
(D)	<p>#10-16 x 1" Pancake Head Driller</p>	8242100	1"	For 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
(E)	<p>1/8" x 3/8" Pop Rivet</p>	82402XX		For Outside Corner attachment to C-Closures

TRIM LAP



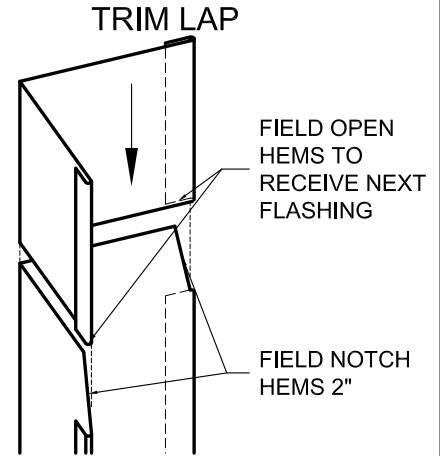
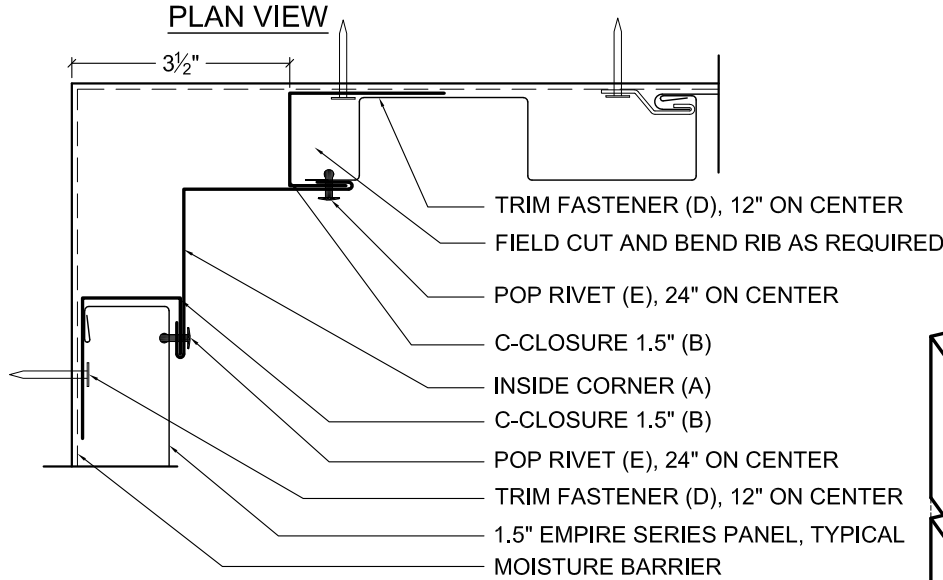
NO FASTENERS THROUGH TRIM LAP



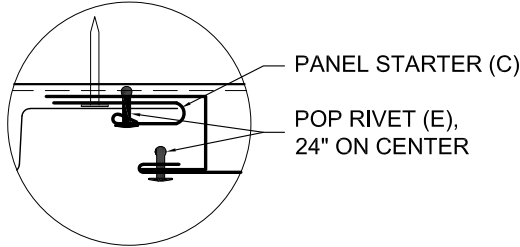
- 1.5" EMPIRE SERIES PANEL
- TRIM FASTENER (E), 12" ON CENTER
- Z-CLOSURE 1.5" (B)
- INSIDE CORNER (A)
- TRIM FASTENER (E), 12" ON CENTER
- MOISTURE BARRIER
- 1.5" EMPIRE SERIES PANEL
- CONCEALED WALL CLIP - 4" LOW (C)
- CLIP FASTENER (D)

- INSTALL ORDER**
1. MOISTURE BARRIER
  2. Z-CLOSURE
  3. PANEL
  4. INSIDE CORNER
  5. Z-CLOSURE
  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 1.5", 24 Ga Z-Closure 1.5", 22 Ga Z-Closure 1.5", 0.032"	58729XX 60729XX 58729XXA	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

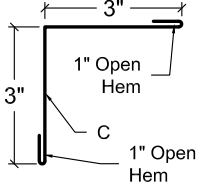
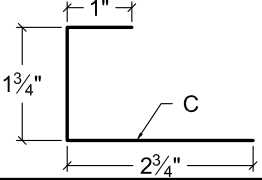
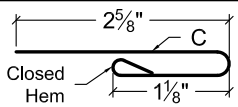
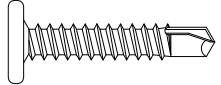
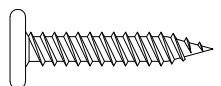
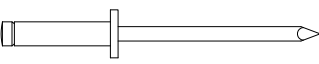


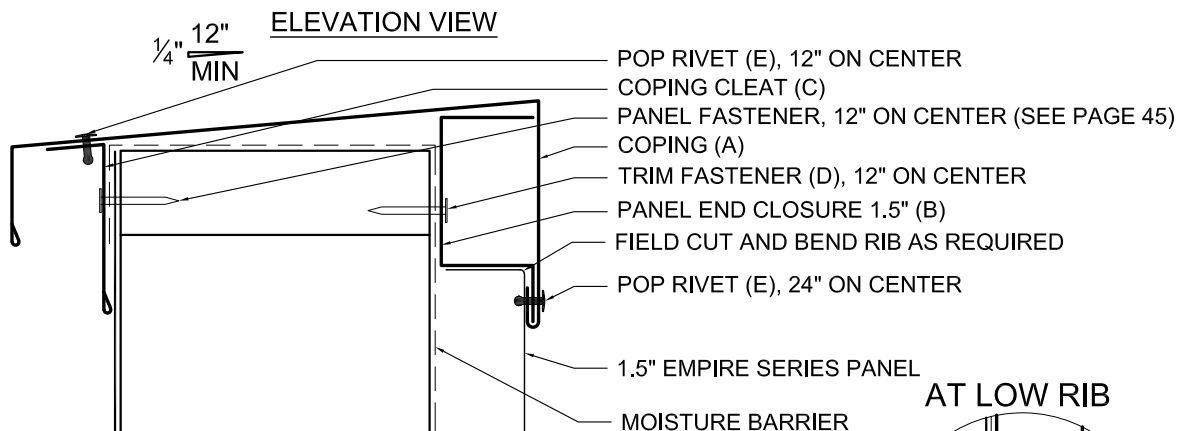
AT LOW RIB



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

**NO FASTENERS THROUGH TRIM LAP**

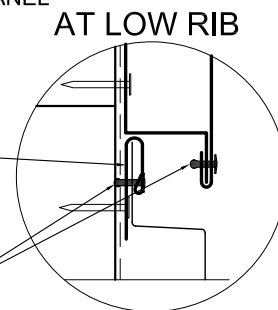
	Part	Description	Product #	Length	Installation Information
(A)		Inside Corner, 24 Ga Inside Corner, 22 Ga Inside Corner, 0.032"	58726XX 60726XX 58726XXA	10'-2"	Hook Inside Corner Trim around C-Closures. Pop Rivet to closure trims and panel 24" on center.
(B)		C-Closure 1.5", 24 Ga C-Closure 1.5", 22 Ga C-Closure 1.5", 0.032"	58712XX 60712XX 58712XXA	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 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 Inside Corner attachment to C-Closures

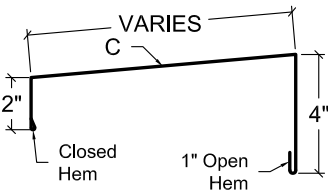
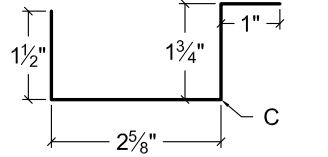
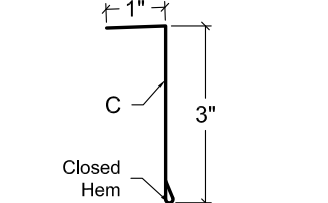
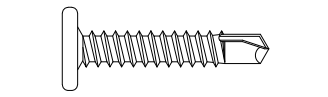
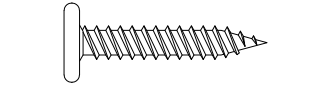
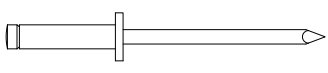


- INSTALL ORDER**
1. MOISTURE BARRIER
  2. COPING CLEAT
  3. PANEL END CLOSURE
  4. COPING
  5. PANEL

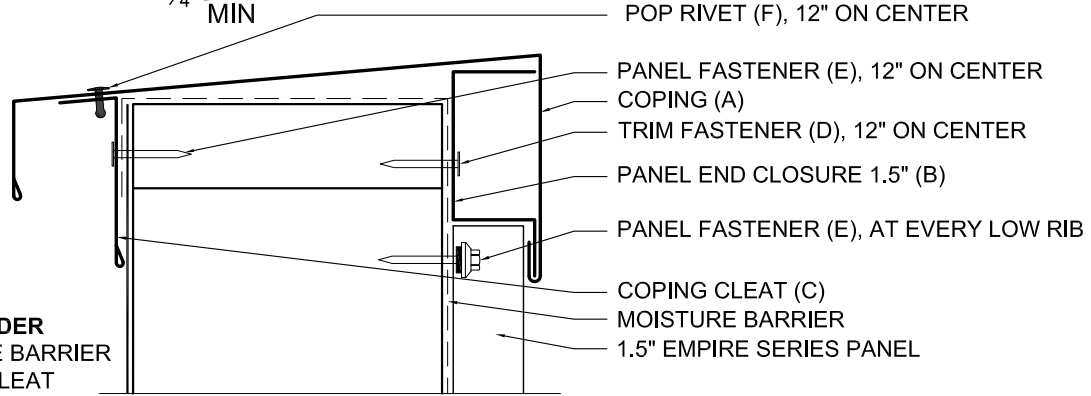
PANEL STARTER  
(SEE PAGE 13)

POP RIVET (E),  
24" ON CENTER



Part	Description	Product #	Length	Installation Information
(A) 	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.
(B) 	Panel End Closure 1.5", 24 Ga Panel End Closure 1.5", 22 Ga Panel End Closure 1.5", 0.032"	58732XX 60732XX 58732XXA	10'-2"	Carefully locate Panel End Closure to support Coping.
(C) 	Coping Cleat, 24 Ga Coping Cleat, 22 Ga Coping Cleat, 0.032"	58734XX 60734XX 58734XXA	10'-2"	Install Coping Cleat to accept Coping attachment.
(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 trim attachment

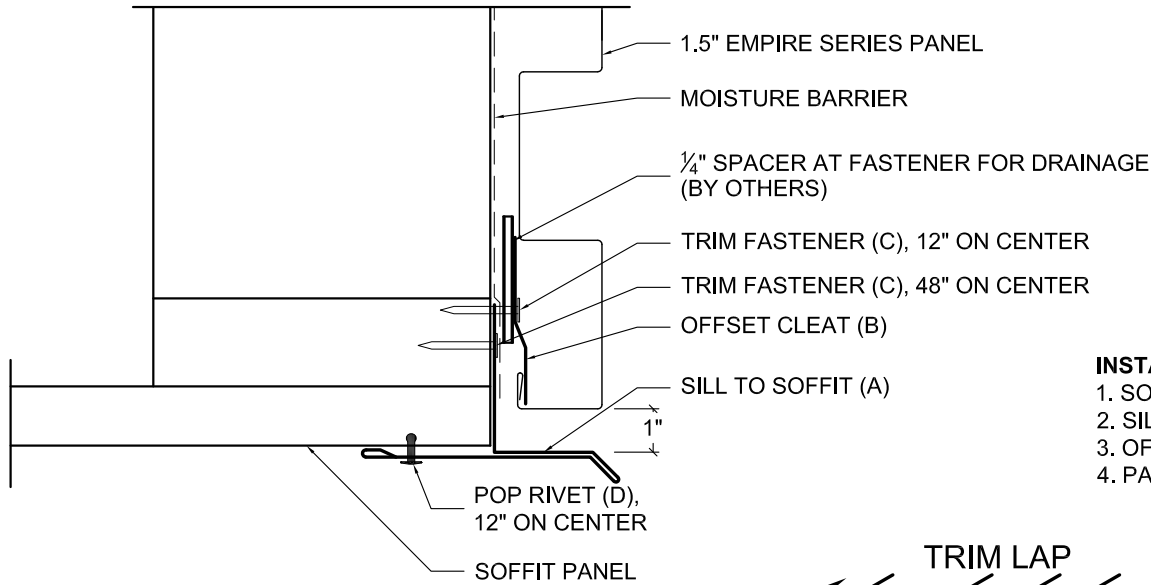
$\frac{1}{4}$ "  $\frac{12"}{MIN}$  ELEVATION VIEW



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

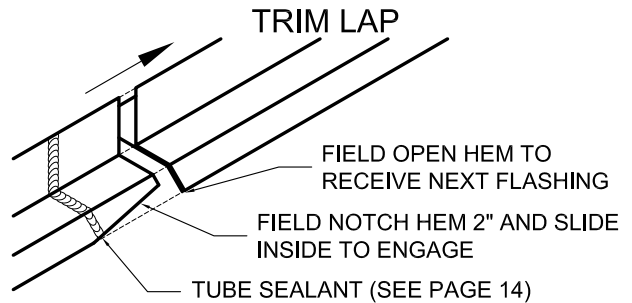
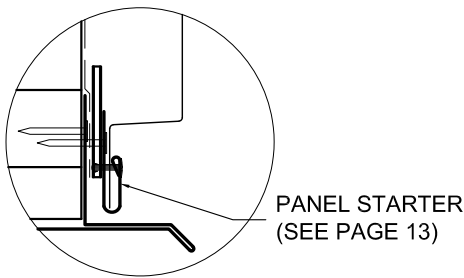
Part	Description	Product #	Length	Installation Information
<p>(A)</p>	Coping 8", 24 Ga Coping 8", 22 Ga Coping 10", 24 Ga Coping 10", 22 Ga Coping 12", 24 Ga Coping 12", 22 Ga	58714XX 60714XX 58715XX 60715XX 58716XX 60716XX	10'-2"	Hook Copping onto Panel End Closure and Pop Rivet to Copping Cleat.
<p>(B)</p>	Panel End Closure 1.5", 24 Ga Panel End Closure 1.5", 22 Ga Panel End Closure 1.5", 0.032"	58732XX 60732XX 58732XXA	10'-2"	Carefully locate Panel End Closure to support Copping.
<p>(C)</p>	Copping Cleat, 24 Ga Copping Cleat, 22 Ga Copping Cleat, 0.032"	58734XX 60734XX 58734XXA	10'-2"	Install Copping Cleat to accept Copping 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 1/4" Self Driller XL	82353XX	1 1/4"	For panel attachment to steel framing
<p>(E)</p>	#10-14 x 1 1/2" Wood Screw XL	82123XX	1 1/2"	For panel attachment to wood sheathing or framing
<p>(F)</p>	1/8" x 3/8" Pop Rivet	82402XX		For trim attachment

ELEVATION VIEW



- INSTALL ORDER**
1. SOFFIT PANEL
  2. SILL TO SOFFIT
  3. OFFSET CLEAT
  4. PANEL

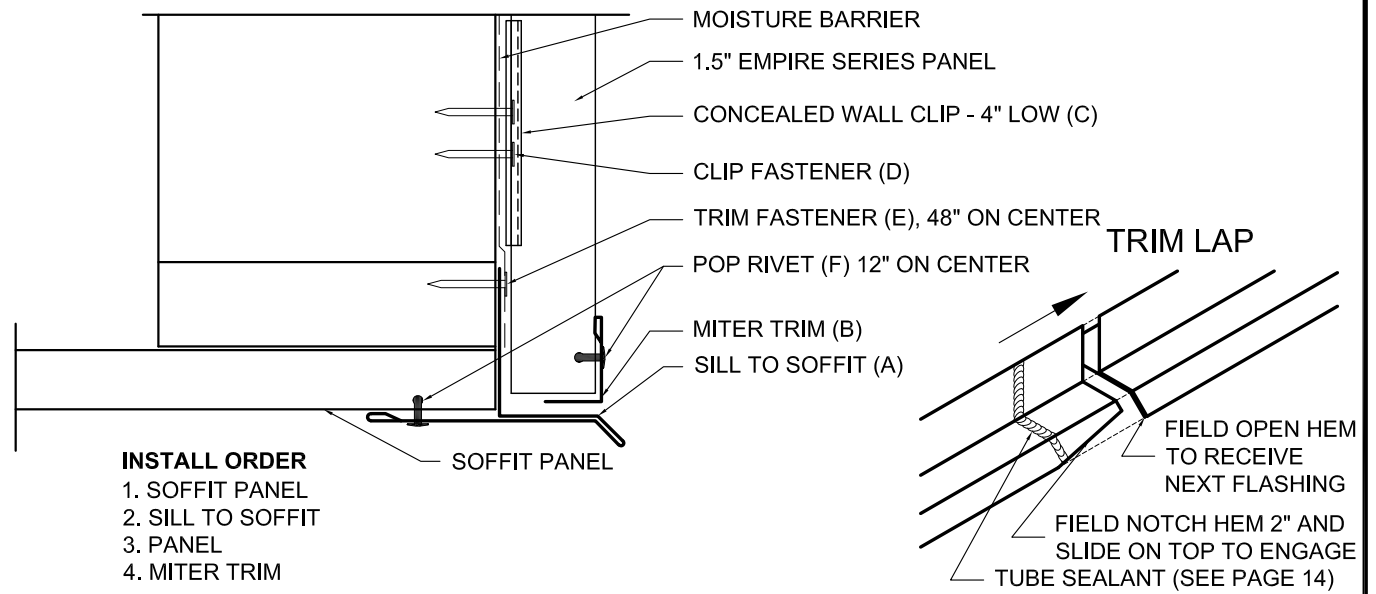
AT LOW RIB



NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information	
(A)		Sill To Soffit, 24 Ga Sill To Soffit, 22 Ga Sill To Soffit, 0.032"	58708XX 60708XX 58708XXA	10'-2"	Attach Sill To Soffit to the wall support with Trim Fastener and attach to soffit panel with Pop Rivet then install panel.
(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
(D)		1/8" x 3/8" Pop Rivet	82402XX		For trim attachment to panel

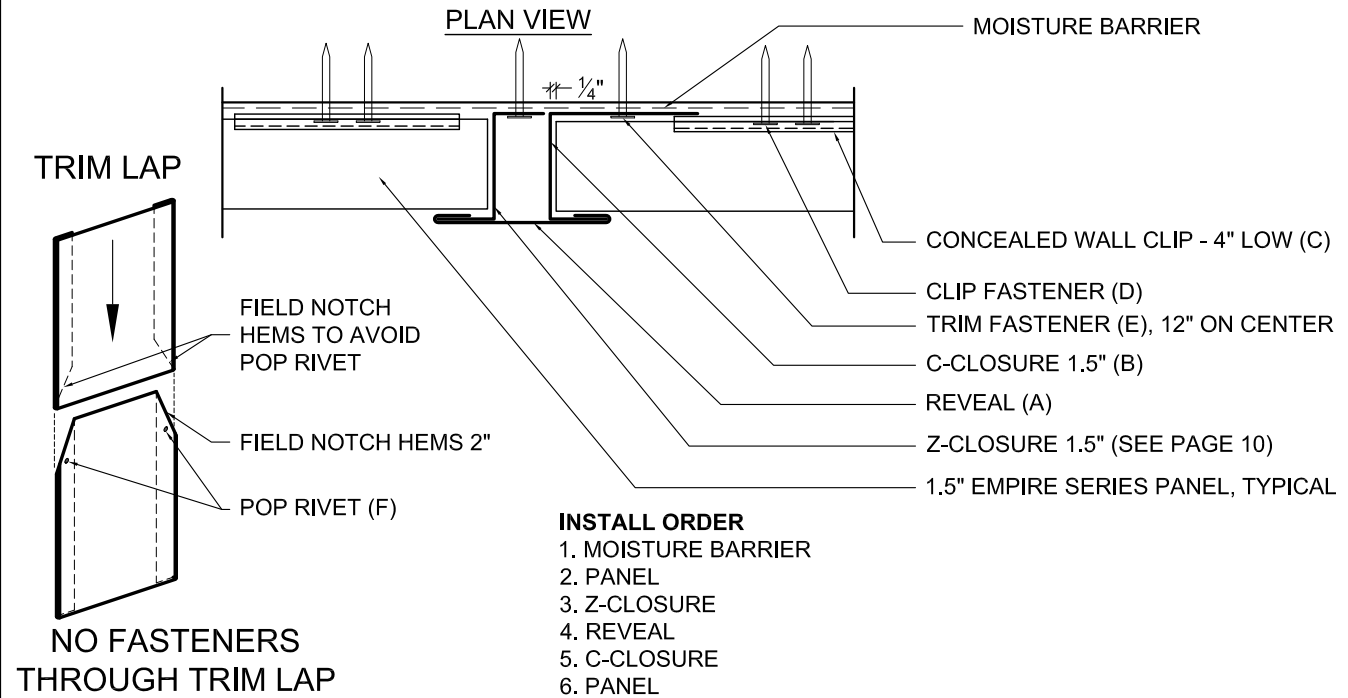
**ELEVATION VIEW**



**NO FASTENERS THROUGH TRIM LAP**

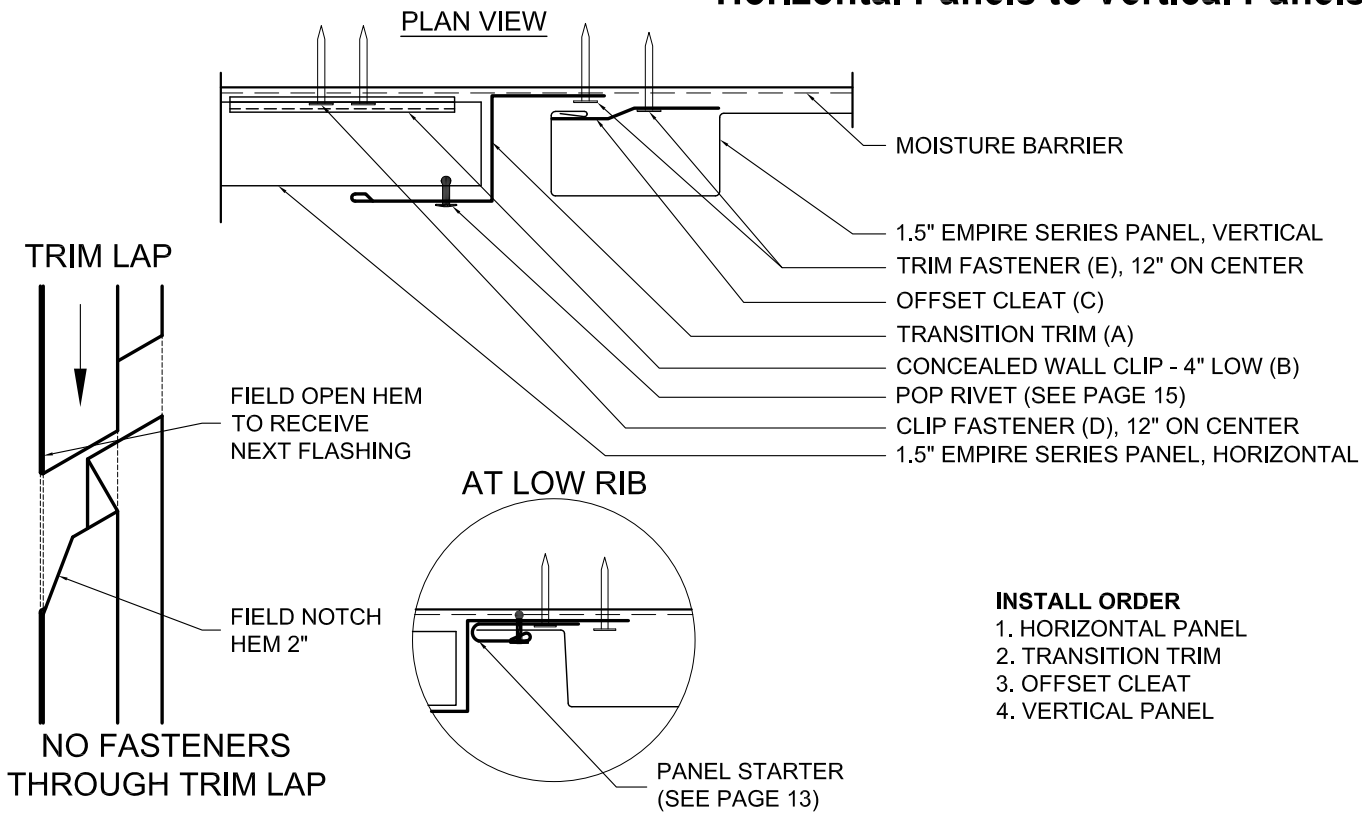
Part	Description	Product #	Length	Installation Information
<b>(A)</b>	Sill To Soffit, 24 Ga Sill To Soffit, 22 Ga Sill To Soffit, 0.032"	58722XX 60722XX 58722XXA	10'-2"	Attach Sill To Soffit to the wall support with Trim Fastener and attach to soffit panel with Pop Rivet then install panel.
<b>(B)</b>	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.
<b>(C)</b>	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.
<b>(D)</b>	#12-11 x 1 1/2" Low Profile Wood Screw	8244100	1 1/2"	For clip attachment to wood sheathing or framing
<b>(D, E)</b>	#10-16 x 1" Pancake Head Driller	8242100	1"	For clip / trim attachment to steel framing
<b>(E)</b>	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
<b>(F)</b>	1/8" x 3/8" Pop Rivet	82402XX		For trim attachment to panel

Reveal - Horizontal Panels



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 1.5", 24 Ga C-Closure 1.5", 22 Ga C-Closure 1.5", 0.032"	58712XX 60712XX 58712XXA	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

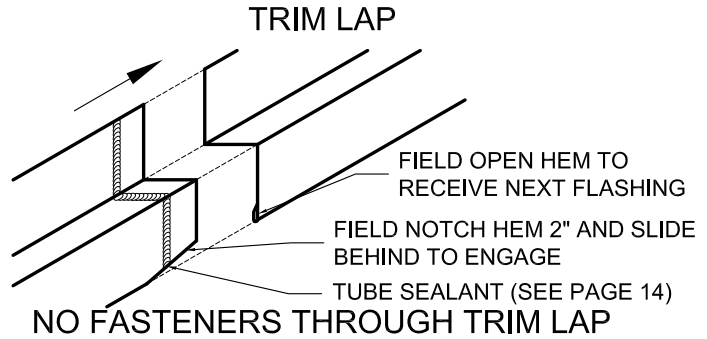
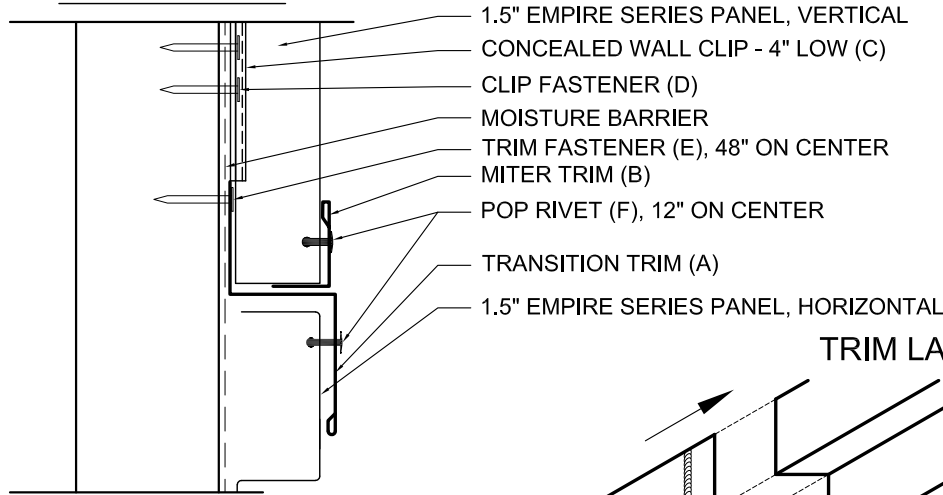


- INSTALL ORDER**
1. HORIZONTAL PANEL
  2. TRANSITION TRIM
  3. OFFSET CLEAT
  4. VERTICAL PANEL

Part	Description	Product #	Length	Installation Information	
(A)		Transition Trim, 24 Ga Transition Trim, 22 Ga Transition Trim, 0.032"	58738XX 60738XX 58738XXA	10'-2"	Install Transition Trim over Z-Closure and Panel. Attach to Panel with Pop Rivet.
(B)		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.
(C)		Offset Cleat, 24 Ga	5806499	10'-2"	Hook panel onto 1" leg of Offset Cleat.
(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

**Panels over Horizontal Panels**

ELEVATION VIEW



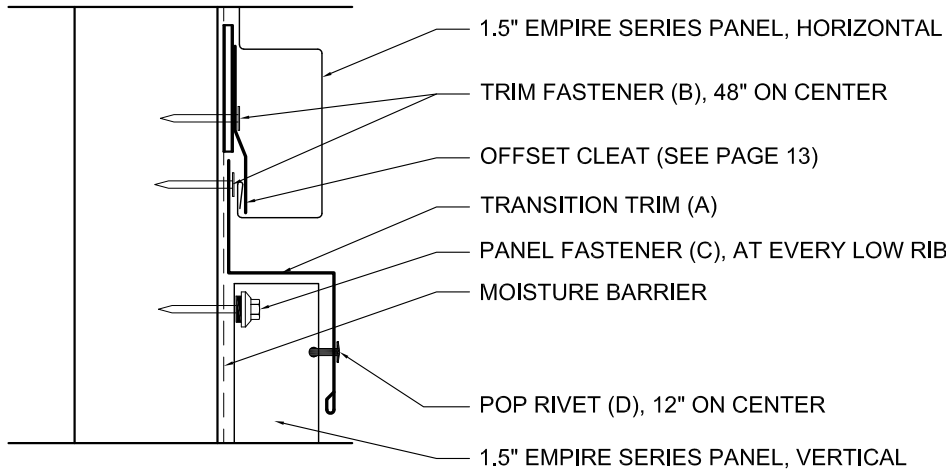
**INSTALL ORDER**

1. HORIZONTAL PANEL
2. TRANSITION TRIM
3. VERTICAL PANEL
4. MITER TRIM

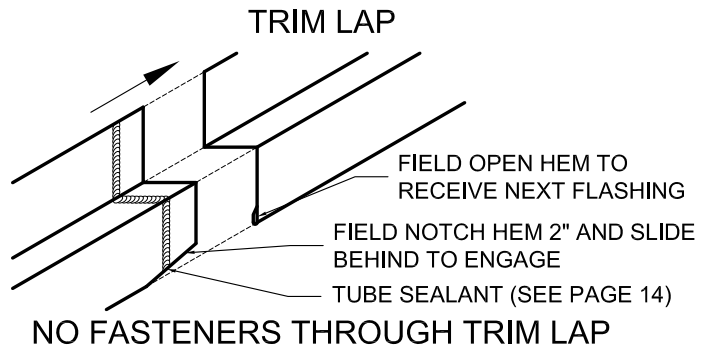
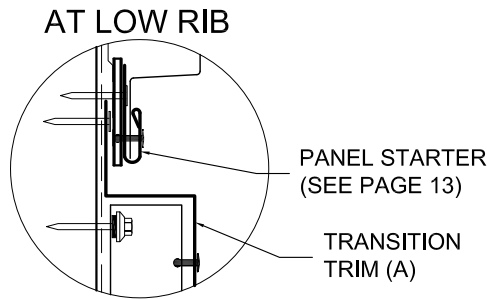
Part	Description	Product #	Length	Installation Information
<p><b>(A)</b></p>	Transition Trim, 24 Ga Transition Trim, 22 Ga Transition Trim, 0.032"	58738XX 60738XX 58738XXA	10'-2"	Install Transition Trim over horizontal panel and attach with Pop Rivet.
<p><b>(B)</b></p>	Miter Trim, 24 Ga Miter Trim, 22 Ga Miter Trim, 0.032"	58654XX 60654XX 58654XXA	10'-2"	Install at bottom of panels above header, attach with Pop Rivets.
<p><b>(C)</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><b>(D)</b></p>	#12-11 x 1/2" Low Profile Wood Screw	8244100	1/2"	For clip attachment to wood sheathing or framing
<p><b>(D), (E)</b></p>	#10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment to steel framing
<p><b>(E)</b></p>	#10-12 x 1" Pancake Head Wood Screw	8243100	1"	For trim attachment to wood sheathing or framing
<p><b>(F)</b></p>	1/8" x 3/8" Pop Rivet	82402XX		For Trim attachment to Panel

Horizontal Panels over Vert. Panels

ELEVATION VIEW

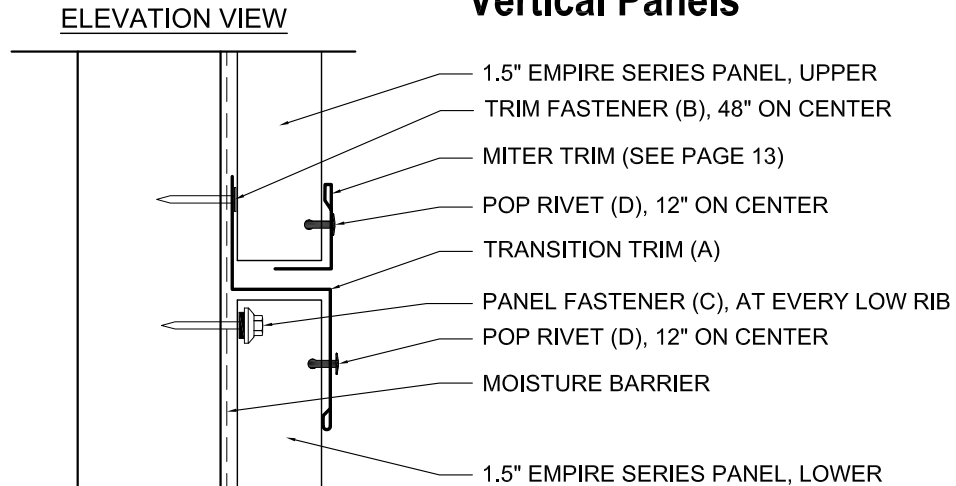


- INSTALL ORDER**
1. VERTICAL PANEL
  2. PANEL FASTENER
  3. TRANSITION TRIM
  4. OFFSET CLEAT
  5. HORIZONTAL PANEL



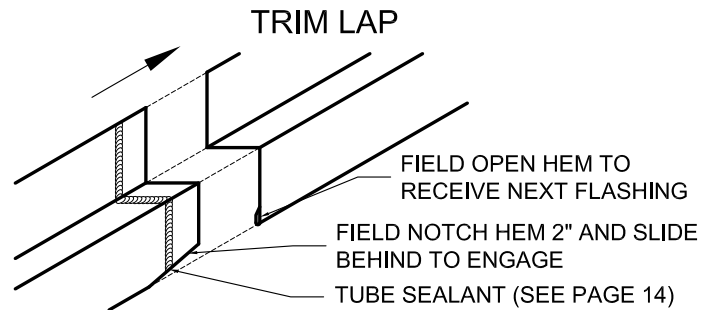
Part	Description	Product #	Length	Installation Information
(A)	 Transition Trim, 24 Ga Transition Trim, 22 Ga Transition Trim, 0.032"	58738XX 60738XX 58738XXA	10'-2"	Install Transition Trim over vertical panel and attach with Pop Rivet.
(B)	 #10-16 x 1" Pancake Head Driller	8242100	1"	For trim attachment 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 1/4" Self Driller XL	82353XX	1 1/4"	For panel attachment to steel framing
(C)	 #10-14 x 1 1/2" Wood Screw XL	82123XX	1 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



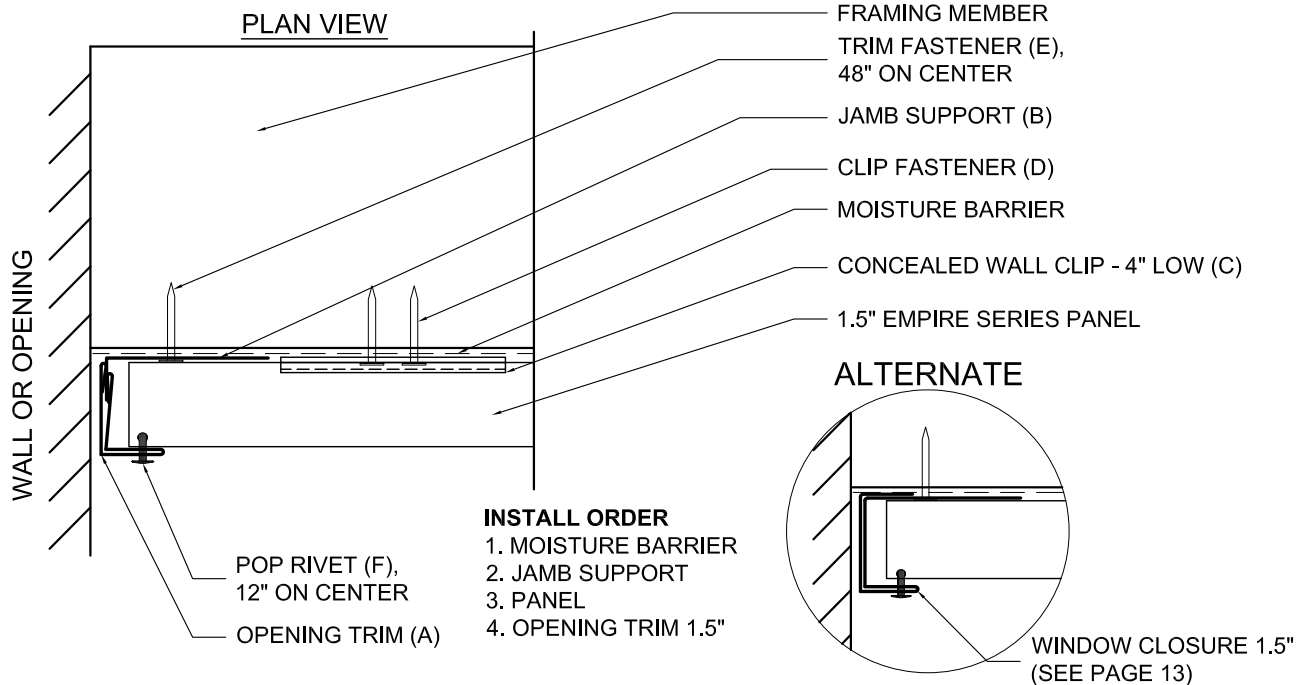
**INSTALL ORDER**

1. LOWER PANEL
2. TRANSITION TRIM
3. UPPER PANEL
4. MITER TRIM



NO FASTENERS THROUGH TRIM LAP

Part	Description	Product #	Length	Installation Information
(A)	Transition Trim, 24 Ga Transition Trim, 22 Ga Transition Trim, 0.032"	58738XX 60738XX 58738XXA	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 1.5", 24 Ga Opening Trim 1.5", 22 Ga Opening Trim 1.5", 0.032"</p>	58377XX 58378XX 58379XX	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)

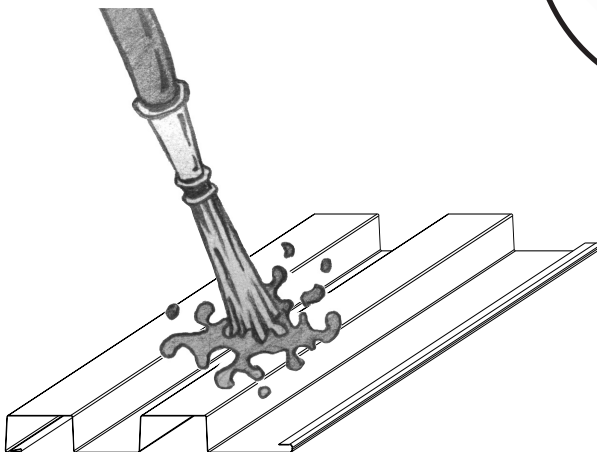
1 quart of 5% sodium hypochlorite solution (Clorox® or equivalent)

3 quarts of water

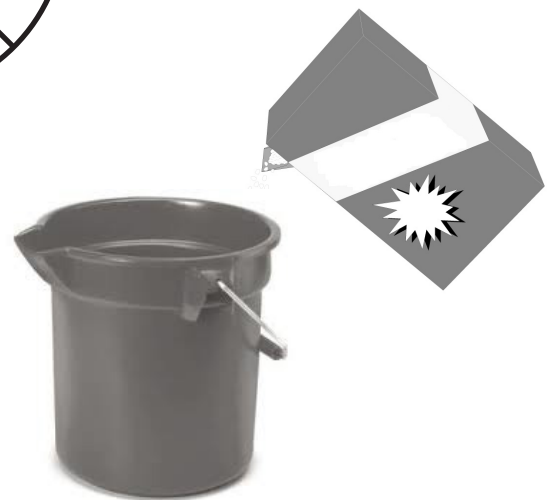
Strong solvents and abrasive type cleaners should be avoided. Most organic solvents are flammable and toxic and must be handled accordingly. When using a solvent, consult maintenance professionals and label instructions for proper handling and disposal of washings. If required, a mild solvent such as 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**

