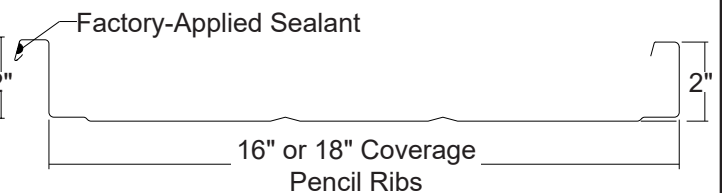
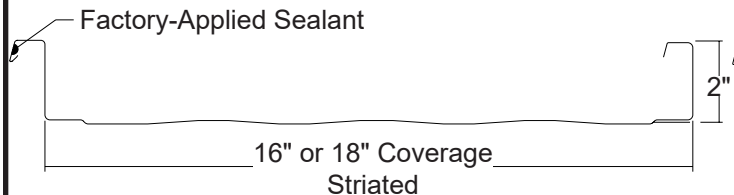
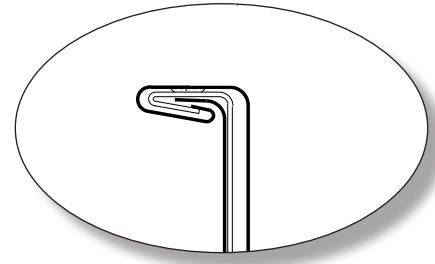
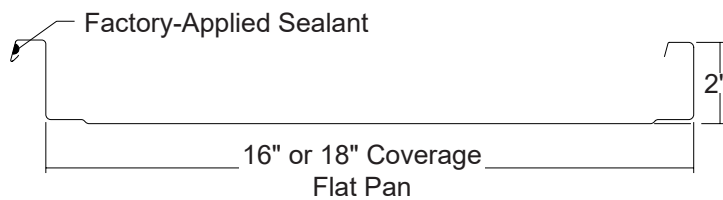


# MAGNA-LOC 90

**Condensed  
Technical  
Reference**



**ARCHITECTURAL  
COMMERCIAL  
INDUSTRIAL  
PANEL**

**CONCEALED  
FASTENED**

**16" OR 18"  
COVERAGE**

**MINIMUM  
SLOPE  
1/2:12**

**OPEN FRAMING OR  
SOLID SUBSTRATE**

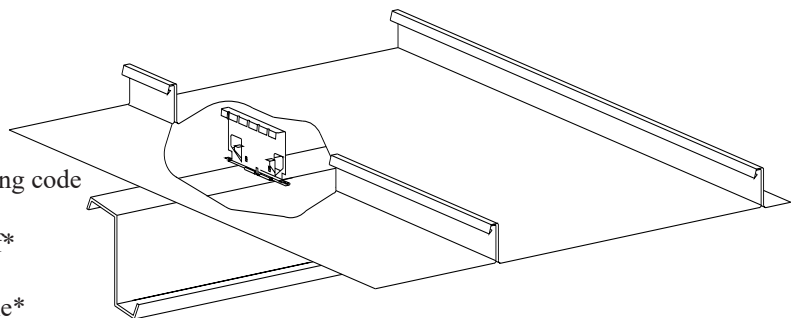
## PANEL OVERVIEW

- ▶ Finishes: PVDF and Acrylic-Coated Galvalume®
- ▶ Corrosion Protection: AZ55 per ASTM A 792 for unpainted Galvalume®  
AZ50 per ASTM A 792 for painted Galvalume®  
G90 per ASTM A 653 for Galvanized
- ▶ Gauges: 24 ga standard; 22 ga optional
- ▶ 16" or 18" panel coverage, 2" rib height
- ▶ Panel Length: Minimum: 5' for striated, 7' for non-striated; Maximum: 45' recommended
- ▶ Architectural, structural vertical rib standing seam roof system
- ▶ Integral mechanically seamed side lap with factory-applied sealant
- ▶ Minimum roof slope: 1/2:12
- ▶ Panels can be factory-notched and punched
- ▶ Accommodates 1/2" to 6" blanket insulation

## TESTING AND APPROVALS

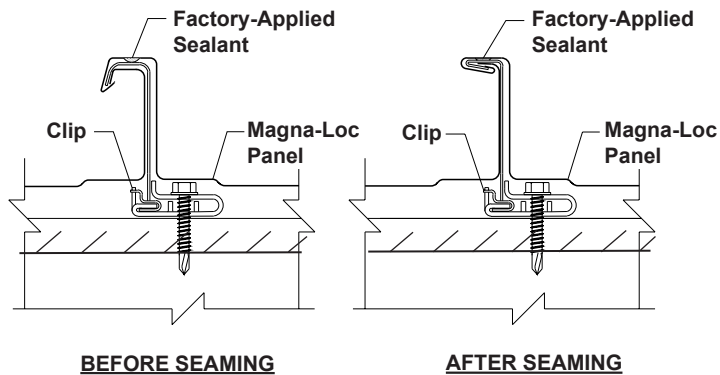
- ▶ UL 2218 Impact Resistance - Class 4
- ▶ UL 790 Fire Resistance Rating - Class A, per building code
- ▶ UL 263 Fire Resistance Rating - per assembly
- ▶ ASTM E 1680 Air Leakage - 0.016 cfm/ft² at 12 psf\*
- ▶ ASTM E 1646 Water Penetration - none at 12 psf\*
- ▶ ASTM E 2140 Water Penetration, Static Head - none\*
- ▶ ASTM E 1592 Structural Performance
- ▶ UL 580 Uplift Resistance - Class 90 Constructions: #506, #506A and #506B
- ▶ FM 4471 Roof Approval - Class 1-90, 1-105, 1-165
- ▶ Texas Windstorm - Evaluation RC-197
- ▶ 2023 FBC Approvals - FL10999.5, FL11560.5 and FL11560.6
- ▶ Miami-Dade County, Florida NOAs - 23-1011.10 and 23-1011.11 expires 12/12/2028
- ▶ ICC Evaluation Report - ESR-2385

\* with tube sealant at clip locations

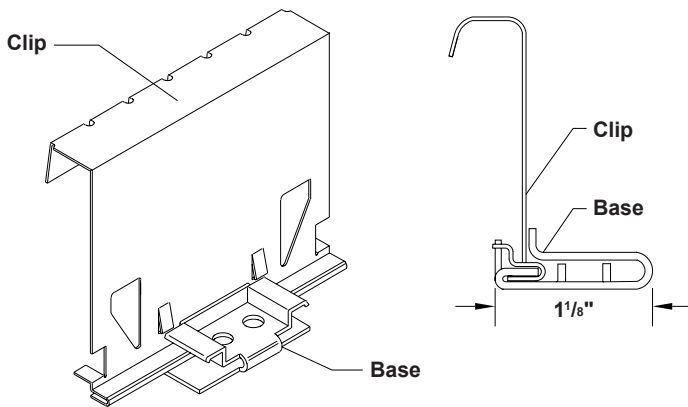


**MS Metal Sales™**

### ATTACHMENT DETAILS



### FLOATING CLIP



### FASTENING INFORMATION

#### ► Clips

Clip spacing is based upon the design loads, the spanning capacity of the panels, the fasteners and the support members.

Clip tab is 0.034" and clip base is 0.060". Both conform to ASTM A 1008 or ASTM A 1011 and are coated with G90 per ASTM A 653. As an option, 410 stainless tabs are available.

Floating Clips can accommodate 1-1/2" of thermal movement each way.

#### ► Fasteners

Overdriven fasteners will cause panel distortions.

Fasteners should extend 1/2" or more past the inside face of the support material.

Clip Fasteners:

Attaching to Wood:

#12-11 x 1-1/2" Wood Screw

Attaching to Steel:

<18 ga: 1/4"-14 Deck Screw

>=18 ga, <=12 ga: 1/4"-14 Driller, No Washer

>12 ga: 1/4"-24 Driller, No Washer

Exposed End Fasteners:

At Eave Plate or Back-Up Channel:

#12-14 XL Driller

Concealed End Fasteners:

At Eave Plate or Back-Up Channel:

#12-14 Driller, No Washer

Trim Fasteners:

1/4"-14 x 7/8" XL Stitch Screw

1/8" x 3/16" Pop Rivet

### SECTION PROPERTIES

Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression	
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft
24	16	50	1.25	0.1785	0.1013	0.0855	0.0754
22	16	50	1.64	0.2475	0.1424	0.1178	0.1070
24	18	50	1.21	0.1620	0.0900	0.0760	0.0669
22	18	50	1.59	0.2240	0.1261	0.1047	0.0951

### ALLOWABLE UNIFORM LOADS, psf For various clip spacings

								Inward Load						Outward Load					
								2'	2.5'	3'	3.5'	4'	5'	2'	2.5'	3'	3.5'	4'	5'
24	16	50	1.25	0.1785	0.1013	0.0855	0.0754	368	249	179	135	105	68	123	111	99	87	75	51
22	16	50	1.64	0.2475	0.1424	0.1178	0.1070	549	367	261	195	151	98	128	119	110	100	91	73
24	18	50	1.21	0.1620	0.0900	0.0760	0.0669	327	221	159	119	93	60	111	99	87	75	63	39
22	18	50	1.59	0.2240	0.1261	0.1047	0.0951	488	326	232	173	134	87	120	108	95	83	71	46

- Theoretical section properties have been calculated per AISI 2016 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
- Allowable load is calculated in accordance with AISI 2016 specifications considering bending, shear, combined bending & shear and deflection. Allowable load does not address web crippling, fasteners, support material or load testing. Allowable load considers the three or more equal spans condition. Panel weight is not considered.
- 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.