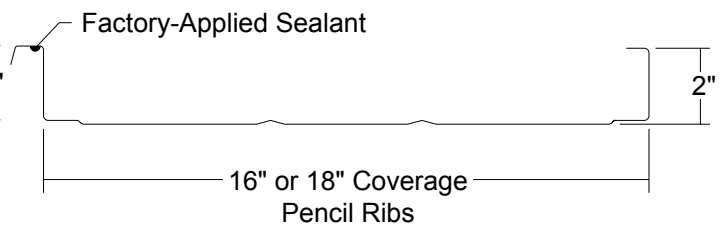
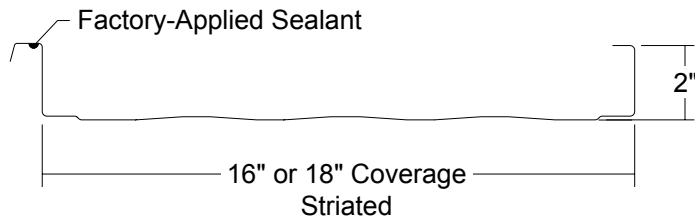
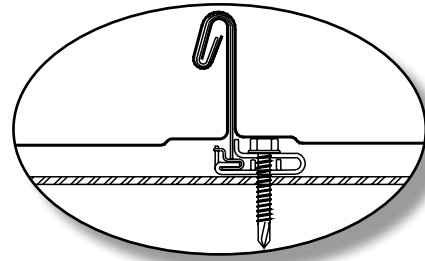
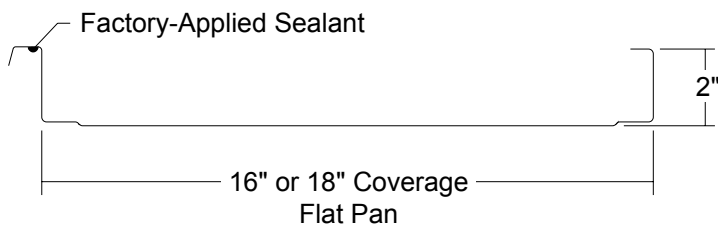


# MAGNA-LOC 180

Condensed  
Technical  
Reference



ARCHITECTURAL  
COMMERCIAL  
INDUSTRIAL  
PANEL

CONCEALED  
FASTENED

16" OR 18"  
COVERAGE

MINIMUM  
SLOPE  
1/2:12

OPEN FRAMING OR  
SOLID SUBSTRATE

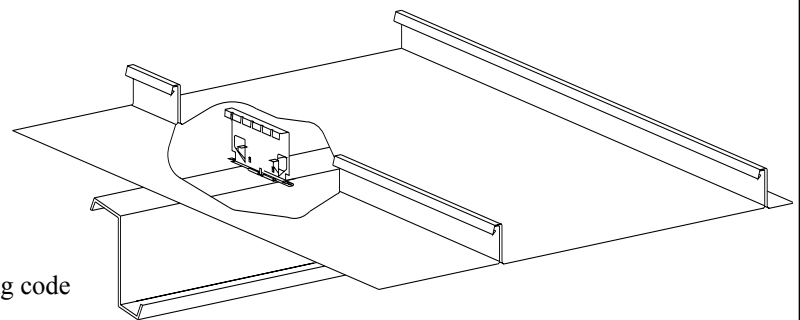
## PANEL OVERVIEW

- ▶ 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 - 0.015 cfm/ft<sup>2</sup> at 6.24 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
- ▶ 2014 FBC Approvals - FL10999.6
- ▶ ICC Evaluation Report - ESR-2385

\* with tube sealant at clip locations



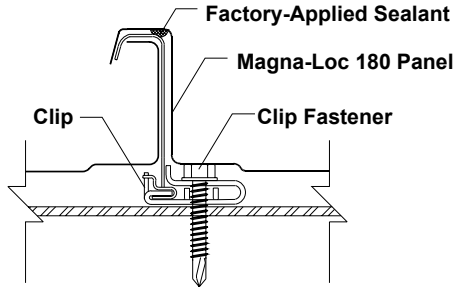
**ms metal sales**<sup>™</sup>  
manufacturing corporation

# MAGNA-LOC 180

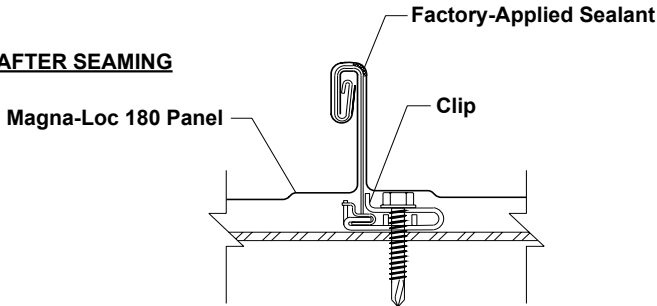
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## ATTACHMENT DETAILS

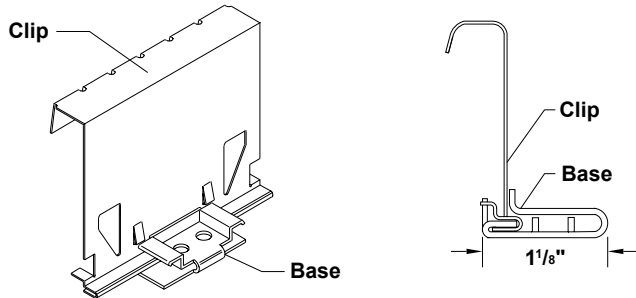
### BEFORE SEAMING



### AFTER SEAMING



### PANEL 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 Tabs are 0.034" thick, G90 is standard, 410 stainless is optional. Clip base is 0.060" thick, G60.

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	1.24
22	16	50	1.63	0.2025	0.1134	0.1005	0.0885
24	18	50	1.21	0.1287	0.0695	0.0640	0.0582
22	18	50	1.58	0.1840	0.1013	0.0893	0.0787

## 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	1.24	0.1418	0.0779	0.0720	0.0656	352	232	164	121	94	60	95	85	75	65	55	35
22	16	50	1.63	0.2025	0.1134	0.1005	0.0885	490	320	224	166	127	82	140	127	114	101	88	63
24	18	50	1.21	0.1287	0.0695	0.0640	0.0582	313	206	145	108	83	54	100	90	80	70	59	39
22	18	50	1.58	0.1840	0.1013	0.0893	0.0787	436	284	199	147	113	73	126	114	103	91	79	56

- Theoretical section properties have been calculated per AISI 2012 'North American Specification for the Design of Cold-Formed Steel Structural Members'. Ixx and Sxx are effective section properties for deflection and bending.
- Allowable loads are calculated in accordance with AISI 2012 specifications considering bending, shear, combined bending and shear, deflection and uplift load testing on 16 ga purlins. Allowable loads consider the 3 or more equal spans condition. Allowable loads do not address web crippling, fasteners or support material. 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.

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