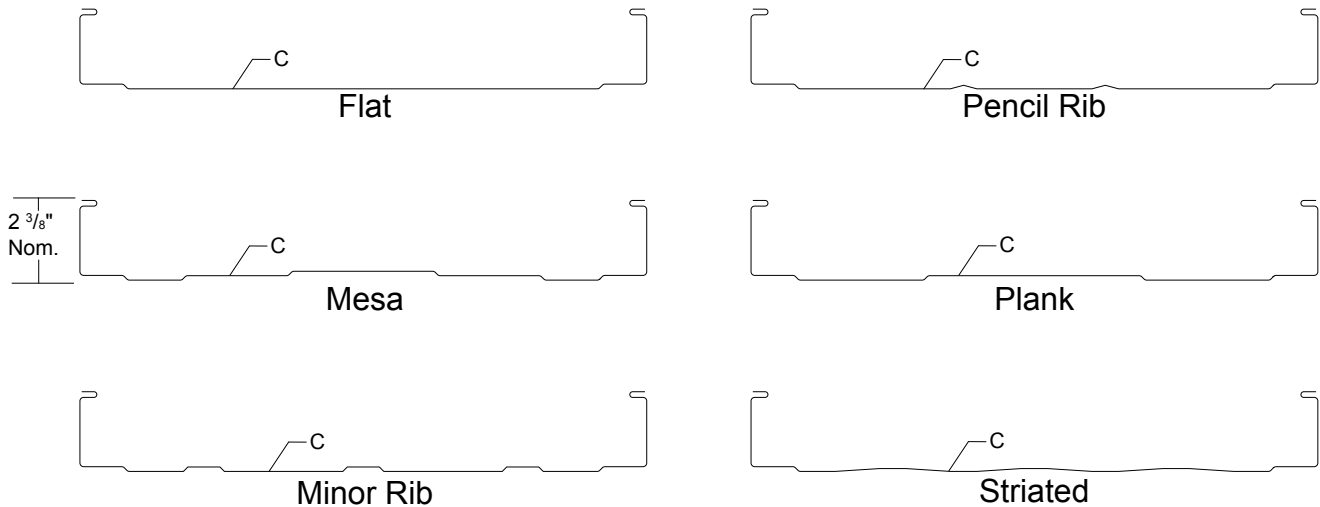


# 2 3/8" T-ARMOR

Condensed  
Technical  
Reference



\*Profiles are shown for 16" wide panels. Other width panels are similar.

ARCHITECTURAL  
COMMERCIAL  
INDUSTRIAL  
PANEL

CONCEALED  
FASTENED

12", 16" OR 18"  
COVERAGE

MINIMUM  
SLOPE  
1/2:12

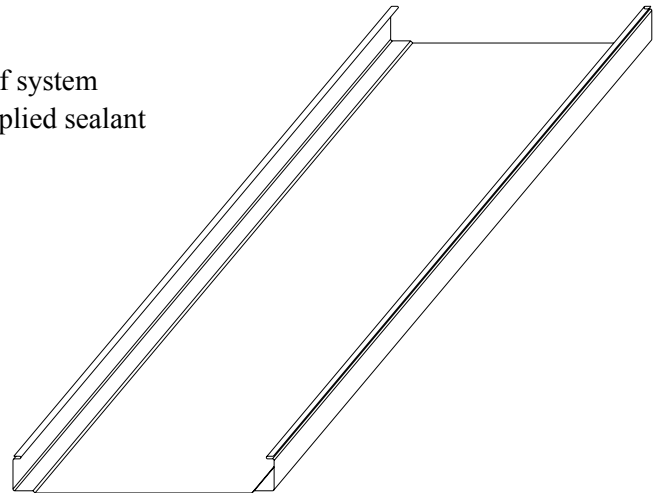
OPEN FRAMING OR  
SOLID SUBSTRATE

## 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
- ▶ Thickness: 24 ga, 22 ga and 20 ga
- ▶ 12", 16" or 18" panel coverage, 2 3/8" rib height
- ▶ Panel Length: Minimum: 6', Maximum: 80'
- ▶ 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
- ▶ 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
- ▶ ASTM E 1646 Water Penetration - None
- ▶ ASTM E 1592 Structural Performance
- ▶ UL 580 Uplift Resistance - Class 90 Constructions: #268, #268A and #268B
- ▶ FM 4471 Roof Approval - Class 1-90 and 1-120
- ▶ ICC Evaluation Report - Pending

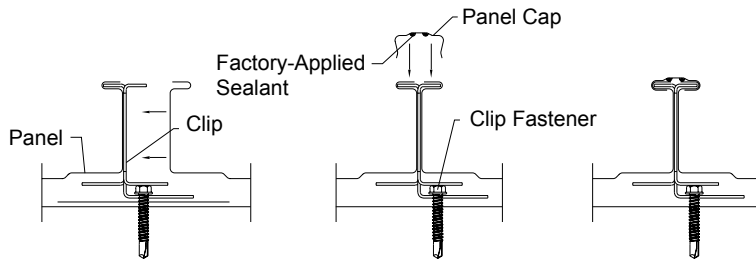


**ms metal sales**<sup>™</sup>  
manufacturing corporation

# 2 3/8" T-ARMOR

**Condensed  
Technical  
Reference**

## ATTACHMENT DETAILS

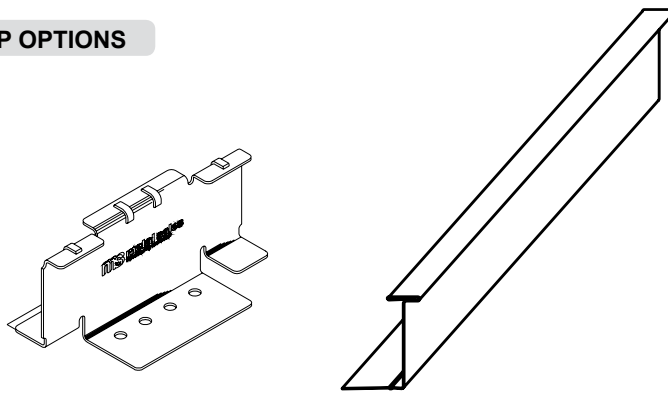


INSTALLING PANEL

INSTALLING CAP

SEAMED

## CLIP OPTIONS



INDIVIDUAL CLIP

CONTINUOUS CLIP

## FASTENING INFORMATION

### ► Clips

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

Individual clips are 0.060" thick, G90 is standard, 410 stainless is optional. Continuous clips are 24 or 22 ga.

Both Individual and continuous clips can accommodate practically unlimited thermal movement in each direction.

### ► 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

## STEEL SECTION PROPERTIES

Ga	Width in	Yield ksi	Weight psf	Top In Compression		Bottom In Compression		Inward Load					Outward Load						
				Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	Ixx in <sup>4</sup> /ft	Sxx in <sup>3</sup> /ft	2'	2.5'	3'	3.5'	4'	5'	2'	2.5'	3'	3.5'	4'	5'
24	12	50	1.50	0.3398	0.2053	0.2078	0.1758	400	400	362	280	222	149	119	108	96	85	73	50
22	12	50	1.97	0.4640	0.2806	0.3020	0.2466	400	400	400	400	326	216	119	108	98	87	76	55
20	12	33	2.42	0.5750	0.3458	0.4100	0.3107	400	400	400	346	272	180	107	99	92	84	76	61
24	16	50	1.35	0.2828	0.1601	0.1260	0.0944	400	295	215	163	127	84	88	80	73	66	59	44
22	16	50	1.78	0.3810	0.2157	0.1800	0.1397	400	400	328	247	192	126	109	100	91	82	73	55
20	16	33	2.18	0.4733	0.2657	0.2460	0.2012	400	400	304	230	180	118	107	99	92	84	76	61
24	18	50	1.30	0.2567	0.1419	0.1113	0.0836	377	261	190	144	113	74	68	62	56	50	44	32
22	18	50	1.71	0.3507	0.1932	0.1600	0.1242	400	400	292	220	171	112	87	80	74	67	61	47
20	18	33	2.10	0.4340	0.2383	0.2180	0.1785	400	371	270	204	160	105	90	84	78	73	67	55

- 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 ASTM E 1592 uplift load testing on 16 ga purlins. Allowable loads consider the 3 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.

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