

# 2 3/8" T-ARMOR ALUMINUM

Condensed  
Technical  
Reference



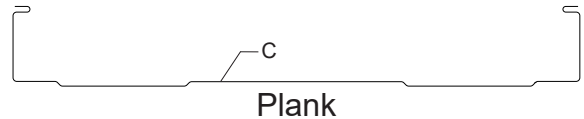
Flat



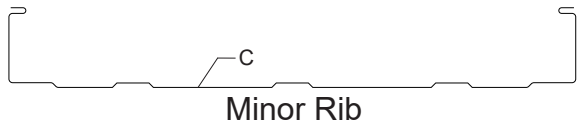
Pencil Rib



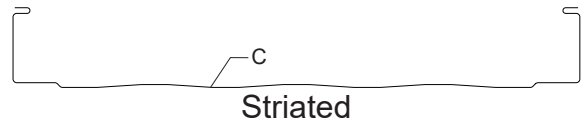
Mesa



Plank



Minor Rib



Striated

\*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

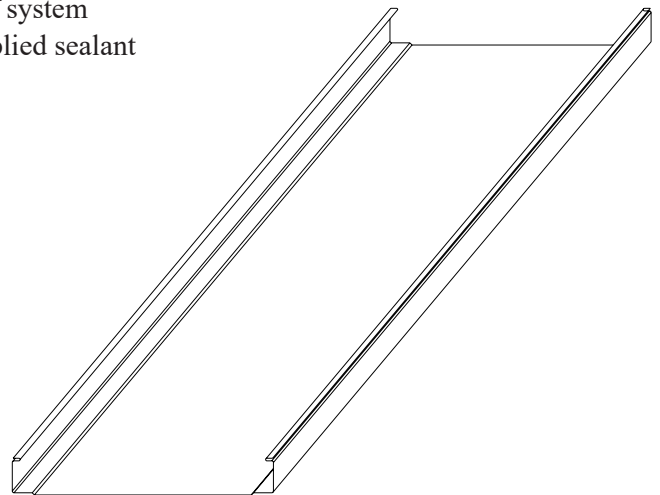
OPEN FRAMING OR  
SOLID SUBSTRATE

## PANEL OVERVIEW

- ▶ Finishes: PVDF and Mill Finish
- ▶ Material: 3003-H14 Aluminum per ASTM B 209
- ▶ Thickness: 0.032"
- ▶ 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
- ▶ Accommodates 1/2" to 6" blanket insulation

## TESTING AND APPROVALS

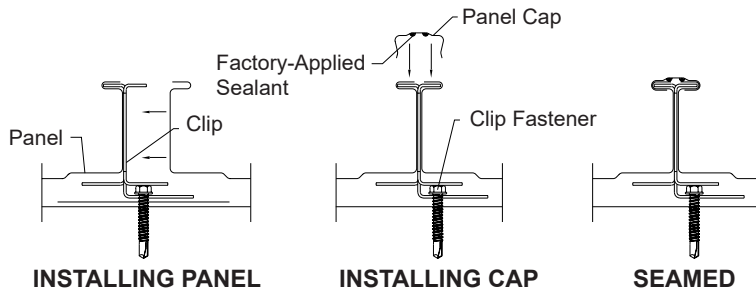
- ▶ UL 2218 Impact Resistance - Class 4
- ▶ UL 790 Fire Resistance Rating - Class A, per building code
- ▶ UL 263 Fire Resistance Rating - per assembly
- ▶ ASTM E 1680 Air Leakage
- ▶ ASTM E 1646 Water Penetration - None
- ▶ ASTM E 1592 Structural Performance
- ▶ UL 580 Uplift Resistance - Class 90 Constructions: #268, #268A and #268B
- ▶ ICC Evaluation Report - ESR-3743
- ▶ FM 4471 Roof Approval 1-90



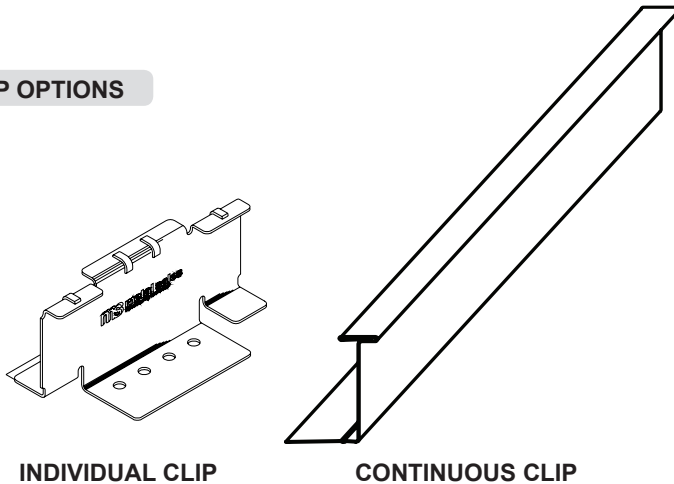
# 2 3/8" T-ARMOR ALUMINUM

**Condensed  
Technical  
Reference**

## ATTACHMENT DETAILS



## CLIP OPTIONS



## 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 BiMetal Driller (Stainless Steel)

#### Concealed End Fasteners:

At Eave Plate or Back-Up Channel:

#12-14 BiMetal Driller (Stainless Steel)

#### Trim Fasteners:

#14-11x1" Stitch Screw (Stainless Steel)

1/8" x 3/16" Pop Rivet

## SECTION PROPERTIES

## ALLOWABLE UNIFORM LOADS, psf (3 or More Equal Spans)

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	Inward Load						Outward Load					
							2'	2.5'	3'	3.5'	4'	5'	2'	2.5'	3'	3.5'	4'	5'
							0.032	12	17	0.73	0.5110	0.3093	0.7391	144	94	65	48	31
0.032	16	17	0.65	0.4200	0.2378	0.7261	106	69	48	35	27	18	93	84	76	67	59	42
0.032	18	17	0.63	0.3867	0.2129	0.7222	93	61	42	31	24	15	82	74	67	59	51	35

- Theoretical section properties have been calculated per Aluminum Association's 2010 'Aluminum Design Manual'. I, S<sub>Top</sub> and S<sub>Bottom</sub> are section properties for deflection and bending.
- Allowable loads are calculated in accordance with ADM 2010 specification 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.

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

[metalsales.us.com](http://metalsales.us.com)

Anchorage, AK 866.640.7663  
Bay City, MI 888.777.7640  
Deer Lake, PA 800.544.2577  
Denver, CO 800.289.7663

Detroit Lakes, MN 888.594.1394  
Fontana, CA 800.782.7953  
Fort Smith, AR 877.452.3915  
Independence, MO 800.747.0012

Jacksonville, FL 800.394.4419  
Jefferson, OH 800.321.5833  
Mocksville, NC 800.228.6119  
Nashville, TN 800.251.8508  
Rock Island, IL 800.747.1206  
Rogers, MN 800.328.9316

Seattle, WA 800.431.3470  
Sellersburg, IN 800.999.7777  
Sioux Falls, SD 888.902.8320  
Spokane, WA 800.572.6565  
Temple, TX 800.543.4415  
Woodland, CA 800.759.6019