

PRODUCT EVALUATION REPORT
Chief Buildings, Inc.

MSC Standing Seam Roof Panel over Open Framing

Florida Product Approval Number FL 16583.2

Category: Structural Components

Sub-Category: Roof Deck

Compliance Method: 61G20-3.005 (1)(D)

HVHZ

Product Manufacturer

Chief Buildings, Inc.
PO Box 2078
3942 W. Old Highway 30
Grand Island, Nebraska 68802

Manufacturing Location

Chief Buildings, Inc.
1225 E Maple St, Rensselaer, Indiana 47978

Engineer Evaluator

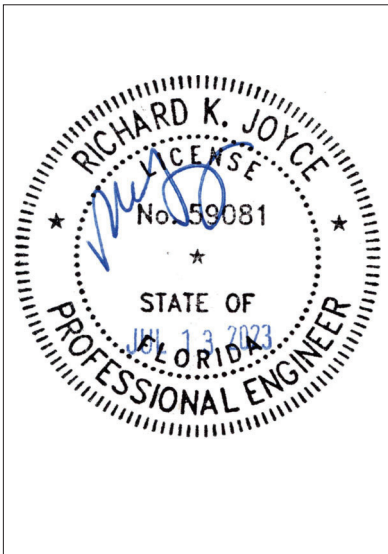
R. Keith Joyce, P.E. Florida 59081

Validator

Dennis L. Johnson, P.E., Florida 54340
Florida C.O.A. 30308

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Evaluation Report Pages 1-4 Dated 07-03-2023



Compliance Statement

The product described in this report has demonstrated compliance with the 2023 (8th Edition) Florida Building Code Sections 1504.3.2, 1504.7, 1507.4 and 2210.1.

Product Description

AP Panel Through Fastened structural panels applied over open framing:

1. MSC 24 (24 Gauge) (0.0230 Design Thickness) with a minimum $F_y = 50$ ksi and $F_u = 65$ ksi
2. MSC 18 (24 Gauge) (0.0230 Design Thickness) with a minimum $F_y = 50$ ksi and $F_u = 65$ ksi

Panel Material Standard

Formed steel in compliance with the 2023 (8th Edition) Florida Building Code Section 1507.4.3 with optional painted finish.

Panel Fastener

Corrosion Resistant #12 – 14 HWH SD as indicated in the **Load Tables** of this Evaluation Report

Substrate Description

Minimum 16 gauge open framing.

Framing must be designed in accordance with the 2023 (8th Edition) Florida Building Code

Quality Assurance Entity

The manufacturer has established compliance of products in accordance with the 2023 (8th Edition) Florida Building Code as relates to Rule 61G20-3.005(3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.

Minimum Roof Slope

Minimum roof slope shall be 2:12 in compliance with the 2023 (8th Edition) Florida Building Code, Including Section 1507.4.2 and in accordance with the manufacturer's recommendations.

Insulation

Manufacturer's approved products (optional)

Fire Classification

Fire Classification is outside the scope of this evaluation

Shear Diaphragm

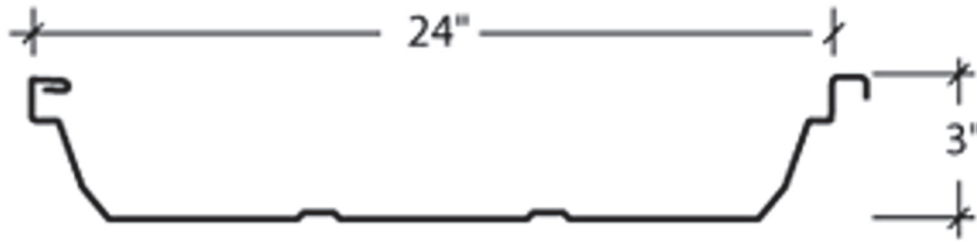
Shear Diaphragm is outside the scope of this evaluation

Design Procedure

Based on dimensions of the structure, appropriate wind loads are determined using chapter 16 of the 2023 (8th Edition) Florida Building Code for component loading of roof cladding. These component wind loads are compared to the allowable load listed in the **Load Tables** of this evaluation report. The design professional shall select appropriate fastener pattern and panel gauge to reference in the construction documents for proper installation. Design of support framing must be in compliance with the 2023 (8th Edition) Florida Building Code.

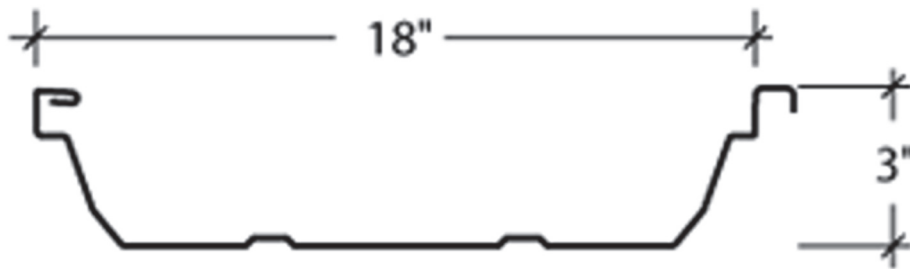
1. Maximum roof component uplift is based on ASTM E-1592 tests.
2. Panels are to be installed over open framing in accordance the with construction details.

MSC 24 Panel Profile



MSC 24 Panel Section Properties									
Panel Gauge	F_y	F_u	Weight	Negative Bending			Positive Bending		
				I_{xe}	S_{xe}	M_{axo}	I_{xe}	S_{xe}	M_{axo}
	Ksi	Ksi	psf	in ⁴	in ³	Kip-in	in ⁴	in ³	Kip-in
24	50	65	1.13	0.259	0.105	5.24	0.549	0.141	7.06

MSC 18 Panel Profile



MSC 18 Panel Section Properties									
Panel Gauge	F_y	F_u	Weight	Negative Bending			Positive Bending		
				I_{xe}	S_{xe}	M_{axo}	I_{xe}	S_{xe}	M_{axo}
	Ksi	Ksi	psf	in ⁴	in ³	Kip-in	in ⁴	in ³	Kip-in
24	50	65	1.80	0.260	0.105	5.25	0.497	0.136	6.80

Notes:

1. All calculations for section properties of MSC panels are calculated in accordance with the 2016 edition North American Specification for Cold-Formed Members with Supplement 2 (2020).
2. I_{xe} is for deflection calculations.
3. S_{xe} is for bending calculations.
4. M_{axo} is for allowable bending moment calculations.
5. All values are for one full panel.

The engineering data contained herein is for the express use of the customers of Chief Buildings and qualified design professionals.

MSC 24 Panel (24 Gauge)			Allowable Gravity Loads				
Span Type	Span (ft.)						
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Single	177	142	118	101	89	79	71
2 - Span	291	186	129	95	73	58	47
3-Span	364	233	162	119	91	72	58

MSC 24 Panel (24 Gauge)		Allowable Uplift Load				
Span Type	Span (ft.)					
	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	
Maximum Sustained Load	353.0					107.5
Allowable Load	176.5	145.8	115.1	84.4	53.7	

MSC 18 Panel (24 Gauge)			Allowable Gravity Loads				
Span Type	Span (ft.)						
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Single	177	142	118	101	89	79	71
2 - Span	292	187	130	95	73	58	47
3-Span	365	234	162	119	91	72	58

MSC 18 Panel (24 Gauge)		Allowable Uplift Load				
Span Type	Span (ft.)					
	1'-0"	2'-0"	3'-0"	4'-0"	5'-0"	
Maximum Sustained Load	353.0					120.0
Allowable Load	176.5	147.3	118.2	89.1	60.0	

Notes:

1. Allowable loads are based on uniform span lengths and uniformly distributed load.
2. Live Load is limited by bending, shear, combined bending & shear.
3. Negative Wind Load does not include a 33.33% increase and does consider pull-over and pull-out on a minimum 16 gauge supporting member. (0.06" – $F_y = 55$ ksi and $F_u = 70$ ksi supporting members).
4. Above loads are computed for a maximum total deflection of $L/60$ for gravity loads.
5. The weight of panels has already been deducted from the allowable loads shown above.
6. The material is subject to change without notice.
7. These data have been developed in accordance with the 2016 version of the North American Specification for Cold-Formed Steel Structural Members with Supplement 2 (2020).
8. Uplift values are based on ASTM E1592 Tests using a factor of safety of 2.0.

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