

Evaluation Report "Matrix® Series MX1.0" Metal Wall Assembly

Manufacturer:
Morin – a Kingspan Company

**685 Middle Street
Bristol, CT 06010**

for

Florida Product Approval

FL 28122.1 R2

Florida Building Code 8th Edition (2023)

Method: 2 - B

Category: Structural Components

Sub - Category: Structural Wall

Product: "MX1.0" Wall Panel

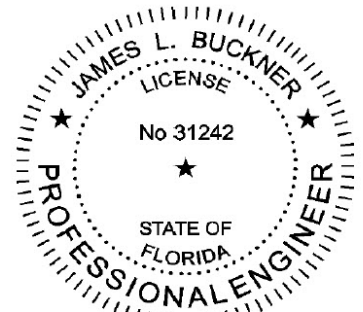
Material: Steel, 22 gauge min.

Support: Steel Girts

This item has been digitally signed and sealed by James L. Buckner, P.E., on this date below. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

Prepared by:

James L. Buckner, P.E., S.E.C.B.
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Project Manager: Diana Galloway
Report No. 23-558-MX1-SG-ER
(Revises 20-268-MX1-SG-ER, FL28122.1 R1)
Date: 12/20/2023



James L. Buckner, P.E.
FL31242

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Evaluation Report

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Date: 2023.12.20
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Manufacturer:	Morin - A Kingspan Company 685 Middle Street Bristol, CT 06010 (860) 857-0900 www.kingspan.com/us/en-us/product-groups/metal-roof-wall-systems
Product Name:	"Matrix® Series MX1.0"
Product Category:	Structural Components
Product Sub-Category	Structural Wall
Compliance Method:	State Product Approval Rule 61G20-3 .005 (2) (b)
Product/System Description:	"Matrix® Series MX1.0" Wall Panel Structural Steel Wall panels with concealed fasteners attached to steel supports with panel clips.
Product Assembly as Evaluated:	Refer to Page 4 of this report for product assembly components/materials & standards: 1. Wall Panel 2. Panel Clips 3. Fasteners 4. Insulation (Optional)
Support:	Type: Steel Supports (Design of steel support and its attachment to support framing is outside the scope of this evaluation.) Description: Material: Steel Thickness: 16 Gauge minimum Yield Strength: 40 ksi minimum Girt/Stud Size: 2" min. flange bearing
Performance:	Wind Uplift Resistance: • Design Uplift Pressure: Refer to Table "A" (Refer to "Table A" attachment details herein)

Performance Standards:	The product described herein has demonstrated compliance with: • ASTM E 1592 – <i>Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference</i>
Code Compliance:	The product described herein has demonstrated compliance with: Florida Building Code 8th Edition (2023), Section 1708.2
Evaluation Report Scope:	This product evaluation is limited to compliance with the structural requirements of the Florida Building Code, as related to the scope section to Florida Product Approval Rule 61G20-3 .001.
Limitations and Conditions of Use:	• Diaphragm and axial load capacity is outside the scope of this evaluation. <u>Scope of “Limitations and Conditions of Use” for this evaluation:</u> • This evaluation report for “State Approval” contains technical documentation, specifications and installation method(s) which include “Limitations and Conditions of Use” throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under “State Approval”. <u>Option for application outside “Limitations and Conditions of Use”</u> • Rule 61G20-3.005(1)(e) allows engineering analysis for “project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code”. Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others. • This report is a building code product evaluation per FLPE rule (FAC) 61G15-36 to comply with Florida product approval rule (FAC) 61G20-3. This evaluation report is part of the Florida Building Commission approval for the listed code related criteria. This report by James Buckner, P.E. and CBUCK Engineering is not a design certification of code compliance construction submittal documentation, per FBC section 107, for any individual structure, site specific or permit design. • All metal components and fasteners shall be corrosion resistant in accordance with applicable sections of FBC. • Design of support system is outside the scope of this report. Support shall be designed by others and shall comply with the FBC Chapters 22 for steel and Chapter 16 for structural loading. • Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation. • This evaluation report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)
Quality Assurance:	The manufacturer has demonstrated compliance of products in accordance with the Florida Building Code and Rule 61G20-3 .00053) for manufacturing under a quality assurance program audited by an approved quality assurance entity through Farabaugh Testing & Engineering (FBC ID# QUA 7733).

Components/Materials (by Manufacturer):	Wall Panel:	"Matrix® Series MX1.0"
	Material:	Steel
	Thickness:	22 gauge min.
	Panel Width:	12" (max.)
	Rib Height:	1-1/2"
	Yield Strength:	40 ksi min.
	Corrosion Resistance:	In compliance with FBC Section 1507.4.3

Wall Panel Clips:	
Product Name:	Morin "Matrix Clip"
Type:	One-piece clip
Part #:	MX 1.0
Material & Thickness:	18 ga. Galvanized Steel
Yield Strength:	40 ksi min.
Dimensions:	2-1/2" (I)
Corrosion Resistance:	Per FBC Section 1506.7

Fastener:	
Type:	Hex-Head Self-drilling Screw
Size :	#12 – 14 x 1"
Corrosion Resistance:	Per FBC Section 1506.6 and 1507.4.4
Standard:	Per SAE J78-1979

**Components& Materials: Insulation (Optional):
(by Others)**

<u>Type 1:</u>	Compressible Blanket Insulation
Thickness:	6" max. before compression

Insulation shall comply with FBC Section 1508. When insulation is incorporated, fastener length shall conform to penetrate thru bottom of support a minimum of 3/4".

Installation:

Installation Method:

(Refer to "TABLE A" below and drawings the end of this report.)

Install per the following:

- Support spacing: Per Table "A"
- One (1) fastener per max. support (girt/stud)
- Fasteners shall be centered in the flange of each attachment point.
- Panel ribs shall be fully engaged to form an integral interlock.
- Minimum fastener penetration thru flange of steel support: 3/4".
- Wall Panels are to be installed vertically or horizontally.

TABLE "A" "Matrix® Series MX1.0" ALLOWABLE LOADS		
Panel Thickness	Max. Support Spacing	Design Pressure
22 gauge	60" (5'- 0")	-27 PSF
	48" (4'- 0")	-96 PSF
NOTES: • Negative Pressure Outward • Allowable design pressure(s) for allowable stress design (ASD). • Fastener Attachment to Steel Supports May Be Designed By A Qualified Design Professional As Required By The Florida Building Code For Site Specific Projects. • Diaphragm and axial load capacity are not included in this evaluation		

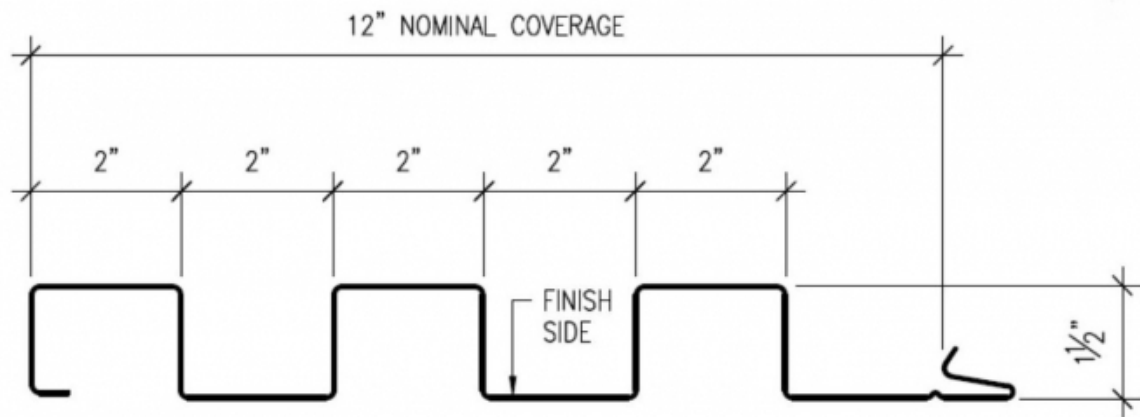
Install the "MATRIX® SERIES MX1.0" roof panel assembly in compliance with the installation method listed in this report and applicable code sections of FBC 8th Edition (2023) . The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

Referenced Data:

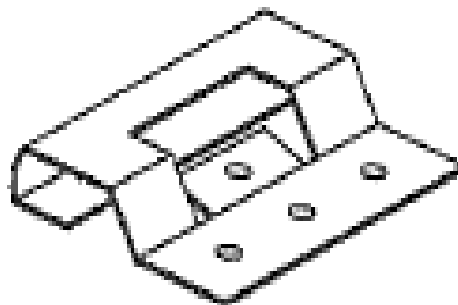
1. ASTM E 1592 Uplift Test
Farabaugh Testing & Engineering (FBC Organization ID# QUA 7733)
22 ga: Project No. T295-12 Date: 08/30/12
2. Quality Assurance
Farabaugh Testing & Engineering (FBC Organization ID# QUA 7733)
3. Certification of Independence
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)

Installation Method
Morin - A Kingspan Company
"Matrix® Series MX1.0" Steel Wall Panel attached to Steel Supports

Drawings



Typical Panel Profile



Panel Clip
(Part Number MX1.0)

Installation Method Morin - A Kingspan Company "Matrix® Series MX1.0" Steel Wall Panel attached to Steel Supports

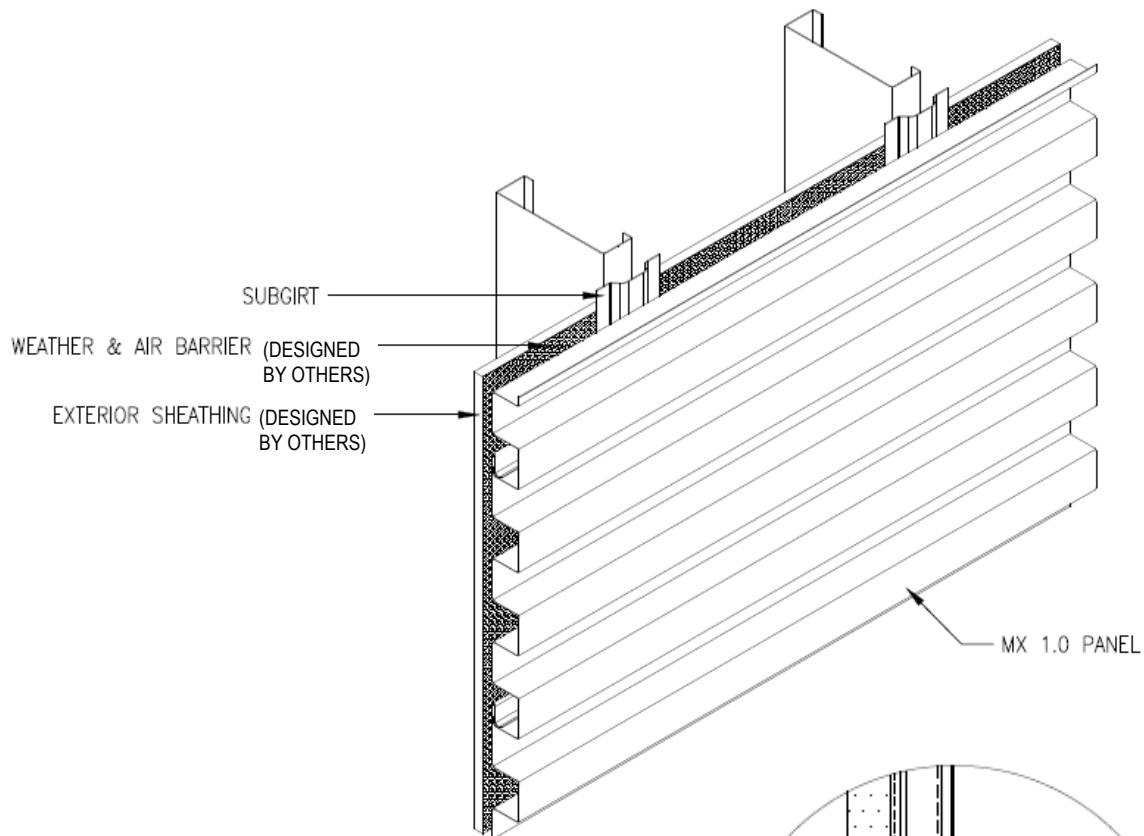
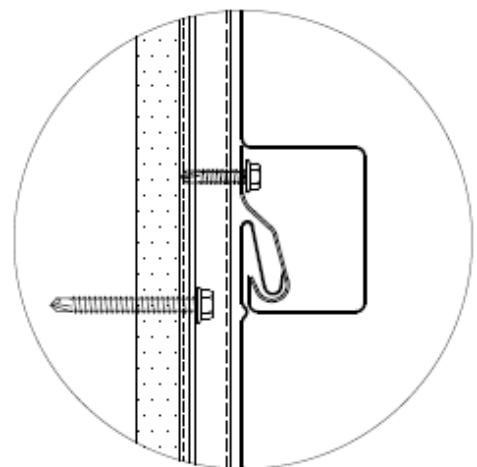


TABLE "A"
ALLOWABLE LOADS

Panel Thickness	Max. Support Spacing	Design Pressure
22 gauge	60" (5'- 0")	-27 PSF
	48" (4'- 0")	-96 PSF



CLIP ATTACHMENT

Typical Wall Assembly
Isometric View