

**PRODUCT EVALUATION REPORT**

**Mueller, Inc.**

**Mueller Trapezoidal Lok (MTL) Standing Seam Roof Panel**

**TripleLok Over Open Framing**

**Florida Product Approval Number FL 2807.4**

**Category: Structural Components**

**Sub-Category: Roof Deck**

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

**NON-HVHZ**

**Product Manufacturer**

Mueller, Inc.

1915 Hutchings Avenue

Ballinger, Texas 76821

**Manufacturing Location**

Mueller, Inc.

6914 Highway 2

Oak Grove, Louisiana 71263

**Engineer Evaluator**

R. Keith Joyce, P.E., Florida 59081

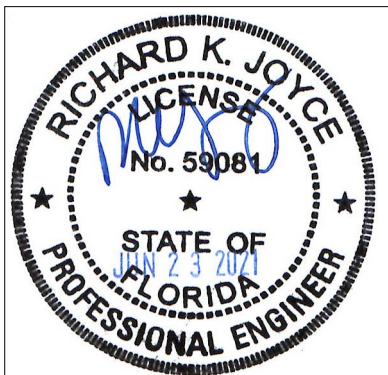
**Validator**

Dennis Johnson, P.E. Florida 54340

C.O.A. 30308

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### **Compliance Statement**

The product described in this report has demonstrated compliance with the 2020 (7<sup>th</sup> Edition) Florida Building Code Sections 1504.3.2, 1504.7, 1507.4 and 2210.1.

### **Product Description**

Mueller Trapezoidal Lok (MTL) Cold-Formed Standing Seam structural roof panels applied over open framing:

1. MTL 24 Gauge Triple-Lok (0.0232 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi
2. MTL 22 Gauge Triple-Lok (0.0299 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi

### **Panel Material Standard**

Formed steel in compliance with the 2020 (7<sup>th</sup> Edition) Florida Building Code Section 1507.4.3 with optional painted finish.

### **Roof Panel Clips**

Product Name: MPS 602  
Type: Sliding Standing Seam Clips  
Corrosion Resistance: Per 2020 (7<sup>th</sup> Edition) Florida Building Code Table 1504.3(2)

### **Panel Fastener**

(2) 1/4 – 14 HWH SD per clip as indicated in the **Load Tables** of this Evaluation Report

### **Substrate Description**

Minimum 16 gauge (0.0596 steel thickness) open framing.  
Framing must be designed in accordance with the 2020 (7<sup>th</sup> Edition) Florida Building Code

### **Scope of Evaluation Report**

This Product Evaluation is limited to compliance with the 2020 (7<sup>th</sup> Edition) Florida Building Code wind load as it relates to Rule 61G20-3.005(3)

### **Reference Data**

1. ASTM E1592-05  
Encon Technology, Inc. (FBC Organization Number TST-6485) Report Number C1950-1
2. FM4470 Section 4.6 Foot Traffic Resistance Test

### **Quality Assurance Entity**

The manufacturer has established compliance of products in accordance with the 2020 (7<sup>th</sup> Edition) Florida Building Code as relates to Rule 61G62-3 for manufacturing under a quality assurance program audited by an approved quality assurance entity.

### **Minimum Roof Slope**

Minimum roof slope shall be ¼:12 in compliance with the 2020 (7<sup>th</sup> Edition) Florida Building Code, Including Section 1507.4.2 and in accordance with the Manufacturers recommendations.

### **Insulation**

Manufacturer's approved products (optional)

### **Fire Classification**

Fire Classification is outside the scope of this evaluation

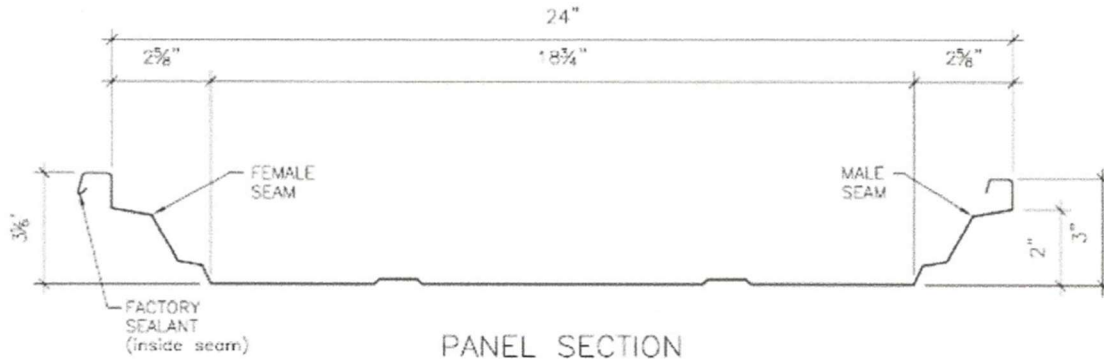
### **Shear Diaphragm**

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 2020 (7<sup>th</sup> 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 2020 (7<sup>th</sup> Edition) Florida Building Code.

# Mueller Trapezoidal Lok (MTL)



Mueller Trapezoidal Lok (MTL) Panel (24 Gauge)				Section Properties					
Panel Gauge	Fy	Fu	Weight	Negative Bending			Positive Bending		
				Ixe	Sxe	Maxo	Ixe	Sxe	Maxo
	ksi	Ksi	Psf	In <sup>4</sup>	In <sup>3</sup>	Kip-in	In <sup>4</sup>	In <sup>3</sup>	Kip-in
24	50	60	1.19	0.327	0.1657	4.962	0.776	0.3194	9.564
22	50	60	1.54	0.446	0.2322	6.953	1.010	0.4158	12.45

Note: Section Properties shown are for one full panel width (24").

Mueller Trapezoidal Lok (MTL) Panel (24 Gauge)				Allowable Gravity Load			
Span Type	Span (ft)						
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Single	632	505	354	260	199	157	127
2 Span	275	176	122	90	68	54	44
3-Span	334	213	148	109	83	66	53

Mueller Trapezoidal Lok (MTL) Panel (22 Gauge)				Allowable Gravity Load			
Span Type	Span (ft)						
	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"	5'-0"
Single	614	491	346	254	194	154	124
2 Span	267	171	119	87	67	53	43
3-Span	344	220	153	112	86	68	55

**Notes:**

1. Allowable loads are based on uniform span length and uniformly distributed load.
2. Allowable gravity load is limited by bending, shear or deflection.
3. Allowable gravity loads are computed for a maximum total load deflection of L/60.
4. Weight of the panel must be included with gravity load combinations as appropriate.
5. This material is subject to change without notice
6. This material has been developed in accordance with the 2016 North American Specification for Cold-Formed Structural Steel Members.

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

## Mueller Trapezoidal Lok (MTL) Design Uplift Pressures

### 24 Gauge Triple-Lok (2 Screws Per Clip)

Purlin Spacing	Ultimate Load (PSF)	Allowable Load (PSF)
5'-0"	72.0	36.0
4'-6"		45.0
4'-0"		54.0
3'-6"		63.0
3'-0"		72.0
2'-6"		81.0
2'-0"	180.0	90.0

## Mueller Trapezoidal Lok (MTL) Design Uplift Pressures

### 22 Gauge Triple-Lok (2 Screws Per Clip)

Purlin Spacing	Ultimate Load (PSF)	Allowable Load (PSF)
5'-0"	88.0	44.0
4'-6"		57.1
4'-0"		70.2
3'-6"		83.2
3'-0"		96.3
2'-6"		109.4
2'-0"	245.0	122.5