PRODUCT EVALUATION REPORT Mueller, Inc.

PBR Through Fastened Roof Panel Over Open Framing

Florida Product Approval Number FL 2807.1

Category: Structural Components Sub-Category: Roof Deck

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

Product Manufacturer

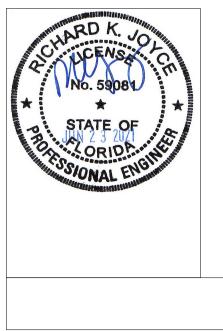
Mueller, Inc. 1915 Hutchings Avenue Ballinger, Texas 76821

<u>Manufacturing Location</u> Mueller, Inc. 6914 Highway 2 Oak Grove, Louisiana 71263

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

<u>Validator</u> Dennis Johnson, P.E. Florida 54340 Florida C.O.A. 30308

Contents Evaluation Report Pages 1-5 Dated 06-17-2021



Compliance Statement

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

Product Description

Mueller PBR Through Fastened structural roof panels applied over open framing:

- PBR 26 Gauge (0.0173 Sheet Thickness) with a minimum Fy = 80 ksi and Fu = 82 ksi 12-12 Fastener Spacing
- PBR 26 Gauge

 (0.0173 Sheet Thickness) with a minimum Fy = 80 ksi and Fu = 82 ksi 5-7-5 Fastener Spacing
 PBR 24 Gauge
- (0.0232 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi 12-12 Fastener Spacing
- PBR 24 Gauge
 (0.0232 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi 5-7-5 Fastener Spacing
- PBR 22 Gauge

 (0.0299Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi 12-12 Fastener Spacing
 PBR 22 Gauge
- PBR 22 Gauge
 (0.0299 Sheet Thickness) with a minimum Fy = 50 ksi and Fu = 60 ksi 5-7-5 Fastener Spacing

Panel Fastener

Corrosion Resistant 1/4 – 14 HWH SD 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 (7th Edition) Florida Building Code

Quality Assurance Entity

The manufacturer has established compliance of products in accordance with the 2020 (7th 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 of ½:12 shall comply with the 2020 (7th Edition) Florida Building Code, Including Section 1507.4.2 and in accordance with the Manufacturers recommendations. For slopes less than 3:12 lap sealant must be used at all side laps.

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

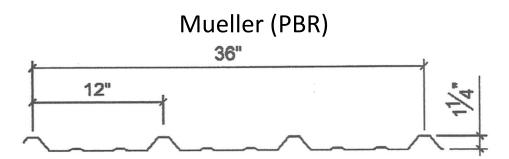
Based on dimensions of the structure, appropriate wind loads are determined using chapter 16 of the 2020 (7th Edition) Florida Building Code for component loading of roof cladding. These component wind loads are compared to the allowable load listed in the **Load Tables** of this evaluation report. The 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 (7th Edition) Florida Building Code.

TYPICAL FASTENER PATTERN -14 X 7/8 LAP SCREW w/ SEALER WASHER 20" O.C. CONTINUOUS TAPE SEAL #12-14 X 1 1/4" HWH SD w/ SEALER WASHER FOR USE ON SLOPES LESS THEN 3:12 FASTENER PATTERN AT PANEL ENDS /4-14 X 7/8 LAP SCREW w/ SEALER WASHER 20" 0.C. CONTINUOUS TAPE SEAL #12-14 X 1 1/4" HWH SD w/ SEALER WASHER FOR USE ON SLOPES LESS THEN 3:12

R or PBR Panel Fastener Patterns

Notes:

- 1. Fastener Pattern 5-7-5 is to be used at the ends of all panels
- 2. Fastener Pattern 12-12 and 5-7-5 are to be used at the intermediate supports as indicated in the span load tables to achieve the required uplift load capacity.



Mueller (PE	3R) Panel (26 Gauge)	Section Properties								
Panel	Panel Fy		Weight	Neg	gative Bend	ding	Positive Bending					
Gauge	Гÿ	Fu	Weight	lxe	Sxe	Maxo	lxe	Sxe	Maxo			
	ksi	Ksi	Psf	In ⁴	ln ³	Kip-in	In ⁴	ln ³	Kip-in			
26	60*	61.5*	0.84	0.0353	0.0496	1.720	0.0400	0.0335	1.202			
24	50	60	1.13	0.0516	0.0657	1.970	0.0623	0.0645	1.933			
22	50	60	1.46	0.0700	0.0857	2.566	0.0866	0.0909	2.723			

*= Fy is 80 ksi, Fu is 82 ksi reduced to Fy = 60 ksi and Fy = 61.5 ksi in accordance with the 2016 North American Specification for Cold-Formed Steel Structural Members Section A2.3.2.

26 Ga

PBR PANEL

Mueller, Inc. PRODUCT INFORMATION

SPAN TYPE	LOAD TYPE	SPAN IN FEET											
	LOAD TIFE	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0			
Single	Negative Wind Load	514.1	257.0	127.4	71.7	45.9	31.9	23.4	17.9	12.7			
	Live Load/Deflection	118.5	59.3	39.5	29.6	23.7	19.8	16.4	12.5	9.9			
2-Span	Negative Wind Load	205.6	102.8	68.5	48.3	31.3	21.9	16.2	12.4	9.8			
	Live Load/Deflection	158.0	79.0	52.7	39.5	31.6	26.3	22.6	17.6	13.9			
3-Span	Negative Wind Load	233.6	116.8	77.9	58.4	38.8	27.2	20.1	15.5	12.2			
5-opan	Live Load/Deflection	148.2	74.1	49.4	37.0	29.6	24.7	21.2	18.5	15.5			
6 gauge (Fy =	60 ksi) #12-14 Fasteners	on 6" cente	ers for attac	hment to all	supporting	members	(16 gauge	supporting	members n	ninimum			
		s on 6" cente	ers for attac	hment to all		members PAN IN FEE		supporting	members n	ninimum			
	60 ksi) #12-14 Fasteners LOAD TYPE	on 6" cente	ers for attact 2.0	hment to all 3.0				supporting 7.0	members n 8.0	ninimum 9.0			
SPAN TYPE					S	PAN IN FEE	Т						
	LOAD TYPE	1.0	2.0	3.0	4.0	PAN IN FEE 5.0	T 6.0	7.0	8.0	9.0			
SPAN TYPE Single	LOAD TYPE Negative Wind Load	1.0 1028.2	2.0 286.7	3.0 127.4	4.0 71.7	PAN IN FEE 5.0 45.9	T 6.0 31.9	7.0 23.4	8.0 17.9	9.0 12.7			
SPAN TYPE	LOAD TYPE Negative Wind Load Live Load/Deflection	1.0 1028.2 118.5	2.0 286.7 59.3	3.0 127.4 39.5	4.0 71.7 29.6	PAN IN FEE 5.0 45.9 23.7	T 6.0 31.9 19.8	7.0 23.4 16.4	8.0 17.9 12.5	9.0 12.7 9.9			
SPAN TYPE Single	LOAD TYPE Negative Wind Load Live Load/Deflection Negative Wind Load	1.0 1028.2 118.5 411.3	2.0 286.7 59.3 175.6	3.0 127.4 39.5 83.6	\$ 4.0 71.7 29.6 48.3	PAN IN FEE 5.0 45.9 23.7 31.3	T 6.0 31.9 19.8 21.9	7.0 23.4 16.4 16.2	8.0 17.9 12.5 12.4	9.0 12.7 9.9 9.8			

Mueller, Inc.

PRODUCT INFORMATION

24 Ga PBR PANE

24 gauge (Fy =	50 ksi) #12-14 Fasteners of	n 12" cente	rs for attach	ment to all su	upporting me	embers (16 g	gauge supp	orting memb	ers minimur	n)**			
SPAN TYPE	LOAD TYPE	SPAN IN FEET											
	LOAD TIFE	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0			
Single	Negative Wind Load	514.1	257.0	145.9	82.1	52.5	36.5	26.8	20.5	16.2			
	Live Load/Deflection	204.6	102.3	68.2	51.1	40.9	34.1	26.3	20.1	15.9			
2-Span	Negative Wind Load	205.6	102.8	68.5	51.4	41.1	34.3	26.1	20.0	15.8			
	Live Load/Deflection	272.7	136.4	90.9	68.2	51.7	36.1	26.6	20.4	16.1			
2 0	Negative Wind Load	233.6	116.8	77.9	58.4	46.7	38.9	32.5	24.9	19.7			
3-Span	Live Load/Deflection	255.7	127.9	85.2	63.9	51.1	42.6	33.1	25.4	20.1			
24 gauge (Fy =	50 ksi) #12-14 Fasteners of	n 6" centers	for attachm	ent to all sup	porting mer	nbers (16 ga	auge suppo	rting membe	ers minimum)**			
	LOAD TYPE	SPAN IN FEET											
SPAN TYPE	LOAD TIPE	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0			
Cingle	Negative Wind Load	1028.2	328.3	145.9	82.1	52.5	36.5	26.8	20.5	16.2			
Single	Live Load/Deflection	204.6	102.3	68.2	51.1	40.9	34.1	26.3	20.1	15.9			
2 Casa	Negative Wind Load	411.3	205.6	137.1	78.6	50.7	35.4	26.1	20.0	15.8			
2-Span	Live Load/Deflection	272.7	136.4	90.9	68.2	51.7	36.1	26.6	20.4	16.1			
2 Chan	Negative Wind Load	467.3	233.6	155.8	97.2	63.0	44.0	32.5	24.9	19.7			
3-Span	Live Load/Deflection	255.7	127.9	85.2	63.9	51.1	42.6	33.1	25.4	20.1			
* - Eactonor M	lacher Diameter shall be 1/	"Minimum											

** = Fastener Washer Diameter shall be 1/2" Minimum

Mueller, Inc. PRODUCT INFORMATION

22 Ga PBR PANEL

22 gauge (Fy =	= 50 ksi) #12-14 Fasteners	on 12" cer	ters for atta	achment to a	all supportin	a members	(16 gauge	supporting	members n	ninimum)*		
SPAN TYPE	LOAD TYPE	SPAN IN FEET										
	LOAD TIPE	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0		
Single F	Negative Wind Load	514.1	257.0	171.4	95.6	48.9	28.3	17.8	12.0	8.4		
	Live Load/Deflection	449.8	224.9	149.9	112.4	60.6	35.1	22.1	14.8	10.4		
2-Span	Negative Wind Load	205.6	102.8	68.5	51.4	41.1	34.3	29.4	25.7	20.2		
2-Span	Live Load/Deflection	599.7	299.8	184.1	105.0	67.6	47.1	34.7	26.6	21.0		
3-Span	Negative Wind Load	233.6	116.8	77.9	58.4	46.7	38.9	33.4	22.6	15.8		
5-Spari	Live Load/Deflection	562.2	281.1	187.4	130.2	84.1	58.7	41.7	27.9	19.6		
22 gauge (Fy =	= 50 ksi) #12-14 Fasteners	on 6" cent	ers for attac	hment to all	supporting	members	(16 gauge s	supporting I	members mi	nimum)**		
SPAN TYPE	LOAD TYPE				S	PAN IN FEE	Т	-				
SPAN TIFE	LOAD TIFE	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0		
	Manual Address of the state	1000.0	107.0	100.1	05.0	10.0	00.0	170	10.0			

		1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
Single I	Negative Wind Load	1028.2	427.8	190.1	95.6	48.9	28.3	17.8	12.0	8.4
	Live Load/Deflection	449.8	224.9	149.9	112.4	60.6	35.1	22.1	14.8	10.4
2-Span	Negative Wind Load	411.3	205.6	137.1	102.8	71.7	50.0	36.8	28.2	20.2
2-Span	Live Load/Deflection	599.7	299.8	184.1	105.0	67.6	47.1	34.7	26.6	21.0
3-Span	Negative Wind Load	467.3	233.6	155.8	116.8	89.1	53.5	33.7	22.6	15.8
5-Span	Live Load/Deflection	562.2	281.1	187.4	130.2	84.1	58.7	41.7	27.9	19.6
tt - Contonorl	t - Festeres Wester Dispeter shall be 4/00 Minimum									

** = Fastener Washer Diameter shall be 1/2" Minimum

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.