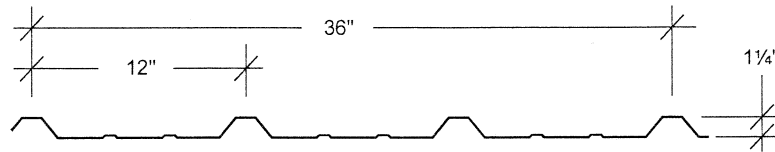


PRODUCT INFORMATION

PBR PANEL

GENERAL DESCRIPTION



PBR PANEL

Coverage Width - 36"

Minimum Slope - 1/2:12

Panel Attachment - See page 8

Panel Substrate - Galvalume®

Gauge - 26 standard - 29, 24 and 22 also available

Coatings- Galvalume Plus®, Signature® 200* and Signature® 300*

ARCHITECT/ENGINEER INFORMATION

1. PBR panel is a structural roof and wall panel. This panel can be installed directly over purlins or joists. Several different UL 90 construction numbers are available for this panel.
2. PBR panel is recommended for 1/2:12 or greater roof slopes.
3. Field applied tape sealant is required at panel sidelaps and endlaps.
4. PBR panel is a through-fastened panel. For proper fastener application, see page 3 and page 8.
5. The information in this manual is believed to be correct and accurate. It should not be used for any specific application without being reviewed by a registered professional engineer.
6. Galvalume material must not come in contact with concrete or pressure treated lumber.

PRODUCT SELECTION CHART

GAUGE	GALVALUME PLUS®	SIGNATURE® 200*	SIGNATURE® 300*
22 gauge	●	■	■
24 gauge	●	■	■
26 gauge	●	●	●
29 gauge	●	●	■

● - Available in any quantity.

■ - Minimum quantity may be required.

*See Commercial/Industrial color chart for available colors.

FACTORY MUTUAL APPROVALS

RATING	PROFILE	WIDTH (IN)	GAUGE	PURLIN SPACING	PURLIN GA.	FASTENER TYPE	NUMBER OF FASTENERS	STITCH FASTENER	STITCH FASTENER SPACING
1-135	PBR ¹	36	24	5'-3 1/4"	16	1/4-14 X 1 1/4 ZAC ³	3	1/4-14 X 7/8 ZAC ¹¹	20" o.c.
1-165	PBR ¹	36	24	5'-3 1/4"	16	1/4-14 X 1 1/4 ZAC ³	6	1/4-14 X 7/8 ZAC ¹¹	20" o.c.

Notes:

¹ All roofs are Class 4471.

³ Fastener #1E.

¹¹ Fastener #4.

State of Florida Approval Numbers: FL1904.2 (roof), FL4191.3 (wall), FL5222 (light transmitting panels).

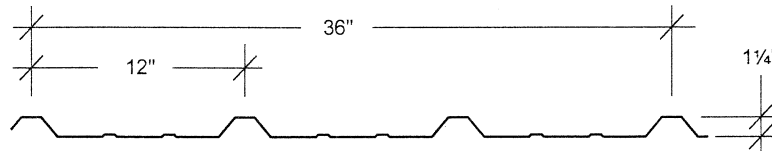
Miami Dade County NOA: 02.1016.04 (roof), 01.0417.12 (wall), see special installation instructions, www.miamidade.gov.

Signature is a registered trademark of Metal Building Components, L.P. Galvalume and Galvalume Plus are registered and protected trademarks of BIEC International, Inc.

PBR PANEL

PRODUCT INFORMATION

PBR PANEL



SECTION PROPERTIES								
PANEL GAUGE	F _y (KSI)	WEIGHT (PSF)	NEGATIVE BENDING			POSITIVE BENDING		
			I _{xe} (IN.4/FT.)	S _{xe} (IN.3/FT.)	Max _o (KIP-IN.)	I _{xe} (IN.4/FT.)	S _{xe} (IN.3/FT.)	Max _o (KIP-IN.)
29	60 *	0.75	0.0219	0.0357	1.2835	0.0242	0.0234	0.8423
26	60 *	0.94	0.0302	0.0511	1.8366	0.0369	0.0372	1.3373
24	50	1.14	0.0404	0.0733	2.1953	0.0506	0.0521	1.5594
22	50	1.44	0.0544	0.1042	3.1201	0.0709	0.0749	2.2427

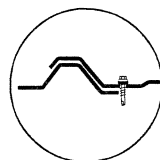
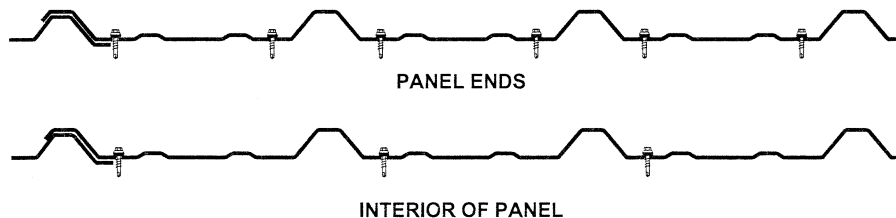
* F_y is 80-ksi reduced to 60-ksi in accordance with the 2001 edition of the North American Specification For Design Of Cold-Formed Steel Structural Members - A2.3.2.

NOTES:

1. All calculations for the properties of PBR panels are calculated in accordance with the 2001 edition of the North American Specification For Design Of Cold-Formed Steel Structural Members.
2. I_{xe} is for deflection determination.
3. S_{xe} is for bending.
4. Max_o is allowable bending moment.
5. All values are for one foot of panel width.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the *North American Specification for the Design of Cold-Formed Steel Structural Members* published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project jobsite in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.

PBR PANEL FASTENER LOCATIONS



APPLICATION →
PREVAILING WIND ←

NOTES:

1. The PBR panel has an unsymmetrical purlin bearing side lap leg. Panel side lap with extended foot to bear on frame. However, where possible, the panel should be lapped against prevailing wind.
2. The above are typical fastener spacings. However, they may not be appropriate for all applications. Consult a professional engineer for use on any specific application.
3. Minimum 1/2" x 3/32" tape sealer required at panel side laps when used as roof panels.
4. Side lap fasteners are required. Typical spacing is 20" O.C. However, this spacing may not be appropriate for all applications. Consult a professional engineer for use on any specific application.

PRODUCT INFORMATION

PBR PANEL

PBR PANEL ALLOWABLE UNIFORM LOADS IN POUNDS PER SQUARE FOOT.

29 Gauge (Fy = 60 KSI)								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
SINGLE	NEGATIVE WIND LOAD	95.1	53.5	34.2	23.8	17.5	13.4	10.6
	LIVE LOAD/DEFLECTION	60.3	33.1	16.9	9.8	6.2	4.1	2.9
2-SPAN	NEGATIVE WIND LOAD	62.4	35.1	22.5	15.6	11.5	8.8	6.9
	LIVE LOAD/DEFLECTION	51.6	33.8	21.9	15.3	11.3	8.7	6.9
3-SPAN	NEGATIVE WIND LOAD	78.0	43.9	28.1	19.5	14.3	11.0	8.7
	LIVE LOAD/DEFLECTION	58.6	41.6	27.1	18.5	11.6	7.8	5.5
4-SPAN	NEGATIVE WIND LOAD	72.8	41.0	26.2	18.2	13.4	10.2	8.1
	LIVE LOAD/DEFLECTION	56.4	39.0	25.4	17.8	12.4	8.3	5.8

26 Gauge (Fy = 60 KSI)								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
SINGLE	NEGATIVE WIND LOAD	136.0	76.5	49.0	34.0	25.0	19.1	15.1
	LIVE LOAD/DEFLECTION	99.1	50.4	25.8	14.9	9.4	6.3	4.4
2-SPAN	NEGATIVE WIND LOAD	99.1	55.7	35.7	24.8	18.2	13.9	11.0
	LIVE LOAD/DEFLECTION	87.3	54.6	35.2	24.5	18.1	13.9	10.7
3-SPAN	NEGATIVE WIND LOAD	123.8	69.7	44.6	31.0	22.7	17.4	13.8
	LIVE LOAD/DEFLECTION	99.2	67.7	43.8	28.2	17.7	11.9	8.3
4-SPAN	NEGATIVE WIND LOAD	115.6	65.0	41.6	28.9	21.2	16.3	12.8
	LIVE LOAD/DEFLECTION	95.5	63.4	40.9	28.6	18.8	12.6	8.9

24 Gauge (Fy = 50 KSI)								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
SINGLE	NEGATIVE WIND LOAD	162.6	91.5	58.5	40.7	29.9	22.9	18.1
	LIVE LOAD/DEFLECTION	115.5	65.0	35.4	20.5	12.9	8.6	6.1
2-SPAN	NEGATIVE WIND LOAD	115.5	65.0	41.6	28.9	21.2	16.2	12.8
	LIVE LOAD/DEFLECTION	109.4	64.2	41.3	28.7	21.1	16.2	12.8
3-SPAN	NEGATIVE WIND LOAD	144.4	81.2	52.0	36.1	26.5	20.3	16.0
	LIVE LOAD/DEFLECTION	124.3	79.8	51.4	35.8	26.4	16.3	11.4
4-SPAN	NEGATIVE WIND LOAD	134.8	75.8	48.5	33.7	24.8	19.0	15.0
	LIVE LOAD/DEFLECTION	119.6	74.7	48.1	33.5	24.6	17.3	12.2

22 Gauge (Fy = 50 KSI)								
SPAN TYPE	LOAD TYPE	SPAN IN FEET						
		3.0	4.0	5.0	6.0	7.0	8.0	9.0
SINGLE	NEGATIVE WIND LOAD	231.1	130.0	83.2	57.8	42.5	32.5	25.7
	LIVE LOAD/DEFLECTION	166.1	93.4	49.6	28.7	18.1	12.1	8.5
2-SPAN	NEGATIVE WIND LOAD	166.1	93.4	59.8	41.5	30.5	23.4	18.5
	LIVE LOAD/DEFLECTION	163.1	92.5	59.4	41.3	30.4	23.3	18.4
3-SPAN	NEGATIVE WIND LOAD	207.7	116.8	74.8	51.9	38.1	29.2	23.1
	LIVE LOAD/DEFLECTION	200.6	115.1	74.1	51.6	34.1	22.8	16.0
4-SPAN	NEGATIVE WIND LOAD	193.9	109.1	69.8	48.5	35.6	27.3	21.5
	LIVE LOAD/DEFLECTION	189.5	107.6	69.2	48.2	35.5	24.2	17.0

NOTES:

- 1) Allow able loads are based on uniform span lengths and Fy = 50 and 60-ksi.
- 2) LIVE LOAD is limited by bending, shear, combined shear & bending and web crippling.
- 3) **NEGATIVE WIND LOAD does not contain a 33.333% increase and does not consider fastener pullout or pullover.**
- 4) Above loads consider a maximum deflection ratio of L/180.
- 5) The weight of the panel has not been deducted from the allow able loads.
- 6) The use of any accessories other than those provided by the manufacturer may damage panels, void all w warranties and w ill void all engineering data.
- 7) This material is subject to change w without notice.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along w ith this data, it is recommended that the design professional have a copy of the most current version of the *North American Specification for the Design of Cold-Formed Steel Structural Members* published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along w ith the Specification, the designer should reference the most current building code applicable to the project jobsite in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.

UL 90 REQUIREMENTS PBR PANEL

Construction #30

26 MSG Min. Gauge PBR Panel Over Purlins at 5'-0 1/4" O.C.

1. **For Class 90** - Panel to purlin connections to be #14 Hex Head with a 5/8" O.D. washer in a 4-8-4-8 in. pattern. Panel to panel connection to be 20" O.C. with fastener located over each purlin.
2. **Purlins** - No. 14 MSG min. gauge steel, (55,000 psi min. yield strength.)

Construction #79

26 MSG Min. Gauge PBR Panel Over Purlins at 5'-0 1/4" O.C.

1. **Panel Fasteners** - Panel to purlin connections to be #14 Hex Head with a 5/8" O.D. washer, 6" O.C. in 5-7-5-7 in. pattern. Endlap spacing to be 6 in. O.C. Spacing for panel to panel connection to be 20" O.C.
2. **Purlins** - No. 16 MSG min. gauge steel. (55,000 psi min. yield strength); or min. H series open web steel joists.

Construction #161

26 MSG Min. Gauge PBR Panel Over Purlins at 5'-0 1/4" O.C.

1. **Panel Fasteners** - Panel to purlin connections to be 12-14 x 1" self-drilling Hex Head with a 5/8" O.D. washer, 12" O.C. Spacing at endlap to be in a 5-7-5-7 in. patterns. Spacing for panel to panel connection to be 20" O.C. with a fastener located over each purlin.
2. **Purlins** - No. 16 MSG min. gauge steel. (55,000 psi min. yield strength).

Construction #542

26 MSG Min. Gauge PBR Panel Over Purlins at 5'-0 3/16" O.C.

1. **Panel Fasteners** - Panel to purlin connections to be 12-14x1" self-drilling Hex Head with a 5/8" O.D. washer, 12" O.C. Spacing at endlap to be in a 5-7-5-7 in. pattern. Spacing for panel to panel connection to be 20" O.C. with a fastener located over each purlin.
2. **Building Units** - Translucent Panels.
3. **Translucent Panel Rib and Purlin Reinforcement** - See UL 90 light transmitting panel installation instructions.
4. **Purlins** - No. 16 MSG min. gauge steel. (55,000 psi min. yield strength).

IMPACT RESISTANCE

PBR panels carry a Class 4 rating under UL-2218 "Test Standard For Impact Resistance"

FIRE RESISTANCE RATING

1. **Deck: NC** **Class A**
Incline: Unlimited
The panel qualifies for a Class A Fire Rating in compliance with Underwriters Laboratories Standard UL-263 when installed over a non-combustible substrate. A Class C Fire Rating will be qualified for over combustible substrate.

Look for classification marking on product.

CAUTION

The above listings are summaries of Construction Numbers. For UL 90 rated roof requirements and complete design information, see the Underwriters Laboratories Building Materials Directory.