

ENGINEERING

COMMERCIAL/INDUSTRIAL

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.) | Maxo (KIP-IN.) | I _{xe} (IN.4/FT.) | S _{xe} (IN.3/FT.) | Maxo (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. Maxo is allow able 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.

ENGINEERING

COMMERCIAL/INDUSTRIAL

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 | 76.6 | 51.9 | 38.1 | 29.2 | 23.1 |
| | LIVE LOAD/DEFLECTION | 200.6 | 115.1 | 75.8 | 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 warranties and will void all engineering data.
- 7) This material is subject to change without notice. Please contact MPI for most current data.

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