

| PRODUCT EVALUATION REPORT |                                  |
|---------------------------|----------------------------------|
| Project No.: ACE-2024-124 | Report No.: ACE-PER-1141, Rev. 0 |

**Product Description:** BR5-36 Exposed Fastener Metal Wall Panel

**Product Manufacturer:** Centria, 700 State Highway 121 Bypass, Suite 200, Lewisville, TX 75067

**Compliance Method:** Product Approval Rule 61G20-3.005(1)(d) – Product Evaluation Report by a Licensed Professional Engineer

**Product Category/Sub-Category:** Structural Components/Structural Wall

**SCOPE:** Evaluate CENTRIA’s BR5-36 Exposed Fastener Metal Wall Panel for conformance to the 8th Edition (2023) Florida Building Code excluding the High Velocity Hurricane Zone (HVHZ).

#### **DESCRIPTION OF PRODUCT – INSTALLATION REQUIREMENTS:**

See Reference 1 for a description of the product, its installation and other pertinent data related to its approved use.

#### **CODE CONFORMANCE:**

The 8th Edition (2023) Florida Building Code (FBC) requirements specific to this product that have been met by engineering evaluation (Reference 2.a) and depicted on the manufacturer’s installation drawings (Reference 1) are the following.

- 1403.3 Exterior Walls – Wind Resistance
- 1404.5 Exterior Walls – Metal
- Table 1405.2 Minimum Thickness of Weather Coverings
  - Steel must meet or exceed 0.0149” in thickness.
- 1405.17 Exterior Walls - Fasteners
- Table 1604.3 Deflection Limits
  - Exterior Walls/Flexible Finishes, deflection for wind loading limited to L/120.
- 1609 Wind Loads
- 2210.1 Cold-Formed Steel, General

The engineering evaluation (Reference 2.a) is based on AISI S100-07/S2-10, North American Specification for the Design of Cold-formed Steel Structural Members. The engineering evaluation determines Wind Pressure Loading in PSF. Safety factors are as prescribed in AISI S100-07/S2-10. Fastener allowable is based on a safety factor of 3. Deflection limitation based on L/120.

See ACE-EER-1141 (Reference 2.b) for equivalency evaluation of AISI S100-07/S2-10.

#### **LIMITATIONS AND CONDITIONS OF USE:**

This product evaluation report contains or refers to specifications, technical details and installation details and/or methods that pertain to the proper use and/or installation of the product specified herein. Specific limitations and conditions of its use, including but not limited to the following, are contained in Reference 1 and are the subject of Product Approval in accordance with the State of Florida Product Approval Rule 61G20-3.

- Design Pressure Rating (psf)
- Installation substrate requirements.
- Installation anchor requirements.
- Installation restrictions.
- Product description.
- Product components.

#### **REFERENCES & SUPPORTING DOCUMENTS:**

- 1) Manufacturer's Installation Instructions:
  - a) BR5-36 Exposed Fastener Metal Wall Panel Installation Drawing, Signed and Sealed by Robert J. Amoruso, P.E.
  - b) Horizontal Exposed Fastener Installation Details, Signed and Sealed by Robert J. Amoruso, P.E.
  - c) Vertical Exposed Fastener Installation Details, Signed and Sealed by Robert J. Amoruso, P.E.
- 2) Reports and Calculations
  - a) Report No. ACE-PER-1141, Appendix 2 and 3, Panel Span Analysis for Centria Exposed Fastener Metal Wall Panels to AISI S100-07/S2-10, Signed and Sealed by Robert J. Amoruso, P.E.
  - b) Report No. ACE-EER-1141, Equivalency Evaluation Report for Centria Exposed Fastener Metal Wall Panels, Signed and Sealed by Robert J. Amoruso, P.E.
    - i) EER evaluates AISI S100-07/S2-10 used in Ref. 2.a above as compared to AISI S100-16(2020) w/S2-20 (2023 FBC) and AISI S100-16, S1-18 (2023 FRC).
- 3) 8th Edition (2023) Florida Building Code (FBC), Building Volume
  - a) 1403.3 Exterior Walls – Wind Resistance
  - b) 1404.5 Exterior Walls – Metal
  - c) Table 1405.2 Minimum Thickness of Weather Coverings
    - i) Steel must meet or exceed 0.0149" in thickness.
  - d) 1405.17 Exterior Walls - Fasteners
  - e) Table 1604.3 Deflection Limits
    - i) Exterior Walls/Flexible Finishes, deflection for wind loading limited to L/120.
  - f) 1609 Wind Loads
  - g) 2210.1 Cold-Formed Steel, General
- 4) Standards (used in design)
  - a) AISI S100-07/S2-10, North American Specification for the Design of Cold-formed Steel Structural Members

## **APPENDICES:**

- Appendix 1: BR5-36 Exposed Fastener Metal Wall Panel Drawing, Section Properties, Configuration and Fastener Requirements, 1 page
- Appendix 2: BR5-36 Exposed Fastener Metal Wall Panel Load/Span Tables with 3/16" Girts, 4 pages
- Appendix 3: BR5-36 Exposed Fastener Metal Wall Panel Load/Span Tables with 16 GA. Girts, 4 pages

### **Certificate of Independence per Product Approval Rule 61G20-3.009**

Robert J. Amoruso, P.E., does not have, nor will he acquire, any financial interest in the company manufacturing or distributing product(s) covered by this Product Evaluation Report.

Robert J. Amoruso, P.E., does not have, nor will he acquire any financial interest in any other entity involved in the approval process or testing of the product(s) covered by this Product Evaluation Report.



Digitally signed  
by Robert J  
Amoruso  
Date:  
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Evaluated by:  
Robert J. Amoruso, P.E.  
FL P.E. License No. 49752

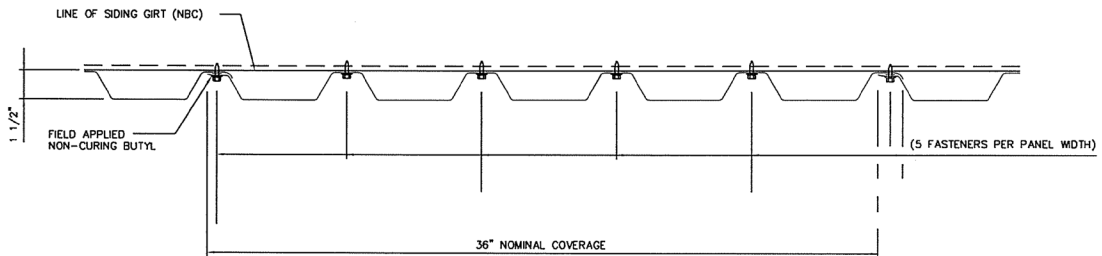
# APPENDIX 1

## BR5-36 Exposed Fastener Metal Wall Panel Drawing, Section Properties, Configuration and Fastener Requirements

- Panel Material with a Minimum Yield Strength = 37 ksi
  - ASTM A 653/A 653M - Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- Panel Configuration
  - 36" effective width with 5 ribs, each 1-1/2" high.
  - thicknesses
    - 24 gage (0.024")
    - 22 gage (0.030")
    - 20 gage (0.036")
    - 18 gage (0.049")
- Panel Installation Fasteners
  - 1/4" diameter (equivalent to #14) Sheet Metal Screws with 5/8" diameter combination washers
  - Five screws are installed per panel at each support.

| BR5-36 Exposed Fastener Metal Wall Panel Section Properties |                                  |                                  |              |
|-------------------------------------------------------------|----------------------------------|----------------------------------|--------------|
| Thickness (GA.)                                             | Minimum Ix (in <sup>4</sup> /ft) | Minimum Sx (in <sup>3</sup> /ft) | Weight (psf) |
| 24                                                          | 0.092                            | 0.123                            | 1.24         |
| 22                                                          | 0.124                            | 0.157                            | 1.55         |
| 20                                                          | 0.159                            | 0.193                            | 1.86         |
| 18                                                          | 0.237                            | 0.266                            | 2.48         |

FASTENING SCHEDULE  
(LEFT TO RIGHT ERECTION)



**BR5-36**  
VERTICAL APPLICATION OR  
HORIZONTAL APPLICATION

BR5-36 SIDING / FASTENING SCHEDULE

# WIND LOAD/SPAN TABLE FOR BR5-36 - 18 Ga.



5 Fasteners per Panel

Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.237 \text{ in}^4/\text{ft}$

$S_{min} = 0.266 \text{ in}^3/\text{ft}$

Deflection @ L/120

$F_y = 37 \text{ ksi}$

| Load |        | Single<br>Span |  | Double<br>Span |  | Triple<br>Span |  | Load |        | Single<br>Span |  | Double<br>Span |  | Triple<br>Span |
|------|--------|----------------|--|----------------|--|----------------|--|------|--------|----------------|--|----------------|--|----------------|
| 20   | Stress | 14.03 g        |  | 14.03 g        |  | 15.69 g        |  | 110  | Stress | 5.98 g         |  | 5.98 g         |  | 6.69 g         |
|      | psf    | Defl.          |  | 11.59          |  | 15.53          |  |      | psf    | Defl.          |  | 6.56           |  | 8.11           |
| 30   | Stress | 11.46 g        |  | 11.46 g        |  | 12.81 g        |  | 120  | Stress | 5.73 g         |  | 5.73 g         |  | 6.40 g         |
|      | psf    | Defl.          |  | 10.12          |  | 13.56          |  |      | psf    | Defl.          |  | 6.38           |  | 7.87           |
| 40   | Stress | 9.92 g         |  | 9.92 g         |  | 11.09 g        |  | 130  | Stress | 5.50 g         |  | 5.50 g         |  | 6.15 g         |
|      | psf    | Defl.          |  | 9.20           |  | 12.32          |  |      | psf    | Defl.          |  | 6.21           |  | 7.67           |
| 50   | Stress | 8.87 g         |  | 8.87 g         |  | 9.92 g         |  | 140  | Stress | 5.30 g         |  | 5.30 g         |  | 5.93 g         |
|      | psf    | Defl.          |  | 8.54           |  | 11.44          |  |      | psf    | Defl.          |  | 6.06           |  | 7.48           |
| 60   | Stress | 8.10 g         |  | 8.10 g         |  | 9.06 g         |  | 150  | Stress | 5.12 g         |  | 5.12 g         |  | 5.73 g         |
|      | psf    | Defl.          |  | 8.03           |  | 10.77          |  |      | psf    | Defl.          |  | 5.92           |  | 7.31           |
| 70   | Stress | 7.50 g         |  | 7.50 g         |  | 8.38 g         |  | 160  | Stress | 4.96 g         |  | 4.96 g         |  | 5.55 g         |
|      | psf    | Defl.          |  | 7.63           |  | 10.23          |  |      | psf    | Defl.          |  | 5.79           |  | 7.15           |
| 80   | Stress | 7.01 g         |  | 7.01 g         |  | 7.84 g         |  | 170  | Stress | 4.81 g         |  | 4.81 g         |  | 5.38 g         |
|      | psf    | Defl.          |  | 7.30           |  | 9.78           |  |      | psf    | Defl.          |  | 5.68           |  | 7.01           |
| 90   | Stress | 6.61 g         |  | 6.61 g         |  | 7.39 g         |  | 180  | Stress | 4.68 g         |  | 4.68 g         |  | 5.23 g         |
|      | psf    | Defl.          |  | 7.02           |  | 9.41           |  |      | psf    | Defl.          |  | 5.57           |  | 6.88           |
| 100  | Stress | 6.27 g         |  | 6.27 g         |  | 7.01 g         |  | 190  | Stress | 4.55 g         |  | 4.55 g         |  | 5.09 g         |
|      | psf    | Defl.          |  | 6.78           |  | 9.08           |  |      | psf    | Defl.          |  | 5.47           |  | 6.76           |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses span / 120.
- Panel weight = 2.48 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\varnothing$  combination washers fastened to 3/16" minimum thickness steel structural girts.
- Key to failure modes:
  - Fastener pullout from structural girt.
  - Fastener pullover.
  - Bending of panel.

12/28/12

# WIND LOAD/SPAN TABLE FOR BR5-36 - 20 Ga.



5 Fasteners per Panel  
Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.159 \text{ in}^4/\text{ft}$   
 $S_{min} = 0.193 \text{ in}^3/\text{ft}$

Deflection @ L/120  
 $F_y = 37 \text{ ksi}$

| Load |        | Single<br>Span | Double<br>Span | Triple<br>Span | Load |        | Single<br>Span | Double<br>Span | Triple<br>Span |
|------|--------|----------------|----------------|----------------|------|--------|----------------|----------------|----------------|
| 20   | Stress | 11.95 g        | 11.95 g        | 13.36 g        | 110  | Stress | 5.10 g         | 5.10 g         | 5.70 g         |
| psf  | Defl.  | 10.14          | 13.59          | 12.53          | psf  | Defl.  | 5.75           | 7.70           | 7.10           |
| 30   | Stress | 9.76 g         | 9.76 g         | 10.91 g        | 120  | Stress | 4.88 g         | 4.88 g         | 5.45 g         |
| psf  | Defl.  | 8.86           | 11.87          | 10.94          | psf  | Defl.  | 5.58           | 7.48           | 6.89           |
| 40   | Stress | 8.45 g         | 8.45 g         | 9.45 g         | 130  | Stress | 4.69 g         | 4.69 g         | 5.24 g         |
| psf  | Defl.  | 8.05           | 10.79          | 9.94           | psf  | Defl.  | 5.43           | 7.28           | 6.71           |
| 50   | Stress | 7.56 g         | 7.56 g         | 8.45 g         | 140  | Stress | 4.52 g         | 4.52 g         | 5.05 g         |
| psf  | Defl.  | 7.47           | 10.02          | 9.23           | psf  | Defl.  | 5.30           | 7.11           | 6.55           |
| 60   | Stress | 6.90 g         | 6.90 g         | 7.71 g         | 150  | Stress | 4.36 g         | 4.36 g         | 4.88 g         |
| psf  | Defl.  | 7.03           | 9.42           | 8.69           | psf  | Defl.  | 5.18           | 6.94           | 6.40           |
| 70   | Stress | 6.39 g         | 6.39 g         | 7.14 g         | 160  | Stress | 4.23 g         | 4.23 g         | 4.72 g         |
| psf  | Defl.  | 6.68           | 8.95           | 8.25           | psf  | Defl.  | 5.07           | 6.80           | 6.26           |
| 80   | Stress | 5.98 g         | 5.98 g         | 6.68 g         | 170  | Stress | 4.10 g         | 4.10 g         | 4.58 g         |
| psf  | Defl.  | 6.39           | 8.56           | 7.89           | psf  | Defl.  | 4.97           | 6.66           | 6.14           |
| 90   | Stress | 5.63 g         | 5.63 g         | 6.30 g         | 180  | Stress | 3.98 g         | 3.98 g         | 4.45 g         |
| psf  | Defl.  | 6.14           | 8.23           | 7.59           | psf  | Defl.  | 4.88           | 6.54           | 6.02           |
| 100  | Stress | 5.34 g         | 5.34 g         | 5.98 g         | 190  | Stress | 3.88 g         | 3.88 g         | 4.33 g         |
| psf  | Defl.  | 5.93           | 7.95           | 7.33           | psf  | Defl.  | 4.79           | 6.42           | 5.91           |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses span / 120.
- Panel weight = 1.86 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\phi$  combination washers fastened to 3/16" minimum thickness steel structural girts.
- Key to failure modes:  
a - Fastener pullout from structural girt.  
b - Fastener pullover.  
g - Bending of panel.

12/28/12

# WIND LOAD/SPAN TABLE FOR BR5-36 - 22 Ga.



5 Fasteners per Panel

Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.124 \text{ in}^4/\text{ft}$

$S_{min} = 0.157 \text{ in}^3/\text{ft}$

Deflection @ L/120

$F_y = 37 \text{ ksi}$

| Load |        | Single<br>Span | Double<br>Span | Triple<br>Span | Load |        | Single<br>Span | Double<br>Span | Triple<br>Span |
|------|--------|----------------|----------------|----------------|------|--------|----------------|----------------|----------------|
| 20   | Stress | 10.78 g        | 10.78 g        | 12.05 g        | 110  | Stress | 4.60 g         | 4.60 g         | 5.14 g         |
| psf  | Defl.  | 9.34           | 12.51          | 11.53          | psf  | Defl.  | 5.29           | 7.09           | 6.53           |
| 30   | Stress | 8.80 g         | 8.80 g         | 9.84 g         | 120  | Stress | 4.40 g         | 4.40 g         | 4.92 g         |
| psf  | Defl.  | 8.16           | 10.93          | 10.07          | psf  | Defl.  | 5.14           | 6.89           | 6.35           |
| 40   | Stress | 7.62 g         | 7.62 g         | 8.52 g         | 130  | Stress | 4.23 g         | 4.23 g         | 4.73 g         |
| psf  | Defl.  | 7.41           | 9.93           | 9.15           | psf  | Defl.  | 5.00           | 6.70           | 6.18           |
| 50   | Stress | 6.82 g         | 6.82 g         | 7.62 g         | 140  | Stress | 4.07 g         | 4.07 g         | 4.55 g         |
| psf  | Defl.  | 6.88           | 9.22           | 8.50           | psf  | Defl.  | 4.88           | 6.54           | 6.03           |
| 60   | Stress | 6.22 g         | 6.22 g         | 6.96 g         | 150  | Stress | 3.94 g         | 3.94 g         | 4.40 g         |
| psf  | Defl.  | 6.47           | 8.68           | 7.99           | psf  | Defl.  | 4.77           | 6.39           | 5.89           |
| 70   | Stress | 5.76 g         | 5.76 g         | 6.44 g         | 160  | Stress | 3.81 g         | 3.81 g         | 4.26 g         |
| psf  | Defl.  | 6.15           | 8.24           | 7.59           | psf  | Defl.  | 4.67           | 6.26           | 5.77           |
| 80   | Stress | 5.39 g         | 5.39 g         | 6.03 g         | 170  | Stress | 3.70 g         | 3.70 g         | 4.13 g         |
| psf  | Defl.  | 5.88           | 7.88           | 7.26           | psf  | Defl.  | 4.57           | 6.13           | 5.65           |
| 90   | Stress | 5.08 g         | 5.08 g         | 5.68 g         | 180  | Stress | 3.59 g         | 3.59 g         | 4.02 g         |
| psf  | Defl.  | 5.65           | 7.58           | 6.98           | psf  | Defl.  | 4.49           | 6.02           | 5.54           |
| 100  | Stress | 4.82 g         | 4.82 g         | 5.39 g         | 190  | Stress | 3.50 g         | 3.50 g         | 3.91 g         |
| psf  | Defl.  | 5.46           | 7.32           | 6.74           | psf  | Defl.  | 4.41           | 5.91           | 5.44           |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses span / 120.
- Panel weight = 1.55 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\phi$  combination washers fastened to 3/16" minimum thickness steel structural girts.
- Key to failure modes:
  - Fastener pullout from structural girt.
  - Fastener pullover.
  - Bending of panel.

12/28/12

# WIND LOAD/SPAN TABLE FOR BR5-36 - 24 Ga.



5 Fasteners per Panel

Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.092 \text{ in}^4/\text{ft}$

$S_{min} = 0.123 \text{ in}^3/\text{ft}$

Deflection @ L/120

$F_y = 37 \text{ ksi}$

| Load |        | Single<br>Span | Double<br>Span | Triple<br>Span | Load |        | Single<br>Span | Double<br>Span | Triple<br>Span |
|------|--------|----------------|----------------|----------------|------|--------|----------------|----------------|----------------|
| 20   | Stress | 9.54 g         | 9.54 g         | 10.67 g        | 110  | Stress | 4.07 g         | 3.93 b         | 4.47 b         |
| psf  | Defl.  | 8.45           | 11.33          | 10.44          | psf  | Defl.  | 4.79           | 6.42           | 5.91           |
| 30   | Stress | 7.79 g         | 7.79 g         | 8.71 g         | 120  | Stress | 3.89 g         | 3.60 b         | 4.10 b         |
| psf  | Defl.  | 7.38           | 9.90           | 9.12           | psf  | Defl.  | 4.65           | 6.23           | 5.74           |
| 40   | Stress | 6.75 g         | 6.75 g         | 7.54 g         | 130  | Stress | 3.74 g         | 3.33 b         | 3.78 b         |
| psf  | Defl.  | 6.71           | 8.99           | 8.29           | psf  | Defl.  | 4.53           | 6.07           | 5.59           |
| 50   | Stress | 6.03 g         | 6.03 g         | 6.75 g         | 140  | Stress | 3.61 g         | 3.09 b         | 3.51 b         |
| psf  | Defl.  | 6.23           | 8.35           | 7.69           | psf  | Defl.  | 4.42           | 5.92           | 5.46           |
| 60   | Stress | 5.51 g         | 5.51 g         | 6.16 g         | 150  | Stress | 3.48 g         | 2.88 b         | 3.28 b         |
| psf  | Defl.  | 5.86           | 7.85           | 7.24           | psf  | Defl.  | 4.32           | 5.79           | 5.33           |
| 70   | Stress | 5.10 g         | 5.10 g         | 5.70 g         | 160  | Stress | 3.37 g         | 2.70 b         | 3.07 b         |
| psf  | Defl.  | 5.57           | 7.46           | 6.88           | psf  | Defl.  | 4.23           | 5.66           | 5.22           |
| 80   | Stress | 4.77 g         | 4.77 g         | 5.33 g         | 170  | Stress | 3.27 g         | 2.54 b         | 2.89 b         |
| psf  | Defl.  | 5.32           | 7.14           | 6.58           | psf  | Defl.  | 4.14           | 5.55           | 5.12           |
| 90   | Stress | 4.50 g         | 4.50 g         | 5.03 g         | 180  | Stress | 3.18 g         | 2.40 b         | 2.73 b         |
| psf  | Defl.  | 5.12           | 6.86           | 6.32           | psf  | Defl.  | 4.06           | 5.45           | 5.02           |
| 100  | Stress | 4.27 g         | 4.27 g         | 4.77 g         | 190  | Stress | 3.10 g         | 2.28 b         | 2.59 b         |
| psf  | Defl.  | 4.94           | 6.62           | 6.10           | psf  | Defl.  | 3.99           | 5.35           | 4.93           |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses span / 120.
- Panel weight = 1.24 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\varnothing$  combination washers fastened to 3/16" minimum thickness steel structural girts.
- Key to failure modes:  
a - Fastener pullout from structural girt.  
b - Fastener pullover.  
g - Bending of panel.

12/28/12

# WIND LOAD/SPAN TABLE FOR BR5-36 - 18 Ga.



5 Fasteners per Panel

Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.237 \text{ in}^4/\text{ft}$

$S_{min} = 0.266 \text{ in}^3/\text{ft}$

Deflection @ L/120

$F_y = 37 \text{ ksi}$

| Load |        | Single Span |   | Double Span |   | Triple Span |   | Load |        | Single Span |   | Double Span |   | Triple Span |   |
|------|--------|-------------|---|-------------|---|-------------|---|------|--------|-------------|---|-------------|---|-------------|---|
| 20   | Stress | 14.03       | g | 14.03       | g | 15.69       | g | 110  | Stress | 5.98        | g | 3.47        | a | 3.95        | a |
| psf  | Defl.  | 11.59       |   | 15.53       |   | 14.31       |   | psf  | Defl.  | 6.56        |   | 8.80        |   | 8.11        |   |
| 30   | Stress | 11.46       | g | 11.46       | g | 12.81       | g | 120  | Stress | 5.73        | g | 3.19        | a | 3.62        | a |
| psf  | Defl.  | 10.12       |   | 13.56       |   | 12.50       |   | psf  | Defl.  | 6.38        |   | 8.55        |   | 7.87        |   |
| 40   | Stress | 9.92        | g | 9.56        | a | 10.86       | a | 130  | Stress | 5.50        | g | 2.94        | a | 3.34        | a |
| psf  | Defl.  | 9.20        |   | 12.32       |   | 11.36       |   | psf  | Defl.  | 6.21        |   | 8.32        |   | 7.67        |   |
| 50   | Stress | 8.87        | g | 7.64        | a | 8.69        | a | 140  | Stress | 5.30        | g | 2.73        | a | 3.10        | a |
| psf  | Defl.  | 8.54        |   | 11.44       |   | 10.54       |   | psf  | Defl.  | 6.06        |   | 8.12        |   | 7.48        |   |
| 60   | Stress | 8.10        | g | 6.37        | a | 7.24        | a | 150  | Stress | 5.12        | g | 2.55        | a | 2.90        | a |
| psf  | Defl.  | 8.03        |   | 10.77       |   | 9.92        |   | psf  | Defl.  | 5.92        |   | 7.93        |   | 7.31        |   |
| 70   | Stress | 7.50        | g | 5.46        | a | 6.20        | a | 160  | Stress | 4.96        | g | 2.39        | a | 2.71        | a |
| psf  | Defl.  | 7.63        |   | 10.23       |   | 9.42        |   | psf  | Defl.  | 5.79        |   | 7.76        |   | 7.15        |   |
| 80   | Stress | 7.01        | g | 4.78        | a | 5.43        | a | 170  | Stress | 4.81        | g | 2.25        | a | 2.55        | a |
| psf  | Defl.  | 7.30        |   | 9.78        |   | 9.01        |   | psf  | Defl.  | 5.68        |   | 7.61        |   | 7.01        |   |
| 90   | Stress | 6.61        | g | 4.25        | a | 4.83        | a | 180  | Stress | 4.68        | g | 2.12        | a | 2.41        | a |
| psf  | Defl.  | 7.02        |   | 9.41        |   | 8.67        |   | psf  | Defl.  | 5.57        |   | 7.47        |   | 6.88        |   |
| 100  | Stress | 6.27        | g | 3.82        | a | 4.34        | a | 190  | Stress | 4.55        | g | 2.01        | a | 2.29        | a |
| psf  | Defl.  | 6.78        |   | 9.08        |   | 8.37        |   | psf  | Defl.  | 5.47        |   | 7.33        |   | 6.76        |   |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses span / 120.
- Panel weight = 2.48 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\phi$  combination washers fastened to 16 Ga. minimum thickness steel structural girts.
- Key to failure modes:  
a - Fastener pullout from structural girt.  
b - Fastener pullover.  
g - Bending of panel.

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# WIND LOAD/SPAN TABLE FOR BR5-36 - 20 Ga.



5 Fasteners per Panel

Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.159 \text{ in}^4/\text{ft}$

$S_{min} = 0.193 \text{ in}^3/\text{ft}$

Deflection @ L/120

$F_y = 37 \text{ ksi}$

| Load |        | Single Span |   | Double Span |   | Triple Span |   | Load |        | Single Span |   | Double Span |   | Triple Span |   |
|------|--------|-------------|---|-------------|---|-------------|---|------|--------|-------------|---|-------------|---|-------------|---|
| 20   | Stress | 11.95       | g | 11.95       | g | 13.36       | g | 110  | Stress | 5.10        | g | 3.47        | a | 3.95        | a |
| psf  | Defl.  | 10.14       |   | 13.59       |   | 12.53       |   | psf  | Defl.  | 5.75        |   | 7.70        |   | 7.10        |   |
| 30   | Stress | 9.76        | g | 9.76        | g | 10.91       | g | 120  | Stress | 4.88        | g | 3.19        | a | 3.62        | a |
| psf  | Defl.  | 8.86        |   | 11.87       |   | 10.94       |   | psf  | Defl.  | 5.58        |   | 7.48        |   | 6.89        |   |
| 40   | Stress | 8.45        | g | 8.45        | g | 9.45        | g | 130  | Stress | 4.69        | g | 2.94        | a | 3.34        | a |
| psf  | Defl.  | 8.05        |   | 10.79       |   | 9.94        |   | psf  | Defl.  | 5.43        |   | 7.28        |   | 6.71        |   |
| 50   | Stress | 7.56        | g | 7.56        | g | 8.45        | g | 140  | Stress | 4.52        | g | 2.73        | a | 3.10        | a |
| psf  | Defl.  | 7.47        |   | 10.02       |   | 9.23        |   | psf  | Defl.  | 5.30        |   | 7.11        |   | 6.55        |   |
| 60   | Stress | 6.90        | g | 6.37        | a | 7.24        | a | 150  | Stress | 4.36        | g | 2.55        | a | 2.90        | a |
| psf  | Defl.  | 7.03        |   | 9.42        |   | 8.69        |   | psf  | Defl.  | 5.18        |   | 6.94        |   | 6.40        |   |
| 70   | Stress | 6.39        | g | 5.46        | a | 6.20        | a | 160  | Stress | 4.23        | g | 2.39        | a | 2.71        | a |
| psf  | Defl.  | 6.68        |   | 8.95        |   | 8.25        |   | psf  | Defl.  | 5.07        |   | 6.80        |   | 6.26        |   |
| 80   | Stress | 5.98        | g | 4.78        | a | 5.43        | a | 170  | Stress | 4.10        | g | 2.25        | a | 2.55        | a |
| psf  | Defl.  | 6.39        |   | 8.56        |   | 7.89        |   | psf  | Defl.  | 4.97        |   | 6.66        |   | 6.14        |   |
| 90   | Stress | 5.63        | g | 4.25        | a | 4.83        | a | 180  | Stress | 3.98        | g | 2.12        | a | 2.41        | a |
| psf  | Defl.  | 6.14        |   | 8.23        |   | 7.59        |   | psf  | Defl.  | 4.88        |   | 6.54        |   | 6.02        |   |
| 100  | Stress | 5.34        | g | 3.82        | a | 4.34        | a | 190  | Stress | 3.88        | g | 2.01        | a | 2.29        | a |
| psf  | Defl.  | 5.93        |   | 7.95        |   | 7.33        |   | psf  | Defl.  | 4.79        |   | 6.42        |   | 5.91        |   |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses  $\text{span} / 120$ .
- Panel weight = 1.86 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\varnothing$  combination washers fastened to 16 Ga. minimum thickness steel structural girts.
- Key to failure modes:  
a - Fastener pullout from structural girt.  
b - Fastener pullover.  
g - Bending of panel.

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# WIND LOAD/SPAN TABLE FOR BR5-36 - 22 Ga.



5 Fasteners per Panel  
Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.124 \text{ in}^4/\text{ft}$   
 $S_{min} = 0.157 \text{ in}^3/\text{ft}$

Deflection @ L/120  
 $F_y = 37 \text{ ksi}$

| Load |        | Single<br>Span | Double<br>Span | Triple<br>Span | Load |        | Single<br>Span | Double<br>Span | Triple<br>Span |
|------|--------|----------------|----------------|----------------|------|--------|----------------|----------------|----------------|
| 20   | Stress | 10.78 g        | 10.78 g        | 12.05 g        | 110  | Stress | 4.60 g         | 3.47 a         | 3.95 a         |
|      | psf    | 9.34           | 12.51          | 11.53          |      | psf    | 5.29           | 7.09           | 6.53           |
| 30   | Stress | 8.80 g         | 8.80 g         | 9.84 g         | 120  | Stress | 4.40 g         | 3.19 a         | 3.62 a         |
|      | psf    | 8.16           | 10.93          | 10.07          |      | psf    | 5.14           | 6.89           | 6.35           |
| 40   | Stress | 7.62 g         | 7.62 g         | 8.52 g         | 130  | Stress | 4.23 g         | 2.94 a         | 3.34 a         |
|      | psf    | 7.41           | 9.93           | 9.15           |      | psf    | 5.00           | 6.70           | 6.18           |
| 50   | Stress | 6.82 g         | 6.82 g         | 7.62 g         | 140  | Stress | 4.07 g         | 2.73 a         | 3.10 a         |
|      | psf    | 6.88           | 9.22           | 8.50           |      | psf    | 4.88           | 6.54           | 6.03           |
| 60   | Stress | 6.22 g         | 6.22 g         | 6.96 g         | 150  | Stress | 3.94 g         | 2.55 a         | 2.90 a         |
|      | psf    | 6.47           | 8.68           | 7.99           |      | psf    | 4.77           | 6.39           | 5.89           |
| 70   | Stress | 5.76 g         | 5.46 a         | 6.20 a         | 160  | Stress | 3.81 g         | 2.39 a         | 2.71 a         |
|      | psf    | 6.15           | 8.24           | 7.59           |      | psf    | 4.67           | 6.26           | 5.77           |
| 80   | Stress | 5.39 g         | 4.78 a         | 5.43 a         | 170  | Stress | 3.70 g         | 2.25 a         | 2.55 a         |
|      | psf    | 5.88           | 7.88           | 7.26           |      | psf    | 4.57           | 6.13           | 5.65           |
| 90   | Stress | 5.08 g         | 4.25 a         | 4.83 a         | 180  | Stress | 3.59 g         | 2.12 a         | 2.41 a         |
|      | psf    | 5.65           | 7.58           | 6.98           |      | psf    | 4.49           | 6.02           | 5.54           |
| 100  | Stress | 4.82 g         | 3.82 a         | 4.34 a         | 190  | Stress | 3.50 g         | 2.01 a         | 2.29 a         |
|      | psf    | 5.46           | 7.32           | 6.74           |      | psf    | 4.41           | 5.91           | 5.44           |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses span / 120.
- Panel weight = 1.55 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\varnothing$  combination washers fastened to 16 Ga. minimum thickness steel structural girts.
- Key to failure modes:  
a - Fastener pullout from structural girt.  
b - Fastener pullover.  
g - Bending of panel.

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# WIND LOAD/SPAN TABLE FOR BR5-36 - 24 Ga.



5 Fasteners per Panel  
Safety Factor = 3.00 (Fasteners)

$I_{min} = 0.092 \text{ in}^4/\text{ft}$   
 $S_{min} = 0.123 \text{ in}^3/\text{ft}$

Deflection @ L/120  
 $F_y = 37 \text{ ksi}$

| Load |        | Single<br>Span | Double<br>Span | Triple<br>Span | Load |        | Single<br>Span | Double<br>Span | Triple<br>Span |
|------|--------|----------------|----------------|----------------|------|--------|----------------|----------------|----------------|
| 20   | Stress | 9.54 g         | 9.54 g         | 10.67 g        | 110  | Stress | 4.07 g         | 3.47 a         | 3.95 a         |
| psf  | Defl.  | 8.45           | 11.33          | 10.44          | psf  | Defl.  | 4.79           | 6.42           | 5.91           |
| 30   | Stress | 7.79 g         | 7.79 g         | 8.71 g         | 120  | Stress | 3.89 g         | 3.19 a         | 3.62 a         |
| psf  | Defl.  | 7.38           | 9.90           | 9.12           | psf  | Defl.  | 4.65           | 6.23           | 5.74           |
| 40   | Stress | 6.75 g         | 6.75 g         | 7.54 g         | 130  | Stress | 3.74 g         | 2.94 a         | 3.34 a         |
| psf  | Defl.  | 6.71           | 8.99           | 8.29           | psf  | Defl.  | 4.53           | 6.07           | 5.59           |
| 50   | Stress | 6.03 g         | 6.03 g         | 6.75 g         | 140  | Stress | 3.61 g         | 2.73 a         | 3.10 a         |
| psf  | Defl.  | 6.23           | 8.35           | 7.69           | psf  | Defl.  | 4.42           | 5.92           | 5.46           |
| 60   | Stress | 5.51 g         | 5.51 g         | 6.16 g         | 150  | Stress | 3.48 g         | 2.55 a         | 2.90 a         |
| psf  | Defl.  | 5.86           | 7.85           | 7.24           | psf  | Defl.  | 4.32           | 5.79           | 5.33           |
| 70   | Stress | 5.10 g         | 5.10 g         | 5.70 g         | 160  | Stress | 3.37 g         | 2.39 a         | 2.71 a         |
| psf  | Defl.  | 5.57           | 7.46           | 6.88           | psf  | Defl.  | 4.23           | 5.66           | 5.22           |
| 80   | Stress | 4.77 g         | 4.77 g         | 5.33 g         | 170  | Stress | 3.27 g         | 2.25 a         | 2.55 a         |
| psf  | Defl.  | 5.32           | 7.14           | 6.58           | psf  | Defl.  | 4.14           | 5.55           | 5.12           |
| 90   | Stress | 4.50 g         | 4.25 a         | 4.83 a         | 180  | Stress | 3.18 g         | 2.12 a         | 2.41 a         |
| psf  | Defl.  | 5.12           | 6.86           | 6.32           | psf  | Defl.  | 4.06           | 5.45           | 5.02           |
| 100  | Stress | 4.27 g         | 3.82 a         | 4.34 a         | 190  | Stress | 3.10 g         | 2.01 a         | 2.29 a         |
| psf  | Defl.  | 4.94           | 6.62           | 6.10           | psf  | Defl.  | 3.99           | 5.35           | 4.93           |

## Explanatory Notes For Load/Span Tables:

- Numbers in the tables indicate distance in feet between adjacent structural girts.
- Span length limitation factors:  
Stress limitation uses  $.6 \times F_y$  as design stress for wind load.  
Deflection limitation uses span / 120.
- Panel weight = 1.24 psf.
- Load/Span tables are based on #14 fasteners with 5/8 in.  $\phi$  combination washers fastened to 16 Ga. minimum thickness steel structural girts.
- Key to failure modes:  
a - Fastener pullout from structural girt.  
b - Fastener pullover.  
g - Bending of panel.

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