

|            |        |           |               | SECTION PROPERTIES               |                                        |                                  |                                  |                                        |                                  | ALLOWABLE UNIFORM LOADS, psf<br>For various clip spacings (i.e. span values) |      |      |      |      |      |      |
|------------|--------|-----------|---------------|----------------------------------|----------------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------|------------------------------------------------------------------------------|------|------|------|------|------|------|
| Width, in. | Gauge  | Yield ksi | Weight<br>psf | Top in Compression               |                                        |                                  | Bottom in Compression            |                                        |                                  | Negative Load                                                                |      |      |      |      |      |      |
|            |        |           |               | $I_{xx}$<br>in <sup>4</sup> /ft. | $I_{xx}$ (eff)<br>in <sup>4</sup> /ft. | $S_{xx}$<br>in <sup>3</sup> /ft. | $I_{xx}$<br>in <sup>4</sup> /ft. | $I_{xx}$ (eff)<br>in <sup>4</sup> /ft. | $S_{xx}$<br>in <sup>3</sup> /ft. | 1'                                                                           | 1.5' | 2'   | 2.5' | 3'   | 3.5' | 4'   |
| 16         | 24     | 50        | 1.67          | 0.0323                           | 0.0329                                 | 0.0692                           | 0.0345                           | 0.0338                                 | 0.0731                           | 95.0                                                                         | 87.5 | 80.0 | 72.5 | 65.0 | 57.5 | 50.0 |
| 16         | 22     | 50        | 1.96          | 0.0398                           | 0.0406                                 | 0.0898                           | 0.0428                           | 0.0419                                 | 0.0938                           | 87.5                                                                         | 82.9 | 78.3 | 73.8 | 69.2 | 64.6 | 60.0 |
| 16         | 20     | 33        | 2.4           | 0.0541                           | 0.0541                                 | 0.1300                           | 0.0541                           | 0.0541                                 | 0.1230                           | 87.5                                                                         | 82.9 | 78.3 | 73.8 | 69.2 | 64.6 | 60.0 |
| 16         | 18     | 33        | 3.11          | 0.0706                           | 0.0706                                 | 0.1710                           | 0.0706                           | 0.0706                                 | 0.1662                           | 87.5                                                                         | 82.9 | 78.3 | 73.8 | 69.2 | 64.6 | 60.0 |
| 16         | 0.032" | 19        | 0.69          | 0.0511                           | 0.0511                                 | 0.1231                           | 0.0511                           | 0.0511                                 | 0.1177                           | 70.0                                                                         | 63.3 | 56.7 | 50.0 | 43.3 | 36.7 | 30.0 |
| 16         | 0.040" | 19        | 1.52          | 0.0631                           | 0.0631                                 | 0.1528                           | 0.0631                           | 0.0631                                 | 0.1477                           | 70.0                                                                         | 63.3 | 56.7 | 50.0 | 43.3 | 36.7 | 30.0 |

- Theoretical section properties for steel panels have been calculated per AISI S100 Specification for the Design of Cold-Formed Steel Structural Members.
- $I_{xx}$  (eff) values are "effective" stiffness properties for positive (downward) load induced deflection determination.
- $S_{xx}$  values are to be used for flexural (bending) stress determination.
- Charted Load/Span values are based on ASTM E1592-05 (2017) testing protocol.
- Charted Load/Span values above are based on Allowable Stress Design (ASD).....Load Resistance Factor Design (LRFD) technique not recommended for charted values.
- Charted Allowable Uniform Loads are based on the Ultimate Uniform Load (per ASTM E1592-05 testing) divided by a 2.00 Factor-of-Safety.
- Charted Allowable Uniform Loads do not consider panel weight (Dead Load) or clip-to-substrate (structure) fastener connection strength.
- Clip-to-substrate (structure) fastener evaluation and analysis should be performed by a licensed structural engineer.
- Minimum recommended substrate (structure) recommendations:
  - Open-framing (i.e. purlins) - 16 ga. (design thickness = 0.0566")
  - Plywood/OSB - 15/32" or thicker is recommended to assure an effective degree of fastener thread engagement
  - Metal deck - 22 ga. (design thickness = 0.0283")
- Deflection limit consideration for positive (downward) loading is limited to a deflection ratio of L/180 of the span....where "L" is the span in inches.
- Charted Allowable Uniform Loads cannot be increased by 1/3.

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|------------|--------|-----------|---------------|----------------------------------|----------------------------------------|----------------------------------|----------------------------------|----------------------------------------|----------------------------------|------------------------------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|
| Width, in. | Gauge  | Yield ksi | Weight<br>psf | Top in Compression               |                                        |                                  | Bottom in Compression            |                                        |                                  | Positive Load                                                                |       |       |       |       |       |       |       |      |      |
|            |        |           |               | $I_{xx}$<br>in <sup>4</sup> /ft. | $I_{xx}$ (eff)<br>in <sup>4</sup> /ft. | $S_{xx}$<br>in <sup>3</sup> /ft. | $I_{xx}$<br>in <sup>4</sup> /ft. | $I_{xx}$ (eff)<br>in <sup>4</sup> /ft. | $S_{xx}$<br>in <sup>3</sup> /ft. | 1'                                                                           | 2'    | 3'    | 4'    | 5'    | 6'    | 7'    | 8'    | 9'   | 10'  |
| 16         | 24     | 50        | 1.67          | 0.0323                           | 0.0329                                 | 0.0692                           | 0.0345                           | 0.0338                                 | 0.0731                           | 1473.6                                                                       | 432.5 | 192.2 | 108.1 | 69.2  | 48.1  | 35.3  | 27.0  | 21.4 | 17.3 |
| 16         | 22     | 50        | 1.96          | 0.0398                           | 0.0406                                 | 0.0898                           | 0.0428                           | 0.0419                                 | 0.0938                           | 932.7                                                                        | 466.4 | 249.4 | 140.3 | 89.8  | 62.4  | 45.82 | 35.1  | 27.7 | 21.4 |
| 16         | 20     | 33        | 2.4           | 0.0541                           | 0.0541                                 | 0.1300                           | 0.0541                           | 0.0541                                 | 0.1230                           | 1586.4                                                                       | 512.5 | 227.8 | 128.1 | 82.0  | 56.9  | 41.84 | 32.0  | 25.3 | 20.5 |
| 16         | 18     | 33        | 3.11          | 0.0706                           | 0.0706                                 | 0.1710                           | 0.0706                           | 0.0706                                 | 0.1662                           | 2733.6                                                                       | 692.5 | 307.8 | 173.1 | 110.8 | 76.94 | 56.53 | 43.28 | 34.2 | 27.7 |
| 16         | 0.032" | 19        | 0.69          | 0.0511                           | 0.0511                                 | 0.1231                           | 0.0511                           | 0.0511                                 | 0.1177                           | 228.2                                                                        | 114.1 | 76.1  | 49.8  | 31.9  | 22.2  | 16.27 | 12.46 |      |      |
| 16         | 0.040" | 19        | 1.52          | 0.0631                           | 0.0631                                 | 0.1528                           | 0.0631                           | 0.0631                                 | 0.1477                           | 357.3                                                                        | 178.6 | 119.1 | 67.5  | 43.2  | 30.0  | 22.05 | 16.89 | 13.3 | 10.8 |

- 1a. Theoretical section properties for steel panels have been calculated per AISI S100 Specification for the Design of Cold-Formed Steel Structural Members.
- 1b. Theoretical section properties for aluminum panels have been calculated per the latest edition of the Aluminum Association Design Manual.
- $I_{xx}$  (eff) values are "effective" stiffness properties for positive (downward) load induced deflection determination.
- Allowable load is calculated in accordance with AISI 2012 specifications considering bending, shear, combined bending and shear and deflection. Allowable load considers a 3 or more equal span condition.
- $S_{xx}$  values are to be used for flexural (bending) stress determination.
- Allowable load does not address web crippling, fasteners, connection strength or support material.
- Panel weight is not considered.
- Load/Span values are based on theoretical computations and not load testing.
- Deflection is not considered.
- Allowable loads do not include a 1/3 stress increase for wind.

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