

## Long Span Series TMP 3-6-24 With 3 Screws Roof & Wall Panel Positive & Negative Load Charts

|            |       |           |            | SECTION PROPERTIES                      |   |                           |   |  |  |               | ALLOWABLE UNIFORM LOADS, psf For various support spacings (i.e. span values) |       |       |       |       |       |       |      |  |  |
|------------|-------|-----------|------------|---|---|---------------------------|---|--|--|---------------|--|-------|-------|-------|-------|-------|-------|------|--|--|
|            | Gauge | Yield ksi | Weight psf | Top in Compression                      |   |                           | Bottom in Compression                   |  |  | Negative Load |  |       |       |       |       |       |       |      |  |  |
| Width, in. |       |           |            | l <sub>xx</sub><br>in <sup>4</sup> /ft. | l <sub>xx (eff)</sub><br>in <sup>4</sup> /ft. | S <sub>xx</sub><br>in³/ft | l <sub>xx</sub><br>in <sup>4</sup> /ft. | l <sub>xx (eff)</sub> in <sup>4</sup> /ft. | S <sub>xx</sub><br>in <sup>3</sup> /ft | 1'            | 1.5'   | 2'    | 2.5'  | 3'    | 3.5'  | 4'    | 4.5'  | 5'   |  |  |
| 24         | 24    | 50        | 1.92       | 0.5620                                  | 0.5540  | 0.3020                    | 0.5360                                  | 0.5430                                     | 0.2920                                 | 195.0         | 182.5  | 170.0 | 157.5 | 145.0 | 132.5 | 120.0 | 107.5 | 95.0 |  |  |
| 24         | 22    | 50        | 2.27       | 0.7370                                  | 0.7290  | 0.4210                    | 0.7090                                  | 0.7170                                     | 0.4120                                 | 195.0         | 182.5  | 170.0 | 157.5 | 145.0 | 132.5 | 120.0 | 107.5 | 95.0 |  |  |
| 24         | 20    | 33        | 2.77       | 0.9950                                  | 0.9850  | 0.5980                    | 0.9600                                  | 0.9700                                     | 0.5860                                 | 195.0         | 182.5  | 170.0 | 157.5 | 145.0 | 132.5 | 120.0 | 107.5 | 95.0 |  |  |
| 24         | 18    | 33        | 3.59       | 1.3650                                  | 1.3550  | 0.8480                    | 1.3320                                  | 1.3420                                     | 0.8470                                 | 195.0         | 182.5  | 170.0 | 157.5 | 145.0 | 132.5 | 120.0 | 107.5 | 95.0 |  |  |

- Theoretical section properties for steel panels have been calculated per AISI S100 Specification for the Design of Cold-Formed Steel Structural Members.
- 2. lxx (eff) values are "effective" stiffness properties for positive (downward) load induced deflection determination.
- 3. Sxx values are to be used for flexural (bending) stress determination.
- 4. Charted Load/Span values are based on ASTM E1592-05 (2017) testing protocol.
- 5. Charted Load/Span values above are based on Allowable Stress Design (ASD).....Load Resistance Factor Design (LRFD) technique not recommended for charted values.
- 6. Charted Allowable Uniform Loads are based on the Ultimate Uniform Load (per ASTM E1592-05 testing) divided by a 2.00 Factor-of-Safety.
- $7.\ Charted\ Allowable\ Uniform\ Loads\ do\ not\ consider\ panel\ weight\ (Dead\ Load)\ or\ clip-to-substrate\ (structure)\ fastener\ connection\ strength.$
- 8. Panel-to-substrate (structure) fastener evaluation and analysis should be performed by a licensed structural engineer.
- 9. Panel substrate (structure) may include: open-framing, plywood/OSB, or metal deck.
- 10. 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.
- 11. Charted Allowable Uniform Loads cannot be increased by 1/3.

|            |        |           |            | SECTION PROPERTIES                      |  |                           |   |  |                           | ALLOWABLE UNIFORM LOADS, psf For various support spacings (i.e. span values) |        |       |       |       |       |       |       |       |       |
|------------|--------|-----------|------------|---|--|---------------------------|---|--|---------------------------|--|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| Width, in. | Gauge  | Yield ksi | Weight psf | Top in Compression                      |  |                           | Bottom in Compression                   |  |                           | Positive Load  |        |       |       |       |       |       |       |       |       |
|            |        |           |            | l <sub>xx</sub><br>in <sup>4</sup> /ft. | I <sub>xx (eff)</sub> in <sup>4</sup> /ft. | S <sub>xx</sub><br>in³/ft | l <sub>xx</sub><br>in <sup>4</sup> /ft. | l <sub>xx (eff)</sub> in <sup>4</sup> /ft. | S <sub>xx</sub><br>in³/ft | 1'   | 2'     | 3'    | 4'    | 5'    | 6'    | 7'    | 8'    | 9'    | 10'   |
| 24         | 24     | 50        | 1.92       | 0.5620                                  | 0.5540                                     | 0.3020                    | 0.5360                                  | 0.5430                                     | 0.2920                    | 1355.5   | 677.7  | 451.8 | 338.9 | 271.1 | 202.8 | 149.0 | 114.1 | 90.1  | 73.0  |
| 24         | 22     | 50        | 2.27       | 0.7370                                  | 0.7290                                     | 0.4210                    | 0.7090                                  | 0.7170                                     | 0.4120                    | 1828.2   | 914.1  | 609.4 | 457.1 | 365.6 | 286.1 | 212.2 | 160.9 | 127.2 | 103.0 |
| 24         | 20     | 33        | 2.77       | 0.9950                                  | 0.9850                                     | 0.5980                    | 0.9600                                  | 0.9700                                     | 0.5860                    | 1724.6   | 862.3  | 574.9 | 431.1 | 344.9 | 271.3 | 199.3 | 152.6 | 120.6 | 97.7  |
| 24         | 18     | 33        | 3.59       | 1.3650                                  | 1.3550                                     | 0.8480                    | 1.3320                                  | 1.3420                                     | 0.8470                    | 2767.3   | 1383.6 | 922.4 | 691.8 | 553.5 | 392.1 | 288.1 | 220.6 | 174.3 | 141.2 |
| 24         | 0.032" | 19        | 0.91       | 1.0870                                  | 1.0870                                     | 0.7150                    | 1.0870                                  | 1.0870                                     | 0.7460                    | 216.4  | 108.2  | 72.1  | 54.1  | 43.3  | 36.1  | 30.9  | 27.1  | 24.0  | 20.1  |
| 24         | 0.040" | 19        | 1.14       | 1.3450                                  | 1.3450                                     | 0.8850                    | 1.3450                                  | 1.3450                                     | 0.9230                    | 333.6  | 166.8  | 111.2 | 83.4  | 66.7  | 55.6  | 47.7  | 41.7  | 37.1  | 31.2  |
| 24         | 0.050" | 19        | 1.43       | 1.6600                                  | 1.6600                                     | 1.0920                    | 1.6600                                  | 1.6600                                     | 1.1390                    | 510.9  | 255.5  | 170.3 | 127.7 | 102.2 | 85.2  | 73.0  | 63.9  | 56.8  | 48.1  |

- 1a. Theoretical section properties for steel panels have been calculated per 2020 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.
- $2. \ \ l_{xx\,(eff)} \ values \ are \ "effective" \ stiffness \ properties \ for \ positive \ (downward) \ load \ induced \ deflection \ determination \ dete$
- 3. Allowable load is calculated in accordance with 2020 AISI S100 specifications considering bending, shear, combined bending and shear and deflection.

  Allowable load considers a 3 or more equal span condition.
- 4.  $S_{xx}\mbox{ values}$  are to be used for flexural (bending) stress determination.
- $5. \ \ Allowable \ load \ does \ not \ address \ panel \ weight, fasteners, connection \ strength \ or \ support \ material.$
- 6. Allowable load includes web crippling.
- 7. Load/Span values are based on theoretical computations and not load testing.
- 8. Deflection is not considered.
- 9. Allowable loads do not include a 1/3 stress increase for wind.
- 10. When panels are installed over solid or closely fitted sheathing, the capacity is limited to the capacity of the underlying sheathing.



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