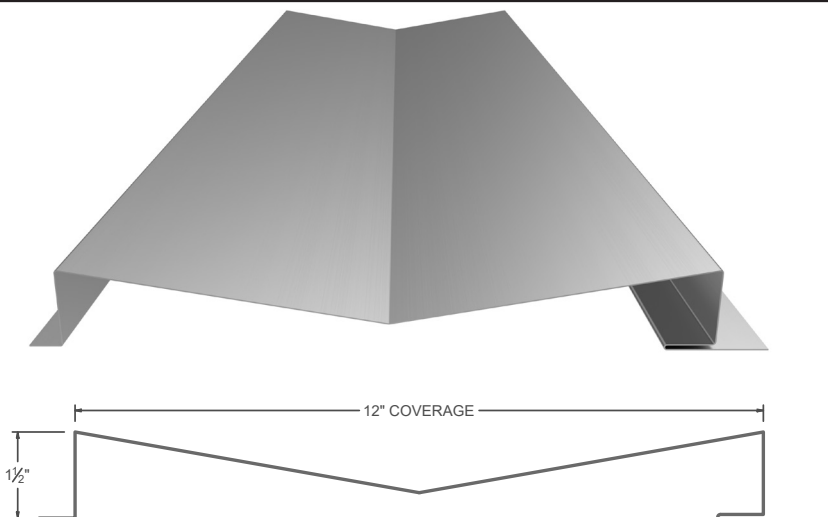




ICC  
EVALUATION  
SERVICE®

ICC-ESR EVALUATION REPORT #5045 with CBC-CRC Supplementv



## KEY FEATURES

- 24 and 22 Tru-Gauge™
- .032" & .040" Aluminum
- 20 and 18 gauge, .050" and .063" Aluminum available (*Please Inquire*)
- Custom lengths 2' to 20'10"
- 2' Shortcut capability (*Fee applicable*)
- Concealed Fasteners: fasteners cannot leak
- High-wind clips are available
- Versatile in wall and soffit applications
- "Oil Canning" is an inherent characteristic of roof and wall products, and not a defect, which is not a cause for panel rejection.

## TESTING

-  ICC-ESR #5045 with CBC-CRC Supplement
- ASTM E1592 - Structural uniform static air pressure
- ASTM E1680 - Air infiltration (roof)
- ASTM E1646 - Water infiltration (roof)
- ASTM E331 - Water infiltration (wall)
- ASTM E283 - Air infiltration (wall)
- ASTM A653/A924 - G90 Galvanized
- ASTM A792 - Zincalume/Galvalume AZ-50/55
- ASTM B209 - Aluminum Substrate

## WEIGHT CHART

| Chevron V    | WIDTH | 24 GA STEEL | 22 GA STEEL | .032" ALUM | .040" ALUM |
|--------------|-------|-------------|-------------|------------|------------|
| THICKNESS    |       | 0.0236"     | 0.0285"     | 0.032"     | 0.040"     |
| WEIGHT/LINFT | 12"   | 1.534 LBS   | 1.853 LBS   | 0.727 LBS  | 0.909 LBS  |
| WEIGHT/LSQFT | 12"   | 1.534 LBS   | 1.853 LBS   | 0.727 LBS  | 0.909 LBS  |

| ASTM E 1680/E283<br>Air Penetration | ASTM E 1646/E331<br>Water Penetration |
|-------------------------------------|---------------------------------------|
| 12 PSF<0.01 CFM/ft²-PASS            | 20.5 PSF - Pass                       |
| Force Engineering 696-0026T-23A-D   |                                       |
| Force Engineering 696-0026T-23E-H   |                                       |
| STRUCTURAL TESTING ASTM E 1592      |                                       |

## NEGATIVE LOAD CHART WITH HIGH WIND CLIP ATTACHMENT

|            |       |           |               | 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                                                                |       |       |       |       |      |      |      |      |
|            |       |           |               | $I_{xx}$             | $I_{xx} \text{ (eff)}$ | $S_{xx}$            | $I_{xx}$              | $I_{xx} \text{ (eff)}$ | $S_{xx}$            |                                                                              |       |       |       |       |      |      |      |      |
|            |       |           |               | in <sup>4</sup> /ft. | in <sup>4</sup> /ft.   | in <sup>3</sup> /ft | in <sup>4</sup> /ft.  | in <sup>4</sup> /ft.   | in <sup>3</sup> /ft | 1'                                                                           | 1.5'  | 2'    | 2.5'  | 3'    | 3.5' | 4'   | 4.5' | 5'   |
| 36         | 24    | 50        | 1.49          | 0.0577               | 0.0599                 | 0.0610              | 0.0654                | 0.0631                 | 0.0761              | 156.1                                                                        | 141.5 | 126.8 | 112.2 | 97.6  | 82.9 | 68.3 | 53.6 | 39.0 |
| 12         | 22    | 50        | 1.76          | 0.0715               | 0.0734                 | 0.0778              | 0.0782                | 0.0763                 | 0.0917              | 156.1                                                                        | 142.1 | 128.1 | 114.1 | 100.2 | 86.2 | 72.2 | 58.2 | 44.2 |
| 12         | 20    | 33        | 2.14          | 0.0909               | 0.0926                 | 0.1027              | 0.0968                | 0.0950                 | 0.1153              | 156.1                                                                        | 142.1 | 128.1 | 114.1 | 100.2 | 86.2 | 72.2 | 58.2 | 44.2 |
| 12         | 18    | 33        | 2.78          | 0.1240               | 0.1248                 | 0.1482              | 0.1270                | 0.1261                 | 0.1560              | 156.1                                                                        | 142.1 | 128.1 | 114.1 | 100.2 | 86.2 | 72.2 | 58.2 | 44.2 |

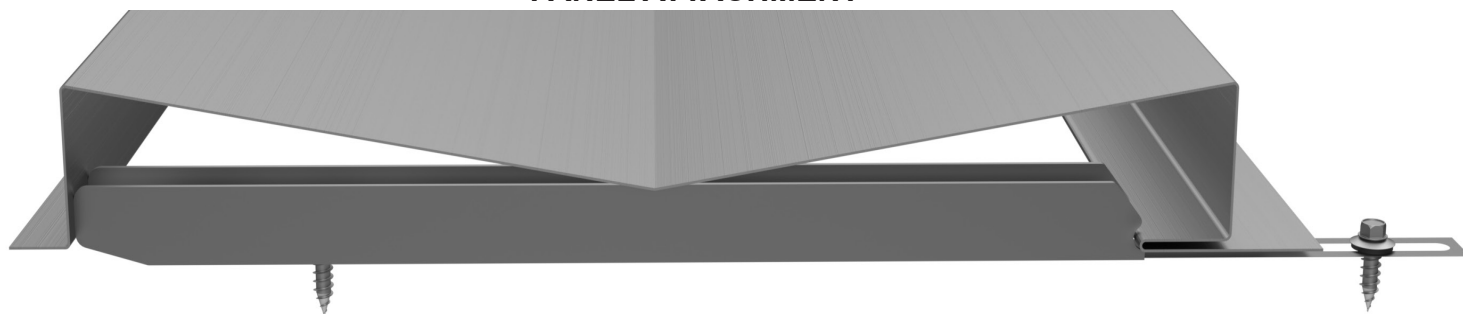
- Theoretical section properties for steel panels have been calculated per AISI S100 specification for the design of cold-formed steel structural members.
- Charted Load/Span values are based on ASTM E1592-05 (2017) testing protocol.
- Allowable uniform loads are based on the ultimate uniform load (per ASTM E1592-05 testing) divided by a 2.00 factor-of-safety.
- Allowable uniform loads do not consider panel weight (dead load) or clip-to-substrate (structure) fastener connection strength.
- Panel tested using 16GA. High wind clip.
- Allowable uniform loads cannot be increased by 1/3.
- Minimum recommended substrate (structure) recommendations:
  - Open-framing (i.e. purlins) - 16GA. (design thickness = 0.0566")
  - Plywood/OSB - 15/32" or thicker is recommended to assure an effective degree of fastener thread engagement.
  - Metal deck - 22GA. (design thickness = 0.0283")

## POSITIVE LOAD CHART WITH HIGH WIND CLIP ATTACHMENT

|            |       |           |               | 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 |                        |                     | Positive Load                                                                |       |       |       |      |      |      |      |      |      |
|            |       |           |               | $I_{xx}$             | $I_{xx} \text{ (eff)}$ | $S_{xx}$            | $I_{xx}$              | $I_{xx} \text{ (eff)}$ | $S_{xx}$            |                                                                              |       |       |       |      |      |      |      |      |      |
|            |       |           |               | in <sup>4</sup> /ft. | in <sup>4</sup> /ft.   | in <sup>3</sup> /ft | in <sup>4</sup> /ft.  | in <sup>4</sup> /ft.   | in <sup>3</sup> /ft | 1'                                                                           | 2'    | 3'    | 4'    | 5'   | 6'   | 7'   | 8'   | 9'   | 10'  |
| 12         | 24    | 50        | 1.49          | 0.0577               | 0.0599                 | 0.0610              | 0.0654                | 0.0631                 | 0.0761              | 551.8                                                                        | 275.9 | 169.4 | 95.3  | 61.0 | 42.4 | 31.1 | 23.8 | 18.8 | 15.3 |
| 12         | 22    | 50        | 1.76          | 0.0715               | 0.0734                 | 0.0778              | 0.0782                | 0.0763                 | 0.0917              | 756.4                                                                        | 378.2 | 216.1 | 121.6 | 77.8 | 54.0 | 39.7 | 30.4 | 24.0 | 19.5 |
| 12         | 20    | 33        | 2.14          | 0.0909               | 0.0926                 | 0.1027              | 0.0968                | 0.0950                 | 0.1153              | 761.8                                                                        | 380.9 | 188.3 | 105.9 | 67.8 | 47.1 | 34.6 | 26.5 | 20.9 | 17.0 |
| 12         | 18    | 33        | 2.78          | 0.1240               | 0.1248                 | 0.1482              | 0.1270                | 0.1261                 | 0.1560              | 1315.5                                                                       | 611.3 | 271.7 | 152.8 | 97.8 | 67.9 | 49.9 | 38.2 | 30.2 | 24.5 |

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- Allowable load includes web crippling.
- 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.

## PANEL ATTACHMENT



### Fastener Notes:

- When possible, lap panels away from prevailing wind direction.
- Panel screws should be long enough to penetrate through the bottom of the plywood by 3/8".
- For dimensional lumber, panel screws should penetrate the lumber 1".
- All trim screws used for roof or wall applications should have EPDM sealing washers.
- Clean off working area each day to remove metal particles left from drilling fasteners. These particles, when exposed to moisture, will form rust between metal particles and the panel.

## NEGATIVE LOAD CHART WITH STITCH SCREW ATTACHMENT

|            |        |           |               | 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'    | 4.5' | 5'   |
| 12         | 24     | 50        | 1.50          | 0.0634                           | 0.0657                                 | 0.0641                           | 0.0713                           | 0.0690                                 | 0.0753                           |                                                                              |       | 119.7 | 110.2 | 100.6 | 91.1  | 81.6  | 72.0 | 62.5 |
| 12         | 22     | 50        | 1.81          | 0.0805                           | 0.0823                                 | 0.0848                           | 0.0866                           | 0.0848                                 | 0.0906                           |                                                                              |       | 130.1 | 122.7 | 115.2 | 107.8 | 100.4 | 92.9 | 85.5 |
| 12         | 20     | 33        | 2.12          | 0.1111                           | 0.1116                                 | 0.1255                           | 0.1128                           | 0.1123                                 | 0.1203                           | 155.0                                                                        | 144.4 | 133.8 | 123.1 | 112.5 | 101.9 | 91.3  | 80.6 | 70.0 |
| 12         | 18     | 33        | 2.48          | 0.1550                           | 0.1538                                 | 0.1849                           | 0.1510                           | 0.1522                                 | 0.1628                           | 155.0                                                                        | 144.4 | 133.8 | 123.1 | 112.5 | 101.9 | 91.3  | 80.6 | 70.0 |
| 12         | 0.032" | 19        | 0.71          | 0.1340                           | 0.1340                                 | 0.1789                           | 0.1340                           | 0.1340                                 | 0.1567                           | 130.0                                                                        | 115.9 | 101.9 | 87.8  | 73.8  | 59.7  | 45.6  | 31.6 | 17.5 |
| 12         | 0.040" | 19        | 0.89          | 0.1630                           | 0.1630                                 | 0.2185                           | 0.1630                           | 0.1630                                 | 0.1925                           | 130.0                                                                        | 115.9 | 101.9 | 87.8  | 73.8  | 59.7  | 45.6  | 31.6 | 17.5 |
| 12         | 0.050" | 19        | 0.99          | 0.1980                           | 0.1980                                 | 0.2670                           | 0.1980                           | 0.1980                                 | 0.2353                           | 150.0                                                                        | 136.3 | 122.5 | 108.8 | 95.0  | 81.3  | 67.5  | 53.8 | 40.0 |
| 12         | 0.063" | 19        | 2.10          | 0.2510                           | 0.2510                                 | 0.3364                           | 0.2510                           | 0.2510                                 | 0.2871                           | 150.0                                                                        | 136.3 | 122.5 | 108.8 | 95.0  | 81.3  | 67.5  | 53.8 | 40.0 |

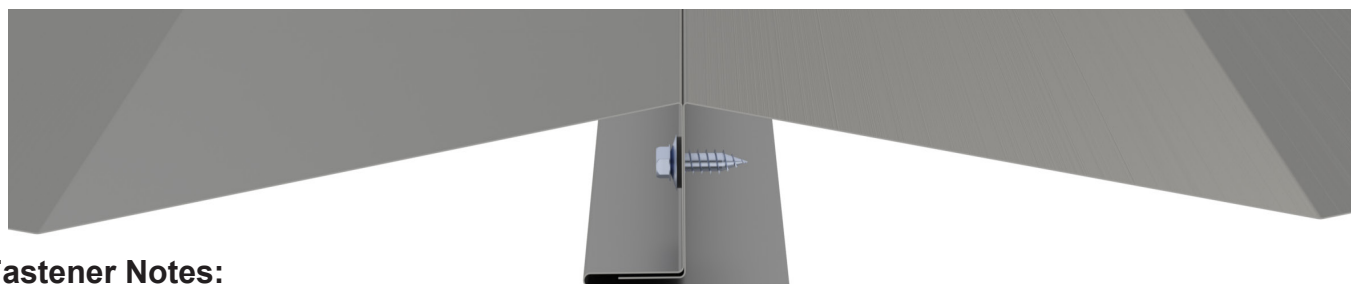
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|            |        |           |               | $I_{xx}$<br>in <sup>4</sup> /ft. | $I_{xx}$ (eff)<br>in <sup>4</sup> /ft. | $S_{xx}$<br>in <sup>3</sup> /ft. | $I_{xx}$<br>in <sup>4</sup> /ft. | $I_{xx}$ (eff)<br>in <sup>4</sup> /ft. | $S_{xx}$<br>in <sup>3</sup> /ft. | 1'                                                                           | 2'    | 3'    | 4'    | 5'    | 6'   | 7'   | 8'   | 9'   | 10'  |
| 12         | 24     | 50        | 1.50          | 0.0634                           | 0.0657                                 | 0.0641                           | 0.0713                           | 0.0690                                 | 0.0753                           | 702.7                                                                        | 351.4 | 178.1 | 100.2 | 64.1  | 44.5 | 32.7 | 25.0 | 19.8 | 16.0 |
| 12         | 22     | 50        | 1.81          | 0.0805                           | 0.0823                                 | 0.0848                           | 0.0866                           | 0.0848                                 | 0.0906                           | 1019.1                                                                       | 509.6 | 235.6 | 132.5 | 84.8  | 58.9 | 43.3 | 33.1 | 26.2 | 21.2 |
| 12         | 20     | 33        | 2.12          | 0.1111                           | 0.1116                                 | 0.1255                           | 0.1128                           | 0.1123                                 | 0.1203                           | 1026.4                                                                       | 501.3 | 222.8 | 125.3 | 80.2  | 55.7 | 40.9 | 31.3 | 24.8 | 20.1 |
| 12         | 18     | 33        | 2.48          | 0.1550                           | 0.1538                                 | 0.1849                           | 0.1510                           | 0.1522                                 | 0.1628                           | 1421.8                                                                       | 678.3 | 301.5 | 169.6 | 108.5 | 75.4 | 55.4 | 42.4 | 33.5 | 27.1 |
| 12         | 0.032" | 19        | 0.71          | 0.1340                           | 0.1340                                 | 0.1789                           | 0.1340                           | 0.1340                                 | 0.1567                           | 108.2                                                                        | 54.1  | 33.8  | 19.0  | 12.2  |      |      |      |      |      |
| 12         | 0.040" | 19        | 0.89          | 0.1630                           | 0.1630                                 | 0.2185                           | 0.1630                           | 0.1630                                 | 0.1925                           | 166.4                                                                        | 83.2  | 51.9  | 29.2  | 18.7  | 13.0 |      |      |      |      |
| 12         | 0.050" | 19        | 0.99          | 0.1980                           | 0.1980                                 | 0.2670                           | 0.1980                           | 0.1980                                 | 0.2353                           | 253.6                                                                        | 126.8 | 78.7  | 44.2  | 28.3  | 19.7 | 14.5 | 11.1 |      |      |
| 12         | 0.063" | 19        | 2.10          | 0.2510                           | 0.2510                                 | 0.3364                           | 0.2510                           | 0.2510                                 | 0.2871                           | 391.8                                                                        | 195.9 | 121.2 | 68.2  | 43.6  | 30.3 | 22.3 | 17.1 | 13.5 | 10.9 |

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Rev. Date 11-25