**MAGNA-LOC 180**

**Panel Overview**
- Finishes: PVDF (Kynar 500®) and Acrylic Coated Galvalume®
- Corrosion Protection: AZ55 per ASTM A 792 for unpainted Galvalume®
  - AZ50 per ASTM A 792 for painted Galvalume®
  - G90 per ASTM A 653 for Galvanized
- Gauges: 24 ga standard; 22 ga and 20 ga optional
- 16" or 18" panel coverage, 2" rib height
- Panel Length: Minimum: 5' for striated, 7' for non-striated; Maximum: 45' recommended
- Architectural, structural vertical rib standing seam roof system
- Integral mechanically seamed side lap with factory-applied sealant
- Minimum roof slope: 1/2:12
- Panels can be factory-notched and punched
- Accommodates 1/2" to 6" blanket insulation

**Testing and Approvals**
- UL 2218 Impact Resistance - Class 4
- UL 790 Fire Resistance Rating - Class A, per building code
- UL 263 Fire Resistance Rating - per assembly
- ASTM E 1680 Air Leakage - 0.015 cfm/ft² at 6.24 psf*
- ASTM E 1646 Water Penetration - none at 12 psf*
- ASTM E 2140 Water Panetration, Static head - none*
- ASTM E 1592 Structural Performance
- UL 580 Uplift Resistance - Class 90 Constructions: #506, #506A and #506B
- 2010 FBC Approvals - FL10999.6
- ICC Evaluation Report - ESR-2385
  - with tube sealant at clip locations
FASTENING INFORMATION

**Clips**

Clip spacing is based upon the design loads, the spanning capacity of the panels, the fasteners and the support members.

Clip Tabs are 0.034" thick. G90 is standard, 410 stainless is optional. Clip base is 0.060" thick, G60.

Floating Clips can accommodate 1-1/2" of thermal movement each way.

**Fasteners**

Overdriven fasteners will cause panel distortions.

Fasteners should extend 1/2" or more past the inside face of the support material.

Clip Fasteners:
- Attaching to Wood: #12-11 x 1-1/2" Wood Screw
- Attaching to Steel:
  - <18 ga: 1/4"-14 Deck Screw
  - >=18 ga, <=12 ga: 1/4"-14 Driller, No Washer
  - >12 ga: 1/4"-24 Driller, No Washer

Exposed End Fasteners:
- At Eave Plate or Back-Up Channel: #12-14 XL Driller

Concealed End Fasteners:
- At Eave Plate or Back-Up Channel: #12-14 Driller, No Washer

Trim Fasteners:
- 1/4"-14 x 7/8" XL Stitch Screw
- 1/8" x 3/16" Pop Rivet

**SECTION PROPERTIES**

<table>
<thead>
<tr>
<th>Ga</th>
<th>Width in</th>
<th>Yield ksi</th>
<th>Weight psf</th>
<th>Top In Compression</th>
<th>Bottom In Compression</th>
<th>Inward Load</th>
<th>Outward Load</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Ixx in/ft</td>
<td>Sxx in/ft</td>
<td>Ixx in/ft</td>
<td>Sxx in/ft</td>
</tr>
<tr>
<td>24</td>
<td>16</td>
<td>50</td>
<td>1.24</td>
<td>0.1418</td>
<td>0.0779</td>
<td>0.0720</td>
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<tr>
<td>22</td>
<td>16</td>
<td>50</td>
<td>1.63</td>
<td>0.2025</td>
<td>0.1134</td>
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<td>18</td>
<td>50</td>
<td>1.21</td>
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<td>0.0640</td>
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</tr>
<tr>
<td>22</td>
<td>18</td>
<td>50</td>
<td>1.58</td>
<td>0.1840</td>
<td>0.1013</td>
<td>0.0893</td>
<td>0.0787</td>
</tr>
</tbody>
</table>

1. Theoretical section properties have been calculated per AISI 2007 ‘North American Specification for the Design of Cold-Formed Steel Structural Members’. Ixx and Sxx are effective section properties for deflection and bending.
2. Allowable loads are calculated in accordance with AISI 2007 specifications considering bending, shear, combined bending and shear and deflection. Allowable loads consider the 3 or more equal spans condition. Allowable loads do not address web crippling, fasteners, support material or load testing. Panel weight is not considered.
3. Deflection consideration is limited by a maximum deflection ratio of L/180 of span.
4. Allowable loads do not include a 1/3 stress increase for wind.

**ALLOWABLE UNIFORM LOADS, psf**

For various clip spacings

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**ATTACHMENT DETAILS**

BEFORE SEAMING

Factory-Applied Sealant

Magna-Loc 180 Panel

Clip

Magna-Loc 180 Panel

Clip Fastener

AFTER SEAMING

Factory-Applied Sealant

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**PANEL CLIP**

Clip

Base

1 1/4"