IMPORTANT NOTICE

PLEASE READ THIS MANUAL COMPLETELY PRIOR TO BEGINNING INSTALLATION OF THE SUPER SEAM II ROOFING SYSTEM.

IF THERE IS A CONFLICT BETWEEN PROJECT ERECTION DRAWINGS PROVIDED OR APPROVED BY WHIRLWIND STEEL BUILDINGS, INC AND DETAILS IN THIS MANUAL, PROJECT ERECTION DRAWINGS WILL TAKE PRECEDENCE.
# Technical Erection Manual

## Super Seam II

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FEATURES AND BENEFITS

1. DESIGN INTEGRITY
   Whirlwind’s Super Seam II roof system begins and ends in the high, reducing the risk of leakage at the rake that can occur when finishing in the low. The panel seam is sealed with a factory-applied hot-melt mastic, a superior grade to mastics applied in the field.

2. FLOATING ROOF
   The Super Seam II roof was designed to cope with the forces of expansion and contraction. This is accomplished by allowing the panels to freely move up and down the roof slope. Due to this design feature, the system offers no diaphragm capabilities or purlin stability.

3. FLOATING CLIPS
   The Standard floating clip allows for a total of two inches of thermal movement and is constructed from 14 gauge material. The clip provides a \( \frac{3}{8} \)" or 1\(\frac{3}{8}\)" clearance at the purlin to reduce water ponding on low pitch roofs. This clip is an integral part of maintaining panel module.

4. UL 90 RATING
   The Super Seam II roof system has 7 different UL 90 construction numbers, each of which is available with several options.

5. FIRE RESISTANCE RATINGS
   The roof system qualifies for use in several UL design assemblies and carries a UL “Class A” Fire Rating.

6. SIMPLICITY
   No field seaming is required. The panels simply snap together forming a self-locking seal.

7. FLEXIBILITY
   Whirlwind’s Super Seam II roof system offers welcome flexibility to the erector. Wall covering can be erected before or after the roof is installed. Panel installation is an uninterrupted procedure.

8. EASE OF INSTALLATION
   The erector has the option to install each side of the roof separately or both sides simultaneously, which greatly increases the speed and convenience of erection. Being reversible end-for-end, sheets do not have to be special ordered for each side of the building. No field notching of panels at endlaps or ridge is required.

9. FORGIVING SYSTEM
   The Super Seam II system design allows for the roof to be finished in the “high” when an out-of-square condition or other factors cause the roof to terminate up to 4” out of module.

10. BUILDING LENGTH
    Odd length footage building roofs can be terminated by field bending the panel at the rake.

11. PREPUNCHED PANELS AND COMPONENTS
    Whirlwind’s prepunched system, combined with self-engaging back-up plates, assures panel module and speeds up roof installation.

12. DURABILITY
    Every unpainted panel is manufactured from Acrylic Coated Galvalume, your assurance of the Whirlwind commitment to quality.

13. COLOR AND FINISHES
    Super Seam II is available in a wide variety of popular colors.

Vise-Grip® is a registered trademark of American Tool Companies, Inc.
High Fixed System - Double slope buildings 200' wide or less and single slope buildings 100' wide or less, with or without fixed systems only on pre-engineered metal buildings with purlins, subject to the building width restrictions outlined above. Do not use fixed systems on buildings with bar joist construction, wood decks or metal decks.

In order to design, quote or order a Super Seam II roof system, you must determine which system you need, based on building width and insulation requirements.

**Low Fixed System** - Double slope buildings 200’ wide or less and single slope buildings 100’ wide or less, with or without a ¾”, thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

**High Fixed System** - Double slope buildings 200’ wide or less and single slope buildings 100’ wide or less, with ¾”, ½” or 1” thermal spacers. See Insulation/Thermal Spacer Selection Chart below.

Fixed systems utilize fixed clips that do not allow the roof panels to float on the substructure. For this reason, use fixed systems only on pre-engineered metal buildings with purlins, subject to the building width restrictions outlined above. Do not use fixed systems on buildings with bar joist construction, wood decks or metal decks.

**Low Floating System** - Double slope buildings over 200’ wide or single slope buildings over 100’ wide, with or without ¾”, thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

**High Floating System** - Double slope buildings over 200’ wide or single slope buildings over 100’ wide, with ¾”, ½” or 1” thermal spacer. See Insulation/Thermal Spacer Selection Chart below.

Thermal calculations should be performed for each project to ensure that the thermal movement of the roof is not greater than the floating clip’s capacity. Various densities of blanket insulation may affect the installation and or the appearance of a metal roof system. The installer is responsible for selecting the proper clip and thermal spacer for their conditions.

### INSULATION/THERMAL SPACER SELECTION CHART

<table>
<thead>
<tr>
<th>Insulation Thickness</th>
<th>Low System</th>
<th>High System</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Insulation</td>
<td>¾” Thermal Spacer</td>
<td>Do Not Use See Low System</td>
</tr>
<tr>
<td>3” Insulation</td>
<td>Thermal Spacer Not Recommended</td>
<td>1” Thermal Spacer Recommended</td>
</tr>
<tr>
<td>4” Insulation</td>
<td>Thermal Spacer Not Recommended</td>
<td>½” Thermal Spacer Recommended</td>
</tr>
<tr>
<td>6” Insulation</td>
<td>Low System Not Recommended</td>
<td>¾” Thermal Spacer Recommended</td>
</tr>
</tbody>
</table>

**WARNING**

As with all standing seam roof systems, sound attenuation (example: blanket insulation) should be installed between the panels and open framing, such as purlins or joists, to prevent “roof rumble” during windy conditions.

Applications over solid deck such as rigid insulation over a metal deck or a wood deck may require additional acoustical consideration to ensure that thermal vibration noises are isolated from the building interior. This is especially important if the bottom of the deck is left open to the interior or in cathedral ceiling applications.

A vapor retarder may be necessary to protect roofing components when high humidity is a factor. The need for a vapor retarder, as well as the type, placement and location should be determined by an architect or engineer. The following are examples of conditions that may require a vapor retarder: (A) a project where outside winter temperatures below 40 degrees F. are anticipated and where average winter interior relative humidity of 45% or greater is expected. (B) building usages with high humidity interiors such as indoor swimming pools, textile manufacturing operations, food, paper or other wet-process industrial plants. (C) Construction elements that may release moisture after the roof is installed, such as interior concrete, masonry or plaster work and fuel burning heaters.

### THERMAL SPACER DISCLAIMER

The above thermal spacer chart is intended to be used as a general guideline only. Because of the various densities of insulation currently available, the manufacturer cannot guarantee that this chart will be accurate in all situations. Further, the manufacturer does not specifically require that the roofing contractor use thermal spacers with its Super Seam II® roof system. However, please review the following information:

Although the manufacturer does not require a thermal spacer, the architect or building owner may:

- In certain environments, the compression of the fiberglass insulation, without a thermal spacer, may create a thermal break which can cause condensation to form on the purlins/joists.
- On uninsulated buildings, eliminating the thermal spacer: (1) will increase “roof rumble” and (2) you may encounter problems holding panel module.
- When a high clip is used without a thermal spacer: (1) you may encounter problems holding panel module and (2) foot traffic on the panel ribs may result in bent clips.
- Using a low clip with too much insulation or too thick a thermal spacer: (1) may cause “purlin read” (2) may cause difficulty in properly installing the panel side laps, and (3) you may encounter problems holding panel module.
### UNDERWRITERS LABORATORIES APPROVAL

<table>
<thead>
<tr>
<th>Construction Number</th>
<th>Panel Width (In.)</th>
<th>Gauge</th>
<th>Clip Type</th>
<th>Clip Spacing</th>
<th>Substrate</th>
<th>UL-2218 Impact Resistance</th>
<th>UL-263 Fire Rating</th>
<th>UL-580 Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>165</td>
<td>24</td>
<td>24 min.</td>
<td>B</td>
<td>5'-0&quot;</td>
<td>Open Framing</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>180B</td>
<td>24</td>
<td>24 min.</td>
<td>A</td>
<td>5'-0&quot;</td>
<td>Composite System</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>205</td>
<td>24</td>
<td>24 min.</td>
<td>A</td>
<td>5'-0&quot;</td>
<td>Open Framing</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>205A</td>
<td>24</td>
<td>24 min.</td>
<td>B</td>
<td>5'-0&quot;</td>
<td>Open Framing</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>286</td>
<td>24</td>
<td>24 min.</td>
<td>A</td>
<td>5'-0&quot;</td>
<td>Plywood</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>308B</td>
<td>24</td>
<td>24 min.</td>
<td>A</td>
<td>5'-0&quot;</td>
<td>Composite System</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>534</td>
<td>24</td>
<td>24 min.</td>
<td>B</td>
<td>5'-0&quot;</td>
<td>Open Framing</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>535</td>
<td>24</td>
<td>24 min.</td>
<td>A</td>
<td>5'-0&quot;</td>
<td>Open Framing</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>536</td>
<td>24</td>
<td>24 min.</td>
<td>B</td>
<td>5'-0&quot;</td>
<td>Composite System</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>537</td>
<td>24</td>
<td>24 min.</td>
<td>B</td>
<td>5'-0&quot;</td>
<td>Composite System</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
<tr>
<td>541</td>
<td>24</td>
<td>26 min.</td>
<td>B</td>
<td>5'-0&quot;</td>
<td>Plywood</td>
<td>Class 4</td>
<td>Class A</td>
<td>Class 90</td>
</tr>
</tbody>
</table>

**Clip type:**
- A (Sliding);
- B (Floating);
- C (Utility)

### NOTES:

1. Wind uplift test procedures are in accordance with Underwriters Laboratories Standard UL-580 under “Tests For Uplift Resistance of Roof Assemblies”.

2. A detailed installation method is available for each Construction Number above and can be found in the UL Roofing Materials and Systems Directory or at http://www.ul.com. The panels must be installed in a certain manner to achieve the published results.

3. The panel qualifies for a Class A fire rating in compliance with Underwriters Laboratories Standard UL-263.


5. Super Seam panels carry a Class 4 rating under UL-2218 “Test Standard For Impact Resistance.”
SUPER SEAM II Panel
24” Coverage

SECTION PROPERTIES

<table>
<thead>
<tr>
<th>Panel Gauge</th>
<th>Fy (KSI)</th>
<th>Weight (PSF)</th>
<th>24” Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>26</td>
<td>50</td>
<td>1.02</td>
<td>0.1025</td>
</tr>
<tr>
<td>24</td>
<td>50</td>
<td>1.23</td>
<td>0.1355</td>
</tr>
<tr>
<td>22</td>
<td>50</td>
<td>1.56</td>
<td>0.1837</td>
</tr>
</tbody>
</table>

NOTES:
1. All calculations for the properties of Super Seam II panels are calculated in accordance with the 2012 edition of the North American Specification For Design Of Cold-Formed Steel Structural Members.
2. Ixe is for deflection determination.
3. Sxe is for bending.
4. Maxo is allowable bending moment.
5. All values are for one foot of panel width.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the North American Specification for the Design of Cold-Formed Steel Structural Members published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project job site in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.
### SUPER SEAM II Panel

24" Coverage

<table>
<thead>
<tr>
<th>SPAN TYPE</th>
<th>LOAD TYPE</th>
<th>SPAN IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>SINGLE</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>2-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>3-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>4-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
</tbody>
</table>

### 26 Gauge (Fy = 50 KSI)

<table>
<thead>
<tr>
<th>SPAN TYPE</th>
<th>LOAD TYPE</th>
<th>SPAN IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>SINGLE</td>
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</tr>
<tr>
<td>2-SPAN</td>
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<td>146.9</td>
</tr>
<tr>
<td>3-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>4-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
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</table>

### 24 Gauge (Fy = 50 KSI)

<table>
<thead>
<tr>
<th>SPAN TYPE</th>
<th>LOAD TYPE</th>
<th>SPAN IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>SINGLE</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>2-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>3-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>4-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
</tbody>
</table>

### 22 Gauge (Fy = 50 KSI)

<table>
<thead>
<tr>
<th>SPAN TYPE</th>
<th>LOAD TYPE</th>
<th>SPAN IN FEET</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2.5</td>
</tr>
<tr>
<td>SINGLE</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>2-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>3-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
<tr>
<td>4-SPAN</td>
<td>LIVE</td>
<td>146.9</td>
</tr>
</tbody>
</table>

NOTES:

1. THE ABOVE LOADS ARE NOT FOR USE WHEN DESIGNING PANELS TO RESIST WIND UPLIFT.
3. Allowable loads are applicable for uniform loading and spans without overhangs.
4. LIVE load capacities are for those loads that push the panel against its supports. The applicable limit states are flexure, shear, combined shear and flexure, web crippling at end and interior supports, and a deflection limit of L/180 under strength-level loads.
5. Panel pullover and Screw pullout capacity must be checked separately using the screws employed for each particular application when utilizing this load chart.
6. The use of any field seaming equipment or accessories including but not limited to clips, fasteners, and support plates other than the provided by the manufacturer may (eave, backup, rake, etc.) Damage panels, void all warranties and will void all engineering data.
7. This material is subject to change without notice. Please contact Whirlwind for most current data.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the North American Specification for the Design of Cold-Formed Steel Structural Members published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project job site in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.
CAUTION
Diaphragm capabilities and purlin stability are not provided by Whirlwind’s Super Seam II Roof system. Therefore, other bracing may be required to conform to A.I.S.C or A.I.S.I. Specifications.

Coverage Width | 24” with Minor Ribs- Prepunched 6 holes
Minimum Slope | 1/4: 12
Panel Attachment | Low, High (Fixed, Floating), Utility
Panel Substrate | Galvalume Clear Acrylic (standard)
Gauge | 22 and 24 GA
Finishes | Smooth with Minor Ribs
Coatings | Galvalume Clear Acrylic, Kynar 500®

* Minimum order or additional set-up fee required.
TECHNICAL ERECTION MANUAL
SUPER SEAM II
PRODUCT CHECKLIST

STANDARD CLIP, LOW FLOATING
- HW-2100

STANDARD CLIP, HIGH FLOATING
- HW-2120

FIXED CLIP, LOW
- HW-200

FIXED CLIP, HIGH
- HW-204

UTILITY CLIP
- HW-208

CLIP, UTILITY
- For application that do not require the ⅜" insulation clearance provided by the low and high clips.
- For applications over a solid deck

INSIDE CLOSURE
- METAL
- For use at eave
- HW-426

BACK-UP PLATE* 24"
- For use at endlaps and at the ridge.
- Prepunched
- 16 Gauge prepainted
- SS2BUP (24")

OUTSIDE CLOSURE 24"
- For use at ridge or high eave
- 24 Gauge
- SS2ED (24")

EAVE PLATE, HIGH
- 10'-0" Length
- 14 Gauge Galvanized
- Factory punched 6" O.C.
- For use with High clips
- EP-501

RAKE SUPPORT, LOW
- 20'-0" Length
- 14 Gauge painted
- Factory slots
- For use with low clips
- SS2RSLP (RED-OXIDE)
- SS2RSLG (GALVANIZED)

RAKE SUPPORT, HIGH
- 20'-0" Length
- 14 Gauge painted
- Factory slots
- For use with High clips
- SS2RSLP (RED-OXIDE)
- SS2RSLG (GALVANIZED)
PRODUCT CHECKLIST

- Clip to purlin with up to 4” insulation thickness
- Eave plate to eave strut
- Inside closure to eave plate or eave strut
- Mid-Slope Fixed Plate to Purlin
- Light Transmitting panel trim

- Panel to eave plate, eave strut, or valley plate
- Rake trim to roof panel
- Outside closure
- Endlap

- Use in place of Fasteners
  - ¼” x 14 x 1¼” Long Life Tek 2
  - ¼” x 14 x ⅞” Lap Tek Long Life Self Driller

- Ridge and other flashing to outside closure
  - Gutter to panel
  - Gutter to strap
  - Trim to trim connections

- Rake support to purlin
  - Floating eave plate to eave strut

- Support plate to purlins at valley and hip conditions
  - Rake angle to purlins

- Special application fastener
  - For use on masonry

- Gutter strap to snow gutter
  - Trim to trim connections

- Snow gutter to eave plate
  - Outside closure to back-up angle at hip condition

- ¼” x 14 x 1¼” Shoulder Tek 2
  ⅜” Hex Washer Head, no washer

- ¼” x 14 x 1¾” HTZ Tek® 2
  ⅜” Hex Washer Head with %” O.D. Washer

- 17 x 1” Type AB Long Life
  ⅜” Hex Washer Head with Sealing washer

- ¼” x 14 x ⅞” Lap Tek Long Life Self Driller
  ⅜” Hex Washer Head with sealing washer

- ¼” x 14 x 1 ¼” Nail Drive Masonry Anchor

- 12 x 1” #2 Pancake Head Driller

- ⅛” x ³⁄₁₆” Pop Rivet
### TECHNICAL ERECTION MANUAL
#### SUPER SEAM II

**PRODUCT CHECKLIST**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulated - with Stiffener Plate and 10 fasteners</td>
<td></td>
<td>• 10'-3” long</td>
</tr>
<tr>
<td>LIGHT TRANSMITTING PANEL UL 90</td>
<td></td>
<td>Super Seam II - 24”</td>
</tr>
<tr>
<td>• Used at the eave plate, eave strut, outside closures, endlaps and trim connections.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAPE SEAL 1” X 3/32” TAPE SEAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Light transmitting panel to panel and back-up plate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Used to fill void at minor ribs of the panel at the eave and valleys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAPE SEALER-MINOR RIB 1 ¾” X 1 ⅛” X 4”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Used to hold insulation in place at the rake, eave, and at any insulation splices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>¼” X 14 X 1 ⅛” Driller with ⅛” O.D. Washer ¾” Hex Washer Head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>THERMAL SPACER SSTS- 38 SSTS- 58 SSTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• If a problem is encountered in fully snapping the seams together, such as an incorrectly installed clip, damaged panel lip or a bubble caused by faulty assembly, the shaping tool should enable the seam to be locked with minimal effort.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPACE BAR SB-501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TAPE SEALER-MINOR RIB PRE-CUT BEVELED 1 ¾” X 1 ⅛” X 4”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SHAPING TOOL HW-600</td>
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<td></td>
</tr>
</tbody>
</table>
1. Make sure a rake angle or an alternate structural flat surface has been installed on top of the purlins to accept the "Rake Support".

2. The walls do not have to be erected before the roof is installed. However, for the purpose of this manual, we have assumed that the wall panels have been installed. If the roof is installed before the walls the installer must note the required panel overhang at the eave and use the correct counter flashing per the erection drawings.

3. All primary and secondary framing must be erected, plumbed and square with bolts tightened according to accepted building practices.

4. The substructure (eave to ridge) must be on plane with a tolerance of ¼" in 20' and ⅜" in 40'.

5. Super Seam II can be erected on various types of construction. However, for the purpose of this manual, we have assumed that the roof will be installed on a new, pre-engineered metal building.

6. Super Seam II roof panels are furnished in 24" widths.

7. It is critical that the purlins or joists at the ridge and endlaps be exactly located as detailed in this manual and that they are straight from rafter to rafter. Any mislocation or bowing of these members can cause the fasteners at the endlaps or outside closures to foul the purlin or the back-up plate to foul the clip as the panels expand and contract.

8. Peak purlin spacing - 12" (from the centerline of the building) or 16" for a 9" continuous vent.

9. Read recommended erection practices on pages SSII-36 and SSII-37 before proceeding with roof installation.

10. Whirlwind recommends the use of a screw gun with a speed range of 0 - 2000 RPM to properly install all fasteners referenced in this manual. Tools rated to 4000 RPM should never be used for self drilling fasteners typically supplied with metal building components.

11. Field cutting of the panels should be avoided where possible. If field cutting is required, the panels must be cut with nibblers, snips, or shears to prevent edge rusting. Do not cut the panels with saws, abrasive blades, grinders, or torches.

**NOTE**

It is the responsibility of the erector to install this roof using safe construction practices that are in compliance with OSHA regulations. Whirlwind is not responsible for the performance of this roof system if it is not installed in accordance with the instructions shown in this manual. Deviations from these instructions and details must be approved in writing by Whirlwind.

**CAUTION**

Diaphragm capabilities and purlin stability are not provided by Whirlwind’s Super Seam II roof system. Therefore, other bracing may be required.

**CAUTION**

The minimum recommended slope for the roof system is ¼ on 12. A slope of less than ¼ on 12 could cause severe ponding and will void material warranties.

**CAUTION**

Application and design details are for illustration purposes only, and may not be appropriate for all environmental conditions or building designs. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices.

**WARNING**

Light transmitting panels are not designed or intended to bear the weight of any person walking, stepping, standing or resting on them. WHIRLWIND DISCLAIMS ANY WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, that any person can safely walk, step, stand or rest on or near these light transmitting panels or that they comply with any OSHA regulation.
UNLOADING

Upon receiving material, check shipment against shipping list for shortages and damages. The manufacturer will not be responsible for shortage or damage unless noted on the shipping list.

Each bundle should be lifted at its center of gravity. Where possible, bundles should remain banded until final placement on roof. If bundles must be opened, they should be retied before lifting.

When lifting bundles with a crane, a spreader bar and nylon straps should be used. NEVER USE WIRE ROPE SLINGS, OR CHAINS THEY WILL DAMAGE THE PANELS.

When lifting bundles with a forklift, forks must be a minimum of five feet apart. Do not transport open bundles. Drive slowly when crossing rough terrain to prevent panel buckling.

CAUTION

Improper unloading and handling of bundles and crates may cause bodily injury or material damage. The manufacturer is not responsible for bodily injuries or material damages during unloading and storage.
PREPARATORY REQUIREMENTS

HANDLING/PANEL STORAGE

Standing on one side of the panel, lift it by the seam. If the panel is over 10’ long, lift it with two or more people on one side of the panel to prevent buckling.

Do not pick panels up by the ends.

NOTE
Protective gloves should always be used while handling panels. OSHA safety regulations must be followed at all times.

Store bundle sheets off the ground sufficiently high enough to allow air circulation beneath bundle and to prevent rising water from entering bundle. Slightly elevate one end of bundle. Prevent rain from entering bundle by covering with tarpaulin, making provision for air circulation between draped edges of tarpaulin and the ground. PROLONGED STORAGE OF SHEETS IN A BUNDLE IS NOT RECOMMENDED.

If conditions do not permit immediate erection, extra care should be taken to protect sheets from staining or water marks.

Check to see that moisture has not formed inside the bundles during shipment. If moisture is present, panels should be uncrated and wiped dry, then restacked and loosely covered so that air can circulate between the panels.

BAND ONLY

This method is used on all orders, unless otherwise specified by customer. The panels are banded together, causing them to curl up. This enhances the strength of the bundles. Panels bundled in this manner may be handled by a forklift in lengths to 30’. The forklift should have at least 5’ between forks. Lengths in excess of 30’ must be lifted utilizing a spreader bar. Special care must be given during handling to avoid damage to the locking edges of the panels.
Attach the rake support on top of the rake angle with the proper self-drilling fasteners on 2'-0" centers with a fastener in the first and last prepunched slot. The vertical leg is to be installed square with the eave. Center fasteners in slots.

**FASTENER REQUIREMENTS**

**FIXED SYSTEM**
- Purlins: Fastener  
  ¼" - 14 x 1" S.D.S. w/ Washer  
- Joist: Fastener  
  12-24 x 1¼" Tek 4.5

**FLOATING SYSTEM**
- Purlins: Fastener  
  ¼" - 14 x 1¼" Shoulder Tek 2  
- Joist: Fastener  
  ¼" - 14 x 1¼" Shoulder Tek 2

IT IS IMPORTANT THAT THE RAKE SUPPORT IS INSTALLED STRAIGHT AND SQUARE WITH THE EAVE AS IT CONTROLS THE ALIGNMENT OF THE ROOF SYSTEM.

Install 6" pieces of double faced tape on 3'-0" centers to the top of the horizontal leg of the rake support. This will help hold the insulation in place at the rake.

**CAUTION**
(For Floating Systems Only)
It is important that shoulder fasteners are installed through the CENTER of the slotted holes of the rake support to allow for expansion and contraction.

**CAUTION**
ALL PRIMARY AND SECONDARY FRAMING SHOULD BE ERECTED, PLUMBLED, AND BOLTS TIGHTENED PRIOR TO SHEETING.
**ERECTION SEQUENCE**

**STEP 2  LOW SYSTEM EAVE**

For applications in which the wall panels have already been erected, install standard counterflash to the eave strut with Fastener 10 x 1" Pancake Head Driller. Trim must be pulled tight to wall panels before fastening to eave strut. For applications in which the wall panels have not been erected, use offset counterflash. Use two fasteners per 10’ piece.

For low systems lay 1” x 3/32” tape sealer on top of the counterflash.

Install double faced tape along the length the top leg of the counterflash. Double faced tape must be upslope from 1” x 3/32” tape sealer.

Lap counterflash 3”. Apply two beads of tube caulking between the trim pieces, approximately 2½” from the end of the bottom piece.
Using Fastener ¼" - 14 x 1" S.D.S w/ washer, attach the first inside closure to the eave strut, locating the face of the inside closure with the steel line.

**NOTE THAT THE FIRST INSIDE CLOSURE MUST BE FIELD CUT IN HALF TO FILL THE VOID UNDER THE PARTIAL RIB.**

Locate additional closures on 24" centers from the first closure to maintain panel module, attaching each with Fastener ¼" - 14 x 1" S.D.S w/ washer. Install two fasteners per closure. The first fastener should be installed through the slotted hole to allow for any adjustment that may be required. Place 1" x ³⁄₈" tape sealer on the top and side of each closure to complete the seal at the eave. These may be pre-taped before installation. To maintain panel module, metal inside closures must be installed on 24" centers. Measure from tab to tab located on the metal inside closure.

Roll out insulation from eave to peak, laying the side of the insulation on top of the rake support. The first roll should be 3' wide. This will keep insulation sidelaps 1' from panel sidelaps. Allow approximately 4" of insulation to hang past the double faced tape (downslope) before sticking the insulation to the double faced tape. Cut and remove the fiberglass approximately 4" and fold the vapor barrier back over the insulation (upslope).

**CAUTION**
The fiberglass insulation must not interfere with the 1" X ³⁄₃₂" tape seal which provides a positive seal at the eave.
If the top elevation of the eave member is adjusted by 1” this step is not required.

**STEP 2B  HIGH SYSTEM EAVE**

**WALL PANEL INSTALLED BEFORE ROOF**

Install the high eave plate flush with the face of the wall panel. Install Fastener ¼” - 14 x 1” S.D.S w/washer in each prepunched slot (12” on center) of the eave plate. The first eave plate will butt against the rake support. You may install all of the eave plates at this time.

Install counterflash by attaching to wall panel with Fastener ⅛” x ⅜” Pop Rivet. Use three fasteners per 10’ piece.

Lay 1” x ⅜” tape sealer across the top of the counter flashing, flush with the outside edge. Install double faced tape along the length of the bottom leg of the eave plate.

**WALL PANEL INSTALLED AFTER ROOF**

Install offset counterflash to eave strut with Fastener ⅛” x ⅜” Pop Rivet. Use two fasteners per 10’ piece.

Install high eave plates flush with the outside of the counterflash. Install Fastener ¼” - 14 x 1” S.D.S w/washer in each prepunched slot (12” on center) of the eave plate. The first eave plate will butt against the rake support. You may install all of the eave plates at this time.

Lay 1” x ⅜” tape sealer across the top of the eave plates, flush with the outside edge. Install double faced tape along the length of the bottom leg of the eave plate.

**Trim Laps**

Lap Counterflash 3”. Apply two beads of tube caulking between the trim pieces, approximately 2½” from the end of the bottom piece.
Using Fastener ¼" - 14 x 1" S.D.S w/washer, attach the first inside closure to the eave plate, locating the face of the inside closure with the downslope edge of the eave plate. **NOTE THAT THE FIRST INSIDE CLOSURE MUST BE FIELD CUT IN HALF TO FILL THE VOID UNDER THE PARTIAL RIB.**

Locate additional closures on 24" centers from the first closure to maintain panel module, attaching each with Fastener ¼" - 14 x 1" S.D.S w/washer. Install two fasteners per closure. The first fastener should be installed through the slotted hole to allow for any adjustment that may be required. Place 1" x ³⁄₈" tape sealer on the top and side of each closure to complete the seal at the eave. These may be pre-taped before installation. Measure from tab to tab located on the metal inside closure.

Roll out insulation from eave to peak, laying the side of the insulation on top of the rake support. The first roll should be 3’ wide. This will keep insulation sidelaps 1’ from panel sidelaps. Allow approximately 4” of insulation to hang past the double faced tape (downslope) before sticking the insulation to the double faced tape. Cut and remove the fiberglass approximately 4” and fold the vapor barrier back over the insulation (upslope).

**CAUTION**

The fiberglass insulation must not interfere with the 1" x ³⁄₈" tape sealer which provides a positive seal at the eave.
**Step 3**  **Thermal Spacer**  
*(For High System Only)*

Position the thermal spacer on top of the insulation over each purlin and against the rake support prior to installing the roof panel.

Using spray adhesive, adhere the thermal spacer to the insulation. The thermal spacer increases the insulation capacity along the purlins.
STEP 4  FIRST PANEL

Apply minor rib tape sealer to the underside of the minor ribs of the panel. Position so that this tape sealer will cross the 1" x 9/32" tape sealer on the eave trim (for low systems) or on the high eave plate (for high systems) when the panel is installed.

Position the panel so that it overhangs the eave strut by the thickness of the wall covering plus 3". The upper end of the panel must be 7" beyond the web of the purlin.

PREPUNCHED PANEL HOLES AT THE EAVE ARE INTENDED TO BE PART OF THE GUTTER OVERHANG AND WILL BE HIDDEN BY THE GUTTER. FOR A BUILDING WITH SCULPTURED EAVE TRIM, THE PREPUNCHED HOLES WILL BE USED TO ATTACH THE EAVE TRIM TO THE PANEL.

Lay the female lip of the panel over the rake support. Fasten the panel to the rake support with fastener ¼" - 14 x 1¼" Long Life S.D.S. 24" O.C.
Attach the panel to the eave strut and metal inside closures with Fastener ¼" - 14 x 1" Long Life S.D.S w/washer. Eight fasteners are required at this location.

**NOTE:** IT IS ESSENTIAL THAT THE ERECTOR MAINTAIN A 24" MODULE AT THE EAVE, WITH THE PROPER INSTALLATION OF THE INSIDE CLOSURES AND BY INSTALLING FASTENERS IN THE PROPER SEQUENCE.

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**NOTE**

We recommend the installer pre-drill the holes for fastener 1 and 3 to prevent pushing the flange of the closure out of alignment.

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**CAUTION**

Do not, under any circumstance, step on the panel at the seam or at the panel ends until the adjacent side, end panels or eave fasteners are fully attached. The roof panel may not support the weight of a man at these locations and could affect panel module.

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**CAUTION**

The roof should be swept clean of any drill shavings at the end of each day to prevent rust.
STEP 5  BACK-UP PLATE

Slide a back-up plate onto end of panel; make sure the teeth on top of the back-up plate are on top of the panel. Visually check to see that the holes in the panel align with the holes in the back-up plate.

Place tape sealer over the entire width of the panel. It must be centered directly over the pre-punched holes, following the panel configuration.

**NOTE**
All back-up plates on first panel run will require field modification to avoid fouling rake support.

**NOTE**
Tape Sealer will be 1”x ³/₃₂” depending on condition. See steps 7 and 9.

**CAUTION**
Forcing the tape sealer back into the corners will lessen the thickness of the tape sealer where it is needed most.
**ERECTION SEQUENCE**

**STEP 6  CLIP INSTALLATION**

Before installing the first clip, clamp the male side of the panel to the side of the back-up plate with a pair of vise grips. This will help maintain panel module at the endlaps.

Install a clip on the male leg of the panel at the endlap. This should be the first clip installed as it controls the 24” module for the remainder of the panel. Remove vise grips and install clips on all remaining purlins.

**FASTENER REQUIREMENTS**

**FLOATING SYSTEM**

Purlins - Fastener  
¼” - 14 x 1” S.D.S w/washer

Joist - Fastener  
¼ - 14 x 1” Tek 5 w/washer  
(Two fasteners per clip)

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**CAUTION**

The panel clip has factory applied mastic in the upper lip. This mastic is compressed when the clip is rotated in place. If, for some reason, a clip must be removed, a new clip must be used.

**IMPORTANT**
As each clip is installed, maintain a 24” panel module.

**NOTE**

The floating clip is designed so it can only be properly seated when the upper portion of the clip (the tab) is centered on the base.

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- Position the clip over the male leg of the panel as shown, and rotate clip downward.

- With the upper clip firmly seated, position the base firmly against the purlin flange.

- When properly positioned, the vertical legs of the upper and lower sections of the clip will be 90° to the purlin flange pointed upward, as shown.
STEP 7  ENDLAP - PANEL

Position female lip of upper panel over rake support, while holding male side of panel up away from the tape sealer. Using an awl, align the hole nearest the female side of the top panel with the corresponding hole in the lower panel and the back-up plate.

Once this is accomplished, rotate the male side of the upper panel down to rest on the vise grips.

Make sure the panel notches are aligned.

Remove awl and insert in the middle hole nearest the male leg. Install Fastener ¼" x 1¼" Long Life S.D.S. in the hole by the female leg.

NOTE
Step 7 applies only where more than one panel is used in a single slope.

CAUTION
The roof should be swept clean of any drill shavings at the end of each day to prevent rust.
All holes in the upper and lower panels and the back-up plate should now be aligned. Make sure that the panel notches are aligned.

Install Fastener \( \frac{1}{4} \)-\( \frac{1}{4} \) x 1\( \frac{1}{4} \)" Long Life S.D.S. in sequence 2 and 3. Remove vise grips and install remaining fasteners in sequence 4, 5, 6, 7, 8.

Apply 1 x 3/32" tape sealer over the notched portion of these male legs.

Repeat the endlap procedures as required for each panel until the ridge or high eave is reached.

NOTE
Step 8 applies only where more than one panel is used in a single slope.
At the ridge, install a back-up plate as in Step 5. The back-up plate is necessary to maintain panel module.

Install 1 x \( \frac{3}{32} \)" tape sealer over prepunched holes. Be sure to place the tape sealer over the male leg. **DO NOT REMOVE THE PROTECTIVE PAPER AT THIS TIME EXCEPT AT THE MALE LEG.**

Install clips on ridge panel as in Step 6.

**CAUTION**
Placing the tape sealer over the male leg of the panel is important. Without it, water could be driven behind the outside closure by a strong wind.
STEP 10  SUBSEQUENT RUNS EAVE

Apply tape sealer to the male leg of the first panel run directly over the inside closure. This will prevent water infiltration through the end of the seam. Install the next run of insulation and another inside closure using Fastener ¼"-14 x 1" S.D.S. w/washer. The second run of roof is now ready to install.

Position the panel with the female lip resting on top of the male leg. Align panel flush with adjacent panel. ONCE THE PANELS ARE SNAPPED TOGETHER, NO FURTHER ALIGNMENTS CAN BE MADE. Press down on the seam, snapping the two panels together. It is important to begin at one end of the panel and work to the other, applying pressure continuously all the way along the seam to avoid a bubble in the seam. Make certain the seams are fully locked together, particularly at the clips where greater resistance will be encountered.

Install fastener ¼"-14 x 1¼" Long Life S.D.S eave in the proper sequence. Eight fasteners are required at this location.

**CAUTION**
Never use a hammer to force the panels to snap together. This will cause severe damage to the panel and will nullify any warranty.

**CAUTION**
If a problem is encountered in fully snapping the seams together, such as an incorrectly installed clip, damaged panel lip, or a bubble caused by faulty assembly; the shaping tool should enable the seam to be locked with minimal effort.
STEP 11 SUBSEQUENT RUNS ENDLAP

Install back-up plate and tape sealer as in Step 5. However, on this and all subsequent runs, care must be taken to engage the tab on the side of the back-up plate into the slot of the adjacent back-up plate. This procedure will assist in maintaining a 24” panel module.

Install clips as described in Step 6.

Install upper panel as described in Steps 7 & 8.

Repeat the endlap procedures as required for each panel until the ridge is reached.
STEP 12 SUBSEQUENT RUNS RIDGE OUTSIDE CLOSURE

Install back-up plate and panel clips. Go to the previously installed ridge panel and peel protective paper from tape sealer. Apply tape sealer to the ridge panel just installed. Be sure to seal to the mastic on the previous panel.

Note:
Always stay one panel run behind with the outside closures, otherwise, the next panel cannot be installed.

Install the outside closure in previous ridge panel. Rotate outside closure into position contacting the female side of the panel first. Using an awl, align the first hole on the female side of the outside closure with the corresponding hole in the panel and back-up plate. Remove the awl and install Fastener ¼"-14 x 1-¼" Long Life S.D.S in the hole.

Push the other end of the outside closure into position and align the holes with the awl. Remove the awl and install Fastener ¼"-14 x 1-¼" Long Life S.D.S in all remaining holes except for the hole at the panel seam. Do not install the panel seam fastener at this time.

Check panel alignment at this time (See page SSII-35).

Continue installing the roof until all but the last panel run has been installed.

Panel module should be checked every third or fourth run.
STEP 13  LAST PANEL RUN

This roof system is designed to finish in the high on even footage buildings by using 24” panels on the last run.

After laying the last insulation run, install the rake support over the insulation along the steel line. Lay the last panel run. Fasten the male leg temporarily to the rake support with \( \frac{1}{4} \)-14 x 1-\( \frac{3}{4} \) Long Life S.D.S or with C Clamps.

The rake support angle may be from 0” to 4” away from the steel line to correct an out of square condition.

**CAUTION**
The roof should be swept clean of any drill shavings at the end of each day to prevent rust.
The roof is designed to finish in the high on even footage buildings. Odd length buildings and variations in erection practices may dictate that an alternate detail be used.

When terminating in an odd dimension, field cut and bend a 3” vertical leg on the panel.

After laying the last insulation run, install the field formed panel. Fasten the formed leg of the panel to the rake support with fasteners ¼” - 14 x 1-1/4” Long Life S.D.S. 24” O.C.

CAUTION
The roof should be swept clean of any drill shavings at the end of each day to prevent rust.
Install Fastener ¼" - 14 x 1¼" Long Life S.D.S. 24" in the remaining hole at the panel seam of all outside closures. The fastener must go through the panel seam and the corresponding hole of the adjacent outside closure.

Use Tube Caulking to fill any voids around panel seam on upslope side of outside closure. Apply 1 x ⅜" tape sealer to the top of the outside closure.

The final outside closure on the last panel may require field modification. A tab should be formed by the web of the outside closure for attachment to the upturned leg of the roof panel (field formed). This tab should be attached to the panel and angle with Fastener ¼" - 14 x ⅞" Long Life S.D.S. (2 required).

Install the ridge flashing starting and ending 2½” outside the steel line. Fasten the ridge flashing to the outside closures with Fastener ¼" - 14 x ⅝" Lap Tek Long Life S.D.S. Install a fastener 1½" from panel seam on both sides of panel. Install additional fasteners directly above minor ribs of panel. Four fasteners are required at each panel. Leave 6" unfastened on each end to allow for the rake trim to be installed later. DO NOT FASTEN THROUGH THE LOCK OF THE STANDING SEAM.
Occasionally a purlin may be encountered that is lower (out-of-plane) than those adjacent to it. When a clip is attached to this purlin, it will go down further than those adjacent to it, distorting the seam. This can cause the next panel sidelp to be difficult to snap together in this area. To compensate for this lower purlin, a steel shim may be placed under the clip to bring it up to the proper height (in plane). This shim should be no thicker than ¼". If ¼" is not enough, then structural modification will be necessary.

Avoid “stair-stepping” of the panels at the eave. This will cause problems engaging back-up plates at the endlap and ridge.

Any “stripped out” fasteners at the endlaps or outside closures should be immediately replaced with #17 x 1" Type AB fastener. Place a 1" long piece of use 1 x \(\frac{3}{32}\)" tape sealer over the “stripped out” hole before installing #17 x 1" Type AB fastener. This will allow the fastener threads to be coated with tape sealer and provide a good seal.

NEVER ALLOW PANELS TO COME INTO CONTACT WITH LEAD, COPPER, GRAPHITE, GASOLINE OR OTHER HARSH CHEMICALS AS THIS WILL VOID THE GALVALUME® WARRANTY.

CHECK ROOF FOR PANEL ALIGNMENT

Check the roof every three or four runs for panel alignment as it is being erected. This can be accomplished by two different means.

1. Measure from the rake support to the seam of the last completed panel run. Take measurements at the ridge, eave, and all endlaps.

2. Attach a stringline to the eave plate and ridge purlin, running parallel to the rake support. The stringline should stay ahead of the work and can be moved across the roof as construction progresses. Measure from the stringline back to the last completed panel run. Take measurements at the ridge, eave, and all endlaps.
To stretch panel coverage, install an floating clip at the panel endlap or ridge with the base angled away from the panel. As the fastener is installed through the base of the clip and into the purlin, the clip base will rotate down to the purlin causing the top of the clip to move outward, stretching the panel coverage. Install the remainder of the clips as usual.

To shrink panel coverage, install a clip at the panel endlap or ridge with the base angled toward the panel. As the fastener is installed through the base of the clip and into the purlin, the clip base will rotate down to the purlin causing the top of the clip to move inward, shrinking panel coverage. Install the remainder of the clips as usual.

**FIXED AND FLOATING CLIPS**

To stretch panel coverage, bend the sides of the back-up plate out and install at endlap or ridge. Do not bend either side more than ¼". Install clips as usual.

To shrink panel coverage, bend the sides of the back-up plate in and install at endlap or ridge. Do not bend either side more than ¼". Install clips as usual.
Turn ventilator over and place gently on its top. Note that the end cap is preformed for a 1:12 roof pitch. The five bench mark dots represent 2:12, 3:12, 4:12, 5:12 and 6:12 roof pitches. Draw a line between indicated corners and the appropriate dot for the roof pitch. Cut and remove that portion of the end cap. On 5:12 and 6:12 roof pitches see vent manufacturer's special instructions for the installation of the vent skirt. The end cap is now ready to receive the end skirt.

Position end skirt onto end cap. Be sure the down-turned angle of the end skirt is inside of and up against the end cap. Attach end skirt to ventilator end cap with Fastener ¼” - 14 x ⅞” Lap Tek Long Life S.D.S. in four places.
RIDGE VENTILATOR
INSTALLATION (Continued)

Apply 1 x \(\frac{3}{32}\)" tape sealer to top of outside closures. Install ventilator making sure to center in opening. Attach ventilator to outside closures with Fastener \(\frac{1}{4}\" - 14 x \frac{7}{8}\"\) Lap Tek Long Life S.D.S. on 6" centers. Use caulking to seal between the outside of the ventilator and the end skirt.

Install the ridge flashing as in Step 14, except for those pieces on either side of ventilator. These will lay on top of, and seal to, the ventilator end skirt with a ridge end cap. Use 1 x \(\frac{3}{32}\)" tape sealer to seal the ridge end cap to the ridge flashing and the end skirt. Use Fastener \(\frac{1}{4}\" - 14 x \frac{7}{8}\"\) Lap Tek Long Life S.D.S. to install the end cap. Six fasteners are required to tie the end cap to the ventilator end skirt. Eight fasteners are required to tie the end cap to the ridge flashing.

For continuous ventilators, install end skirts on both ends of the first ventilator and one end of all following ventilators. Attach ventilator to outside closures as outlined above. Install an additional Fastener \(\frac{1}{4}\" - 14 x \frac{7}{8}\"\) Lap Tek Long Life S.D.S. through the corner of the side skirt and into the end skirt.

Do not connect more than 3 vents to the same linkage.
NOTES:

1. Only 9" ridge ventilators can be used with this SSR system.
2. Do not use ridge ventilators on any roof over 200' in width or with a slope less than 1:12 or greater than 6:12.
TECHNICAL ERECTION MANUAL  SUPER SEAM II
SPECIAL ERECTION TECHNIQUES

VENTED RIDGE

- ¼" - 14 x ⅜" Long Life S.D.S.
- 6" O.C.
- ¼" - 14 x ⅛" Long Life S.D.S.
- 24" O.C.

Cobra® Vent Material

Super Seam II Panel

Panel Clip

Purlin

Outside Closure

1 x ⅜/16" Tape Sealer

¼" - 14 x ⅜" Lap Tek

Long Life spaced 1½" from Panel Seams, w/interior fasteners centered over Minor Ribs (7" O.C. Max.)
No Fastener at Panel Seam

1 x ⅜/32" Tape Sealer

Low Sliding Clip

Super Seam II Panel

Backup Plate

Purlin

1 x ⅜/32" Tape Sealer Cont. Across Panel

¾" - 14 x 1½" Long Life S.D.S.

3 per panel

¾" - 14 x 1¼" Long Life S.D.S.

6 per panel

¼" - 14 x 1" S.D.S. w/washer

2 Required

Perforated Vent Drip

Tube Caulking

Ridge Flashing

¼" - 14 x ⅜" Pop Rivet

at 3" O.C. (Max.)

1' - 0" Max.

2" - 5"

¼" - 14 x ⅜" Lap Tek

Long Life spaced 1½" from Panel Seams, w/interior fasteners centered over Minor Ribs (7" O.C. Max.)
No Fastener at Panel Seam

1 x ⅜/32" Tape Sealer

Low Sliding Clip

Super Seam II Panel

Backup Plate

Purlin

¼" - 14 x 1½" S.D.S.

w/washer (2) per Clip

Note:
Reference Typical Trim Lap Sections

PERFORATED VENT DRIP
MID SLOPE FIXED CONDITION

LOW SYSTEM

- Upper Panel
- ¼” - 14 x 1 ¾” Long Life S.D.S.
- 8 per Endlap
- Inside Closure
- Lower Panel
- ¼” - 14 x 1” S.D.S w/washer
- 2 per Closure
- ¼” - 14 x 1 ⅞” Lap Tek
- Long Life S.D.S.
- 1 x ³⁄₈” Tape Sealer
- Endlap
- Low Mid Fixed Plate (HW-7632)
- ¼” - 14 x 1” S.D.S w/washer
- 6” O.C.

HIGH SYSTEM

- Upper Panel
- ¼” - 14 x 1 ¾” Long Life S.D.S.
- 8 per Endlap
- Inside Closure
- Lower Panel
- ¼” - 14 x 1” S.D.S w/washer
- 2 per Closure
- ¼” - 14 x 1 ¾” Long Life S.D.S.
- Inside Closure
- High Mid Fixed Plate (HW-7636)
- ¼” - 14 x 1” S.D.S w/washer
- 6” O.C.

NOTES:
1. This special detail is for use when a panel run exceeds the thermal movement capabilities of the panel clip. Please refer to page SSII-4.
2. A positive panel attachment is made at the mid-point in the panel run allowing for thermal movement to the eave and ridge.
3. The standard floating ridge condition must be used in conjunction with this special eave detail.
4. The floating eave plate must be used to allow for panel movement at the eave.
5. Floating clips have a maximum movement of 1” in each direction. Thermal calculations must be performed for each project to ensure that the thermal movement of the roof will not exceed the design of the clips and slot in the floating eave plate.
The manufacturer recommends that only one-piece .080 aluminum curbs be used on its standing seam roof systems. The curb flange is constructed to match the configuration of the panel. The side flange extends to the next natural seam in the roof panel and conforms to the seam configuration. Cap strips, furnished by the curb manufacturer, secure the curb to the roof panels. The roof curb is installed under the roof panels on the upslope end and on top of the roof panels on the downslope end. Support framing should be installed before curb installation. Back-up plates (for the roof panels at the downslope end of the curb), a floating eave plate (for the upslope end of the curb), long-life fasteners and Triple Bead tape sealer must be ordered for each curb.

These curbs may be installed as the roof is being installed or after the roof has been installed. Since the curb sides are an integral part of the roof seam, the curb must align with the roof panel seams. If the curb can be shifted up to 12” to either side, the curb can be pre-ordered and be installed with the roof panels or installed after the roof is in place. If the curb placement is critical, install the curb support framing at the desired location and roof over it. Measure the panel rib locations in reference to the required curb opening and order the roof curb for each location. The curbs can then be installed in each location, ensuring an exact fit.

ATTENTION
All curbs must be installed over support framing, supplied by the metal building manufacturer or the curb supplier. Support framing must be properly located to provide “endlap” conditions at the upslope and downslope ends of the curb. Refer to Roof Curb Cross Section for critical dimensions.

WARNING
It is the user’s responsibility to ensure that openings cut into the roof for installation of roof curbs comply with State, Federal and OSHA regulations and laws, including but not limited to guarding roof openings with plywood, fixed standard railings, or other acceptable safety controls that prevent fall-through.
INSTALLING CURB WITH ROOF

Install curb support framing at curb location. Install full length roof panels up to curb location. Install lower panels at downspout end of curb. If the lower panels are field cut to length, you must (1) cut the downspout end, leaving a factory cut at the curb end or (2) if the curb end of the panel is field cut, notch the male leg as it is done in the factory. Place Triple Bead tape sealer across the full width of each panel as it is installed. To determine how far down on the panel to place the tape sealer, temporarily lay the curb in place and mark the downspout edge of the curb on the first panel. This will give you a reference point as to how far down slope to place the tape sealer. It is critical that the tape sealer be installed across each panel individually so that the tape sealer can be placed over the male leg. This will provide a seal in the panel seam when the next panel is installed. Install back-up plates onto each of the lower panels.

WARNING
It is the user’s responsibility to ensure that openings cut into the roof for installation of roof curbs comply with State, Federal and OSHA regulations and laws, including but not limited to guarding roof openings with plywood, fixed standard railings, or other acceptable safety controls that prevent fall-through.
Install the roof curb on top of the lower roof panels and the curb support framing. Do not attach the curb to the support framing as this may prevent the curb from floating with the roof. Fasten the down slope end of the roof curb to the lower roof panels and back-up plates with Fastener $\frac{1}{4}'' - 14 \times 1\frac{1}{4}''$ Long Life S.D.S. as at a standard endlap. This will require six fasteners in the pan of the panel and one in each trapezoid for a total of eight fasteners per panel. Fasteners must go through the Triple Bead.

Install Triple Bead across the width of the upslope end of the roof curb. Use the down slope end of the inside cap cell, which is welded to the roof curb, as a guide for placement of the tape sealer.

Apply minor rib tape sealer to the underside of the minor ribs on the down slope end of the upper panels. Install the upper panels with Fastener $\frac{1}{4}'' - 14 \times 1\frac{1}{4}''$ Long Life S.D.S as at a standard endlap. This will require six fasteners in the pan of the panel and one in each trapezoid for a total of eight fasteners per panel. Fasteners must go through the Triple Bead tape sealer. The down slope edge of these panels should be flush with the down slope edge of the inside cap cell. Apply tube caulking to the male leg of all panels directly over the inside cap cell. This will prevent water infiltration through the end of the panel seam.

WARNING
It is the user’s responsibility to ensure that openings cut into the roof for installation of roof curbs comply with State, Federal and OSHA regulations and laws, including but not limited to guarding roof openings with plywood, fixed standard railings, or other acceptable safety controls that prevent fall-through.
INSTALLING CURB WITH ROOF (Continued)

After all upper panels have been installed, install full length panel at side of curb. This panel will engage the male leg of the adjacent upper and lower panels. The female leg of this full length panel will overlap the leg of the roof curb.

Cap strips will be installed, full length, along both sides of the curb to seal the curb to the roof panels. Turn the cap strips upside down and install Triple Bead to both sides and along the full length of the cap strip. Lower edge of tape sealer should be flush with the lower edge of the cap strip. Apply a generous bead of urethane sealant at both ends of the seam portion of the cap strip. Install each cap strip over the curb/roof panel sidelap with the lower end of the cap strip even with the lower end of the curb. Force the cap strip down tightly to the curb/roof panel sidelap and fasten both sides with Fastener ¼" - 14 ¾" Long Life at 6" on center.

INSTALLING CURB WITH AFTER ROOF INSTALLATION

When curbs must be installed in an exact location, the curb support framing can be installed before beginning the roof. When a curb is to be added after the roof is installed, the curb framing must be installed from below the roof after the roof panels have been cut for installation of the curb.

After roof is installed, identify the exact location for the curb. Measure from the center of the required opening to the nearest panel rib in each direction. Also, determine how many panels will be affected by the curb (minimum clearance between vertical wall of curb opening and panel rib is 6") and measure from center of rib of first panel affected to center of rib of last panel affected (if 24" panel module was not held during roof installation, this dimension will be critical). This information will be required to fabricate the curb so that it will fit the location exactly.
Once curb is ready to be installed, lay curb on roof and align opening in the curb with the exact location the opening is required in the roof. At the up slope end of the roof curb, the roof panels will be cut on a line even with the beginning of the notch at the vertical leg on each side of the roof curb. Secondly, trace a line along the down slope edge of the roof curb. The roof panels will be cut on a line 4” up slope from this line.

Cut roof panels from rib of first panel affected by curb, to rib of last panel affected, along the top and bottom cut lines previously marked.

At the down slope end of the roof opening, install back-up plates onto the ends of the cut roof panels and Triple Bead across the full width of these roof panels. The down slope edge of the tape sealer should be on the line previously traced along the down slope edge of the roof curb. The up slope edge of the tape sealer will be approximately 1 1/2" from the end of the cut panel.

Apply Triple Bead across the full width of the up slope end of the roof curb. The down slope edge of the tape sealer will align with the down slope edge of the inside cap cells welded to the roof curb.

Install the roof curb under the roof panels at the up slope end and on top of the panels at the down slope end. This will require that you lift the roof panels up slightly at the up slope end to allow the upper flange of the roof curb to slide under the panels. Spray some soapy water on the tape sealer to prevent it from sticking to the roof panels until you have the curb completely in place.

**INSTALLING CURB AFTER ROOF INSTALLATION (Continued)**

**WARNING**

It is the user’s responsibility to ensure that openings cut into the roof for installation of roof curbs comply with State, Federal and OSHA regulations and laws, including but not limited to guarding roof openings with plywood, fixed standard railings, or other acceptable safety controls that prevent fall-through.
INSTALLING CURB AFTER ROOF INSTALLATION (Continued)

Cap strips will be installed, full length, along both sides of the curb to seal the curb to the roof panels. Turn the cap strips upside down and install Triple Bead to both sides and along the full length of the cap strip. Lower edge of tape sealer should be flush with the lower edge of the cap strip. Apply a generous bead of urethane sealant at both ends of the seam portion of the cap strip. Install each cap strip over the curb/roof panel sidelap with the lower end of the cap strip even with the lower end of the curb. Force the cap strip down tightly to the curb/roof panel sidelap and fasten both sides with Fastener $\frac{1}{4}" - 14 \times \frac{7}{8}"$ Long Life Lap Tek at 6" on center.

WARNING
It is the user’s responsibility to ensure that openings cut into the roof for installation of roof curbs comply with State, Federal and OSHA regulations and laws, including but not limited to guarding roof openings with plywood, fixed standard railings, or other acceptable safety controls that prevent fall-through.
1. Super Seam II Panel
2. Tube Caulk
3. Outside Cap Cell
4. Back-up Plate
5. Fastener 1/4" - 14 X 1-1/4" Long Life S.D.S.
6. Triple Bead
7. Roof Curb
8. Water Diverter
9. Inside Cap Cell
10. Floating Eave Plate
11. 1/4" - 14" x 1-1/4" Shoulder Tek 2
12. Purlin Framing Member or secondary Curb Support framing.

CAUTION
The above curb type and installation instructions must be used for curbs to be included in a weathertightness warranty.

ATTENTION
All curbs must be installed over support framing, supplied by the metal building manufacturer or the curb supplier. Support framing must be properly located to provide “endlap” conditions at the upslope and downslope ends of the curb. Refer to Roof Curb Cross Section for critical dimensions.

WARNING
It is the user’s responsibility to ensure that openings cut into the roof for installation of roof curbs comply with State, Federal and OSHA regulations and laws, including but not limited to guarding roof openings with plywood, fixed standard railings, or other acceptable safety controls that prevent fall-through.
S-5! SUPER SEAM PLUS WINDCLAMP INSTALLATION LOCATION

NOTES:
1. Torque set screw to 140 in-Lbs.
2. Application zone and feasibility of wind clamps must be determined by a Registered Professional Engineer.
TRIM DETAILS
EAVE TO ENDLAP

NOTE:
1. The above gutter should not be used in areas that experience snow loads of 10 PSF or higher. See page SSII-57 for the gutter detail for these areas.

SEE PAGES SSII-12 FOR FASTENER SELECTION
Install the ridge flashing starting and ending 1¼” plus endwall thickness outside the steel line. Fasten the ridge flashing to the outside closures with Fastener ¼” - 14 x 1” S.D.S w/washer 2 per Inside Closure. Install a fastener 1½” from panel seam on both sides of panel. Install additional fasteners directly above minor ribs of panel. Four fasteners are required at each panel. Leave 6” unfastened on each end to allow for the rake trim to be installed later. DO NOT FASTEN THROUGH THE LOCK OF THE STANDING SEAM.

CAUTION
Super Seam II systems must utilize a Floating Peak Box.

SEE PAGES SSII-12 FOR FASTENER SELECTION
TRIM DETAILS RAKE

BEGINNING RAKE TRIM

TERMINATION RAKE TRIM
ON MODULE

RAKE SLIDE
(FOR FLOATING SYSTEMS ONLY)

TERMINATION RAKE TRIM
OFF MODULE

TERMINATION RAKE TRIM
OFF MODULE (OPTIONAL)

SEE PAGES SSII-12 FOR FASTENER SELECTION
TRIM DETAILS RAKE

BEGINNING PARAPET RAKE

TERMINATION PARAPET RAKE (OPTIONAL)
NOTE:

1. High side purlin is 12" down slope.
NOTE:
1. This optional sculptured eave trim is available. However, under certain conditions it may induce staining of wall panels.
2. Place the ¼" - 14 x ¾" Lap Tek through the pre-punched holes in the roof panel.
NOTES:
1. Attach gutter to eave plate with Fastener ¼" x ⅛" Pop Rivet (3 fasteners per 10' piece).
2. Install gutter straps 3'-0" O.C.
3. Apply 1" x 3/32" tape sealer to slope leg of gutter.
4. Use minor rib tape sealer to fill voids in panel at minor ribs as shown on page SSII-23.
5. Install panel with Fastener ⅛" - 14 x 1¼" Long Life S.D.S. at prepunched holes. Panel must not overhang into gutter.
6. Front top edge of gutter must not project above the plane of the panel pan.
CAUTION
All trapezoidal panels are extremely difficult to install at hips and valleys in a weather-tight manner. The use of these details should only be attempted by installation crews that are highly experienced. In order to assure weather-tightness, Whirlwind recommends one of its vertical leg standing seam systems for use on roofs that require hips and valleys.
CAUTION
All trapezoidal panels are extremely difficult to install at hips and valleys in a weathertight manner. The use of these details should only be attempted by installation crews that are highly experienced. In order to assure weathertightness, Whirlwind recommends one of its vertical leg standing seam systems for use on roofs that require hips and valleys.