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**Appendix A** - Drag Load Table ........................................ 34

**Appendix B** - Fastener Schedule/Drag Loads ........................................ 35
Notes to the Designer/User

The details contained in this packet are intended to be a design aid and do not depict all situations. Modifications are the responsibility of the designer/user and should take into account climate conditions such as wind and snow, governing code requirements, and the actual usage and maintenance of the structure. AEP Span makes no representations or warranties regarding modifications from the recommendations contained in this installation guide, situations not depicted in this guide or the any services/work performed by the designer/user of this guide. As with all architectural and design services, the user of this installation guide must use his/her professional judgement and expertise when specifying and installing building products.

Where possible, roof and flashings should be lapped away from prevailing winds. Certain flashings should be supported if it is likely that a ladder will be used against them or if foot traffic is anticipated. Check with AEP Span any time you intend to specify a prefinished flashing in a gauge different than the panels. Our standard gauge for all of the products in this booklet is 24 gauge and the standard finish is Kynar 500™/Hylar 5000™. It is good practice to specify that all flashings be of the same material (gauge, color, finish) as the roof panels to ensure long-term durability. Field-painted flashings rarely equal the durability and color fastness of factory baked-on paint systems. Where possible we have minimized the use of exposed fasteners and have hemmed the edges of flashings to strengthen them and to minimize the exposure of cut edges.

Substrates - The Span-Lok™ and SpanSeam™ roofing panels can be used over spaced support members or over solid substrates.

Slope Requirements - The panels in this booklet should be used on slopes of 1/4”:12 or greater.

Condensation, Insulation, & Ventilation

It is the designer’s responsibility to determine the need and composition of condensation control materials including insulation and vapor retarders, as well as ventilation requirements. Metal roofing is susceptible to condensation and its control should be carefully considered. Applications over rigid insulation may require solid blocking/framing for installation of perimeter flashings and fasteners (ref. drag load tables).

Underlayments - Prior to panel installation a minimum of 30 lb. felt (or two layers of 15 lb. felt) should be installed per the felt manufacturer’s recommendations. The underlayment should be lapped with all flashings in a shingle-like manner. When a premium underlayment is required, a self-adhering, cold-applied rubberized asphalt membrane should be specified.

“Pinning” Requirements - The panels must be “pinned” at one end only to resist the “drag” load caused by the weight of the panel, live loads, and snow loads. The intensity of the drag load is a function of slope, the loads involved, and the length of the panels. Appendix “A” gives the drag loads for various slopes and loading conditions, and Appendix “B” shows the fasteners required to resist the drag load.

Expansion & Contraction - Both the panels and the flashings must allow for expansion and contraction of the materials, especially where long lengths are used. The overlap between the hidden cleat and the turned-under end of the panel at the eave may need to be increased to accommodate thermal movement where long panels (i.e. 30ft.+ ) are used.

Valleys - Valley dimensions must be the proper width to account for slope, snow, ice, and rain conditions. Valleys should receive a premium
underlayment since they are susceptible to water buildup. If valleys are not kept free of debris and water does back up, intrusion may occur under the panels. An underlayment such as a self-adhering cold-applied rubberized asphalt membrane should be put down first, extending 3 ft. up from the center of the valley on each side. The 30 lb. felt should then overlap this underlayment.

**Snow Design** - Span-Lok™ and SpanSeam™ are suited for heavy snow loads. If possible, valleys, gutters, roof elevation changes and penetrations should be minimized or eliminated in snow areas. Roof penetrations should be located as close to the ridge or peak of the roof as possible to minimize accumulations of ice and snow and the effects of thermal movement of the roof panels. Premium membrane underlayments should be used. Valleys in snow areas require special consideration due to the accumulation of snow and ice from tributary roof areas.

**Oil Canning** - Flat metal surfaces will display waviness commonly referred to as ‘oil canning’. This is caused by steel mill tolerances, variations in the substrate and roofing underlayments. Oil canning is a characteristic, not a defect, of panels manufactured from light-gauge metal. Panels are factory ‘corrective-levelled’ to minimize oil canning. Oil canning is not a cause for panel rejection. Additional information is available upon request.

**Definitions** -
- **Sealant** = Gunnable-grade non skinning/non curing butyl rubber
- **Mastic** = Butyl mastic tape

**Hem**: A 180° bend that is closed (or as closed as the formability of the metal will allow) to provide a uniform, attractive edge.

**Hook**: (also called an “open hem”) A 180° bend on a piece of sheet metal that is left open to allow insertion of another piece of sheet metal. For example, the hook shown is used to hold the trim piece to a cleat below the trim.

NOTE: References to ‘Span-Lok’ in this installation guide also apply to ‘Span-Lok hp’ unless otherwise noted.

**Onsite Services**

**Curved Span-Lok**
16” wide x 2” tall Span-Lok panels (not Span-Lok HP or SpanSeam) are available Factory or Jobsite curved. Page 33 provides Rake and Rake Wall details that are unique to the curved Span-Lok installation.

Inquire with your AEP Span sales representative for additional details. There is also an AEP Span Curved Span-Lok Customer Guidelines document available that explains the requirements and expectations in greater detail.

**Technical Assistance** - Call your AEP Span Sales Representative for additional information on any of these subjects.
Panel Profiles

**Span-Lok hp**

PANEL WIDTH 16"

Curved Span-Lok & SpanSeam

Span-Lok/SpanSeam - Striated (standard)
also available with pencil ribs (2) or flat pan

Span-Lok - Flat Pan

Span-Lok - Pencil Ribbed

Panel leg views - after seaming

Span-Lok hp

Curved Span-Lok

SpanSeam

* Note: Dimensions Approximate
Clip Info

**Standard Clip**
Available in 2 1/2” and 3” heights

Use: Raises panel 1/2” or 1” above support
- 2-1/2” and 3” clip with 2” panel
- Use Standard clips when installing panels over fiberglass insulation with or without thermal blocks
- Floating clip allows for thermal movement

**Low Profile Clip**
Available in 2” heights

Use: Holds panel close to substrate
- 2” clip with 2” panel
- Use low clip over wood deck, rigid insulation (with bearing plate) or open framing without insulation.
- Minimal 3/16” gap provides just enough clearance above fasteners
- Floating clip allows for thermal movement

**Compressible Insulation Combinations with Standard Clip**
- 2-1/2” clip - Compress maximum of 3” of fiberglass insulation.
- 3” clip - Compress maximum of 3” of fiberglass insulation plus 1/2” Thermal Block
- 3” clip - Compress maximum of 6” of fiberglass insulation without Thermal Block

**Bearing Plate for Std. Clip**
Use: Installing panel over solid substrate.

**Bearing Plate for Low Clip**
Use: Installing panel over rigid insulation.
Clip Info (cont.)

Span-Lok™ Clip Detail

Seamed Std. Clip

Seamed Low Clip

SpanSeam™ Clip Detail

Seamed Std. Clip

Seamed Low Clip

Installation Note: Panels must be hand crimped to 90° at all clips before mechanically seaming panels. Use hand crimping tool designed for Span-Lok™ panel.
Panel Lap – Fixed

- **Downhill Roof Panel**
- **Line of Substrate**
- **Span-Lok Finished Seam**
- **SpanSeam Finished Seam**

**Fastener as Required**
- 16 GA. Panel Support or Wood Blocking (Not required with low profile clip)
- Field applied non-skimming butyl sealant on top flange of panel
- (2) 3/8" beads of non-skimming butyl sealant
- Fastener as req’d w/neoprene washer (4) per panel min.
- Painted to match

**Uphill Roof Panel Factory Swage** *
- 5" Lap
- 1" min to tape & fastener

* Swage top panel only
Panels must be installed left to right only
Panel Lap – Floating

(also refer to page 30)
Eave – Fixed

(1) 3/8” X 12” LONG BEAD OF NON-SKINNING BUTYL SEALANT ON THE TOP FLANGE OF MALE PANEL

(1) 3/8” BEAD OF NON-SKINNING BUTYL SEALANT APPLIED ON SIDEWALL OF PANEL & TIED INTO TAPE SEALANT

3/16” X 7/8” NON-SKINNING BUTYL TAPE

16 GA. PANEL SUPPORT OR WOOD BLOCKING (NOT REQ’D W/LOW PROFILE CLIP)

FASTENER AS REQUIRED

EAVE FLASH

PANCAKE HEAD FASTENER @ 12” O.C.

90° HAND CRIMP 10” (180° FOR SPANSEAM)

HWH PAINTED FASTENERS (4) PER PANEL MIN.
Eave – Floating

(1) 3/8" BEAD OF NON-SKINNING BUTYL SEALANT APPLIED ON SIDEWALL OF PANEL

(1) 3/8" X 12" LONG BEAD OF NON-SKINNING BUTYL SEALANT ON TOP FLANGE OF MALE PANEL

PANCAKE HEAD FASTENER @ 12" O.C.

SPAN-LOK FINISHED SEAM

SPANSEAM FINISHED SEAM

3/16" X 7/8" BUTYL TAPE

16 GA. PANEL SUPPORT OR WOOD BLOCKING (NOT REQ'D W/LOW PROFILE CLIP)

FASTENER AS REQUIRED

EAVE FLASH

* Ask your AEP Span representative about factory notching.
Eave with Gutter Floating

* Ask your AEP Span representative about factory notching.
Rib Cover

(Also refer to pages 31 & 32)
Gable

**Span-Lok™**

30# FELT (NOT BY AEP SPAN)

3/16" X 7/8" BUTYL TAPE

1/8" POP RIVETS AT 12" O.C.

SPAN-LOK RECEIVER TRIM

GABLE TRIM

FIELD CUT AND BEND PANEL UP 1 1/2"

PANCAKE HEAD FASTENERS @ 12" O.C.

FLASHING CLEAT

**SpanSeam™**

30# FELT (NOT BY AEP SPAN)

3/16" X 7/8" BUTYL TAPE

1/8" POP RIVETS AT 12" O.C.

SPANSEAM RECEIVER TRIM

GABLE TRIM

FIELD CUT AND BEND PANEL UP 1 1/2"

PANCAKE HEAD FASTENERS @ 12" O.C.

FLASHING CLEAT

Note: Field cut first and last panels to equal width.
Rake Wall

**Span-Lok™**

- Engineered Fastener (not by AEP Span)
- Continuous Non-Skinning Butyl Sealant
- Receiver Trim
- Field cut and bend panel up 1 1/2"
- 1/8" rivet, @ 12" on center
- Panel Clip

**SpanSeam™**

- Engineered Fastener (not by AEP Span)
- Continuous Non-Skinning Butyl Sealant
- Receiver Trim
- Field cut and bend panel up 1 1/2"
- 1/8" pop rivet, @ 12" on center
- Panel Clip

**Note:** Field cut first and last panels to equal width.
Head Wall – Fixed

INSTALLATION NOTE:
CLOSE HEM OF PANELS
TIGHTLY TO ALLOW
NOTCHED ZEE CLOSURE
TO FIT TIGHTLY
TO PANEL

CONSTRUCTION SEALANT
(NOT BY AEP SPAN)

CONTINUOUS 3/8” BEAD
NON-SKINNING BUTYL SEALANT

REGLET FLASHING

HEAD WALL FLASHING

SEAM W/ELECTRIC SEAMER *
(SPANLOK - 90º
SPANSEAM - 180º)

1/8” POP RIVETS
@ 12” O.C.

3/16” X 7/8” BUTYL TAPE

* For SpanSeam, first 10” of panel downhill of Headwall flashing will need to be 180° hand crimped to get seamer on/off.
Head Wall – Floating

Section X – X

FIELD NOTCH ZEE CLOSURE AT RIB

INSTALLATION NOTE:
CLOSE HEM OF PANELS TIGHTLY TO ALLOW NOTCHED ZEE CLOSURE TO FIT TIGHTLY TO PANEL

NON-SKINNING BUTYL SEALANT APPLIED TO ENDS OF ZEE CLOSURE

CONSTRUCTION SEALANT (NOT BY AEP SPAN)

CONTINUOUS 3/8" BEAD NON-SKINNING BUTYL SEALANT

ENGINEERED FASTENER (NOT BY AEP SPAN)

REGLET FLASHING

HEAD WALL FLASHING

90º HAND CRIMP 10"

SEAM W/ELECTRIC SEAMER *

1/4–14 X 7/8" HWH W/NEO. WASHER PAINTED @ RIBS AND MIN. (1) BETWEEN RIBS OR MAX. 9" CTRS.

3/16" X 7/8" BUTYL TAPE

SPAN-LOK FINISHED SEAM

SPANSEAM FINISHED SEAM

1" MIN. CLEARANCE BETWEEN CLIP AND END SUPPORT

"Z" CLOSURE

18 GA. CONT PANEL END SUPPORT

3/16" X 7/8" CONT. BUTYL TAPE

FASTENER AS REQUIRED

* For SpanSeam, first 10" of panel downhill of Headwall flashing will need to be 180º hand crimped to get seamer on/off.
High Eave – Fixed

FIELD NOTCH ZEE CLOSURE AT RIB

INSTALLATION NOTE:
CLOSE TO HEM OF PANELS
TIGHTLY TO ALLOW
NOTCHED ZEE CLOSURE
TO FIT TIGHTLY TO PANEL

3/16" X 7/8" BUTYL TAPE

SEAM W/ELECTRIC SEAMER *
(SPANLOK - 90°
SPANSEAM - 180°)

1/8" RIVETS
@ 12" O.C.

3/16" X 7/8" CONT. BUTYL TAPE

HIGH EAVE FLASH

NON-SKINNING BUTYL
SEALANT APPLIED TO
ENDS OF ZEE CLOSURE

FLASHING CLEAT

FASTENER AS REQUIRED

SPAN-LOK FINISHED SEAM
SPANSEAM FINISHED SEAM

ZEE CLOSURE

16 GA. PANEL SUPPORT
( NOT BY AEP SPAN)

* For SpanSeam, first 10" of panel downhill of High Eave flashing will need to be 180° hand crimped to get seamer on/off.
High Eave – Floating

* For SpanSeam, first 10” of panel downhill of High Eave flashing will need to be 180° hand crimped to get seamer on/off.
Ridge/Hip – Fixed

**INSTALLATION NOTE:**
CLOSE HEM OF PANELS TIGHTLY TO ALLOW NOTCHED ZEE CLOSURE TO FIT TIGHTLY TO PANEL

**FIELD NOTCH ZEE CLOSURE AT RIB**

**NON-SKINNING BUTYL SEALANT APPLIED TO ENDS OF ZEE CLOSURE**

**3/16” X 7/8” BUTYL TAPE**

---

**1/8” RIVETS @ 12” O.C.**

**3/16” X 7/8” BUTYL TAPE**

**FASTENER AS REQUIRED**

**3/16” X 7/8” BUTYL TAPE**

**FASTENER AS REQUIRED**

**16 GA. PANEL SUPPORT (NOT REQ’D W/LOW PROFILE CLIP)**

**RIDGE/HIP COVER**

**SEAM W/ELECTRIC SEAMER **

*(SPANLOK - 90°)*

*(SPANSEAM - 180°)*

---

*For SpanSeam, first 10” of panel downhill of Ridge/Hip flashing will need to be 180° hand crimped to get seamer on/off.*
Ridge/Hip – Floating

**Section X – X**

- **18 GA. CONT PANEL END SUPPORT**
- **RIDGE/HIP COVER**
- **3/16" X 7/8" CONT. BUTYL TAPE**
- **1/4–14 7/8" HWH W/NEO. WASHER PAINTED @ RIBS AND MIN. (1) BETWEEN RIBS OR MAX. 9" CTRS.**
- **90º HAND CRIMP 10"**
- **SEAM W/ELECTRIC SEAMER * (SPANLOK - 90º SPANSEAM - 180º)**
- **SPAN-LOK FINISHED SEAM**
- **SPANSEAM FINISHED SEAM**
- **3/16" X 7/8" CONT. BUTYL TAPE**
- **NON-SKINNING BUTYL SEALANT @ ENDS OF ZEE**

* For SpanSeam, first 10” of panel downhill of Ridge/Hip flashing will need to be 180º hand crimped to get seamer on/off.
High-Low Slope Transition

3/8" x 12" LONG BEAD OF NON-SKINNING BUTYL SEALANT ON TOP FLANGE OF MALE PANEL

3/8" BEAD OF NON-SKINNING BUTYL SEALANT APPLIED ON SIDEWALL OF PANEL

FIELD NOTCH 1" MIN. AND HEM UNDER

CLEARANCE FOR THERMAL MOVEMENT

SLOPE TRANSITION FLASHING

"Z" CLOSURE FIELD CUT TO FIT BETWEEN RIBS

SUBSTRATE

WOOD BLOCKING

3/16"x7/8" NON-SKINNING BUTYL TAPE

16 GA. PANEL SUPPORT OR WOOD BLOCKING (NOT REQ'D W/ LOW PROFILE CLIP)

1/8" RIVETS @ 12" O.C.

FASTENER AS REQUIRED
Low-High Slope Transition

3/8" x 12" LONG BEAD OF NON-SKINNING BUTYL SEALANT ON TOP FLANGE OF MALE PANEL

3/8" BEAD OF NON-SKINNING BUTYL SEALANT APPLIED ON SIDEWALL OF PANEL

FIELD NOTCH 1" MIN. AND HEM UNDER

CLEARANCE FOR THERMAL MOVEMENT

SLOPE TRANSITION FLASHING

"Z" CLOSURE FIELD CUT TO FIT TIGHTLY BETWEEN RIBS

1/8" RIVETS @ 12" O.C.

16 GA. PANEL SUPPORT OR WOOD BLOCKING (NOT REQ'D W/LOW PROFILE CLIP)

FASTENER AS REQUIRED

SUBSTRATE

WOOD BLOCKING

3/16"x7/8" NON-SKINNING BUTYL TAPE

Panel Support or Wood Blocking (Not req'd w/low profile clip)
Valley – Fixed

(1) 3/8" BEAD OF NON-SKINNING BUTYL SEALANT APPLIED ON SIDE OF PANEL LEG & TIED INTO TAPE SEALANT

3/16" X 7/8" BUTYL TAPE

FASTENER @ 4" O.C.

FASTENERS AS REQUIRED

(1) 3/8" X 12" LONG BEAD NON-SKINNING BUTYL SEALANT ON THE TOP SIDE OF MALE PANEL EDGE

SPAN-LOK FINISHED SEAM
SPANSEAM FINISHED SEAM

6" MIN.

12" MIN

VALLEY SUPPORT OR 16 GA. VALLEY PAN (NOT BY AEP SPAN) (NOT REQUIRED OVER SOLID SUBSTRATE)
Valley – Floating

(1) 3/8" BEAD OF NON-SKINNING BUTYL SEALANT APPLIED ON SIDEWALL OF PANEL

(1) 3/8" X 12" LONG BEAD OF NON-SKINNING BUTYL SEALANT ON THE TOP SIDE OF MALE PANEL EDGE

FILL HEM OF PANEL WITH NON-SKINNING BUTYL SEALANT PRIOR TO ENGAGING JOGGLE CLEAT

SPAN-LOK FINISHED SEAM

SPANSEAM FINISHED SEAM

90° HAND CRIMP 10" (180° FOR SPANSEAM)

VALLEY SUPPORT OR 16 GA. VALLEY PAN (NOT BY AEP SPAN) (NOT REQUIRED OVER SOLID SUBSTRATE)

12" MIN.

PANCAKE HEAD FASTENERS @ 12" O.C.

LINE OF SUBSTRATE

FASTENERS AS REQUIRED

90° HAND CRIMP 10" (180° FOR SPANSEAM)

VALLEY SUPPORT OR 16 GA. VALLEY PAN (NOT BY AEP SPAN) (NOT REQUIRED OVER SOLID SUBSTRATE)

12" MIN.

PANCAKE HEAD FASTENERS @ 12" O.C.

LINE OF SUBSTRATE

FASTENERS AS REQUIRED

90° HAND CRIMP 10" (180° FOR SPANSEAM)

VALLEY SUPPORT OR 16 GA. VALLEY PAN (NOT BY AEP SPAN) (NOT REQUIRED OVER SOLID SUBSTRATE)

12" MIN.

PANCAKE HEAD FASTENERS @ 12" O.C.

LINE OF SUBSTRATE

FASTENERS AS REQUIRED
Panel Package Handling

IT IS IMPERATIVE THAT THE FRAMING BE PLUMB AND SQUARE BEFORE INSTALLING ANY SPAN-LOK ROOF PANELS.

Panel Package Handling

Note: Secure package to framing on steep roof slopes to keep panels from sliding off.

Procedures

- To facilitate the handling of Span-Lok™ panels, panel packages can be lifted and placed on the roof if located at a rigid frame and with blocking placed to prevent the purlins from rolling over.
- When lifting packaged sheets, make certain that they are adequately supported, panels less than 20’ in length can normally be lifted with a forklift.

When lifting panels in excess of 20’, it is recommended that a spreader bar and slings be used. As a rule when lifting, no more than 1/3 of the total length of the panel should be left unsupported, and no more than 8’ should be cantilevered beyond spreader bars.
Panel Layout

Procedure

- The sheeting sequence for the Span-Lok™ and SpanSeam™ is as indicated above. Please note the placement of the panels by the circled numbers. The uphill panel at an endlap will be swedged on the lower end for nesting purposes. Endlaps of adjacent panels must be staggered at least one purlin space to prevent material build-up.

Note: Gable buildings without panel endlaps can be sheeted simultaneously from either end of the building. However, if the building has panel endlaps, the roof must be sheeted left to right looking up the slope.
Panel Seaming

**ROOF PERFORMANCE**
The roof panels must be correctly seamed before the roof system can provide the fully designed wind load and weather resistance capability.

**WHEN TO SEAM**
Whenever possible, the installed roof panels should be seamed by the finish of each day’s work. If high wind or rain/snow conditions are imminent, the installed roof panels must be seamed before such conditions occur.

**SEAMER NOTES / SPECIFICATIONS**
All AEP Span customers must work directly with 1i roof seamers or quality roof seamers for seamer rentals. These are the only AEP Span certified seamer suppliers.

**SEAMING CAPABILITIES:**

**SPAN-LOK HP:**

![Diagram of Span-Lok HP seaming process]

**PRIOR TO SEAMING** (SHOWN AT CLIP)  **COMPLETED SEAM**

**SPAN-LOK / SPANSEAM:**

![Diagram of Span-Lok / SpanSeam seaming process]

**PRIOR TO SEAMING** (SHOWN AT CLIP)  **COMPLETED SEAM** (SPAN-LOK)  **COMPLETED SEAM** (SPANSEAM)

**SEAMER OPERATION — IMPORTANT NOTES**
Always attach safety hook to prevent seamer from falling off roof.

Remove any protective plastic film from panels prior to seaming.

All clips require hand crimping prior to seaming to ensure proper panel installation and to reduce potential for panel scratching. Hand crimp first 10' of panel ends before setting seamer in place.

Do not run seamer past end of panels; doing so increases the risk for personal injury and/or property damage. This is especially true at eaves, on high slopes, or at other common risk areas.

Do not run seamer beyond upper end of panel or onto any previously seamed area. Never run the seamer within 6' of the panel end or previously seamed area; finish with a hand crimper.

More detailed seaming instructions are available from the seamer suppliers.
**Eave Hem**

**Step One**

FIELD NOTCH PANEL.
TYPICAL AT MALE
AND FEMALE PANEL
RIBS.*

**Step Two**

USE HEMMING TOOL
TO FIELD BEND 1"
TAB UNDER PANEL

**Step Three**

APPLY 3/8" BEAD OF NON-SKINNING
BUTYL SEALANT ON BOTH SIDES OF
MALE RIB AS SHOWN

RECOMMENDED THERMAL
CLEARANCE 3/8" MIN.

* Ask your AEP Span representative about factory notching.
Clip & Thermal Spacer

Note: Panels must be hand crimped to 90° at all clips before mechanically seaming panels. Only use hand crimping tool designed for the Span-Lok™/SpanSeam panels.
Panel Lap

SWEDGED END OF UPPER PANEL

16 GA. SWEDGE PLATE SLIDE ON TO UPPER END OF LOWER PANEL

FIELD APPLIED 3/8" X 5" LONG BEAD OF NON-SKINNING BUTYL SEALANT ON TOP FLANGE OF FEMALE PANEL

FIELD NOTCH & REMOVE 5" OF TURNDOWN FROM BOTH RIBS OF LOWER PANEL

ROOF PANEL

THermal SPACER BOND TO PURRIN W/BATT INSULATION ONLY

PANEL CLIP

(2) 3/8" BEAD OF NON-SKINNING BUTYL SEALANT

FIELD APPLIED NON-SKINNING BUTYL SEALANT ON TOP SIDE OF PANEL EDGE

INSTALL 3/8" BEAD OF NON-CURING BUTYL SEALANT NEAR TOP EDGE OF 5" CUT BACK PRIOR TO INSTALLATION OF NEXT PANEL

UPHILL ROOF PANEL FACTORY SWEDGE (Typ.)

(2) 3/8" BEAD OF NON-SKINNING BUTYL SEALANT

(4) SEALING FASTENERS PER PANEL

INSTAlation NOTE
END LAP OF ADJACENT PANEL MUST BE STAGGERED AT LEAST ONE PURLIN SPACING OR A MIN. 24" TO PREVENT MATERIAL BUILDUP AT LAPS

1/4" 5" CUT BACK

FEMALE LEG

SWEDGE PLATE

MALE LEG

SCHETING DIRECTION LEFT TO RIGHT

5" LAP

1" MIN TO SEALANT & FASTENER

5" CUT BACK

November 2019
CONTINUOUS ROOF PANEL

**DESIGN CAUTION!**

Roof slope transitions such as fascias may establish an unwanted point of panel fixity.

INSIDE TRIM CAP
FIELD BEND AT MIDPOINT. LAP LEGS AS SHOWN.

APPLY SEALANT ON TOP OF TRIM AND CONTINUE DOWN BACKSIDE.

APPLY NON-SKINNING BUTYL SEALANT BETWEEN PANELS AT FIELD CUT. REFER TO EAVE DETAIL FOR LOCATION OF SEALANT. BEADS REQUIRED ON BOTH SIDES OF CUT.

FIELD CUT MALE AND FEMALE RIBS OF ROOF PANELS AS SHOWN AND BEND OVER EAVE.

CURING SEALANT APPLY TO BOTH SIDES OF PANEL FOR ENTIRE LENGTH OF TRIM CAP AND UP AND OVER TOP OF FEMALE PANEL RIB.

OUTSIDE TRIM CAP
FIELD BEND AT MIDPOINT. LAP LEGS AS SHOWN.

POP RIVETS
SpanSeam™ Rib Cover

**DESIGN CAUTION!**
Roof slope transitions such as fascias may establish an unwanted point of panel fixity.

---

**INSIDE TRIM CAP**
Field cut & bend at midpoint. Lap legs as shown.

**APPLY SEALANT ON TOP OF TRIM AND CONTINUE DOWN BACKSIDE.**

**APPLY NON-SKINNING BUTYL SEALANT BETWEEN PANELS AT FIELD CUT. REFER TO EAVE DETAIL FOR LOCATION OF SEALANT. BEADS REQUIRED ON BOTH SIDES OF CUT.**

---

**OUTSIDE TRIM CAP**
Field cut & bend at midpoint. Lap legs as shown.

**CURING SEALANT APPLY TO BOTH SIDES OF PANEL FOR ENTIRE LENGTH OF CAP TRIM AND UP AND OVER TOP OF FEMALE PANEL RIB.**

---

**APPLY CURING SEALANT TO BOTH SIDES OF PANEL RIB AND INSIDE TRIM CAP.**

---

**APPLICATION**
Apply curing sealant to both sides of panel rib and inside trim cap.

---

**FIELD CUT MALE AND FEMALE RIBS OF ROOF PANELS AS SHOWN AND BEND OVER EAVE.**

---

**CONTINUOUS ROOF PANEL**

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**OPPOSITE SIDE VIEW**
**Appendix A**  
*Span-Lok™ and SpanSeam™ Drag Load Table*

Drag Load per Lineal foot of 16” Span-Lok™ and SpanSeam™
Snow Load, psf

<table>
<thead>
<tr>
<th>Slope</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
<th>45</th>
<th>50</th>
<th>55</th>
<th>60</th>
<th>65</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:12</td>
<td>8.08</td>
<td>9.70</td>
<td>11.32</td>
<td>12.94</td>
<td>14.55</td>
<td>16.17</td>
<td>17.79</td>
<td>19.40</td>
<td>21.02</td>
</tr>
<tr>
<td>4:12</td>
<td>10.54</td>
<td>12.65</td>
<td>14.76</td>
<td>16.87</td>
<td>18.97</td>
<td>21.08</td>
<td>23.19</td>
<td>25.30</td>
<td>27.41</td>
</tr>
<tr>
<td>5:12</td>
<td>12.82</td>
<td>15.38</td>
<td>17.95</td>
<td>20.51</td>
<td>23.08</td>
<td>25.64</td>
<td>28.21</td>
<td>30.77</td>
<td>33.33</td>
</tr>
<tr>
<td>6:12</td>
<td>14.91</td>
<td>17.89</td>
<td>20.87</td>
<td>23.85</td>
<td>26.83</td>
<td>29.81</td>
<td>32.80</td>
<td>35.78</td>
<td>38.76</td>
</tr>
<tr>
<td>7:12</td>
<td>16.80</td>
<td>20.15</td>
<td>23.51</td>
<td>26.87</td>
<td>30.23</td>
<td>33.59</td>
<td>36.95</td>
<td>40.31</td>
<td>43.67</td>
</tr>
<tr>
<td>8:12</td>
<td>18.49</td>
<td>22.19</td>
<td>25.89</td>
<td>29.58</td>
<td>33.28</td>
<td>36.98</td>
<td>40.68</td>
<td>44.38</td>
<td>48.07</td>
</tr>
<tr>
<td>9:12</td>
<td>20.00</td>
<td>24.00</td>
<td>28.00</td>
<td>32.00</td>
<td>36.00</td>
<td>40.00</td>
<td>44.00</td>
<td>48.00</td>
<td>52.00</td>
</tr>
<tr>
<td>10:12</td>
<td>21.34</td>
<td>25.61</td>
<td>29.88</td>
<td>34.14</td>
<td>38.41</td>
<td>42.68</td>
<td>46.95</td>
<td>51.21</td>
<td>55.48</td>
</tr>
<tr>
<td>11:12</td>
<td>22.52</td>
<td>27.03</td>
<td>31.53</td>
<td>36.04</td>
<td>40.54</td>
<td>45.05</td>
<td>49.55</td>
<td>54.06</td>
<td>58.56</td>
</tr>
<tr>
<td>12:12</td>
<td>23.57</td>
<td>28.28</td>
<td>33.00</td>
<td>37.71</td>
<td>42.43</td>
<td>47.14</td>
<td>51.85</td>
<td>56.57</td>
<td>61.28</td>
</tr>
</tbody>
</table>

Note: To determine drag forces per panel, multiply the tabulated value by the panel length. Then refer to Appendix B (page 30) for fastener schedule.
Appendix B

Span-Lok™ and SpanSeam™ Drag Load Tables

Span-Lok™ and SpanSeam™ 24 gauge Drag Load Resistance

<table>
<thead>
<tr>
<th>Fastener Type</th>
<th>Substrate</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>#12 - 14 x 1” S.D.</td>
<td>16ga steel</td>
<td>234</td>
</tr>
<tr>
<td>1/4 - 14 x 7/8” S.D.</td>
<td>22ga steel</td>
<td>184</td>
</tr>
<tr>
<td>#14 x 1” Type A Milled Point</td>
<td>1/2” plywood</td>
<td>128</td>
</tr>
<tr>
<td>#14 x 1” Type A Milled Point</td>
<td>Hem-Fir Dimensional Lumber</td>
<td>50</td>
</tr>
</tbody>
</table>

Drag Load Resistance (lbs.)

<table>
<thead>
<tr>
<th>Fastener Type</th>
<th>Number of Fasteners per Panel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td>#12 - 14 x 1” S.D.</td>
<td>468</td>
</tr>
<tr>
<td>1/4 - 14 x 7/8” S.D.</td>
<td>368</td>
</tr>
<tr>
<td>#14 x 1” Type A Milled Point</td>
<td>256</td>
</tr>
<tr>
<td>into 1/2” plywood</td>
<td></td>
</tr>
<tr>
<td>#14 x 1” Type A Milled Point</td>
<td>100</td>
</tr>
<tr>
<td>into Hem-Fir Dimensional</td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1) #12-14 x 1” S.D. values are based on a 16 gauge minimum substrate.
2) 1/4 - 14 x 7/8” S.D. values are based on a 22 gauge minimum substrate.
3) #14 x 1” Type A Milled Point values are based on a minimum 1/2” C-D plywood or 1” nominal Hem-Fir.
4) Fasteners must be located a minimum of 1” from each other and from the end of the panel.

Example:
Span-Lok™ and SpanSeam™ attaching to 1/2” plywood
4:12 slope
30 psf snow load
40 foot maximum sheet length

a. From Appendix A, find the Drag Load per Lineal Foot of panels
   (4:12, 30 psf snow load = 14.23 plf.)

b. Multiply the load by the length of the panel to obtain the total drag load on the sheet.
   (14.23 x 40 = 569.2 lbs. drag force per panel.)

c. Find the drag load in Appendix B. The nearest value is 640 lbs. The number of fasteners required per panel is five (5).

Contact your AEP Span representative if you have any questions about the use of appendices A or B.