### Select Seam®

**Narrow Batten**

*Installation Guide*

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General Notes
The attached installation details 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.

Flashings:
Where possible, flashings should be lapped away from prevailing winds. Certain flashings should be supported if it is likely that equipment (ladder, etc.) 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 or finish different than the roof panels. 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. The enclosed details have minimized the use of exposed fasteners where possible. The edges of flashings have also been shown hemmed to strengthen and to minimize the exposure of cut edges.

Flashing design and fabrication is generally the responsibility of the contractor. For convenience, we have provided some flashing drawings on our website at https://www.aepspan.com/products/trims-flashings/. Applicable Select Seam® flashing part numbers are referenced within this installation guide.

Substrates:
Select Seam® roofing panels can be used over solid substrates only.

Slope Requirements:
Panels should be used on slopes of 3:12 or greater. Select Seam® Narrow Batten panels can be used for curved applications. Inquire with your AEP Span Representative for details.

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 drag load fasteners.

Underlayments:
Prior to installation of metal roofing panels, it is recommended that an underlayment be installed over the roof substrate. AEP Span encourages the use of AEP Span Underlayment HT as it is designed specifically for use under all AEP roofing systems and is suitable for use under any metal roofing system or coping. AEP Span Underlayment HT is required by AEP Span for AEP Span Full System Weathertightness Warranties. AEP Span Underlayment HT is a high temperature, self-healing, self-adhering, peel and stick underlayment with a non-abrasive surface that will not mar, scratch, or abrade the underside of metal panels and flashings. Please note that additional protection may be required to meet Class A fire ratings as defined in UL790 classified assemblies.
"Pinning" Requirements:
The panels must only be "pinned" at one location only to resist the "drag" loads caused by the panel weight, live loads, and snow loads. The intensity of the drag load is a function of the slope, the loads involved, and the length of the panels. Panels must not be pinned at more than one location otherwise damages induced by thermal movement will occur. Appendix ‘A’ gives the drag loads for various slopes and snow loading conditions, and Appendix ‘B’ shows the number of fasteners required to resist the drag loads.

Thermal Movement:
Both panels and flashings must allow for thermal movement (expansion and contraction) of the materials, especially where long lengths are used. Appropriate gaps or provisions must be provided to accommodate thermal movement.

Snow Design:
Select Seam® panels are suitable for light snow loads only. 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.

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. Valleys must have positive slope for drainage and be kept free of debris so that water does not back up and intrude under the panels.

Oil Canning:
Flat metal surfaces often display waviness commonly referred to as 'oil canning'. This can be caused by variations in raw material, processing variations, product handling, or 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 leveled" to minimize oil canning. Oil canning is not a cause for panel rejection. Additional information is available upon request.

References:
The Sheet Metal and Air Conditioning Contractors' National Association Inc. (SMACNA) manual is an excellent reference for sheet metal contractors. Its guidelines for underlayments, gutter and downspout size requirements, and expansion/contraction of metals and flashing joints should be followed.

Technical Assistance:
Contact your AEP Span Sales Representative for additional information.
SELECT SEAM (NARROW BATTEN):

12" 16" 21-1/4"
STANDARD WIDTHS

FACTORY INSTALLED SEALANT
NARROW BATTEN CAP

PANCAKE HEAD FASTENER (1/CIP)

SPECIFIED UNDERLAYMENT (SEE GENERAL NOTES)

PANEL CLIP

AVAILABLE MATERIALS:
STEEL: 22 & 24GA

AEP SPAN
NARROW BATTEN

PANEL INFORMATION

SSNB-01

REV. 4/17/20
NOTE:
1) IF IT IS NECESSARY TO RAISE THE TABS OF A CLIP UP AFTER THEY HAVE BEEN DOWN INTO PLACE, THE CLIP MUST BE REPLACED TO PREVENT CLIP FAILURE.
**STEP 1**

SELECT SEAM PANEL

NOTCH PANEL AT BOTH PANEL RIBS.

AS REQ'D

1/8"

**STEP 2**

USE HEMMING TOOL TO FIELD BEND TAB UNDER PANEL

**STEP 3**

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

3/4"

MALE RIB OF SELECT SEAM PANEL

JOGGLE CLEAT (#JC095)

CLEARANCE FOR THERMAL MOVEMENT PER CALCULATIONS

NARROW BATTEN CAP

SELECT SEAM PANEL

FINISHED EAVE HEM

**SELECT SEAM NARROW BATTEN**

EAVE HEM

SSNB-05

REV. 4/17/20
FIELD CUT SIDES OF BATTEN, NOTCH BOTTOM HEMS ON UPPER PORTION AS REQUIRED (VARIES PER ROOF SLOPE). BEND LOWER PORTION INTO PLACE. APPLY NON-SKINNING SEALANT TO OVERLAPS AND FASTEN IN PLACE WITH 1/8" RIVETS.

SELECT SEAM PANEL

NARROW BATTEN

PANEL CLIP

SPECIFIED UNDERLAYERMENT (SEE GENERAL NOTES)

FIELD CUT BOTH RIBS OF PANEL AND BEND OVER EDGE & SEAL OPEN ENDS OF PANEL RIB BEFORE INSTALLING SEAM COVER

DESIGN CAUTION:
TURNING PANELS DOWN FOR FASCIA MAY ESTABLISH UNWANTED POINT OF PANEL FIXITY.

DESIGN NOTE:
THIS TRANSITION DETAIL IS NOT RECOMMENDED IN REGIONS WITH HEAVY SNOW AND ICE CONDITIONS.
NOTE:
FIELD CUT FIRST
AND LAST PANELS
TO EQUAL WIDTH.

3/4” MIN. ENGAGEMENT

CONTINUOUS CURING
SEALANT AS REQUIRED

ALT. RAKE TRIM
#RT197: 3”
#RT199: 4”

TRIM CLEAT
(#TC209)

3/16”x7/8” DOUBLE
BEAD BUTYL TAPE

SPECIFIED
UNDERLayment
(SEE GENERAL NOTES)

PANCAKE HEAD FASTENER
@ 12" O.C.

SUBSTRATE
CONSTRUCTION SEALANT
(NOT BY AEP-SPAN)

3/8" BEAD NON-SKINNING
BUTYL SEALANT

ENGINEERED FASTENER
(NOT BY AEP-SPAN)

#RG145: 4"
#RG147: 5"
#RG149: 6"

REGLET TRIM

RAKE WALL TRIM
(#RW209)

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

3/8" BEAD NON-SKINNING
BUTYL SEALANT

NARROW BATTEN

RECEIVER TRIM
(#PR135)

FIELD CUT AND
BEND PANEL UP 1"

SPECSIFIED UNDERLAYMENT
(SEE GENERAL NOTES)

FASTENERS @ 12" O.C.

NOTE:
FIELD CUT FIRST
AND LAST PANELS
TO EQUAL WIDTH.

3/4" MIN.
ENGAGEMENT

CONT. 3/8" BEAD
NON-SKINNING
BUTYL SEALANT

ALT. RAKE WALL TRIM
(#RW207)

SPECIFIED UNDERLAYMENT
(SEE GENERAL NOTES)

PANCAKE HEAD
FASTENER 12" O.C.

FILL POCKET OF TRIM WITH
NON-SKINNING BUTYL
SEALANT PRIOR TO
INSERTING ROOF PANEL

ALTERNATE DETAIL
INSTALLATION NOTES:
- ZEE CLOSURE MUST BE CONTINUOUS AND BE NOTCHED FOR PANEL RIBS.
- BATTEN MUST STOP AT OUTSIDE FACE OF ZEE CLOSURE AND NOT PASS THROUGH.

AEP SPAN
SELECT SEAM NARROW BATTEN
RIDGE/ HIP
SSNB-09
REV. 4/17/20
SELECT SEAM
NARROW BATTEN

HEAD WALL

SPECIFIED UNDERLAYMENT (SEE GENERAL NOTES)

EQUALLY SPACED PANCAKE FASTENERS
(3) FOR 12" & 16"
(4) FOR 21 1/4" WIDE PANELS

INSTALLATION NOTES:
- ZEE CLOSURE MUST BE CONTINUOUS AND BE NOTCHED FOR PANEL RIBS.
- BATTEN MUST STOP AT OUTSIDE FACE OF ZEE CLOSURE AND NOT PASS THROUGH.

CONTINUOUS ZEE CLOSURE (#ZC216)
NOTCHED FOR RIB ONLY

3/16"x7/8" CONTINUOUS DOUBLE BEAD BUTYL TAPE

CONSTRUCTION SEALANT (NOT BY AEP-SPAN)

ENGINEERED FASTENER (NOT BY AEP-SPAN)

NON-SKINNING BUTYL SEALANT AT ENDS, FILL ALL GAPS

3/16"x7/8" CONTINUOUS DOUBLE BEAD BUTYL TAPE

NON-SKINNING BUTYL SEALANT AT ENDS - FILL ALL GAPS

HEAD WALL TRIM

REGLET TRIM

ZEE CLOSURE TRIM (#ZC216)

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

BATTEN STOPS AT ZEE CLOSURE

PENDANT

SUBSTRATE
HIGH EAVE TRIM

CONTINUOUS ZEE CLOSURE (#ZC216) NOTCHED FOR RIB ONLY

3/16"x7/8" CONTINUOUS DOUBLE BEAD BUTYL TAPE

3/16"x7/8" CONTINUOUS DOUBLE BEAD BUTYL TAPE

EQUALLY SPACED PANCAKE FASTENERS
(3) FOR 12" & 18"
(4) FOR 21 1/4"
WIDE PANELS

HIGH EAVE TRIM
DIM 'A'
#HE069: 6"
#HE071: 7"
#HE073: 8"

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

ZEE CLOSURE TRIM (#ZC216)

BATTEN STOPS AT ZEE CLOSURE

PANEL

SPECIFIED UNDERLAYMENT (SEE GENERAL NOTES)

NON-SKINNING BUTYL SEALANT AT ENDS, FILL ALL GAPS

SUBSTRATE

PANCAKE HEAD FASTENER @ 12" O.C.

TRIM CLEAT (#TC209)

INSTALLATION NOTES:
- ZEE CLOSURE MUST BE CONTINUOUS AND BE NOTCHED FOR PANEL RIBS.
- BATTEN MUST STOP AT OUTSIDE FACE OF ZEE CLOSURE AND NOT PASS THROUGH.

SELECT SEAM
NARROW BATTEN

HIGH EAVE

SSNB-11

AEP SPAN

REV. 4/17/20
INSTALLATION NOTES:
- ZEE CLOSURE MUST BE CONTINUOUS AND BE NOTCHED FOR PANEL RIBS.
- BATTEN MUST STOP AT OUTSIDE FACE OF ZEE CLOSURE AND NOT PASS THROUGH.
- REFER TO EAVE & RIDGE DETAILS FOR FURTHER INFORMATION ON PROPER PANEL TERMINATIONS.
JOGGLE CLEAT (#JC095)

NON-SKINNING BUTYL SEALANT – BETWEEN PANEL RIBS

FIELD NOTCH AND HEM PANEL. FILL POCKET WITH NON-SKINNING BUTYL SEALANT BEFORE ENGAGING JOGGLE CLEAT.

PANCAKE HEAD FASTENERS

SUBSTRATE

VALLEY (#VF210)

12" MIN.

3/16" X 7/8" CONTINUOUS DOUBLE BEAD BUTYL TAPE

SPECIFIED UNDERLAYERMENT (SEE GENERAL NOTES)

VALLEY SUPPORT (NOT BY AEP–SPAN)
SELECT SEAM NARROW BATTEN PANEL LAP

- JOGGLER CLEAT (#JC095) BETWEEN RIBS WITH BUTYL SEALANT AT ENDS
- 3/8" BEAD OF NON-SKINNING BUTYL SEALANT
- DOWNHILL PANEL
- SPECIFIED UNDERLayment (SEE GENERAL NOTES)
- PANCAKE HEAD FASTENERS ONTO SUBSTRATE
- 9" MIN. LAP
- UPHILL PANEL
- 3/16"x7/8" DOUBLE BEAD BUTYL TAPE
- SPECIFIED UNDERLayment (SEE GENERAL NOTES)
- CLEARANCE FOR THERMAL MOVEMENT PER CALCULATIONS

EQUALLY SPACED PANCAKE FASTENERS (3) FOR 12" & 16" (4) FOR 21 1/4" WIDE PANELS

REV. 4/17/20
SLIDE UPPER BATTEN OVER LOWER BATTEN 3" POP RIVET TOGETHER AS NECESSARY.

NOTCH BOTH BOTTOM HEMS OF LOWER BATTEN 3" LONG AND 1/8" WIDE
**ROOF JACK**

- **GENERIC PANEL SHOWN**
- **PIPE PENETRATION**
- **STAINLESS STEEL HOSE CLAMP (NOT BY AEP–SPAN)**
- **SPECIFIED UNDERLAYERMENT (SEE GENERAL NOTES)**
- **3" MIN BOTH SIDES**

**WHEN USING WOOD SUBSTRATE, WOOD CUTOUT MUST BE 1" DIAMETER LARGER THAN ROOF JACK**

**ROOF JACK (DEKTITE OR EQUIV.) REFER TO MANUFACTURER’S INSTRUCTIONS FOR INSTALLATION**

**NOTES:**
1) PENETRATIONS SHOULD BE CENTERED IN PANELS IF AT ALL POSSIBLE
2) SUBSTRATE MUST BE CUT OUT ENOUGH SO THAT ROOF JACK IS ONLY ATTACHED TO ROOF PANEL.

**FIELD CUT HOLE 1" MIN. LARGER THAN PIPE. LOCATE ALL PIPE IN THE BROAD FLAT OF THE PANEL.**

---

**ROOF CURB**

- **PANCAKE HEAD FASTENERS UNDER CURB FLASHING TO FIX LOWER PANEL TO SUBSTRATE.**
- **CRICKET / UPHILL FLASHING REFER TO DETAIL #SSNB–18**
- **SLOPE**
- **ROOF CURB**
- **4" MIN CLEARANCE**

**SPECIFIED UNDERLAYERMENT (SEE GENERAL NOTES)**

**LOWER PANEL MUST EXTEND 9" MIN UNDER CURB FLASHING.**

---

**CURB SIDE WALL FLASHING REFER TO DETAIL #SSNB–17**

**CURB DOWNHILL FLASHING REFER TO DETAIL #SSNB–18**

---

**SELECT SEAM NARROW BATTEN**

**ROOF PENETRATIONS**

**SSNB-16**

REV. 4/17/20
EQUIPMENT TRIM (NOT BY AEP-SPAN)

ROOF CURB (NOT BY AEP-SPAN)

FIELD FABRICATED SIDEWALL TRIM

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

1" MIN.

3/16"x7/8" CONTINUOUS DOUBLE BEAD BUTYL TAPE

4"

6" MIN.

ZEE CLOSURE
(2) POP RIVETS
RIVET PANEL TO CLIP
TO ESTABLISH POINT
OF FIXITY AT PEAK.

PANCAKE HEAD FASTENER
(1) PER CLIP

SUBSTRATE

‘D’ STYLE
EAVE TRIM

#ET033
#ET035
#ET037
#ET039

TURN UNDER AT
BOTH EAVES

3/8” BEAD OF
NON-SKINNING BUTYL
SEALANT BETWEEN
PANEL RIBS

TRIM CLEAT
(#TC209)

CLEARANCE FOR
THERMAL MOVEMENT
PER CALCULATIONS

NOTE:
DETAIL PROVIDED FOR GUIDANCE ONLY. BARREL
ROOF DETAILS CAN VARY GREATLY DEPENDING
ON APPLICATION. CONSULT AEP SPAN REP.
FOR ASSISTANCE WITH SPECIFIC PROJECT
CONDITIONS.

AEP SPAN
SELECT SEAM
NARROW BATTEN

CURVED ROOF
(CONTINUOUS PANELS)

SSNB-19

REV. 4/17/20
PANEL LAP LOCATIONS
MINIMUM SLOPE AT LAP = 3:12
REFER TO DETAIL #SSNB-13 FOR LAP

NO LAPS, FASTENERS, OR OTHER PANEL PENETRATIONS AT PEAK

(2) POP RIVETS RIVET PANEL TO CLIP TO ESTABLISH POINT OF FIXITY AT PEAK

D STYLE EAVE TRIM
#ET033
#ET035
#ET037
#ET039

SUBSTRATE

TURN UNDER AT BOTH EAVES

3/8" BEAD OF NON-SKINNING BUTYL SEALANT BETWEEN PANEL RIBS

TRIM CLEAT (#TC209)

NOTE:
DETAIL PROVIDED FOR GUIDANCE ONLY. BARREL ROOF DETAILS CAN VARY GREATLY DEPENDING ON APPLICATION. CONSULT AEP SPAN REP. FOR ASSISTANCE WITH SPECIFIC PROJECT CONDITIONS.

CLEARANCE FOR THERMAL MOVEMENT PER CALCULATIONS

SELECT SEAM
NARROW BATTEN

CURVED ROOF
(LAPPED PANELS)

SSNB-20
CONTINUOUS CURING SEALANT AS REQ'D

STARTER TRIM

BATTEN

CURVED OR SEGMENTED GABLE TRIM OR FIELD NOTCH TO CONFORM TO RADIUS (NOT BY AEP-SPAN)

FILL POCKET OF STARTER TRIM (#JS096) WITH NON-SKINNING BUTYL SEALANT PRIOR TO INSERTING ROOF PANEL

PANCAKE HEAD FASTENER 12" O.C.

3/16"x7/8" CONTINUOUS DOUBLE BEAD BUTYL TAPE

SPECIFIED SELF-ADHERING MEMBRANE (SEE GENERAL NOTES)

NOTES:
1) FIELD CUT FIRST AND LAST PANELS TO EQUAL WIDTH.
2) ALL CURVED TRIM – NOT BY AEP SPAN.
NOTES:
1) FIELD CUT FIRST AND LAST PANELS TO EQUAL WIDTH.
2) ALL CURVED TRIM — NOT BY AEP SPAN.
ADDITIONAL REQUIREMENTS FOR APPLICATIONS COVERED
BY AEP SPAN WEATHERTIGHTNESS WARRANTY (WTW)

FIELD APPLICATION OF SEALANT REQUIRED
UNDER CLIP TABS

SPECIFIED SELF-ADHERING MEMBRANE
(SEE GENERAL NOTES)
## Appendix A: Snow Drag Loads (lbs/ft of panel)

### Select Seam 12" Narrow Batten

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<th>Ground Snow Load, $P_g$ (psf)</th>
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### Select Seam 16" Narrow Batten

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### Select Seam 21 1/4" Narrow Batten

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<tr>
<th>Slope</th>
<th>Ground Snow Load, $P_g$ (psf)</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
<th>35</th>
<th>40</th>
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<tr>
<td></td>
<td>Snow Drag Load per lft of panel (lb/ft)</td>
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<td>18.2</td>
<td>20.8</td>
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</table>

**Notes:**
- To determine drag load forces per panel, multiply the tabulated value by the panel length. Then refer to Appendix B for fastener schedule.
- Values assume Ground Snow Load ($P_g$) is provided. Drag Loads may be reduced if actual Roof Snow Loads ($P_s$) per ASCE-7, are provided by customer.
- For roof slopes and snow loads greater than listed above, please contact your AEP Span representative.

Rev.4-20-20
### Appendix B: Drag Load Resistance

<table>
<thead>
<tr>
<th>Fastener Type</th>
<th>Substrate</th>
<th>Capacity (lbs)</th>
<th>Number of Fasteners per Panel</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
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</thead>
<tbody>
<tr>
<td>#12-14 x 1&quot;</td>
<td>16ga Steel min.</td>
<td>234</td>
<td></td>
<td>468</td>
<td>702</td>
<td>936</td>
<td>1170</td>
<td>1404</td>
<td>1638</td>
<td>1872</td>
<td>2106</td>
<td>2340</td>
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<tr>
<td>SD HWH</td>
<td>1/4-14 x 7/8&quot; Lap SD HWH</td>
<td>184</td>
<td></td>
<td>368</td>
<td>552</td>
<td>736</td>
<td>920</td>
<td>1104</td>
<td>1288</td>
<td>1472</td>
<td>1656</td>
<td>1840</td>
</tr>
<tr>
<td>#14 x 1&quot; Type A Mill. Point HWH</td>
<td>1/2&quot; Plywood min.</td>
<td>128</td>
<td></td>
<td>256</td>
<td>384</td>
<td>512</td>
<td>640</td>
<td>768</td>
<td>896</td>
<td>1024</td>
<td>1152</td>
<td>1280</td>
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<tr>
<td>#14 x 1&quot; Type A Mill. Point HWH</td>
<td>2x Douglas Fir</td>
<td>57</td>
<td></td>
<td>114</td>
<td>171</td>
<td>228</td>
<td>285</td>
<td>342</td>
<td>399</td>
<td>456</td>
<td>513</td>
<td>570</td>
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<td>#10-16 x 1&quot; SD Pancake Head</td>
<td>16ga Steel min.</td>
<td>206</td>
<td></td>
<td>412</td>
<td>618</td>
<td>824</td>
<td>1030</td>
<td>1236</td>
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<td>1854</td>
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<tr>
<td>#10-16 x 1&quot; SD Pancake Head</td>
<td>22ga Steel min.</td>
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<td>462</td>
<td>616</td>
<td>770</td>
<td>924</td>
<td>1078</td>
<td>1232</td>
<td>1386</td>
<td>1540</td>
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<tr>
<td>#10-12 x 1&quot; Type A Pancake Head</td>
<td>1/2&quot; Plywood min.</td>
<td>108</td>
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<td>216</td>
<td>324</td>
<td>432</td>
<td>540</td>
<td>648</td>
<td>756</td>
<td>864</td>
<td>972</td>
<td>1080</td>
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<tr>
<td>#10-12 x 1&quot; Type A Pancake Head</td>
<td>2x Douglas Fir</td>
<td>54</td>
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<td>108</td>
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<td>270</td>
<td>324</td>
<td>378</td>
<td>432</td>
<td>486</td>
<td>540</td>
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</tbody>
</table>

**Example:**
16" Select Seam Narrow Batten attached to 1/2" plywood.
4:12 slope
30psf snow load
40ft maximum panel length

a) From Appendix A, find the drag load per linear foot of panels: 4:12 & 30psf snow load = 15.3lbs/lft
b) Multiply the load by the panel length = 15.3lbs/lft X 40ft = 612lbs drag load per panel.
c) Find the drag load in Appendix B.
   The nearest value is 648 lbs for Qty=6, #10-12 x 1" Type A Pancake Head fasteners.

**Notes:**
- Contact your AEP Span representative if there are any questions regarding the use of these appendices.
- Fasteners must be located a minimum of 1" from each other and from the end of the panel.
- Fastener capacities per AISI S100, NASPEC, and APA recommendations.