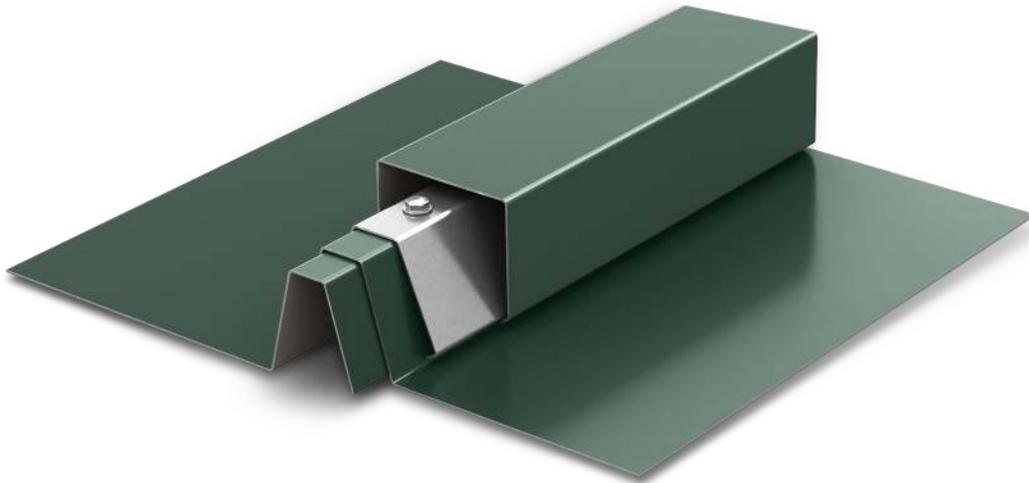


# BATTEN SEAM INSTALLATION DETAILS



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- A. BERRIDGE BATTEN SEAM SYSTEM: AVAILABLE WITH A PAN WIDTH OF 16", AND USES A 2" WIDE X 1-3/4" HIGH SNAP-ON BATTEN.

THE 16" WIDE DEEP VEE PANEL CAN EITHER BE FACTORY FABRICATED OR FIELD FABRICATED, USING THE BERRIDGE MODEL BP-21 PORTABLE ROLL FORMER

PLEASE CONTACT BERRIDGE MANUFACTURING COMPANY FOR FURTHER INFORMATION REGARDING THE BERRIDGE BP-21 PORTABLE ROLL FORMER.

- B. MINIMUM SLOPE: THE BATTEN SEAM SYSTEM IS RECOMMENDED FOR SLOPES OF 1:12 AND GREATER IN MOST AREAS OF THE COUNTRY. IN HEAVY SNOW AREAS OR AREAS WHERE FREEZE-THAW CYCLES ARE PREVALENT, A MINIMUM ROOF SLOPE OF 3:12 IS RECOMMENDED

A DOUBLE LAYER OF NUMBER THIRTY FELT UNDERLAYMENT OR EQUAL COVERING THE ENTIRE SUBSTRATE IS RECOMMENDED FOR ALL APPLICATIONS WHERE THE ROOF SLOPE IS 3:12 OR LESS

- C. MATERIAL STORAGE: CAUTION MUST BE EXERCISED IN STORAGE OF MATERIALS PRIOR TO INSTALLATION. KEEP ALL BERRIDGE PREFINISHED MATERIAL IN A DRY LOCATION WITH ADEQUATE VENTILATION AND OUT OF DIRECT SUNLIGHT

EXPOSURE TO DIRECT SUNLIGHT AND/OR MOISTURE MAY CAUSE THE FACTORY APPLIED STRIPPABLE PLASTIC FILM TO ADHERE TO THE METAL PERMANENTLY AND DISCOLOR THE FINISH.

- D. STRIPPABLE FILM: THE STRIPPABLE FILM WHICH IS APPLIED OVER MOST BERRIDGE PREFINISHED PRODUCTS, PANELS, FLASHINGS, COILS AND FLAT SHEETS PROTECTS THE FINISH DURING FABRICATION AND TRANSIT. THIS FILM MUST BE REMOVED PRIOR TO INSTALLATION.

- E. SOLID SHEATHING REQUIREMENTS: BERRIDGE MANUFACTURING COMPANY RECOMMENDS THE USES OF EITHER BERRIDGE 24 GA CORRUGATED METAL (NOMINAL 2-1/2" PITCH X 11/16" DEPTH) OR A MINIMUM OR 1/2" SOLID WOOD SHEATHING TO PROVIDE SUFFICIENT HOLDING POWER FOR FASTENERS. CONTACT BERRIDGE MANUFACTURING'S ENGINEERING DEPARTMENT FOR USE OF ANY OTHER TYPE OF SOLID SHEATHING.

DUE TO # 30 FELT TENDENCY TO TEAR WHEN USED OVER CORRUGATED DECKING, BERRIDGE MANUFACTURING RECOMMENDS GRACE ICE AND WATERSHIELD OR EQUAL TO BE USED AS AN UNDERLAYMENT FOR ALL CORRUGATED DECKS.

NOTE: FOR PROJECTS REQUIRING UL 90 ASSEMBLY, REFER TO UL 90 DETAILS

- F. SHEATHING INSPECTION:
1. SHEATHING END JOINTS SHOULD BE STAGGERED.
  2. ALL END JOINTS SHOULD MEET AT EITHER A JOIST OR RAFTER.
  3. BLOCKING OR "H" CLIPS SHOULD BE USED ON PLYWOOD IF JOINTS DO NOT REMAIN FLAT



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UNDER THE WEIGHT OF WORKMEN.

4. USE SHIMS TO KEEP ENTIRE SUBSTRATE EVEN. UNEVEN SUBSTRATE WILL RESULT IN "OIL-CANNING" IN PANELS. SUBSTRATE SHOULD BE LEVEL TO 1/4" IN 20'-0".
5. ALL CUTS AT PENETRATIONS SHOULD BE TIGHT, WITHOUT GAPS.
6. USE WOOD FRAMED CRICKETS AT LARGE PENETRATIONS.
7. MAKE SURE SUBSTRATE JOINTS ARE TIGHT AT ALL HIPS, VALLEYS AND RIDGES.

- G. INSTALLATION OVER OPEN FRAMING: REFER TO LOAD TABLES ON PAGES BI-7 AND BI-8 FOR STRUCTURAL PROPERTIES AND ALLOWABLE LOAD SPANS OF THE BERRIDGE BATTEN SEAM SYSTEM.

DIAPHRAGM CAPABILITIES AND PURLING STABILITY ARE MINIMAL AS PROVIDED BY THE BERRIDGE BATTEN SEAM SYSTEMS, THEREFORE OTHER BRACING MAY BE REQUIRED TO CONFORM TO AISC OR AISI SPECIFICATIONS.

- H. OPEN FRAMING INSPECTION:

1. PURLINS SHOULD BE ALIGNED WITH TOP FLANGES IN THE SAME PLANE TO A TOLERANCE OF 1/4" IN 20'-0". UNEVENNESS IN THE TOP PLANE OF THE PURLINS WILL RESULT IN ABNORMAL "OIL-CANNING" PANELS. PURLINS SHALL BE ADEQUATELY BRACED.
2. BERRIDGE MANUFACTURING COMPANY RECOMMENDS SOLID SHEATHING IN VALLEY AND AROUND ROOF PENETRATIONS. DO NOT APPLY PANELS ON OPEN FRAMING AT VALLEYS OR ROOF PENETRATIONS WITHOUT REFERRING TO DETAILS B-72 AND B-87
3. FOOT TRAFFIC ON THE PANELS MUST BE KEPT TO A MINIMUM. ARCHITECTURAL PANEL ARE DESIGNED FOR AESTHETICS AND CAN BE EASILY DAMAGED OR DEFORMED IF EXTREME CARE IS NOT USED.

- I. FASCIA/RAKE INSPECTION:

1. STRIKE A LINE THE FULL LENGTH OF THE FASCIA OR RAKE. IF NOT STRAIGHT, CORRECT WITH SHIMS.
2. MAKE SURE FASCIA/RAKE IS FLUSH WITH ROOF SUBSTRATE SHEATHING.

- J. FELT UNDERLAYMENTS: A SINGLE LAYER OF NUMBER THIRTY FELT UNDERLAYMENT (OR EQUAL) MUST BE APPLIED OVER SOLID SHEATHING AS SHOWN IN THE BERRIDGE MANUFACTURING COMPANY TYPICAL FELTING DETAILS. THE USE OF ADDITIONAL LAYERS OF NUMBER THIRTY FELT IS RECOMMENDED ON LOW-SLOPED ROOFS, AT ALL VALLEY CONDITIONS, AT ROOF PENETRATIONS, AND CERTAIN OTHER FLASHING CONDITIONS AS DEPICTED IN THE BATTEN SEAM TYPICAL DETAILS. GRACE ICE AND WATER SHIELD MAYBE REQUIRED ON LOW SLOPED ROOFS OR AT CERTAIN FLASHING CONDITIONS. VERIFY CORRECT METHOD OF INSTALLING ICE AND WATERSHIELD WITH MANUFACTURER.

FELTING INSTALLATIONS:

1. DO NOT USE RED ROSIN PAPER UNDER METAL ROOFING PANELS.
2. SWEEP ROOF AREA CLEAN.
3. USE FLAT HEAD GALVANIZED ROOFING NAILS X 1-1/4" LONG WITH BERRIDGE GALVANIZED FELT CAPS.
4. INSTALL VALLEY FELT FIRST.



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5. INSTALL FELT PARALLEL TO EAVE (2 LAYERS REQUIRED AT EAVE), STARTING AT EAVE AND USING MINIMUM 6" LAPS. USE TWO LAYERS OF FELT ON ENTIRE ROOF DECK OF ROOF SLOPE IS 3:12 OR LESS. 2 LAYERS REQUIRED AT EAVE REGARDLESS OF SLOPE.
  6. INSULATED BETWEEN WOOD BLOCKING AND METAL WITH FELT OR ICE AND WATER SHIELD
- L. THERMAL MOVEMENT: EXPANSION AND CONTRACTION OF PANELS WHICH EXCEED THIRTY FEET IN LENGTH CAN BE A FACTOR IN THE DESIGN AND INSTALLATION OF FLASHING AND PANELS. PLEASE REFER TO THE CHART ON PAGE BI-9 TO DETERMINE ANTICIPATED THERMAL MOVEMENT OF THE PANELS. IMPROPERLY DESIGNED FLASHING CAN ALLOW PANELS TO DISENGAGE FROM THE FLASHING, ALLOW OIL-CANNING IN PANEL AND /OR CAUSE FLASHING TO WORK LOOSE FROM ITS ANCHORAGE.
- M. ELECTROLYSIS: AVOID ALLOWING FLASHING AND PANELS TO COME INTO CONTACT WITH EITHER LEAD OR COPPER, AND PREVENT EXPOSURE TO WATER RUNDOWN FROM COPPER AND/OR LEAD.
- N. FLASHING: IF BERRIDGE MANUFACTURING COMPANY IS TO SUPPLY FLASHING, ALL FLASHINGS WILL BE FABRICATED ON 10'-0" LENGTHS WITH SQUARE END CUTS ONLY. THE PURCHASER MUST PROVIDE ALL DIMENSIONS AND DEGREE OF ANGLES.
- O. FLASHING INSTALLATION:
1. REMOVE STRIPPABLE PLASTIC FILM FROM ALL FLASHINGS PRIOR TO INSTALLATION.
  2. ALWAYS STAGGER JOINTS WHEN ONE FLASHING IS INSTALLED OVER OTHER FLASHINGS.
  3. INSTALL ALL FLASHINGS ARE TO BE DESIGNED AND INSTALLED TO NOT TRAP WATER.
- P. PANELS: BERRIDGE MANUFACTURING COMPANY WILL PROVIDE SQUARE END CUTS ONLY ON ALL BATTEN SEAM PANELS. COMPUTATION OF ALL QUANTITIES AND DIMENSIONS ARE RESPONSIBILITY OF THE PURCHASER.
- Q. PANEL INSTALLATION:
1. REMOVE STRIPPABLE PLASTIC FILM FROM EACH PANEL PRIOR TO INSTALLATION.
  2. DETERMINE CENTER LINE OF ROOF AREA AND START PANEL INSTALLATION AT THE CENTER OF THE ROOF, WORKING TOWARD THE GABLE ENDS. MAKE SURE PANELS ARE PERPENDICULAR TO THE EAVE. AT VALLEY AREAS, MAKE SURE PANELS ARE INSTALLED SO THAT DRAINAGE HAS FREE FLOW AND IS NOT OBSTRUCTED BY PANEL SEAMS.
  3. INSTALL BATTEN CLIPS AS PER BERRIDGE TYPICAL DETAILS AND BATTEN CLIP INSTALLATION NOTES.
  4. EACH PANEL IT TO BE KEPT TIGHT AGAINST THE LEG OF THE ADJOINING PANEL. NEVER PERMIT A GAP BETWEEN VERTICAL LEGS. ANY CRIMPS IN VERTICAL LEGS MUST BE STRAIGHTENED (TOTALLY STRAIGHT WITHOUT ANY BENDS, CRIMPS, CREASES, ETC.) PRIOR TO BATTEN INSTALLATION.
  5. ALWAYS INSTALL BATTEN AS YOU INSTALL EACH PANEL. DO NOT INSTALL PANELS FIRST AND THEN FOLLOW LATER WITH BATTEN INSTALLATION.
  6. KEEP PANELS ALIGNED SO THAT BATTENS MATCH AT HIPS. VALLEY AND WHERE VERTICAL PANELS ADJOIN ROOF PANELS. DO NOT INSTALL LONG CONTINUOUS RUNS OF PANELS ALL AT ONE TIME WHERE BATTEN LINE MUST MATCH. INSTALL 10 OR 12 PANELS IN ONE ELEVATION AND THEN FOLLOW WITH A LIKE NUMBER OF PANELS IN THE OTHER



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ELEVATION. WHEN YOU INSTALL PANELS IN THIS MANNER, YOU WILL BE ABLE TO MAKE ANY ADJUSTMENTS REQUIRED TO INSURE BATTEN MATCHING.

7. COPPER-COTE™, CHAMPAGNE, LEAD-COTE™ AND PREWEATHERED GALVALUME® PANEL INSTALLATION: NOTE THE SERIES OF ARROWS PAINTED ON THE UNDERSIDE OF THE PANEL. ALL PANELS MUST BE INSTALLED IN A CONSISTENT MANNER, MEANING THAT THE ARROWS IN EON EVERY PANEL ARE ALL POINTING OPPOSITE OF THOSE ON OTHER PANELS) IT WILL APPEAR, FROM A DISTANCE, A DIFFERENT SHADE DUE TO THE GRANULAR EFFECT OF THE PIGMENTS IN THE FINISH. METALLIC FINISHES ARE MATCH-LOT FINISHES. DO NOT MIX LOTS.

SNAP-ON BATTEN INSTALLATION:

- R. 1. INSTALL BATTEN WITH HAND PRESSURE ONLY. DO NOT POUND OR HAMMER BATTENS INTO PLACE; THIS WILL DAMAGE THE BATTEN.  
2. INSPECT EACH BATTEN AS YOU INSTALL IT TO MAKE SURE IT IS PROPERLY SEATED AND IS SNUGLY FITTED NEXT TO THE PANEL RIBS AND PAN.  
3. USE TWO (2) WORKERS (OR MORE, DEPENDING ON BATTEN LENGTH) TO INSTALL BATTENS; ONE WORKER (OR WORKERS) HOLDING ONE END OF THE BATTEN AT AN ANGLE OFF THE ROOF SURFACE AND THE OTHER WORKER INSERTING THE BATTEN OVER THE PANEL RIBS.

BATTEN CLIP INSTALLATION:

- S. 1. THE CLIPS ARE TO BE INSTALLED AS SHOWN IN THE BERRIDGE BATTEN SEAM DETAILS.  
2. CLIP SPACING IS TYPICALLY TWENTY (20) INCHES ON CENTER.\*  
3. WHEN INSTALLING PANELS ON OPEN FRAMING, IF THE PURLIN SPACING EXCEEDS 20 INCHES YOU MUST US A CLIP(S) BETWEEN THE PURLINS. THESE INTERMITTENT CLIPS ARE USED TO KEEP THE SNAP-ON BATTENS HELD TIGHTLY IN PLACE.

- T. FASTENERS: USE 3-1/2" LONG GALVANIZED RING SHANK NAILS FOR BATTEN SEAM CLIP INSTALLATION TO WOOD SHEATHING. MAKE SURE NAILS ARE DRIVEN STRAIGHT AND SET FLAT AGAINST TOP OF THE CLIP. DO NOT OVERDRIVE FASTENER CAUSING THE CLIP TO DEFORM, DAMAGE RIB OF PANEL OR OIL CAN PANEL.

WHEN INSTALLING PANELS ON OPEN FRAMING A #10-16 X 3" LONG SCREW SHOULD BE USED FOR ATTACHING CLIPS TO FRAMING.

WHEN USING POP RIVETS ON FLASHING, STAINLESS STEEL RIVETS ARE RECOMMENDED TO AVOID RUST STAINS.

MAKE SURE ALL FASTENERS ARE DRIVEN STRAIGHT AND SET FLAT. DO NOT OVERDRIVE FASTENERS, AS THIS WILL CAUSE THE CLIP AND/OR FLASHINGS TO BUCKLE OR BECOME RECESSED BELOW THE ELEVATION OF THE SUBSTRATE.

\* NOTE: IF LOCAL CODES OR OTHER REGULATIONS DICTATE SPECIFIC WIND UPLIFT REQUIREMENTS, CONSULT THE BERRIDGE ENGINEERING DEPARTMENT, AT TI MAY BE NECESSARY TO USE A DIFFERENT CLIP SPACING OR FASTENER.

\*\* CONSULT BERRIDGE MANUFACTURING 'S ENGINEERING DEPARTMENT REGARDING THE USE OF ANY OTHER TYPE OF FASTENER.



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- U. UNDERWRITERS LABORATORIES RATINGS: THE BERRIDGE BATTEN SEAM SYSTEM COMPLIES WITH THE FOLLOWING UL RATINGS:
  1. NO. 580 "TEST FOR WIND UPLIFT RESISTANCE OF ROOF ASSEMBLIES" CLASS UL 90 CONSTRUCTION NUMBER 262. (REFER TO BERRIDGE TYPICAL DETAIL B-91 AND B-92)
  2. UL FIRE-RESISTANT ROOF ASSEMBLIES: UL DESIGN NUMBERS P-224, 225, 227, 230, 237, 508, 510, 512, 701, 711, 803, 814, 815, 819, 821. REFER TO BERRIDGE TYPICAL DETAILS B-96, B-97, AND B-98.
  
- V. CONTINUOUS INNER RIB TO DEEP VEE PANEL ERECTION PROCEDURE: IN ORDER TO AVOID BUCKING OR DISTORTION OF THE DEEP VEE PANEL PAN WHEN USED WITH THE CONTINUOUS INNER RIB IN THE BERRIDGE BATTEN SEAM ROOF SYSTEM, EACH CONTINUOUS INNER RIB MUST BE ALIGNED AND INSTALLED SIMULTANEOUSLY WITH EACH DEEP VEE PANEL. IN ORDER TO AVOID DISTORTION OF THE DEEP VEE PANEL PAN, THE FOLLOWING PROCEDURE MUST BE ADHERED TO:
  - (A) WITH INNER RIB AND DEEP VEE PANEL IN ALIGNMENT, ATTACH ONE SIDE OF INNER RIB TO PURLIN OR SOLID SUBSTRATE.
  - (B) NEXT, LIFT THE DEEP VEE PANEL AND ATTACH THE OTHER SIDE OF THE INNER RIB.
  - (C) LAP THE NEXT PANEL OVER THE PREVIOUS PANEL AND ATTACH TO THE INNER RIB WITH #10 FASTENER AT THE CROWN OF THE PANEL RIB TO ASSURE PANEL AND INNER RIB STAY IN ALIGNMENT.

**DO NOT LAY OUT INNER RIBS AHEAD OF PANELS  
DO NOT OVERDRIVE #10 FASTENERS**

- W. INNER RIB EXPANSION CLIP APPLICATIONS: THE INNER RIB EXPANSION CLIP ALLOWS LARGER FASTENERS TO BE USED TO RESIST HIGHER UPLIFT LOADS, WITHOUT THE HEADS TELESCOPING THROUGH THE PANEL OR BATTEN; REFER TO DETAIL B-90. THE INNER RIB EXPANSION CLIP CAN ALSO BE USED WITH THE CONTINUOUS INNER RIB TO INCREASE THE ALLOWABLE FOR BOTH POSITIVE AND NEGATIVE LOADING.
  
- X. SEALANT RECOMMENDATIONS: TREMCO INC. SPECTREM 1 OR EQUAL  
DO NOT USE CLEAR CAULK



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BERRIDGE MANUFACTURING COMPANY STRIVES TO PROVIDE ITS CUSTOMERS WITH THE HIGHEST QUALITY STRETCHER LEVELED STEEL AVAILABLE. THE LATEST TECHNOLOGY IS ALSO INCORPORATED IN BERRIDGE'S HIGH-PRECISION COIL HANDLING AND ROLL FORMING EQUIPMENT TO MINIMIZE THE STRESS ON METAL DURING PRODUCTION. FURTHERMORE, BERRIDGE UTILIZES HEAVIER 24 GAUGE METAL RATHER THAN 26 GAUGE STEEL OR LIGHT GAUGE ALUMINUM AS OFFERED BY MANY COMPETITORS. ALL THESE MEASURES HAVE BEEN TAKEN TO MINIMIZE THE AMOUNT OF "OIL-CANNING" (WAVINESS) WHICH IS NATURALLY INHERENT IN FLAT SHEET METAL. MANY TIMES, HOWEVER, THE CAUSE OF WAVINESS OR "OIL-CANNING" CAN BE TRACED TO UNEVEN SHEATHING, IMPROPER FELT INSTALLATION, IMPROPER HANDLING, OR FOOT TRAFFIC ON THE PANELS.

ALL ARCHITECTURAL PANELS REQUIRE CARE IN HANDLING AND INSTALLATION TO AVOID DAMAGING OR DEFORMING THE PANELS.

THESE INSTALLATION INSTRUCTIONS AND THE FOLLOWING TYPICAL DETAILS ARE INTENDED TO PROVIDE OUR CUSTOMERS WITH THE INFORMATION REQUIRED FOR AN AESTHETICALLY PLEASING AND FUNCTIONAL INSTALLATION OF THE BERRIDGE BATTEN SEAM SYSTEM.

NOTE: ALL PRODUCTS, SPECIFICATIONS, DETAILS AND INSTRUCTIONS SUBJECT TO CHANGE WITHOUT NOTICE. FOR SPECIFIC PROJECT DETAILS, CONTACT BERRIDGE



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- A. **SOLID SHEATHING:** IF SOLID SHEATHING IS USED, BMC RECOMMENDS A MINIMUM THICKNESS OF 1/2 INCH TO PROVIDE SUFFICIENT HOLDING POWER FOR THE FASTENERS, CONTACT BMC FOR USE OF ANY OTHER TYPE OF SOLID SHEATHING.
- B. **OPEN FRAMING:** THE BERRIDGE 16" WIDE BATTEN SEAM SYSTEM IS A STRUCTURAL PANEL AND MAY BE USED OVER OPEN FRAMING. THE STRUCTURAL PROPERTIES AND ALLOWABLE LOAD TABLE, SHOWN BELOW, SHOULD BE USED TO DETERMINE THE MAXIMUM SPAN THE PANELS CAN BE APPLIED ON AND MEET APPLICABLE CODES. REFER TO BMC TYPICAL DETAILS FOR USE OF SOLID SHEATHING AT VALLEY AND ROOF PENETRATION AREAS WHEN PANELS ARE APPLIED OVER OPEN FRAMING.

SECTION PROPERTIES BASED ON 24 GAUGE 40 K.S.I.			
BATTEN SEAM PANEL	$dI_x$ (in <sup>4</sup> /ft)	$M_A$ (Ft-lbs/Ft)	$V_A$ (Lbs)
POSITIVE BENDING	0.0752	130.4	660
NEGATIVE BENDING	0.0405	81.0	660

PROPERTIES ARE EFFECTIVE AND ARE PER FOOT OF PANEL COVERAGE. BASED ON 1986 AISI COLDFORM STEEL DESIGN MANUAL, MARCH 1987, AND RATIONAL ANALYSIS. DESIGN THICKNESS = 0.0215 IN.

RECOMMENDED LOAD IN POUNDS PER SQUARE FOOT (PANEL WEIGHT = 1.3 PSF)						
SPAN (FEET)	NET VERTICAL LIVE LOAD			NET VERTICAL WIND UPLIFT		
	1-SPAN	2-SPAN	3-SPAN	1-SPAN	2-SPAN	3-SPAN
2'-0"	40	70	70	90	90 <sup>3</sup>	90 <sup>3</sup>
2'-6"	35	70	70	90	90 <sup>3</sup>	90 <sup>3</sup>
3'-0"	30	70	70	90	90 <sup>3</sup>	90 <sup>3</sup>
3'-6"	25	50	60	60 <sup>d</sup>	90 <sup>3</sup>	90 <sup>3</sup>
4'-0"	20	35	45	40 <sup>d</sup>	80 <sup>3</sup>	80 <sup>3</sup>
4'-6"		30	35		65 <sup>3</sup>	65 <sup>3</sup>
5'-0"		25	30		50	55 <sup>3</sup>
6'-0"						
7'-0"						

1. ALL LOADS MEET L/240 DEFLECTION CRITERIA.
2. WIND LOAD ALLOWABLE INCREASED BY 33 PERCENT.
3. USE EXPANSION CLIP FOR ANCHORAGE AT THESE UPLIFT LOADS.
4. ALL LOADS MEET 200 LBS POINT LOAD WITHOUT STRUCTURAL FAILURE; HOWEVER, FOOT TRAFFIC ON PANELS DURING OR AFTER INSTALLATION WILL CAUSE ABNORMAL OIL CANNING WHICH MAY LEAD TO AESTHETIC FAILURE
5. IF LOCAL CODES OR OTHER REGULATIONS DICTATE LOADS OTHER THAN THOSE SHOWN, CONSULT BERRIDGE MANUFACTURING COMPANY.



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- C. UL 90 RATING: WHEN THE BERRIDGE 16" WIDE BATTEN SEAM IS USED WITH THE CONTINUOUS INNER RIB, THE STRUCTURAL PROPERTIES AND ALLOWABLE LOAD TABLE, WHICH IS SHOWN BELOW, SHOULD BE USED TO DETERMINE THE MAXIMUM SPAN THE PANELS CAN BE APPLIED ON AND MEET UL 90 RATING REQUIREMENTS.

SECTION PROPERTIES BASED ON 24 GAUGE 40 K.S.I.			
BATTEN SEAM PANEL WITH CONTINUOUS 24 GA INNER RIB	$dI_x$ (in <sup>4</sup> /ft)	$M_A$ (Ft-lbs/Ft)	$V_A$ (Lbs)
POSITIVE BENDING	0.1003	187.3	1320
NEGATIVE BENDING	0.0615	131.3	1320

PROPERTIES ARE EFFECTIVE AND ARE PER FOOT OF PANEL COVERAGE. BASED ON 1986 AISI COLDFORM STEEL DESIGN MANUAL, MARCH 1987, AND RATIONAL ANALYSIS. DESIGN THICKNESS = 0.0215 IN.

RECOMMENDED LOAD IN POUNDS PER SQUARE FOOT (PANEL WEIGHT = 1.4 PSF)						
SPAN (FEET)	NET VERTICAL LIVE LOAD			NET VERTICAL WIND UPLIFT		
	1-SPAN	2-SPAN	3-SPAN	1-SPAN	2-SPAN	3-SPAN
2'-0"	45	70	70	90	90	90
2'-6"	40	70	70	90	90	90
3'-0"	35	70	70	90	90	90
3'-6"	30	70	70	90	90	90
4'-0"	25	60	70	60	80	90
4'-6"	20	50	55	40	70	80 <sup>d</sup>
5'-0"		40	45		60	60 <sup>d</sup>
6'-0"						
7'-0"						

1. ALL LOADS MEET L/240 DEFLECTION CRITERIA.
2. WIND LOAD ALLOWABLE INCREASED BY 33 PERCENT.
3. USE EXPANSION CLIP FOR ANCHORAGE AT THESE UPLIFT LOADS.
4. ALL LOADS MEET 200 LBS POINT LOAD WITHOUT STRUCTURAL FAILURE; HOWEVER, FOOT TRAFFIC ON PANELS DURING OR AFTER INSTALLATION WILL CAUSE ABNORMAL OIL CANNING WHICH MAY LEAD TO AESTHETIC FAILURE

REFER TO DETAILS B-91 & B-92 FOR UL 90 ASSEMBLY



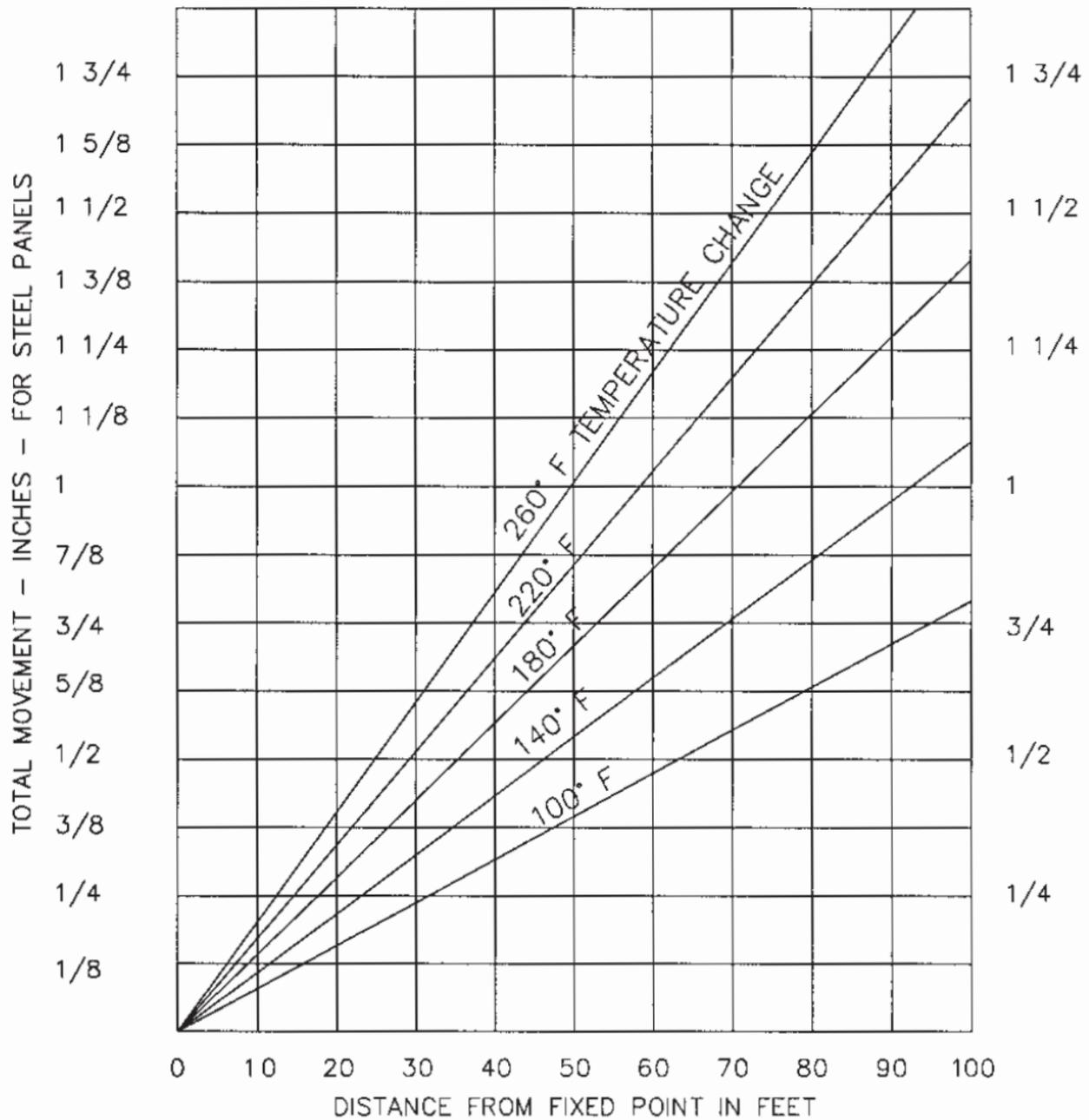
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EXPANSION AND CONTRACTION OF METAL PANELS OVER 30 FEET IN LENGTH, DUE TO LONGITUDINAL THERMAL MOVEMENT, MUST BE CONSIDERED IN BOTH DESIGN AND INSTALLATION. THE ABOVE CHART EMPHASIZES THE NEED TO PROVIDE AMPLE CLEARANCES FOR GUTTERS RIDGES, END WALLS, ETC.

MAXIMUM TEMPERATURE SHOULD BE NO LOWER THAN 140° F FOR WHITE PANELS, UP TO 180° F FOR DARK PAINTED PANELS, REGARDLESS OF AMBIENT MAXIMUM. MINIMUM SHOULD BE FIGURED WELL BELOW AMBIENT MINIMUM TO ALLOW OR RADIATION TO NIGHT SKY. IN ANY CASE, A MINIMUM OF 100° F DIFFERENTIAL IS RECOMMENDED.



**BERRIDGE  
MANUFACTURING  
COMPANY**

*Roofs of Distinction*

**INSTALLATION INSTRUCTIONS  
NOMINAL LINEAR EXPANSION**

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THE DETAILS CONTAINED IN THE FOLLOWING PAGES ARE MERELY RECOMMENDATIONS AS TO HOW BERRIDGE MANUFACTURING MATERIALS SHOULD BE INSTALLED. THEY MAY REQUIRE ADAPTATIONS OR MODIFICATIONS FOR A SPECIFIC PROJECT AS CONDITIONS VARY IN BOTH BUILDING DESIGN AND LOCAL WEATHER PECULIARITIES.

BERRIDGE MANUFACTURING COMPANY SHALL BE HELD HARMLESS FROM ANY AND ALL CLAIMS ARISING FROM A LACK OF WATERTIGHTNESS AS A RESULT OF FOLLOWING THESE RECOMMENDED DETAILS. ENSURING WATERTIGHTNESS ON ANY GIVEN PROJECT IS THE FUNCTION OF THE INSTALLER. THE ARCHITECT/GENERAL CONTRACTOR/INSTALLER MUST ACCEPT THE RESPONSIBILITY TO ADAPT THESE DETAILS TO MEET PARTICULAR BUILDING REQUIREMENTS AND TO ASSURE ADEQUATE WATERTIGHTNESS.

THE INSTALLER CAN VIRTUALLY ASSURE WATERTIGHTNESS IF THESE FLASHING DETAILS HAVE BEEN PROPERLY ADAPTED, ADEQUATE LAPS HAVE BEEN PROVIDED, CORRECT TYPE OF SEALANT USED, ALL JOINTS ADEQUATELY CAULKED AND PROFESSIONAL WORKMANSHIP EMPLOYED.



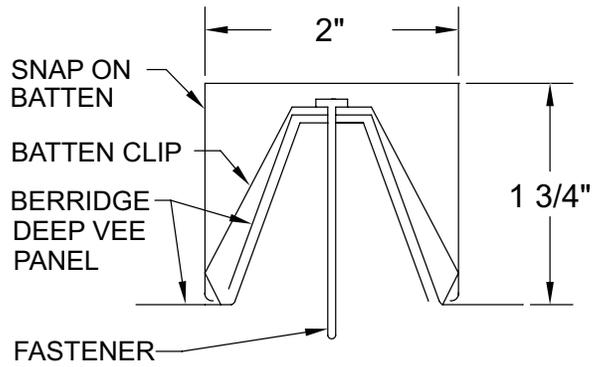
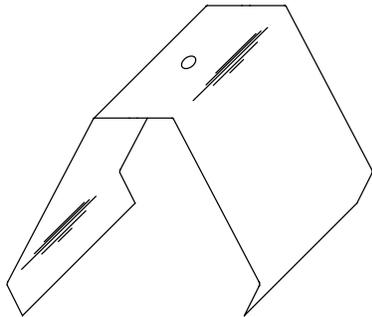
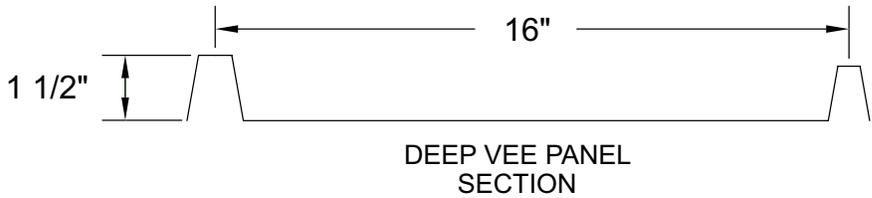
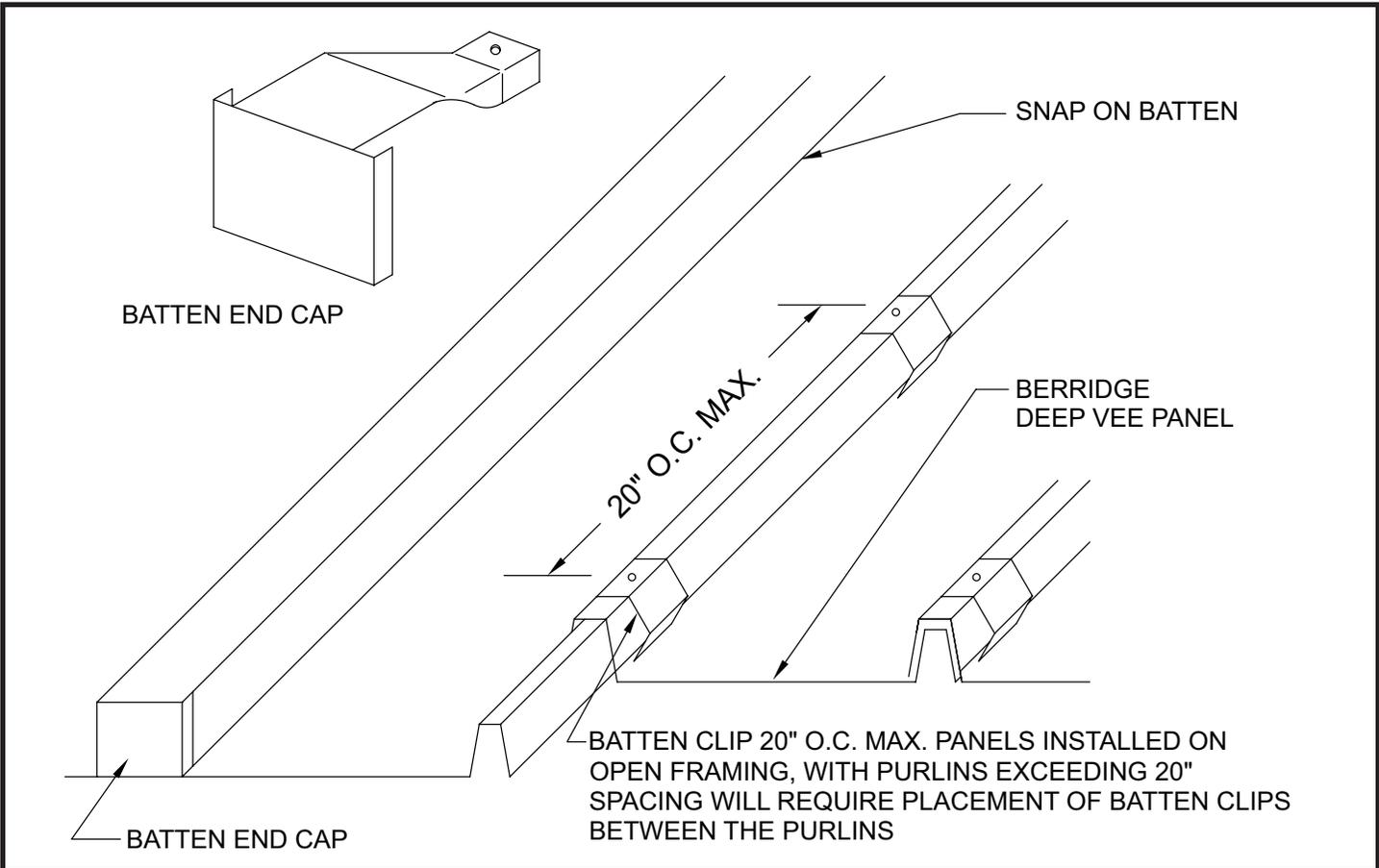
**BERRIDGE  
MANUFACTURING  
COMPANY**

## INTRODUCTION TO TYPICAL DETAILS

### Batten Seam System

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BATTEN SEAM SYSTEM



**BERRIDGE  
MANUFACTURING  
COMPANY**

**OVERVIEW**

**BATTEN SEAM SYSTEM**

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LAP UPPER BATTEN 1/2" OVER  
LOWER BATTEN & POP-RIVET SIDES

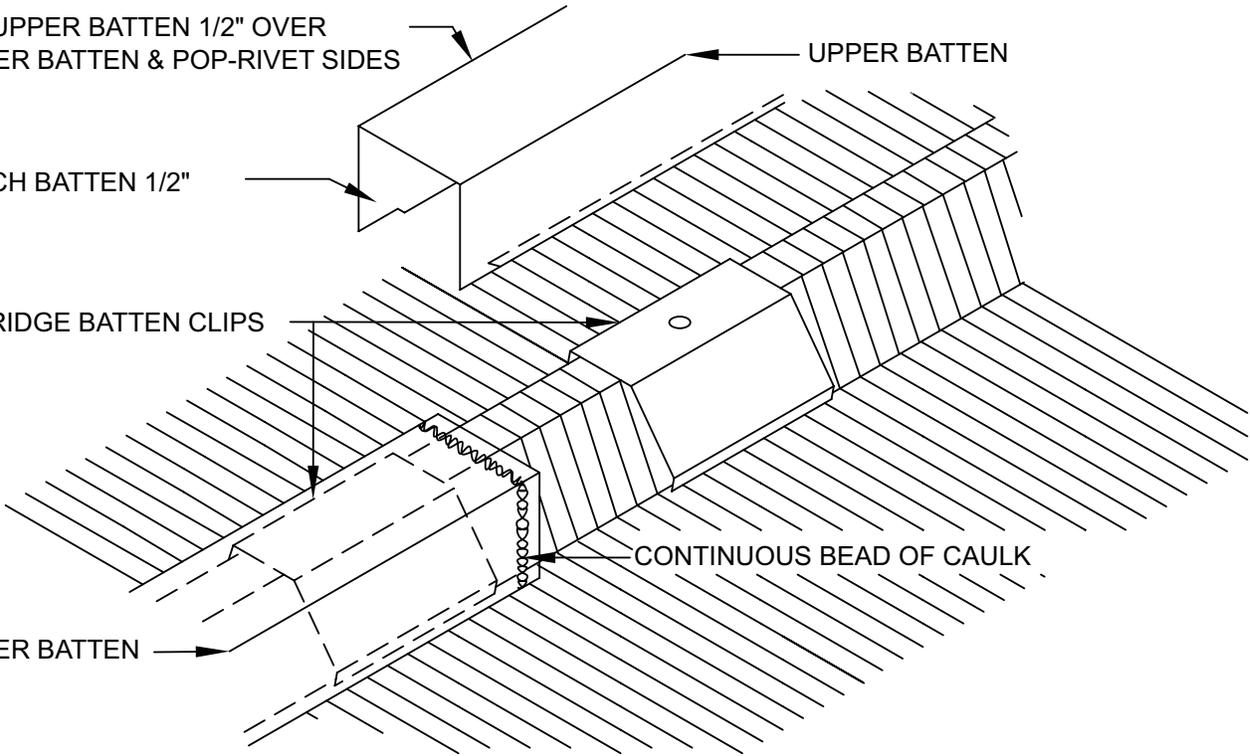
UPPER BATTEN

NOTCH BATTEN 1/2"

BERRIDGE BATTEN CLIPS

CONTINUOUS BEAD OF CAULK

LOWER BATTEN



NOTE: DO NOT LAP BATTENS & PANELS AT SAME LOCATION

TURN DOWN UPPER PANEL AND LOCK ON TO  
CONTINUOUS CLEAT ON LOWER PANEL

BERRIDGE DEEP VEE PANEL

CONTINUOUS CLEAT ALLOW 1 5/8"  
GAP AT ENDS NEXT TO RIBS

TWO CONTINUOUS  
BEADS OF CAULK

BERRIDGE DEEP VEE  
PANEL RIB

CONTINUOUS  
CLEAT

BATTEN CLIP; 2 CLIPS BELOW  
AND ABOVE PANEL SPLICE

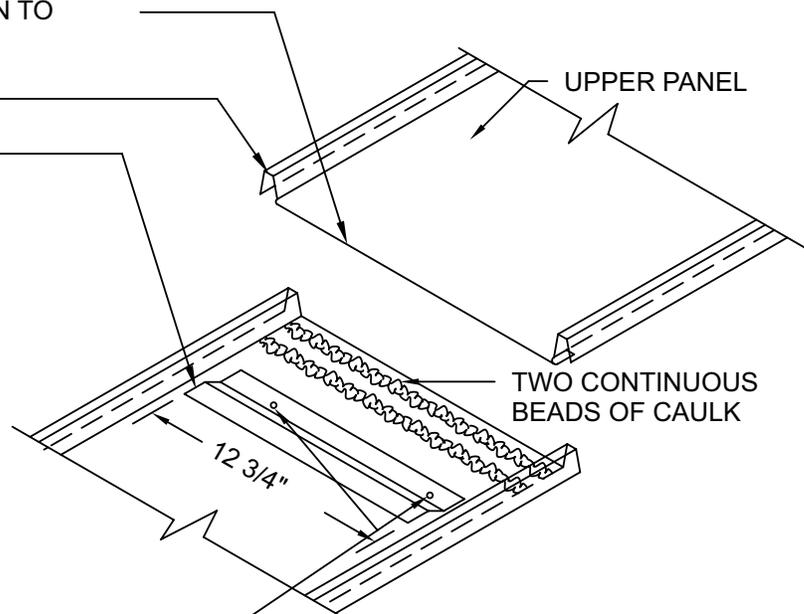
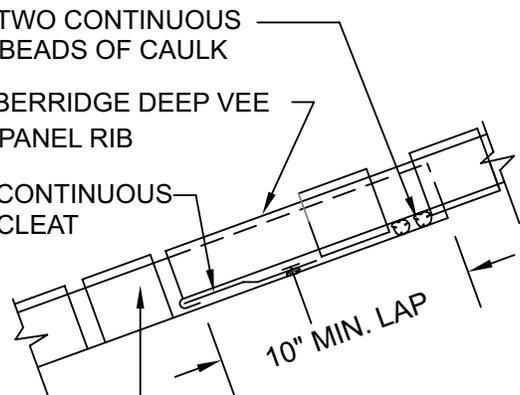
FOR OPEN FRAMING PANEL SPLICE  
CLEAT FASTENERS MUST BE  
FASTENED INTO ROOF PURLINS

UPPER PANEL

TWO CONTINUOUS  
BEADS OF CAULK

12 3/4"

MIN. 2 FASTENERS; PLACE SMALL  
AMOUNT OF CAULK BENEATH CLEAT  
AT FASTENER LOCATION, DRIVE  
FASTENERS THROUGH CLEAT THEN  
CAULK FASTENER HEADS.



**BERRIDGE  
MANUFACTURING  
COMPANY**

*Roofs of Distinction*

## DEEP VEE PANEL AND BATTEN SPLICE DETAIL

### Batten Seam System

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**BERRIDGE BATTEN SEAM SYSTEM**

BATTEN CLIPS

# 30 FELT UNDERLAYMENT

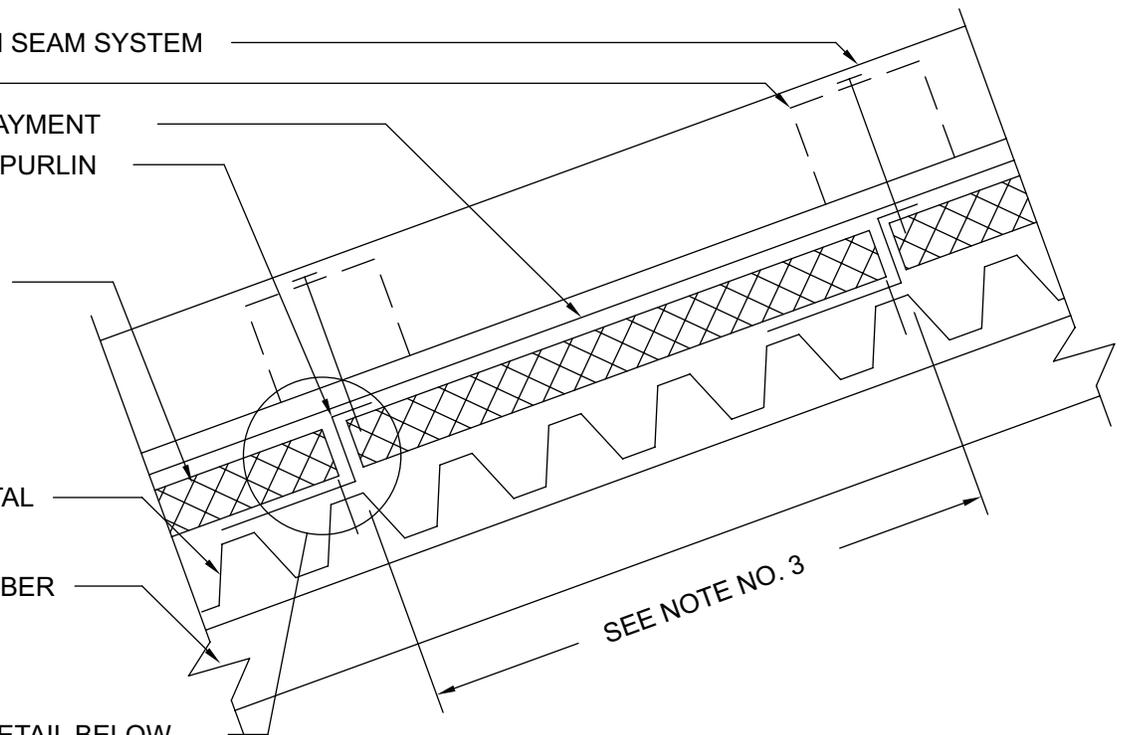
CONTINUOUS ZEE PURLIN

RIGID INSULATION MATERIAL

CORRUGATED METAL DECK

STRUCTURAL MEMBER

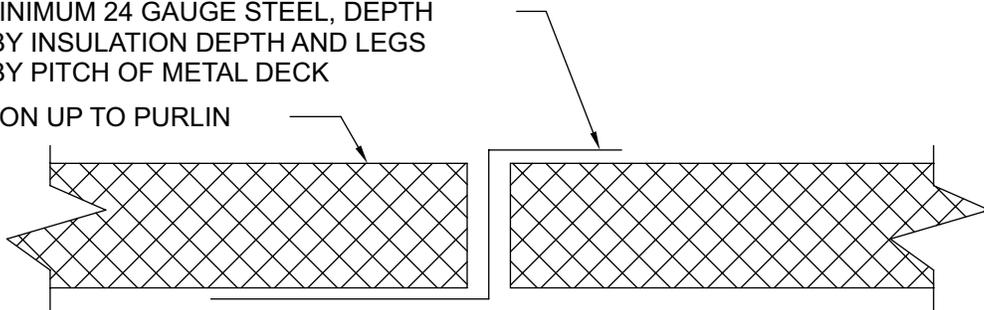
SEE ZEE PURLIN DETAIL BELOW



1. ALL FELT UNDERLAYMENT, STRUCTURAL MEMBERS, CORRUGATED DECK, AND INSULATING MATERIAL, ARE ITEMS TO BE FURNISHED AND INSTALLED BY OTHERS AT THE DISCRETION OF THE ARCHITECT.
2. CONTINUOUS WOOD BLOCKING (BY OTHERS) MAY BE USED IN LIEU OF ZEE PURLINS. BLOCKING MUST BE EXACT SAME DEPTH AS INSULATION.
3. PURLIN SPACING AND FASTENER TYPE WILL BE DEPENDENT ON GOVERNING CODE AND SPECIFICATION REQUIREMENTS. CONTACT BERRIDGE FOR SPECIFIC INFORMATION.
4. RIGID INSULATION MUST HAVE ADEQUATE COMPRESSIVE STRENGTH TO SUPPORT THE WEIGHT OF A 300 POUND MAN WITHOUT CAUSING ANY DEFORMATION IN THE PANEL.
5. DEPTH OF ZEE PURLINS MUST BE GOVERNED BY INSULATION THICKNESS. ANY DEVIATION COULD BE CAUSE FOR DAMAGE TO PANELS OR LEAKS.

ZEE PURLIN; MINIMUM 24 GAUGE STEEL, DEPTH DETERMINED BY INSULATION DEPTH AND LEGS DETERMINED BY PITCH OF METAL DECK

BUTT INSULATION UP TO PURLIN



ZEE PURLIN DETAIL



**BERRIDGE  
MANUFACTURING  
COMPANY**

**INSULATED DECK DETAIL**

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BERRIDGE DEEP VEE PANEL

BATTEN CLIP

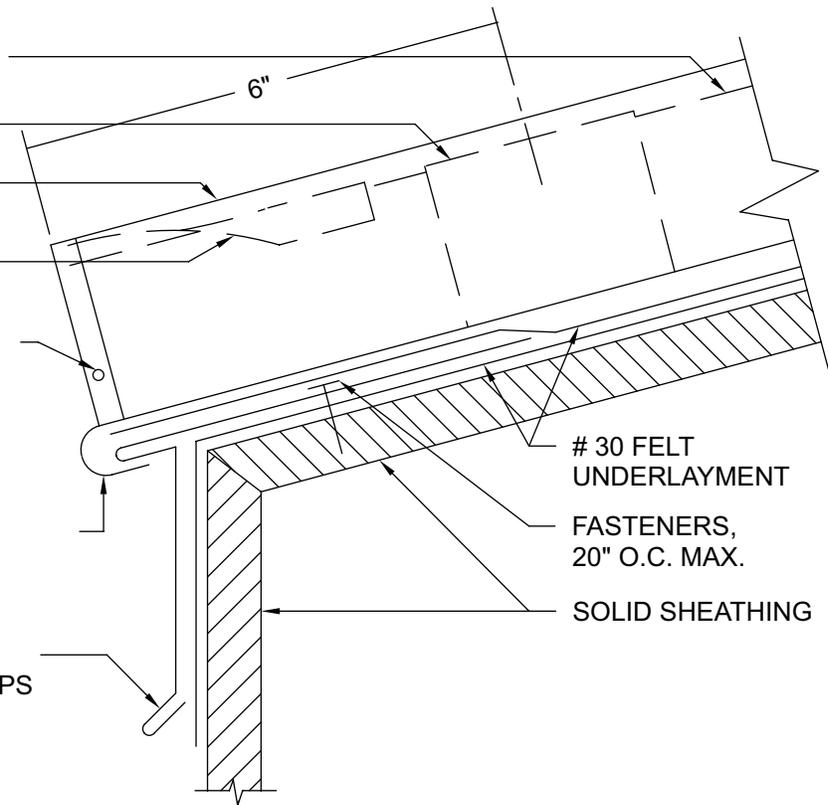
SNAP ON BATTEN

BATTEN END CAP

POP RIVET BATTEN END CAP TO BATTEN (OPTIONAL)

SNIP BACK RIB AND FIELD FORM PANEL PAN AROUND FLASHING

EAVE FLASHING, 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

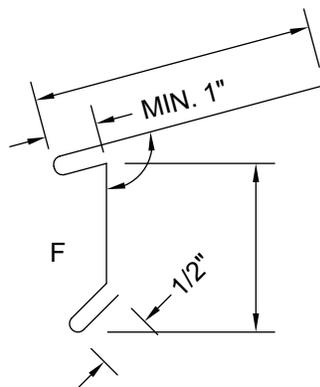


# 30 FELT UNDERLAYMENT

FASTENERS, 20" O.C. MAX.

SOLID SHEATHING

1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
2. ALL FELT UNDERLAYMENT, CAULKING AND FASTENERS ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



F = FINISH SIDE

EAVE FLASHING



**BERRIDGE**  
MANUFACTURING  
COMPANY

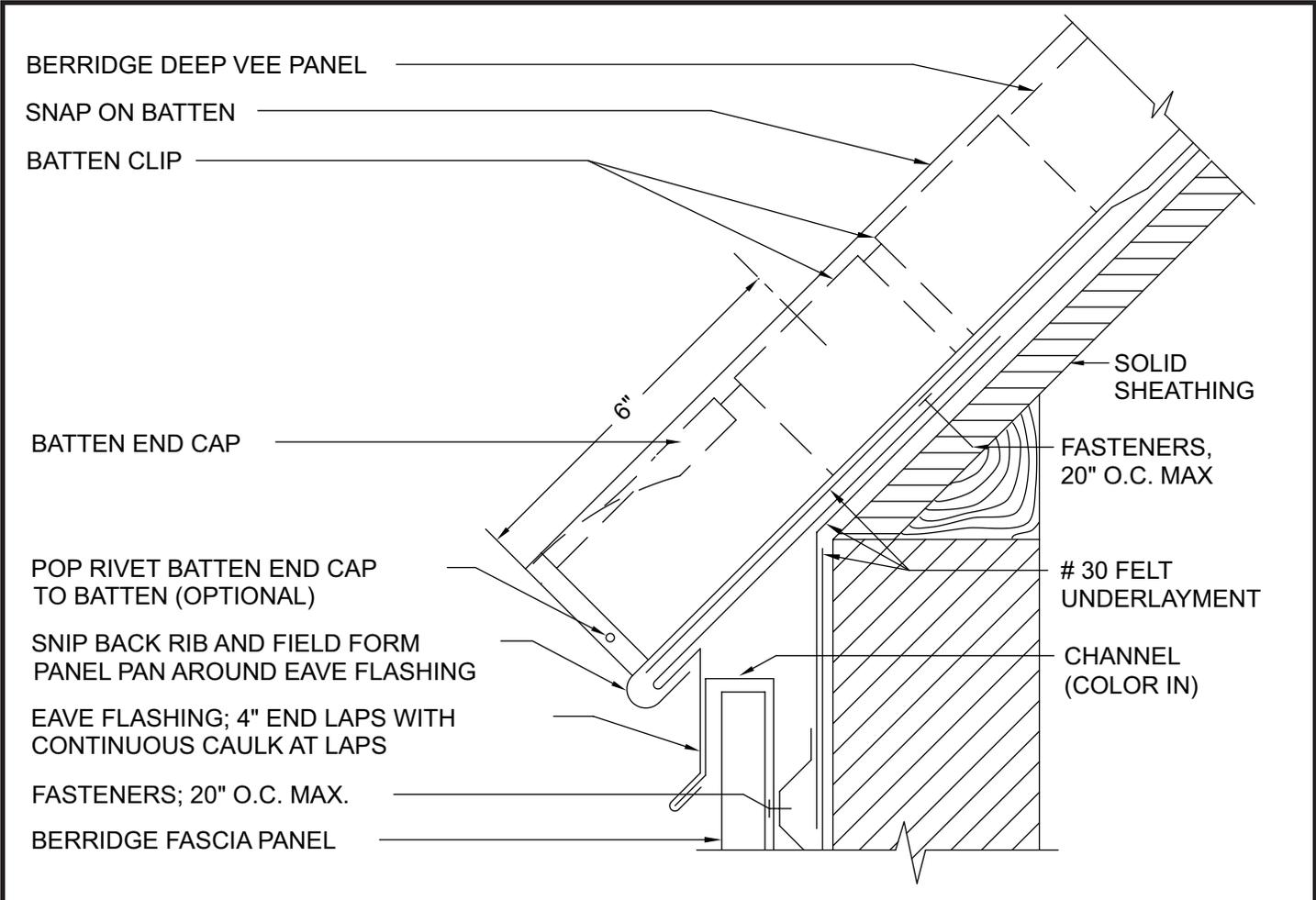
## EAVE DETAIL

### Batten Seam System

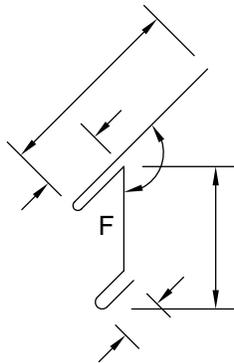
DATE: 04-18-01

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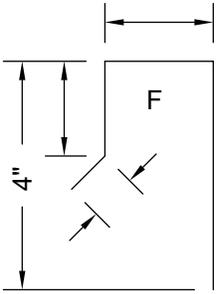
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1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
2. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



EAVE FLASHING



CHANNEL



**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

**EAVE DETAIL**

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BERRIDGE DEEP VEE PANEL

SNAP ON BATTEN

BATTEN CLIP

DRIP FLASHING; 4" END LAP WITH CONTINUOUS CAULK AT LAPS

BATTEN END CAP

POP RIVET BATTEN END CAP TO BATTEN (OPTIONAL)

SNIP BACK RIB AND FIELD FORM PANEL PAN AROUND FLASHING

SPECIAL ZEE CLOSURE; CUT TO FIT BETWEEN SNAP ON BATTENS

POP RIVET; 40" O.C. MAX.

BERRIDGE BATTEN SEAM SYSTEM  
BATTEN CLIP

SOLID SHEATHING

# 30 FELT UNDERLAYMENT

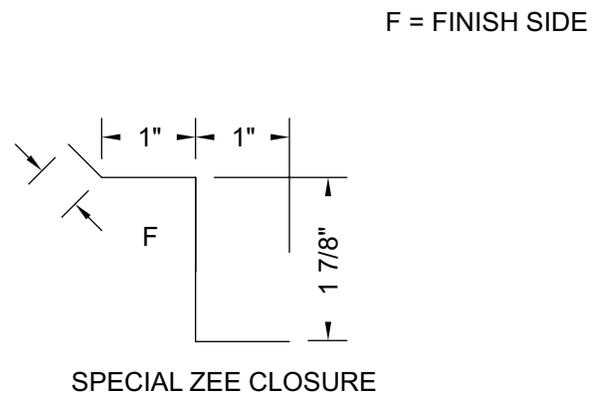
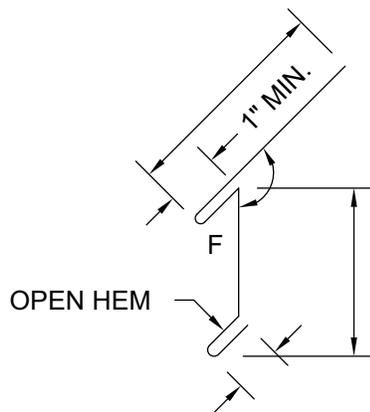
FASTENERS; 20" O.C. MAX.

FASTENERS; 3 PER ZEE CLOSURE MIN.

# 30 FELT UNDERLAYMENT

CONTINUOUS CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
2. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



**BERRIDGE**  
MANUFACTURING  
COMPANY

## EAVE DETAIL

### Batten Seam System

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BERRIDGE DEEP VEE PANEL

SNAP ON BATTEN

BATTEN CLIP; AT EVERY PURLIN

BATTEN END CAP

POP RIVET BATTEN END CAP TO BATTEN (OPTIONAL)

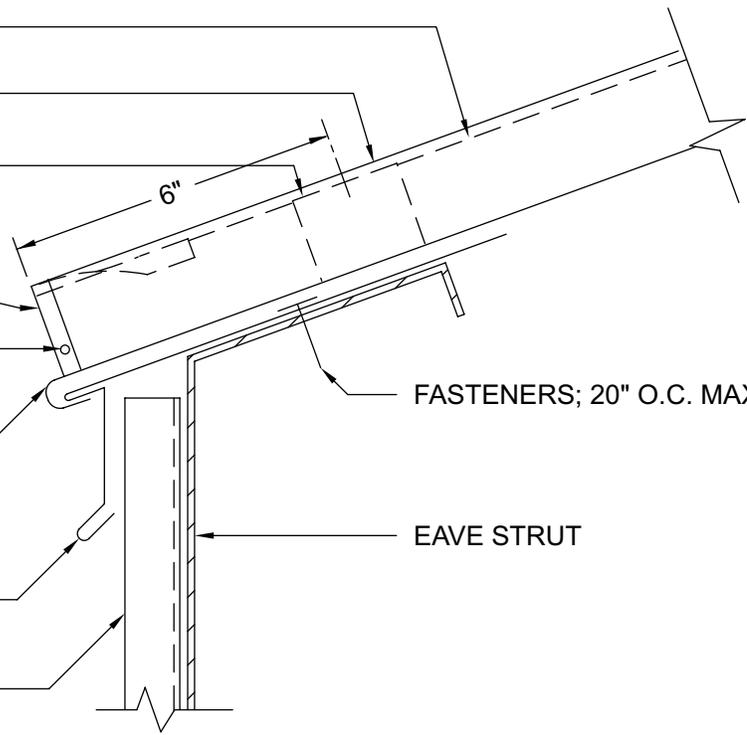
SNIP BACK RIB AND FIELD FORM PAN AROUND FLASHING

EAVE FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

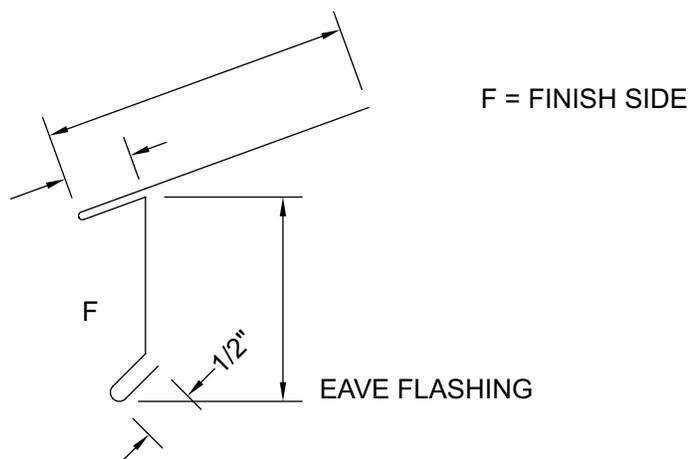
BERRIDGE WALL PANEL OR FASCIA PANEL

FASTENERS; 20" O.C. MAX.

EAVE STRUT



1. ALL CAULKING AND FASTENERS ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



**BERRIDGE**  
MANUFACTURING  
COMPANY

## EAVE DETAIL

PANEL TURNDOWN; OPEN FRAMING

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RIDGE/HIP CAP; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS. POP RIVET TO ZEE CLOSURE 40" O.C. MAX.

BERRIDGE DEEP VEE PANEL

SNAP ON BATTEN

BATTEN CLIPS; 20" O.C. MAX.

FASTENERS; MIN. 2 PER ZEE CLOSURE

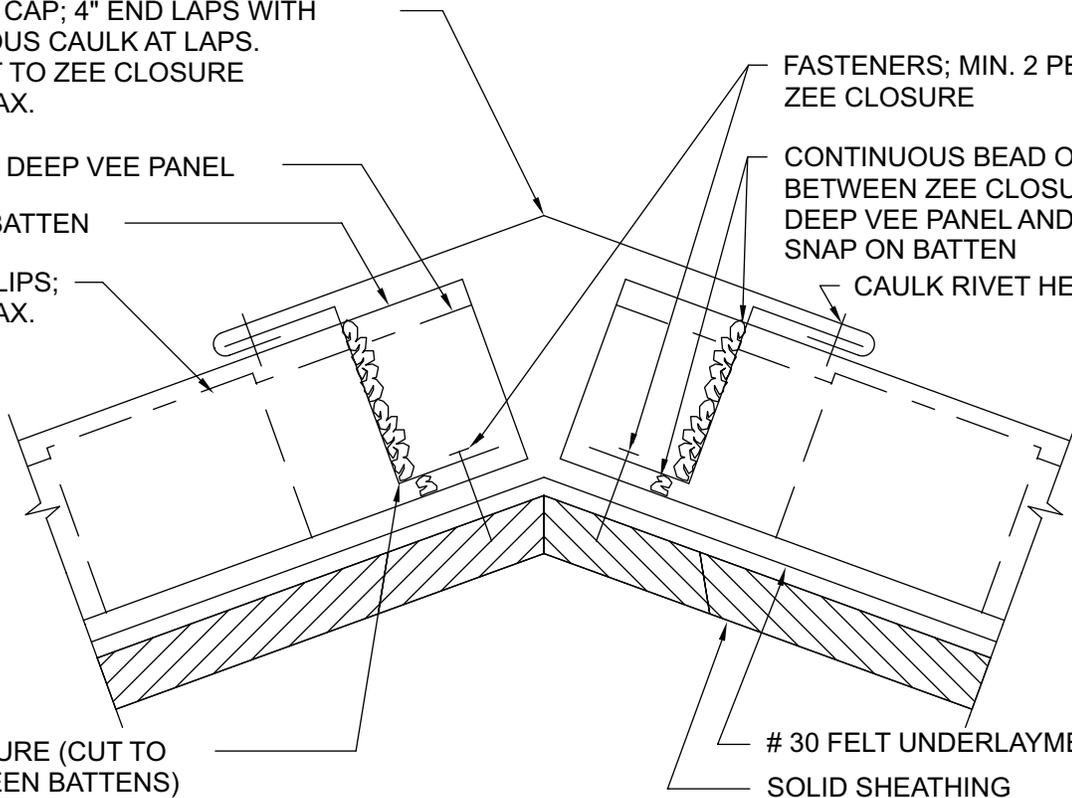
CONTINUOUS BEAD OF CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

CAULK RIVET HEADS

ZEE CLOSURE (CUT TO FIT BETWEEN BATTENS)

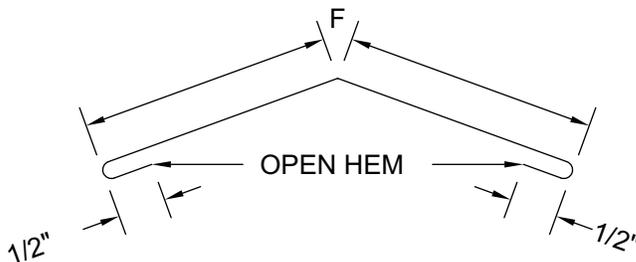
# 30 FELT UNDERLAYMENT

SOLID SHEATHING

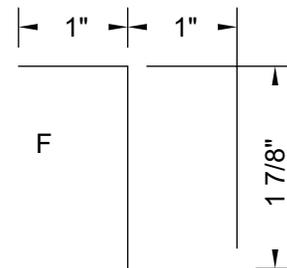


1. FIELD CUT ZEE CLOSURES TO FIT BETWEEN SNAP ON BATTENS.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELTING UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.

F = FINISH SIDE



RIDGE/HIP CAP



ZEE CLOSURE



**BERRIDGE**  
MANUFACTURING  
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*Roofs of Distinction*

## RIDGE AND HIP DETAIL

### Batten Seam System

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RIDGE/HIP CAP; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS. POP RIVET TO ZEE CLOSURE 40" O.C.

FASTENERS; 2 PER ZEE CLOSURE, MINIMUM

BERRIDGE DEEP VEE PANEL

BATTEN CLIP, 20" O.C. MAX.

SNAP ON BATTEN

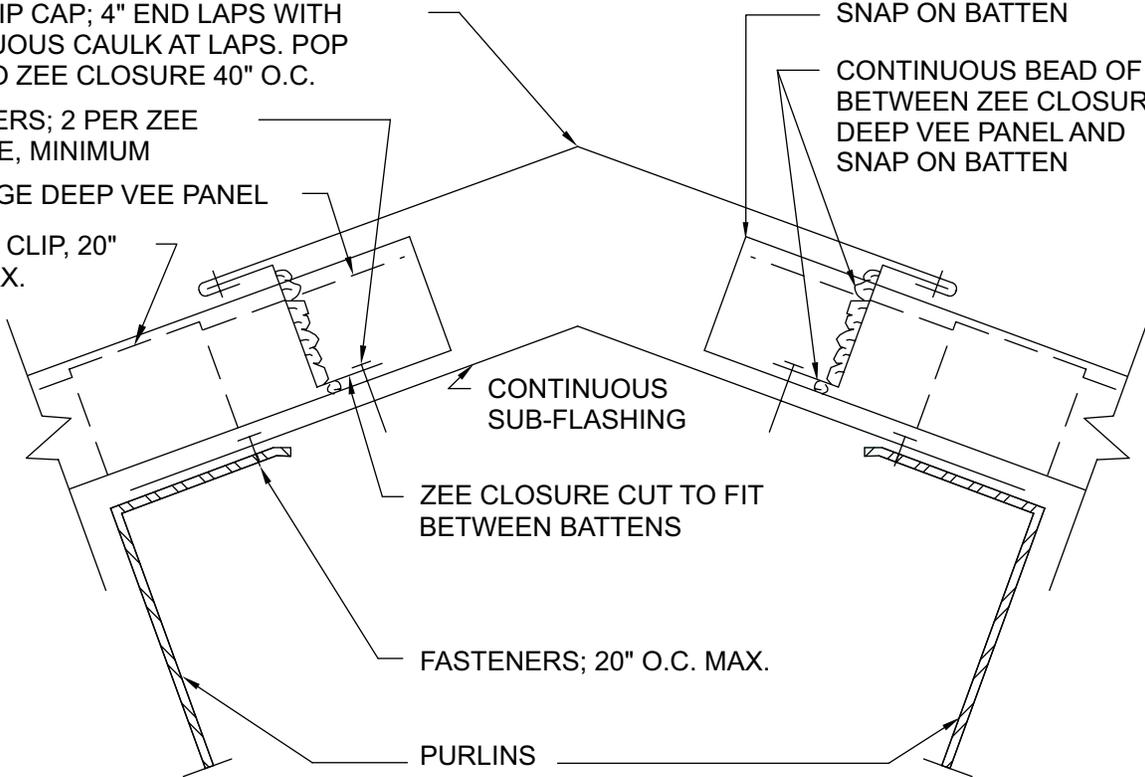
CONTINUOUS BEAD OF CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

CONTINUOUS SUB-FLASHING

ZEE CLOSURE CUT TO FIT BETWEEN BATTENS

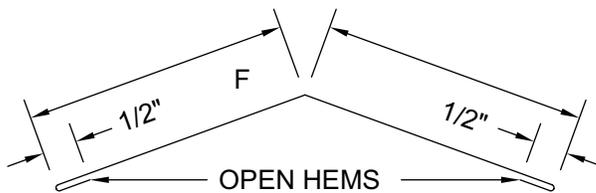
FASTENERS; 20" O.C. MAX.

PURLINS



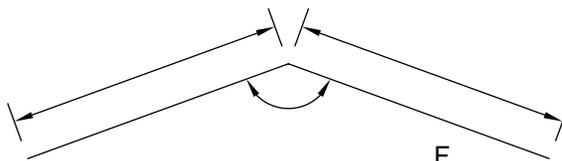
1. FIELD CUT ZEE CLOSURE TO FIT BETWEEN SNAP ON BATTENS.

2. ALL CAULKING AND FASTENERS ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.

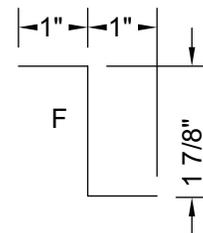


RIDGE/HIP CAP

F = FINISH SIDE



SUB-FLASHING



ZEE CLOSURE



**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

**RIDGE/HIP DETAIL**  
**OPEN FRAME CONDITION**

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RIDGE CAP; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS, POP RIVET TO ZEE CLOSURE AT 40" O.C. MAX. CAULK RIVET HEADS

BERRIDGE DEEP VEE PANEL

SNAP ON BATTEN

ZEE CLOSURE (CUT TO FIT BETWEEN BATTENS)

BATTEN CLIP; 20" O.C. MAX.

CONTINUOUS BEAD OF CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

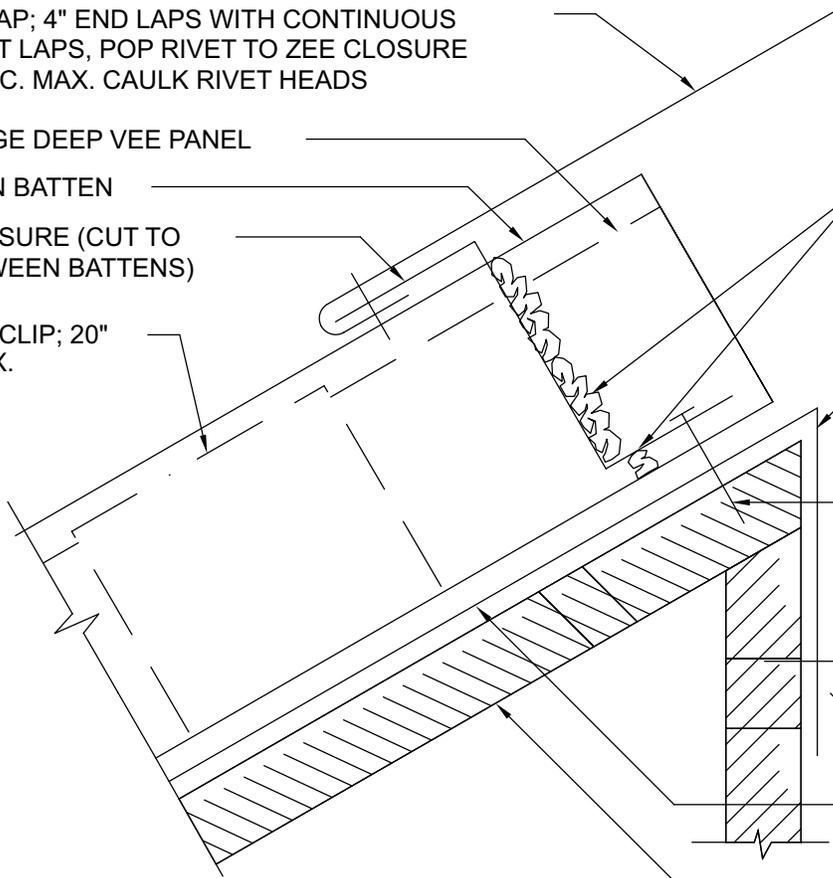
LAP FELT OVER RIDGE

FASTENERS; MIN. 2 PER ZEE CLOSURE

FASTENERS; 40" O.C. MAX. CAULK FASTENER HEAD

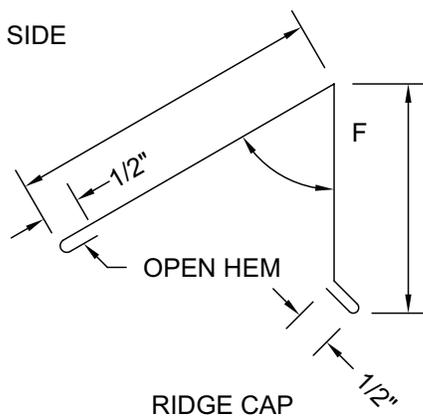
# 30 FELT UNDERLAYMENT

SOLID SHEATHING

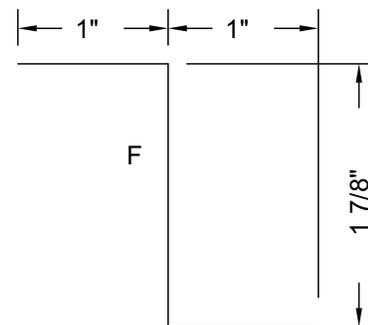


1. FIELD CUT ZEE CLOSURE TO FIT BETWEEN SNAP ON BATTENS.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.

F = FINISH SIDE



RIDGE CAP



ZEE CLOSURE



**BERRIDGE**  
MANUFACTURING  
COMPANY

## SHED ROOF RIDGE CAP DETAIL

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BERRIDGE DEEP VEE PANEL

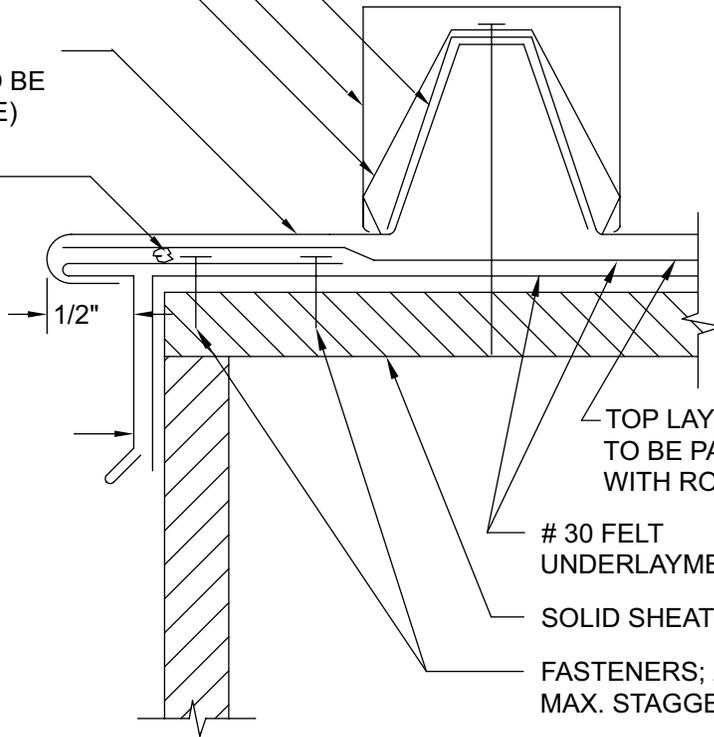
SNAP ON BATTEN

BATTEN CLIP; 20" O.C. MAX.

FIELD CUT LAST PANEL AND FORM AROUND DRIP FLASHING (PANEL TO BE CONTINUOUS FROM RIDGE TO EAVE)

CONTINUOUS BEAD OF CAULK

DRIP FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS



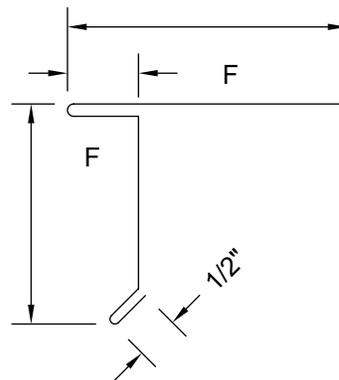
TOP LAYER OF FELT TO BE PARALLEL WITH ROOF SLOPE

# 30 FELT UNDERLAYMENT

SOLID SHEATHING

FASTENERS; 20" O.C. MAX. STAGGERED

1. FIELD CUT AND FORM LAST PANEL AROUND DRIP FLASHING. PANEL MUST BE CONTINUOUS FROM RIDGE TO EAVE.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



F = FINISH SIDE

DRIP FLASHING



**BERRIDGE**  
MANUFACTURING  
COMPANY

## GABLE DETAIL

### Batten Seam System

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BERRIDGE DEEP VEE PANEL

SNAP ON BATTEN

BATTEN CLIP; 20" O.C. MAX.

FIELD CUT LAST PANEL AND FORM AROUND DRIP FLASHING (PANEL MUST BE CONTINUOUS FROM RIDGE TO EAVE)

FASTENERS; MIN. 3 PER ZEE CLOSURE

CONTINUOUS BEAD OF CAULK

GABLE FLASHING; POP RIVET TO ZEE CLOSURE 40" O.C. MAX. WITH 4" END LAPS WITH CONTINUOUS CAULK AT LAPS.

BERRIDGE DEEP VEE PANEL

SPECIAL ZEE CLOSURE; CUT TO FIT BETWEEN BATTENS

SNAP ON BATTEN

# 30 FELT UNDERLAYMENT

SOLID SHEATHING

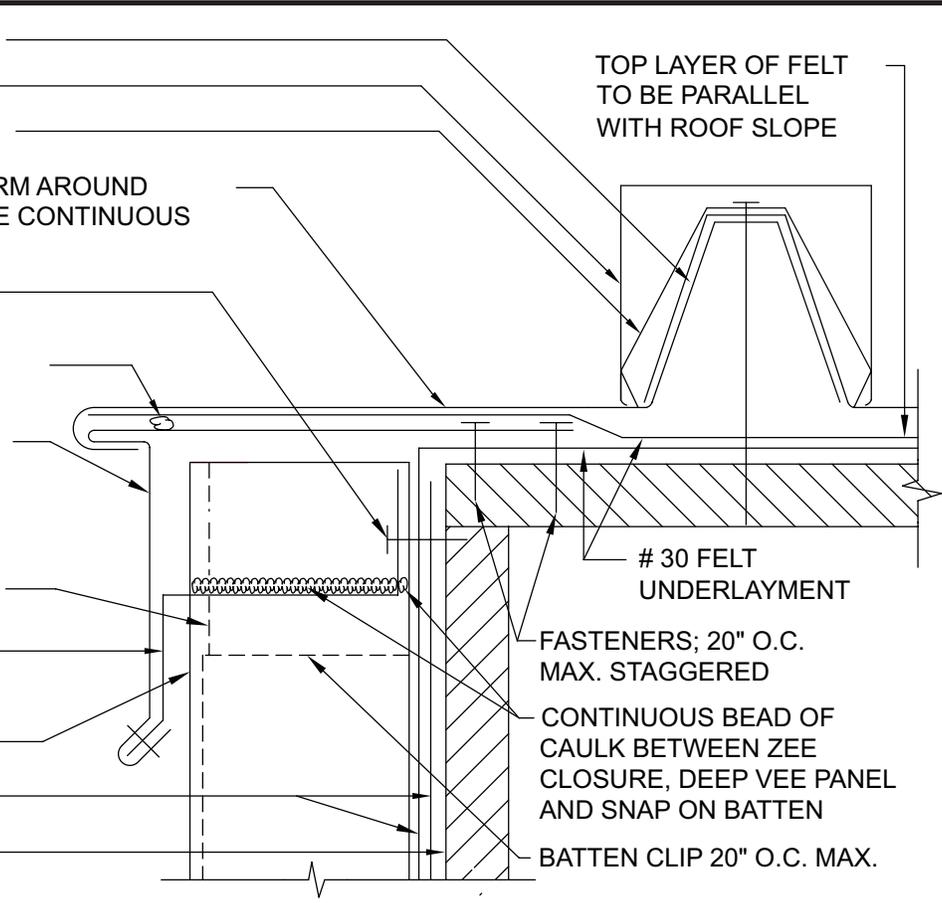
TOP LAYER OF FELT TO BE PARALLEL WITH ROOF SLOPE

# 30 FELT UNDERLAYMENT

FASTENERS; 20" O.C. MAX. STAGGERED

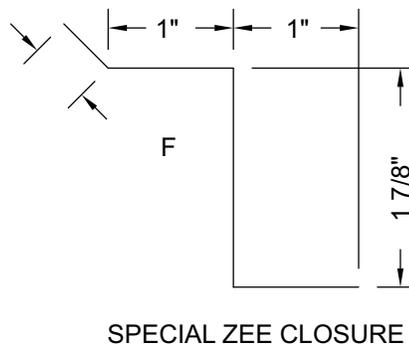
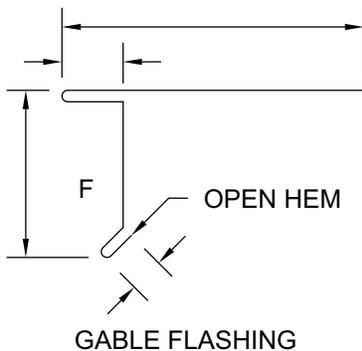
CONTINUOUS BEAD OF CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

BATTEN CLIP 20" O.C. MAX.



1. FIELD CUT AND FORM LAST PANEL AROUND GABLE FLASHING PANEL MUST BE CONTINUOUS RIDGE TO EAVE.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.

F = FINISH SIDE



**BERRIDGE  
MANUFACTURING  
COMPANY**

## GABLE DETAIL

### Batten Seam System

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BERRIDGE DEEP VEE PANEL

SNAP ON BATTEN

BATTEN CLIP; 20" O.C. MAX.

FIELD CUT LAST PANEL AND SLIP INTO J-CLIP  
(PANEL MUST BE CONTINUOUS FROM RIDGE TO EAVE)

CONTINUOUS BEAD OF CAULK

J-CLIP; 4" END LAPS WITH  
CONTINUOUS CAULK AT LAPS

1/2"

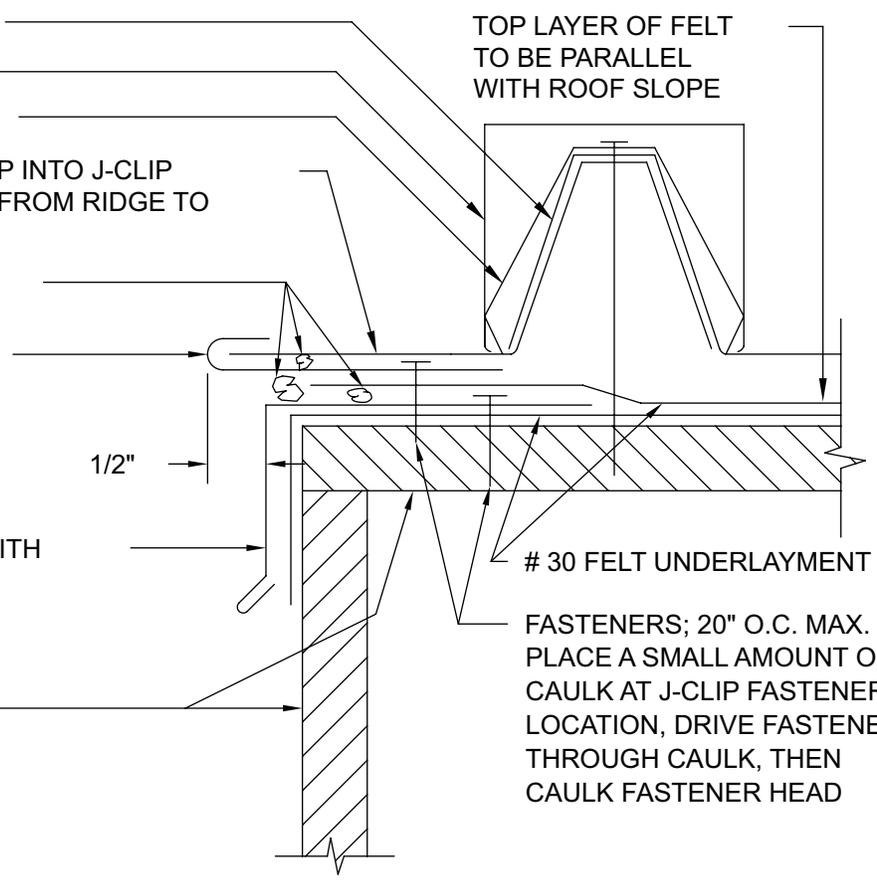
DRIP FLASHING; 4" END LAPS WITH  
CONTINUOUS CAULK AT LAPS

SOLID SHEATHING

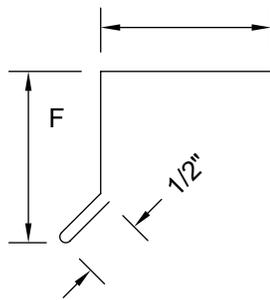
TOP LAYER OF FELT  
TO BE PARALLEL  
WITH ROOF SLOPE

# 30 FELT UNDERLAYMENT

FASTENERS; 20" O.C. MAX.  
PLACE A SMALL AMOUNT OF  
CAULK AT J-CLIP FASTENER  
LOCATION, DRIVE FASTENER  
THROUGH CAULK, THEN  
CAULK FASTENER HEAD

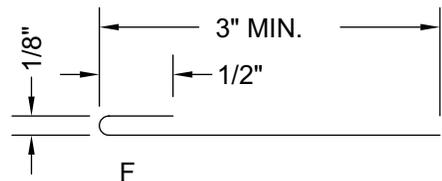


1. FIELD CUT LAST PANEL AND SLIP INTO J-CLIP. PANEL MUST BE CONTINUOUS RIDGE TO EAVE.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



DRIP FLASHING

F = FINISH SIDE



J-CLIP



**BERRIDGE**  
MANUFACTURING  
COMPANY

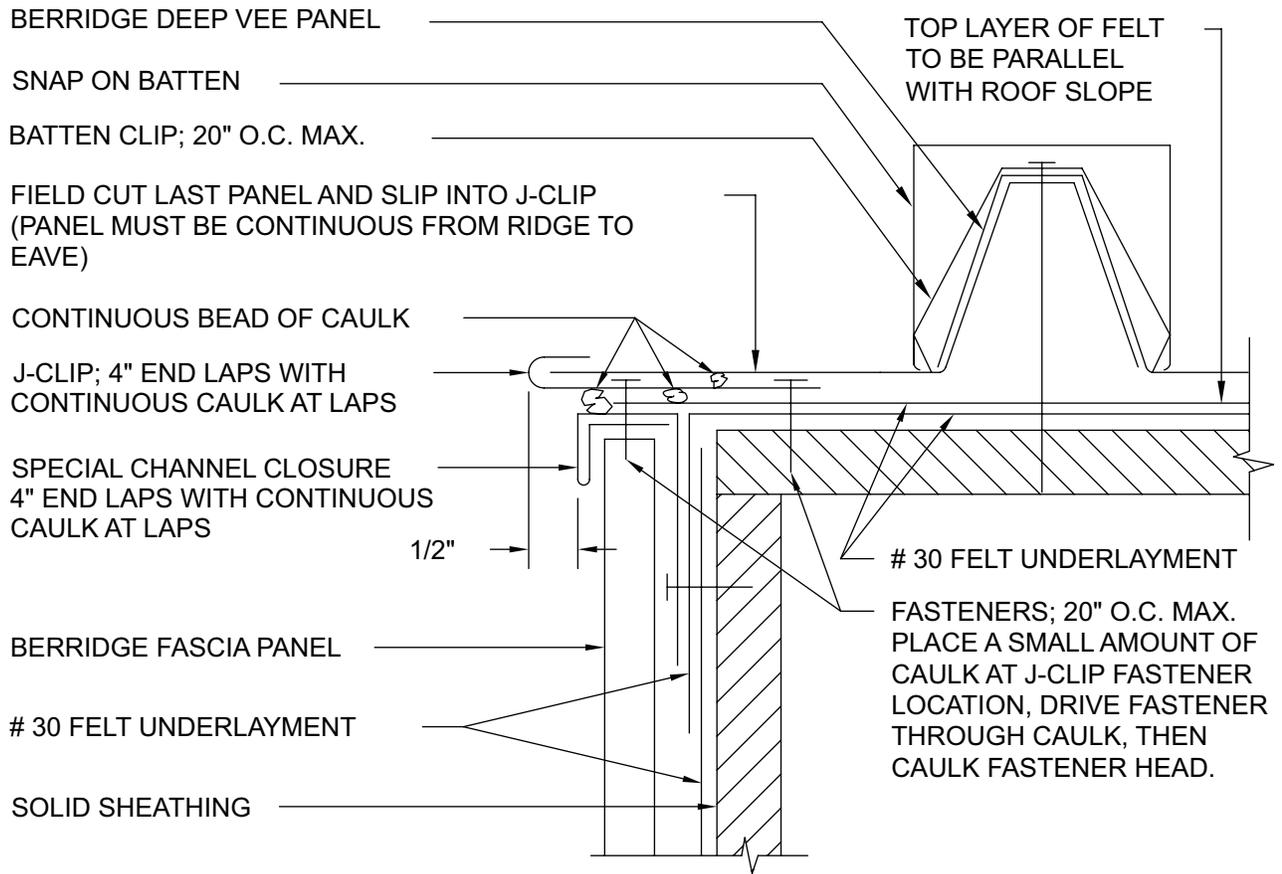
## GABLE DETAIL

### Batten Seam System

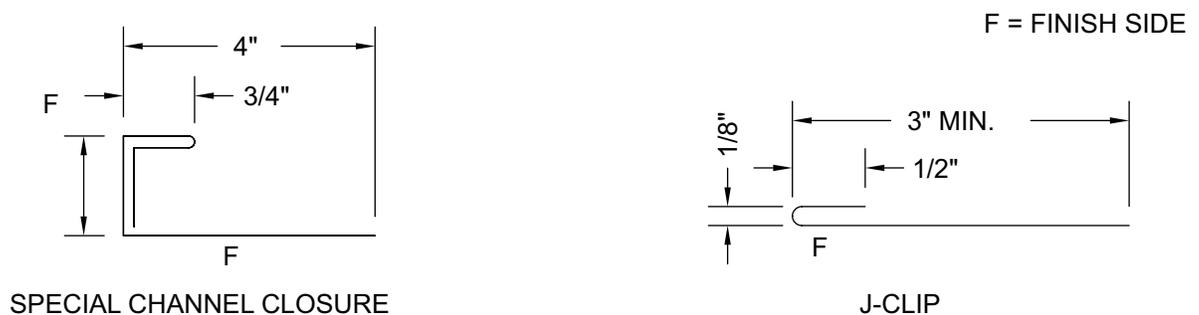
DATE: 04-18-01

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1. FIELD CUT LAST PANEL AND SLIP INTO J-CLIP. PANEL MUST BE CONTINUOUS RIDGE TO EAVE.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

## GABLE DETAIL

### Batten Seam System

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CAP FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS. POP RIVET TO COUNTER FLASHING 40" O.C. MAX. CAULK ALL RIVET HEADS.

FASTENERS; 20" O.C. MAX.

COUNTERFLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS. POP RIVET TO ZEE CLOSURE 40" O.C. MAX.

SUB-FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS.

# 30 FELT UNDERLAYMENT

BERRIDGE DEEP VEE PANEL

ZEE CLOSURE; CUT TO FIT BETWEEN BATTENS

SNAP ON BATTEN

BATTEN CLIP; 20" O.C. MAX.

FASTENERS AT LAPS AND STAGGERED; 20" O.C. AND CAULK FASTENER HEADS

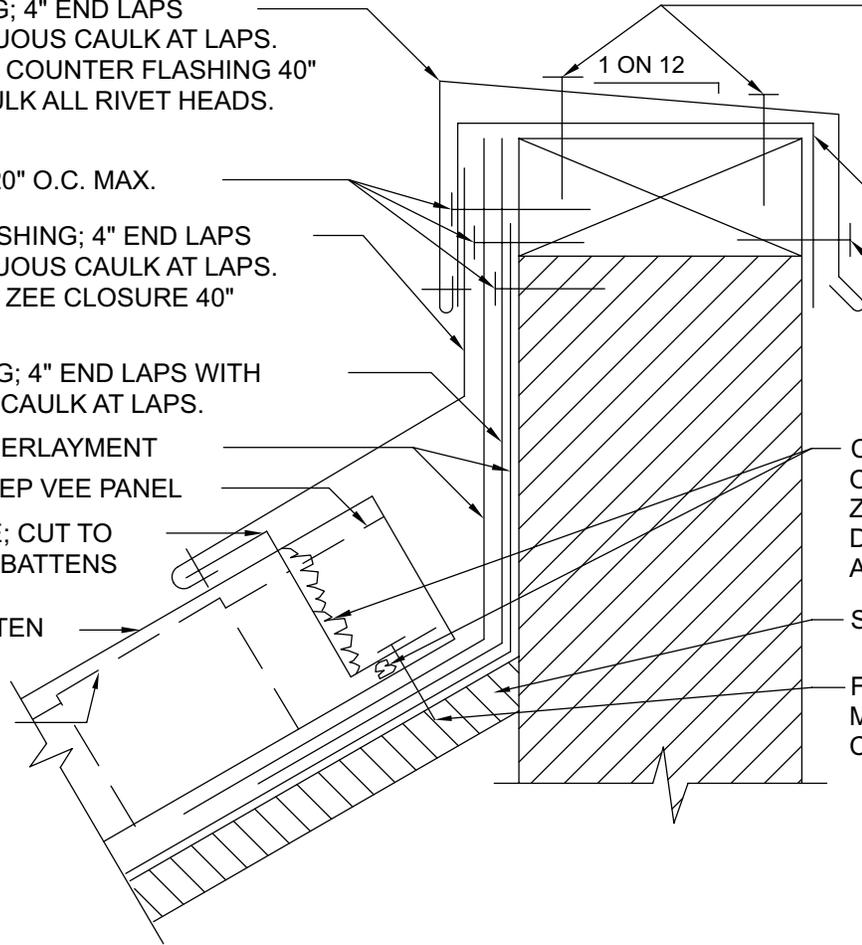
# 30 FELT UNDERLAYMENT

FASTENERS; 40" O.C. MAX. CAULK FASTENER HEADS

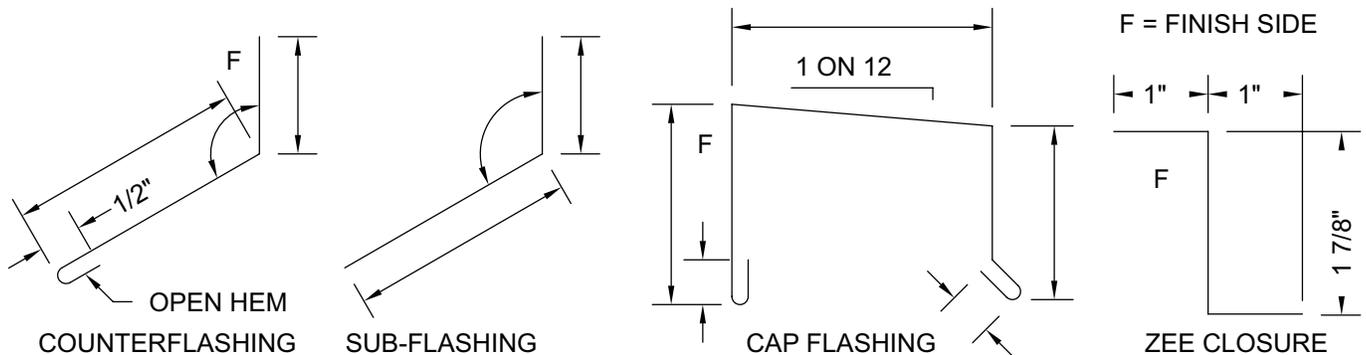
CONTINUOUS BEAD OF CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

SOLID SHEATHING

FASTENERS; MIN. 2 PER ZEE CLOSURE



1. FIELD CUT ZEE CLOSURES TO FIT BETWEEN SNAP ON BATTENS.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



**BERRIDGE**  
MANUFACTURING  
COMPANY

## PARAPET DETAIL

### Batten Seam System

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BERRIDGE FASCIA PANEL

COUNTERFLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS. POP RIVET TO ZEE CLOSURE 40" O.C. MAX.

SUB-FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

BERRIDGE DEEP VEE PANEL

ZEE CLOSURE; CUT TO FIT BETWEEN BATTENS

SNAP ON BATTEN

BATTEN CLIP; 20" O.C. MAX.

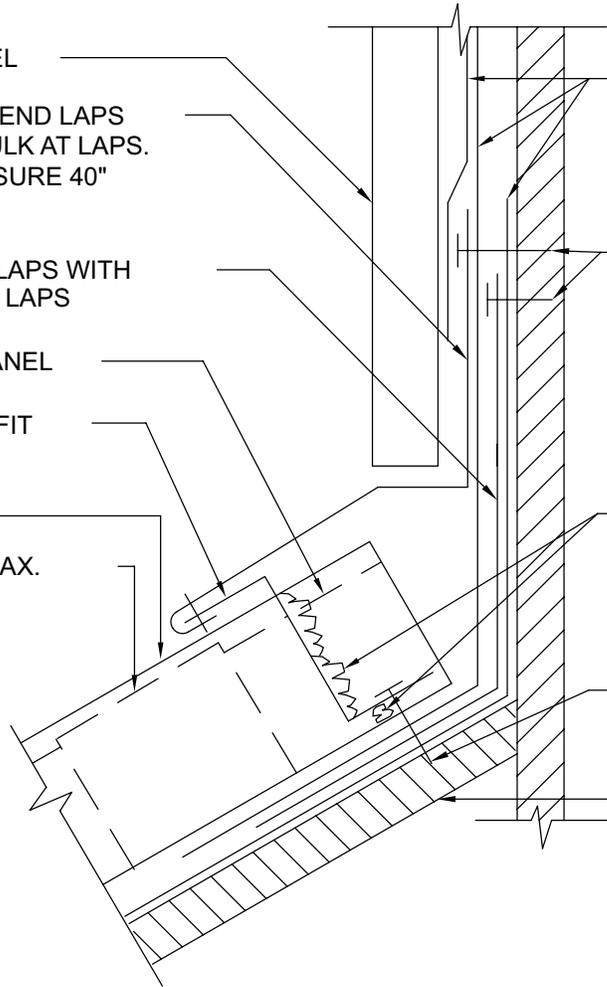
# 30 FELT UNDERLAYMENT

FASTENERS; 20" O.C. MAX.

CONTINUOUS BEAD OF CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

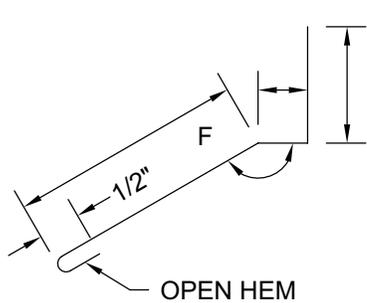
FASTENERS; MIN. 2 PER ZEE CLOSURE

SOLID SHEATHING

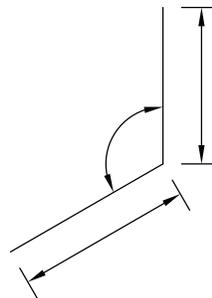


1. FIELD CUT ZEE CLOSURES TO FIT BETWEEN SNAP ON BATTENS.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.

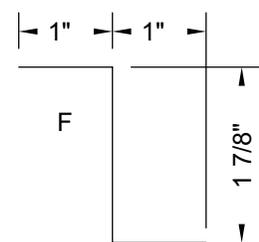
F = FINISH SIDE



COUNTERFLASHING



SUB-FLASHING



ZEE CLOSURE



**BERRIDGE**  
MANUFACTURING  
COMPANY

## HEAD WALL DETAIL

### Batten Seam System

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# 30 FELT UNDERLAYMENT

BERRIDGE FASCIA PANEL

FASTENERS; 20" O.C. MAX.

FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

CONTINUOUS BEAD OF CAULK

BERRIDGE DEEP VEE PANEL; START FIRST PANEL HERE

# 30 FELT UNDERLAYMENT

TOP FELT LAYER TO RUN PARALLEL WITH ROOF SLOPE

SOLID SHEATHING

FASTENERS; 20" O.C. MAX.

SUB-FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

CHANNEL; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

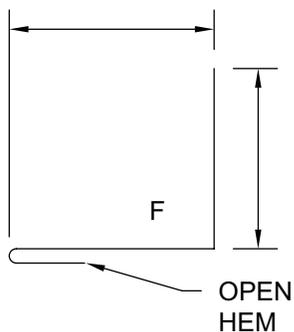
SNAP ON BATTEN

BATTEN CLIP; 20" O.C. MAX.

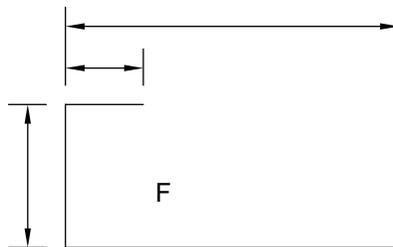
2 CONTINUOUS BEADS OF CAULK

1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.

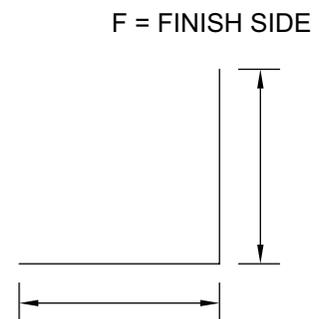
2. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



FLASHING



CHANNEL



SUB-FLASHING



**BERRIDGE**  
MANUFACTURING  
COMPANY

## RAKE WALL DETAIL

### Batten Seam System

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REGLET FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

FASTENERS; 20" O.C. MAX.

COUNTERFLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS.  
POP RIVET TO ZEE CLOSURE 40" O.C. MAX.

SUB-FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS.

# 30 FELT UNDERLAYMENT

BERRIDGE DEEP VEE PANEL

ZEE CLOSURE; CUT TO FIT BETWEEN BATTENS

SNAP ON BATTEN

BATTEN CLIP;  
20" O.C. MAX.

REGLET

CONTINUOUS CAULK AT REGLET

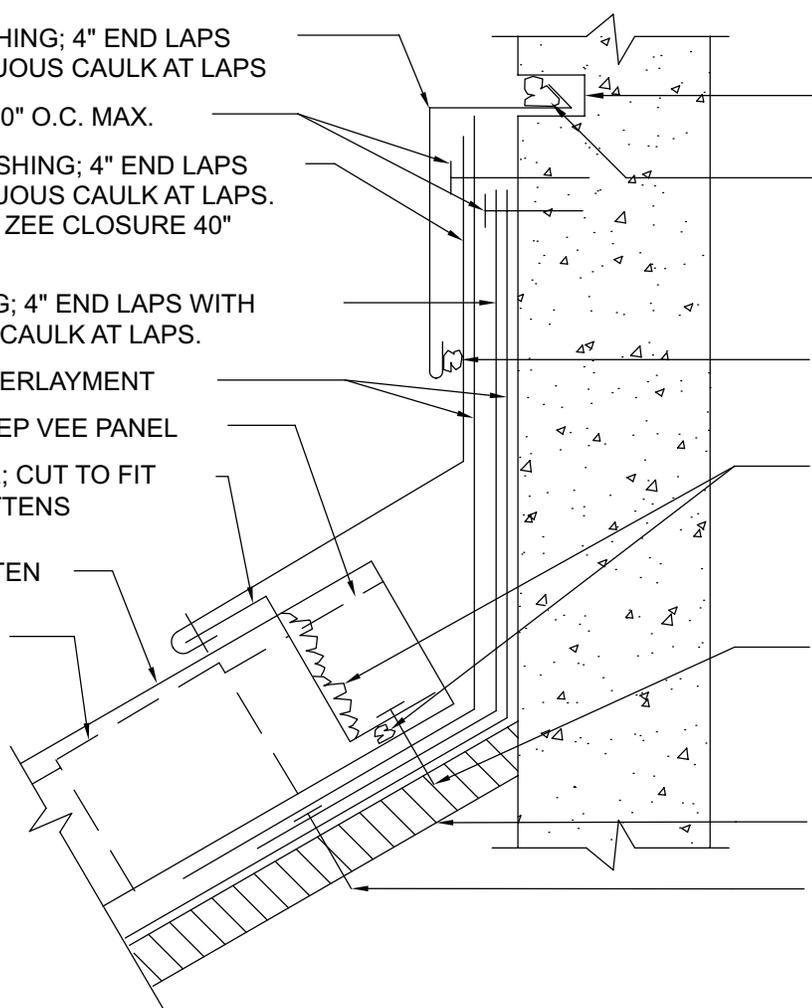
CONTINUOUS BEAD OF CAULK

CONTINUOUS BEAD OF CAULK BETWEEN ZEE CLOSURE, DEEP VEE PANEL AND SNAP ON BATTEN

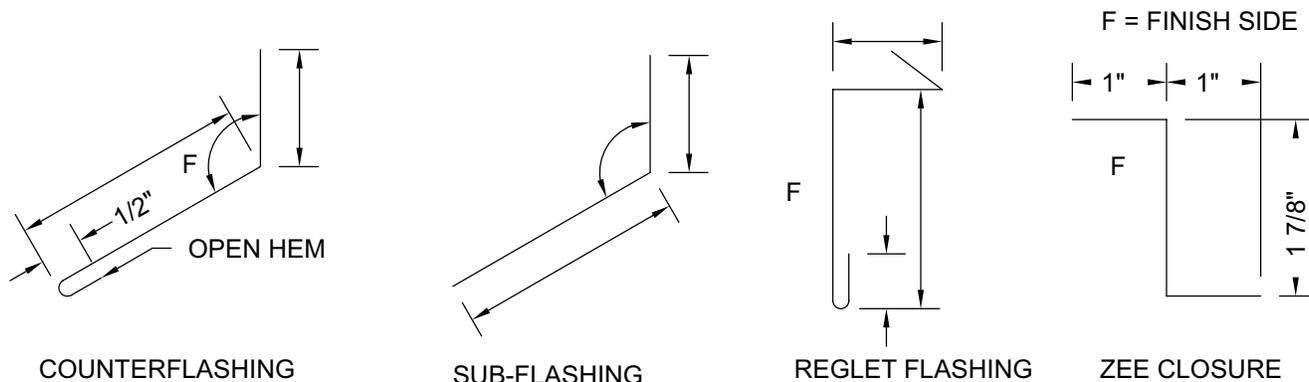
FASTENERS; MIN. 2 PER ZEE CLOSURE

SOLID SHEATHING

FASTENERS; 20" O.C. MAX.



1. FIELD CUT ZEE CLOSURES TO FIT BETWEEN SNAP ON BATTENS.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



**BERRIDGE**  
**B**  
**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**  
*Roofs of Distinction*

**HEAD WALL DETAIL**

**Batten Seam System**

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REGLET FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

FASTENERS; 20" O.C. MAX.

SUB-FLASHING; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS

BERRIDGE DEEP VEE PANEL; FIELD CUT LAST PANEL AND FORM NEW LEG. PANEL TO BE CONTINUOUS RIDGE TO EAVE.

TOP LAYER OF FELT TO BE PARALLEL WITH ROOF SLOPE

# 30 FELT UNDERLAYMENT

SNAP ON BATTEN

SOLID SHEATHING

BATTEN CLIP; 20" O.C. MAX.

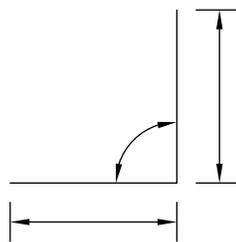
FASTENERS; 20" O.C. MAX.

REGLET

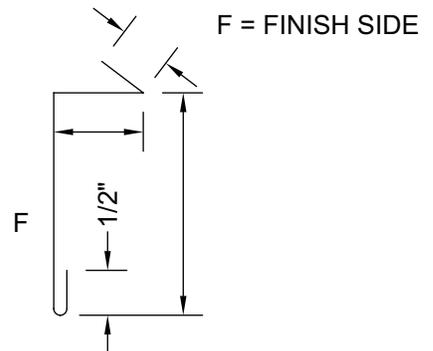
CONTINUOUS CAULK AT REGLET

CONTINUOUS BEAD OF CAULK

1. FIELD CUT LAST PANEL AND FORM NEW LEG. PANEL MUST BE CONTINUOUS RIDGE TO EAVE.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



SUB-FLASHING



REGLET FLASHING



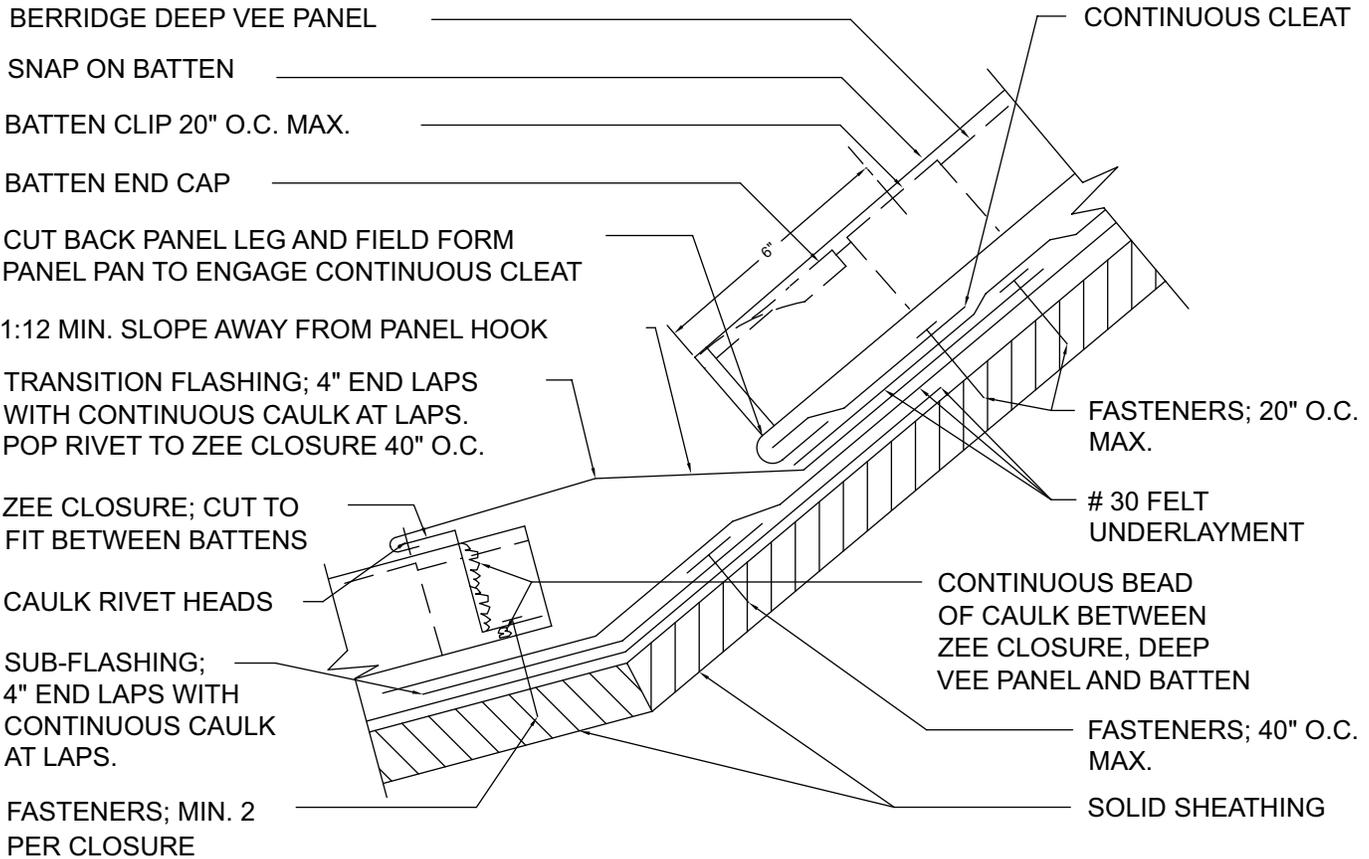
**BERRIDGE**  
MANUFACTURING  
COMPANY

## RAKE WALL DETAIL

### Batten Seam System

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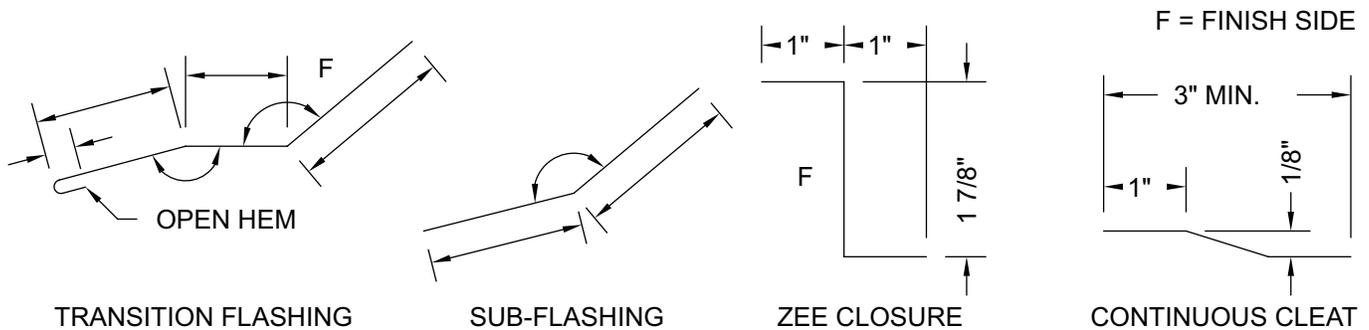
PAGE/FILE  
B-53



NOTE: PLACE A SMALL AMOUNT OF CAULK AT CLEAT FASTENER LOCATION, DRIVE FASTENER, THEN CAULK FASTENER HEAD.

DO NOT: RUN A CONTINUOUS BEAD OF CAULK ON CLEAT OR UNDER CLEAT

1. FIELD CUT ZEE CLOSURE TO FIT BETWEEN SNAP ON BATTENS.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

*Roofs of Distinction*

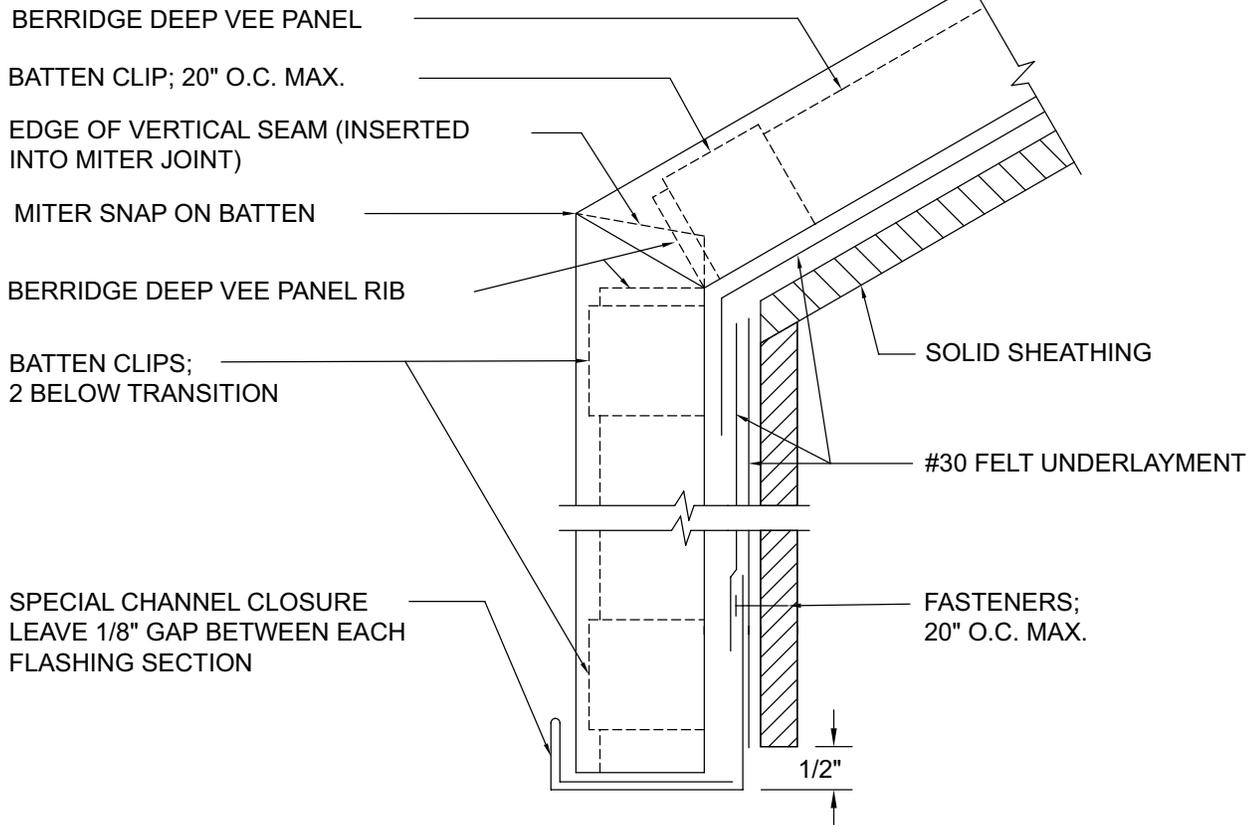
**SLOPE TRANSITION DETAIL**  
**SOLID SUBSTRATE**

**Batten Seam System**

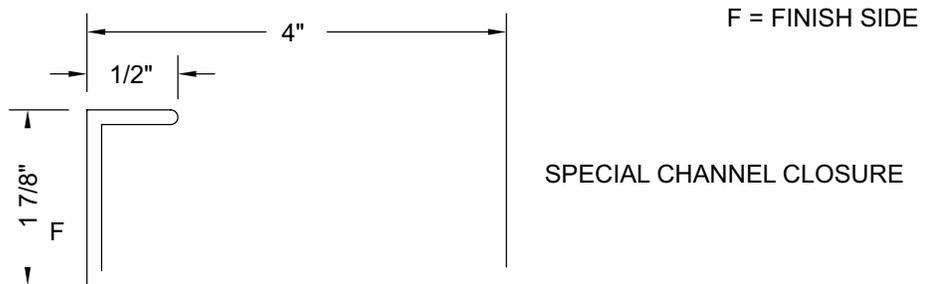
DATE: 04-18-01

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1. FIELD CUT PANEL RIB AND BEND PANEL AS REQUIRED FOR CHANGE IN SLOPE FROM ROOF TO FASCIA.
2. FIELD MITER SNAP-ON BATTEN TO SLOPE CHANGE.
3. ONLY ONE SLOPE TRANSITION PER PANEL IS RECOMMENDED.
4. SEE SLOPE TRANSITION ISOMETRIC FOR ROOF TO FASCIA FOR CAULK AND SNAP-ON BATTEN MITER DETAIL. (DETAIL B-62)
5. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
6. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



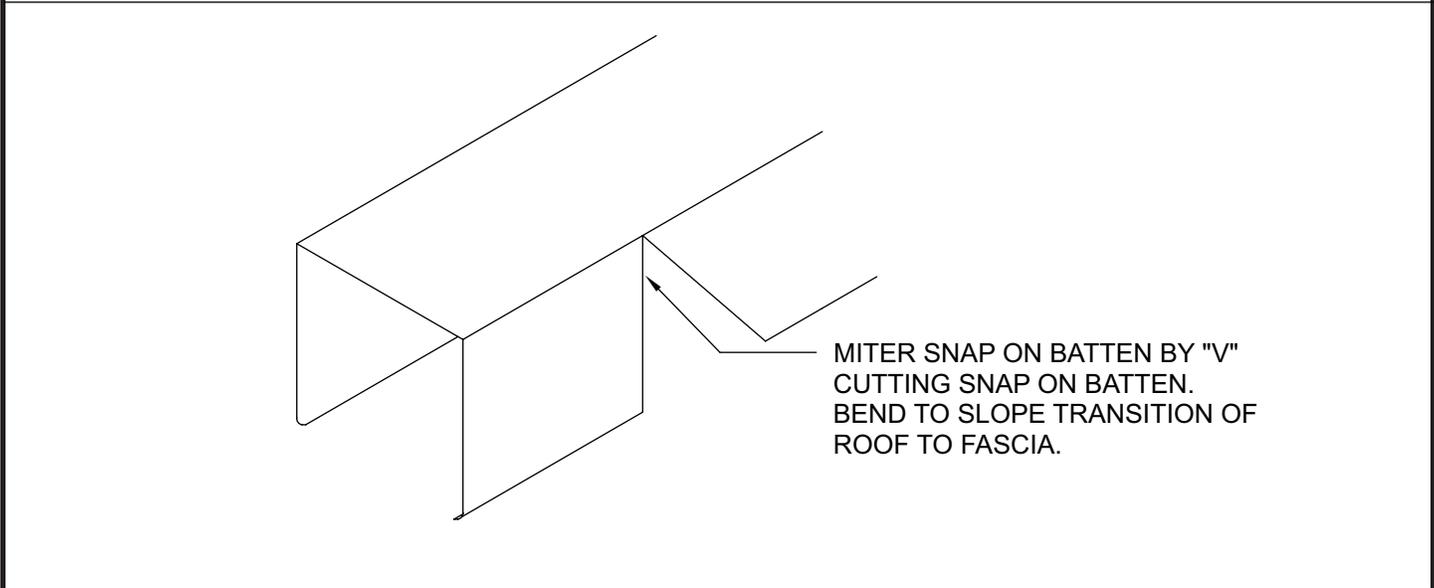
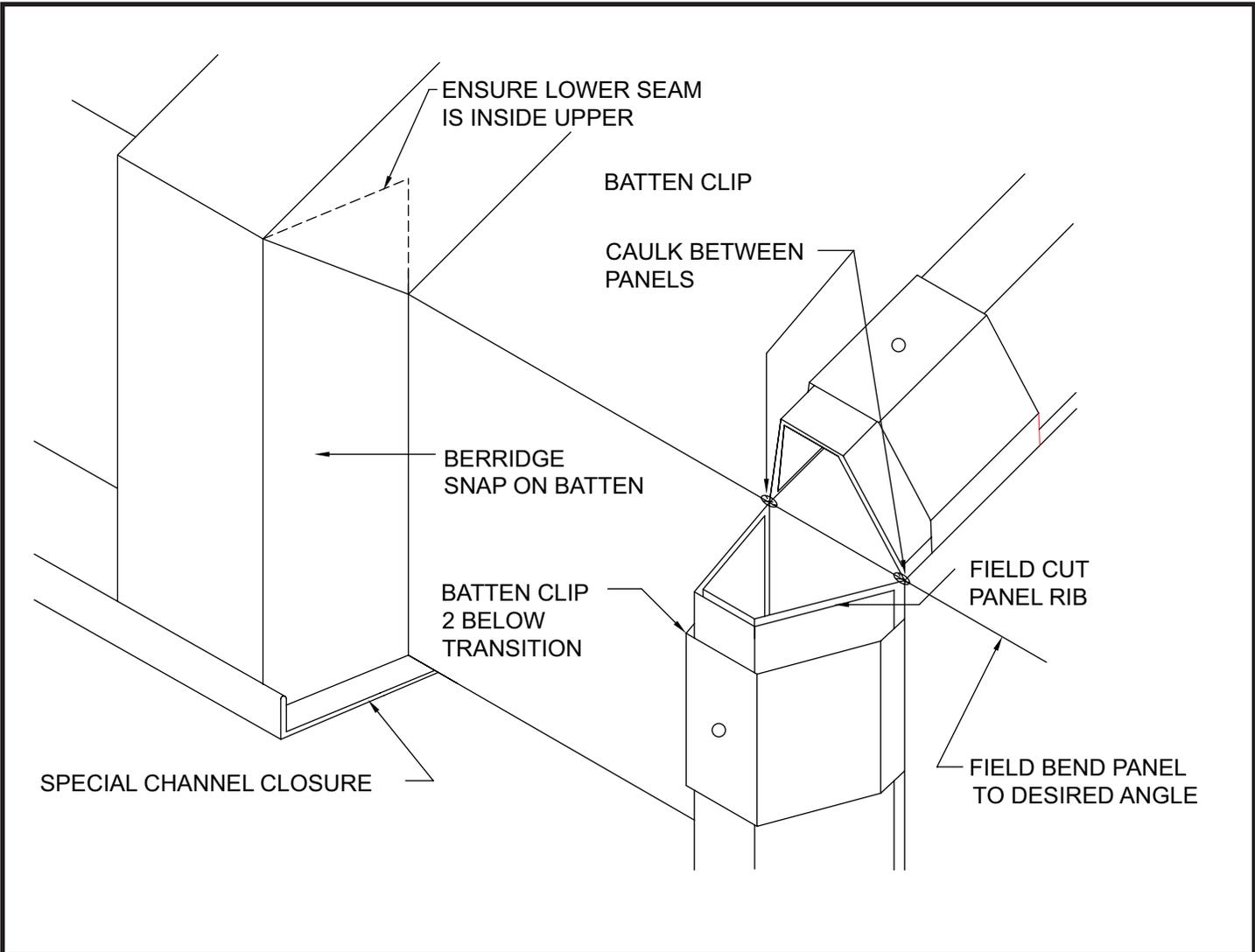
**BERRIDGE  
MANUFACTURING  
COMPANY**

**SLOPE TRANSITION DETAIL  
ROOF TO FASCIA - A**

**Batten Seam System**

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**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

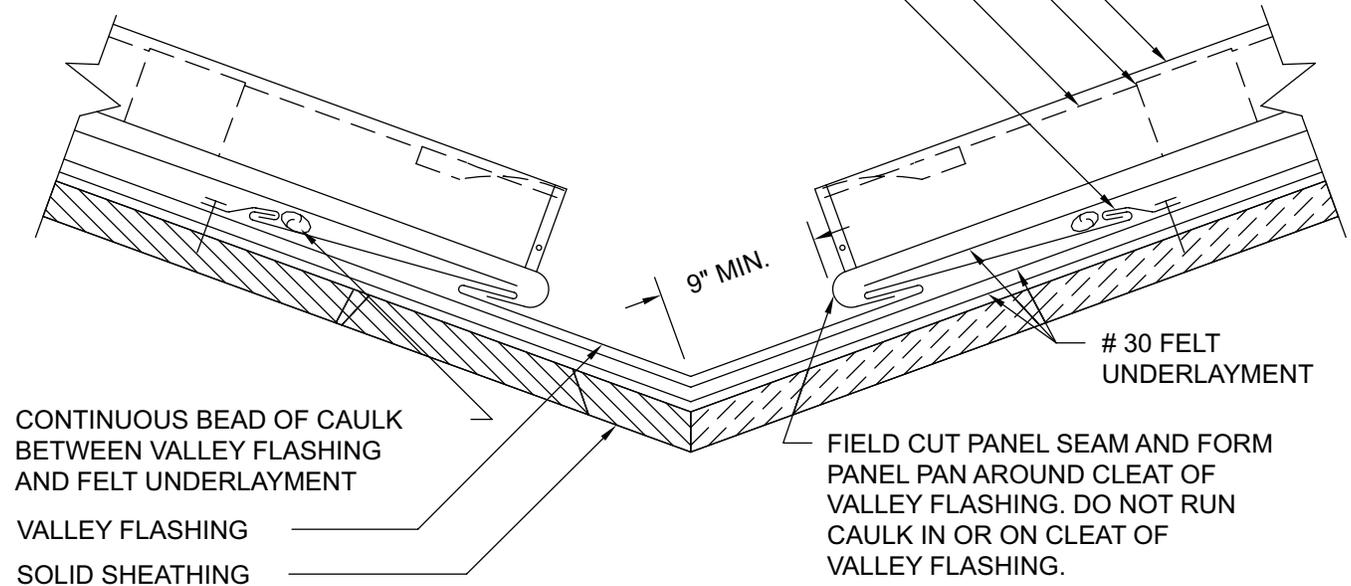
**SLOPE TRANSITION DETAIL**  
**ROOF TO FASCIA - B**

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 B-62

SNAP ON BATTEN  
 BATTEN CLIP; PLACE BEHIND VALLEY FLASHING  
 BERRIDGE DEEP VEE PANEL  
 CONTINUOUS CLEAT; WITH FASTENERS 20" O.C. MAX.

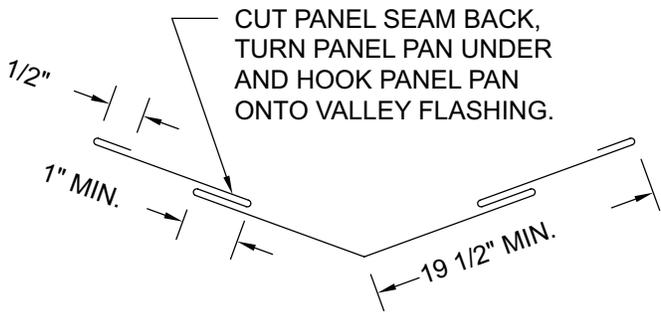


CONTINUOUS BEAD OF CAULK BETWEEN VALLEY FLASHING AND FELT UNDERLAYMENT  
 VALLEY FLASHING  
 SOLID SHEATHING  
 9" MIN.  
 # 30 FELT UNDERLAYMENT  
 FIELD CUT PANEL SEAM AND FORM PANEL PAN AROUND CLEAT OF VALLEY FLASHING. DO NOT RUN CAULK IN OR ON CLEAT OF VALLEY FLASHING.

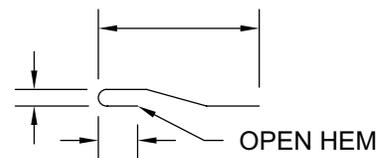
SEE DETAIL B-71 FOR VALLEY FLASHING LAPPING.

1. SOLID SHEATHING (BY OTHERS) TO BE A MINIMUM OF 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
2. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.

F = FINISH SIDE



VALLEY FLASHING



CONTINUOUS CLEAT



**BERRIDGE  
 MANUFACTURING  
 COMPANY**

**VALLEY DETAIL**

**Batten Seam System**

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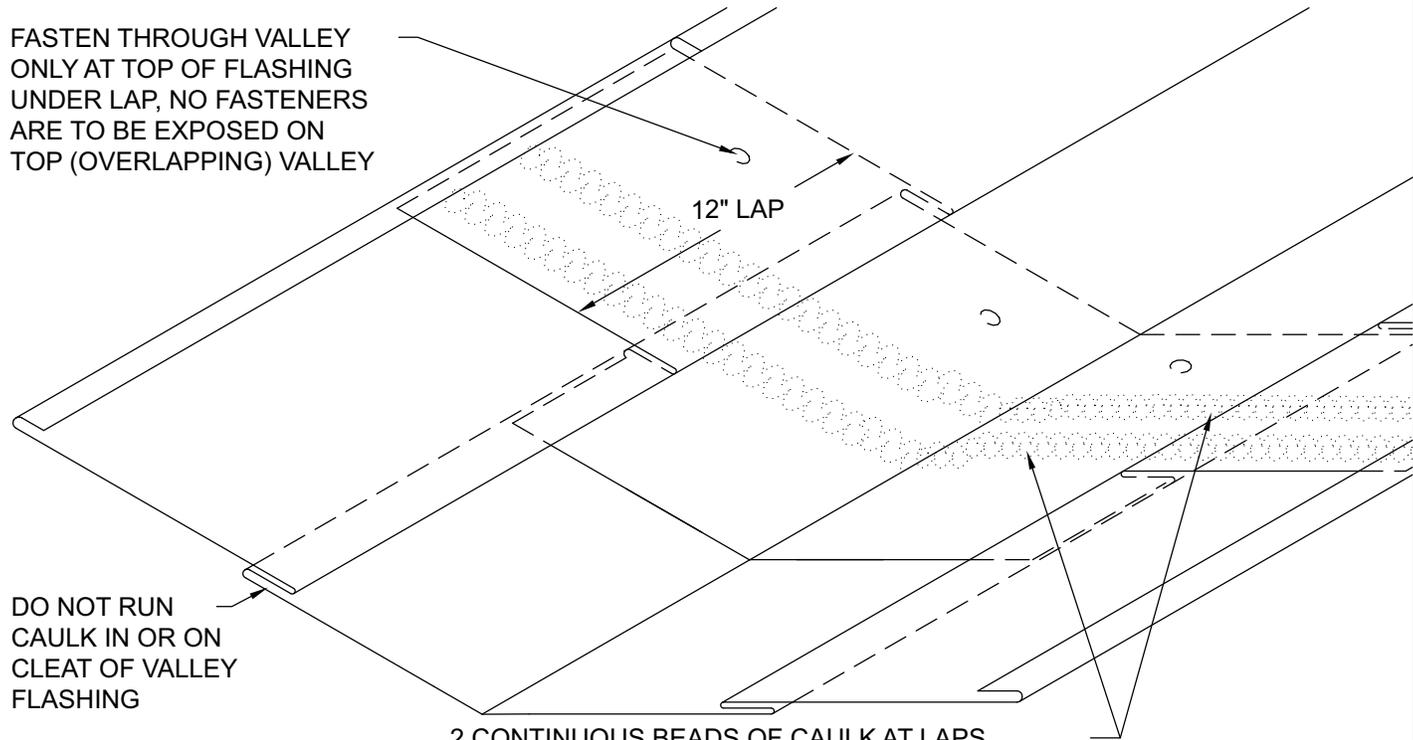
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FASTEN THROUGH VALLEY  
ONLY AT TOP OF FLASHING  
UNDER LAP, NO FASTENERS  
ARE TO BE EXPOSED ON  
TOP (OVERLAPPING) VALLEY

12" LAP

DO NOT RUN  
CAULK IN OR ON  
CLEAT OF VALLEY  
FLASHING

2 CONTINUOUS BEADS OF CAULK AT LAPS



**BERRIDGE**  
MANUFACTURING  
COMPANY

## LAP DETAIL

Batten Seam System

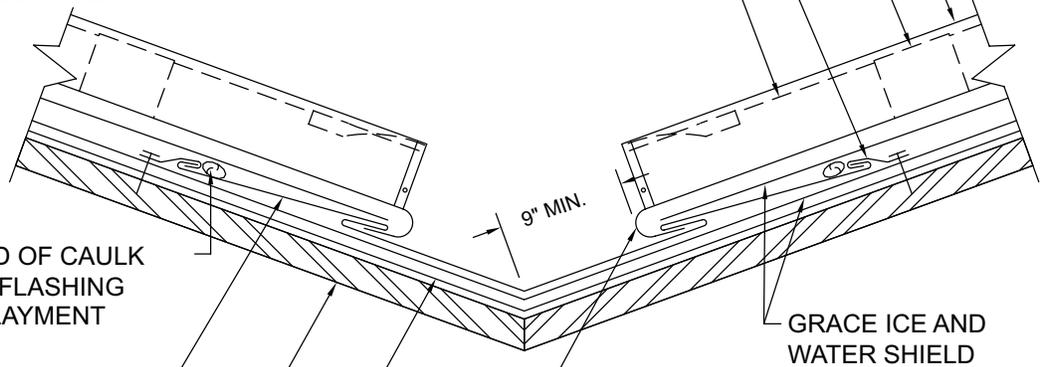
DATE: 04-18-01

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B-71

SNAP ON BATTEN  
 BATTEN CLIP; PLACE BEHIND VALLEY FLASHING  
 CONTINUOUS CLEAT; WITH FASTENERS 20" O.C. MAX.  
 BERRIDGE DEEP VEE PANEL

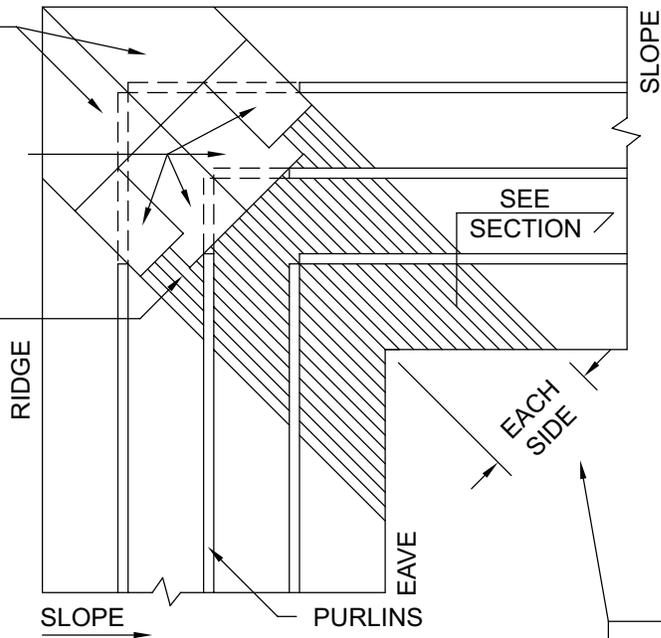
CONTINUOUS BEAD OF CAULK BETWEEN VALLEY FLASHING AND FELT UNDERLAYMENT  
 VALLEY FLASHING  
 BERRIDGE CORRUGATED S-DECK  
 FLAT SHEET VALLEY SUB-FLASHING

FIELD CUT PANEL SEAM AND FORM PANEL PAN AROUND CLEAT OF VALLEY FLASHING, DO NOT RUN CAULK IN OR UNDER CLEAT OF VALLEY FLASHING.



\* FLASHING PROFILES AND NOTES, SEE DETAIL B-70 AND B-71

GRACE ICE AND WATER SHIELD RUN RIDGE TO EAVE  
 FLAT SHEET VALLEY SUB-FLASHING RUN RIDGE TO EAVE  
 BERRIDGE CORRUGATED S-DECK

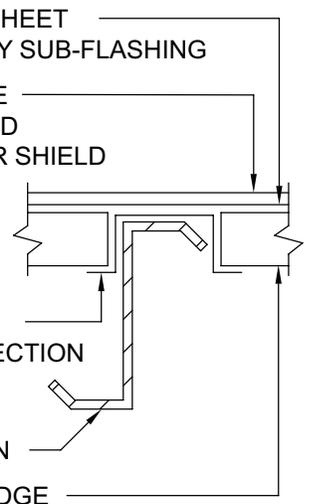


FLAT SHEET VALLEY SUB-FLASHING

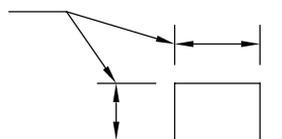
GRACE ICE AND WATER SHIELD

16 GA. HAT SECTION

PURLIN  
 BERRIDGE CORRUGATED S-DECK SECTION



16 GA. HAT SECTION SIZED TO FIT OVER PURLIN AND TO ACCOMMODATE THE DEPTH OF THE BERRIDGE CORRUGATED S-DECK.



ROOFS WITH A SLOPE OF 4:12 OR LESS 6'-0" MIN.  
 ROOFS ABOVE 4:12 3'-0" MIN.



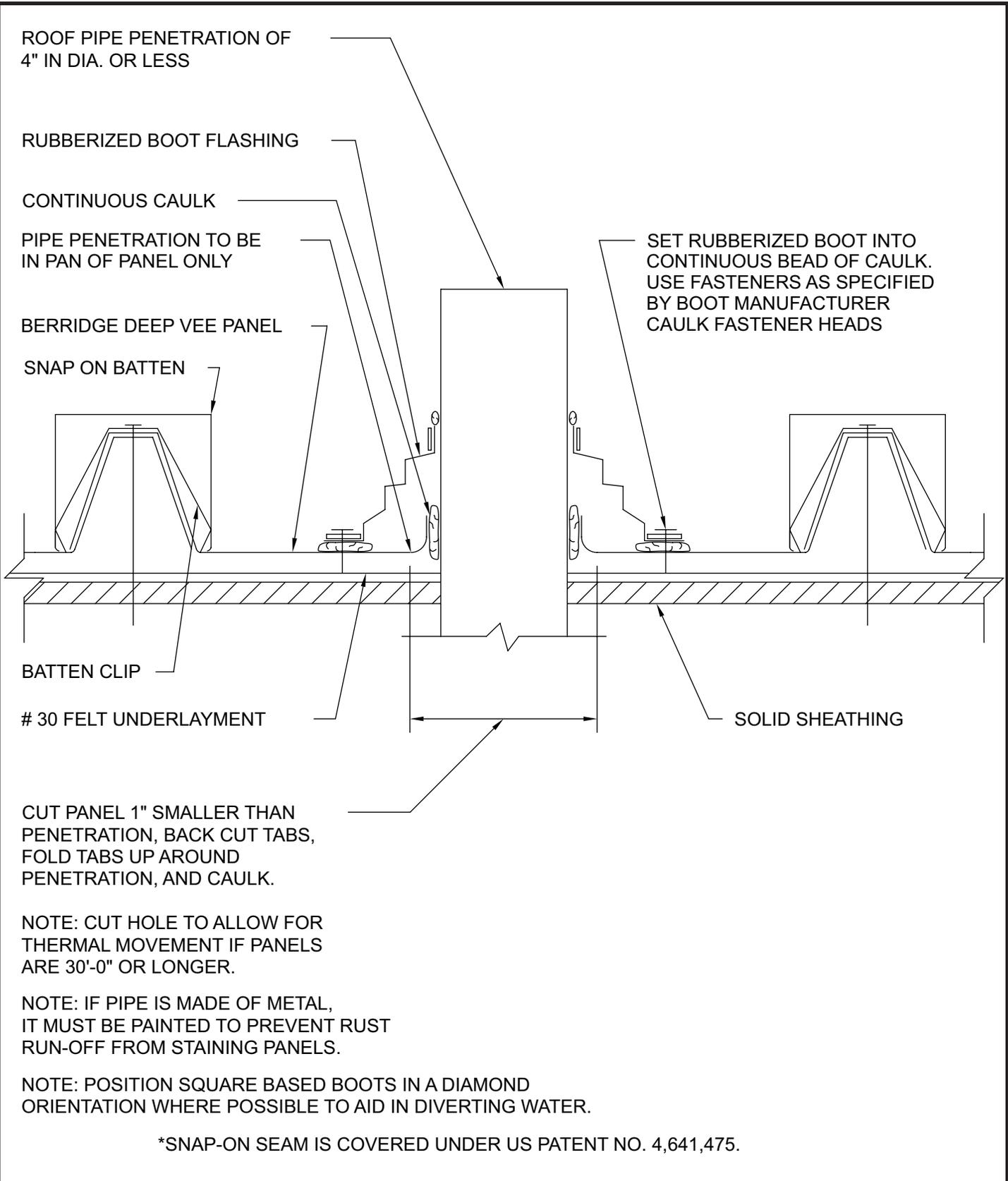
**BERRIDGE**  
 MANUFACTURING  
 COMPANY

**VALLEY DETAIL  
 OPEN FRAMING**

**Batten Seam System**

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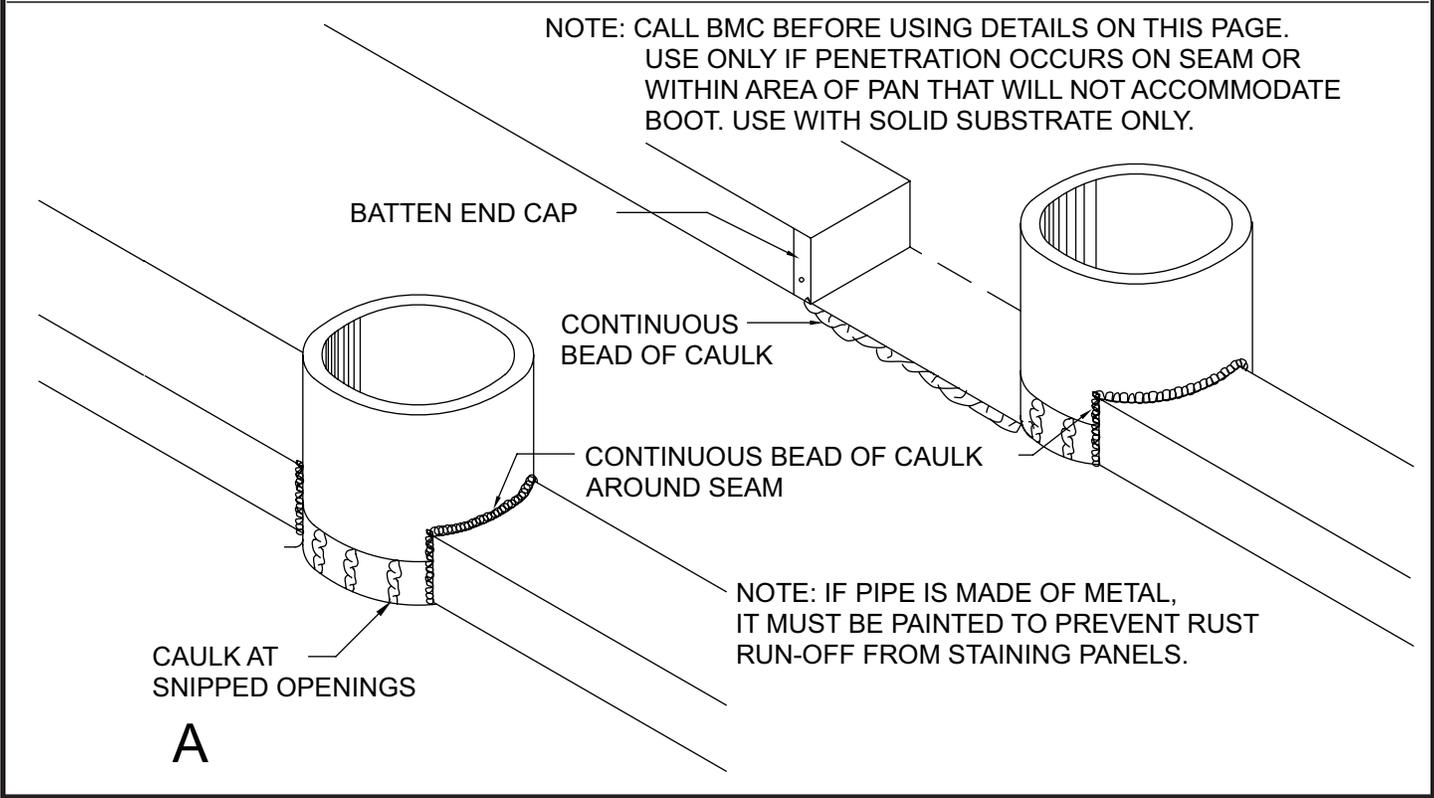
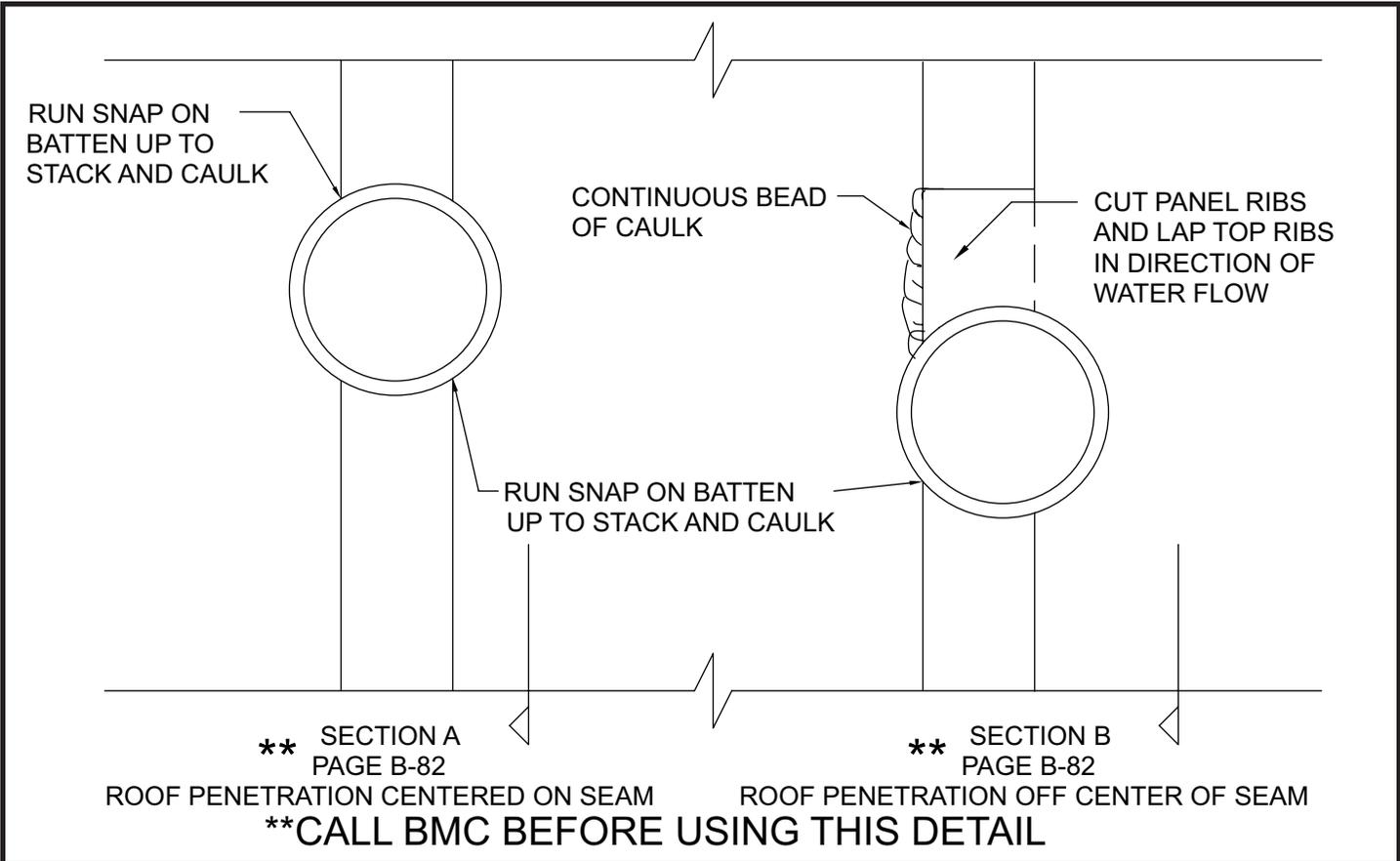
**BERRIDGE  
MANUFACTURING  
COMPANY**

**PIPE PENETRATION  
(PREFERRED METHOD)  
IN PAN OF PANEL ONLY 4" DIA. OR LESS**

**Batten Seam System**

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 <p><b>BERRIDGE</b> MANUFACTURING COMPANY</p> <p><i>Roofs of Distinction</i></p>	<p>PIPE PENETRATION OF PANEL BATTEN ISOMETRIC AND PLAN VIEW</p> <p><b>**CALL BMC BEFORE USING THIS DETAIL</b></p>	<p>DATE: 04-18-01</p>
	<p><b>Batten Seam System</b></p>	<p>PAGE/FILE</p> <p>B-81</p>

# SECTION A \*\*

USE THIS DETAIL WHEN STACK IS CENTERED ON SNAP ON BATTEN

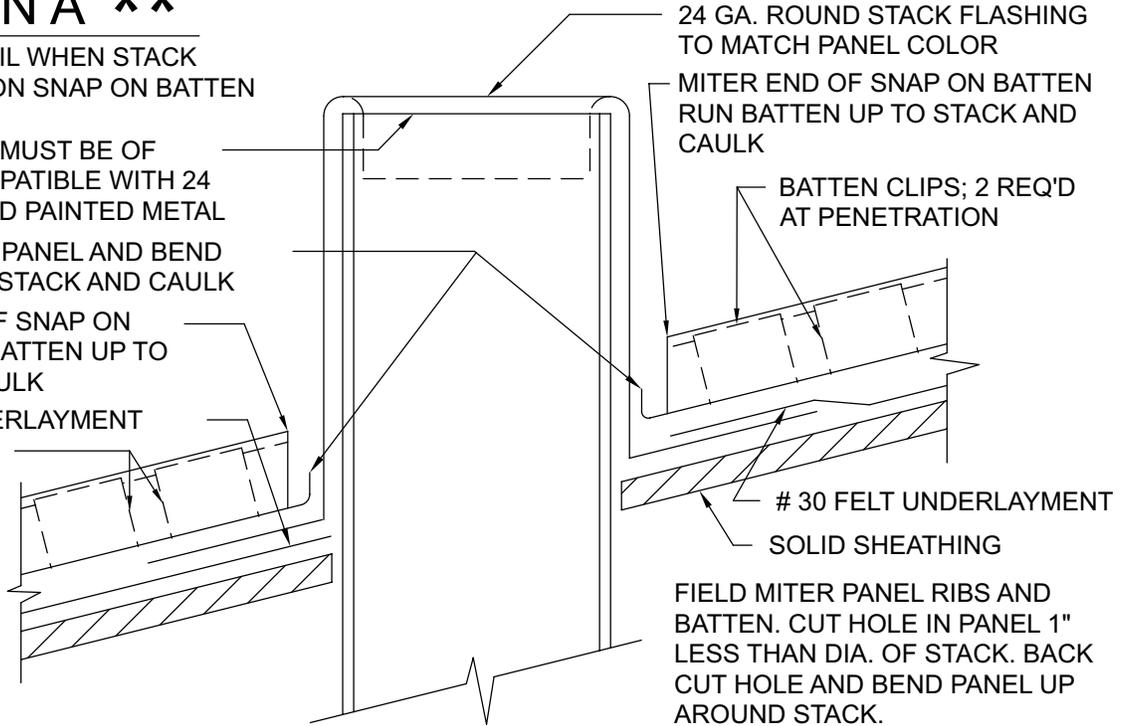
ROUND STACK MUST BE OF MATERIAL COMPATIBLE WITH 24 GA. GALVANIZED PAINTED METAL

CUT DEEP VEE PANEL AND BEND UP 1" AROUND STACK AND CAULK

MITER ENDS OF SNAP ON BATTEN. RUN BATTEN UP TO STACK AND CAULK

# 30 FELT UNDERLAYMENT

BATTEN CLIPS; 2 REQ'D AT PENETRATION



24 GA. ROUND STACK FLASHING TO MATCH PANEL COLOR

MITER END OF SNAP ON BATTEN RUN BATTEN UP TO STACK AND CAULK

BATTEN CLIPS; 2 REQ'D AT PENETRATION

# 30 FELT UNDERLAYMENT

SOLID SHEATHING

FIELD MITER PANEL RIBS AND BATTEN. CUT HOLE IN PANEL 1" LESS THAN DIA. OF STACK. BACK CUT HOLE AND BEND PANEL UP AROUND STACK.

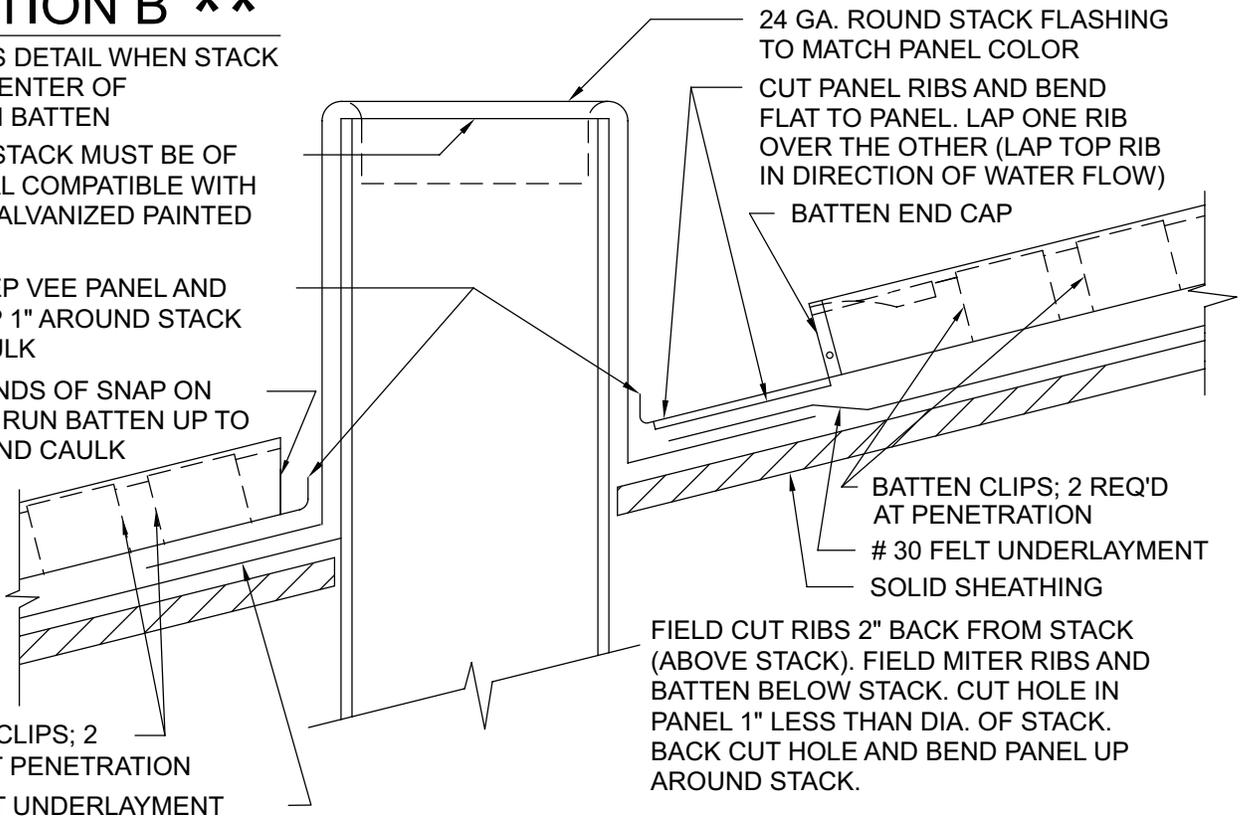
# SECTION B \*\*

USE THIS DETAIL WHEN STACK IS OFF CENTER OF SNAP ON BATTEN

ROUND STACK MUST BE OF MATERIAL COMPATIBLE WITH 24 GA. GALVANIZED PAINTED METAL

CUT DEEP VEE PANEL AND BEND UP 1" AROUND STACK AND CAULK

MITER ENDS OF SNAP ON BATTEN. RUN BATTEN UP TO STACK AND CAULK



24 GA. ROUND STACK FLASHING TO MATCH PANEL COLOR

CUT PANEL RIBS AND BEND FLAT TO PANEL. LAP ONE RIB OVER THE OTHER (LAP TOP RIB IN DIRECTION OF WATER FLOW)

BATTEN END CAP

BATTEN CLIPS; 2 REQ'D AT PENETRATION

# 30 FELT UNDERLAYMENT

SOLID SHEATHING

FIELD CUT RIBS 2" BACK FROM STACK (ABOVE STACK). FIELD MITER RIBS AND BATTEN BELOW STACK. CUT HOLE IN PANEL 1" LESS THAN DIA. OF STACK. BACK CUT HOLE AND BEND PANEL UP AROUND STACK.

BATTEN CLIPS; 2 REQ'D AT PENETRATION

# 30 FELT UNDERLAYMENT



**BERRIDGE  
MANUFACTURING  
COMPANY**

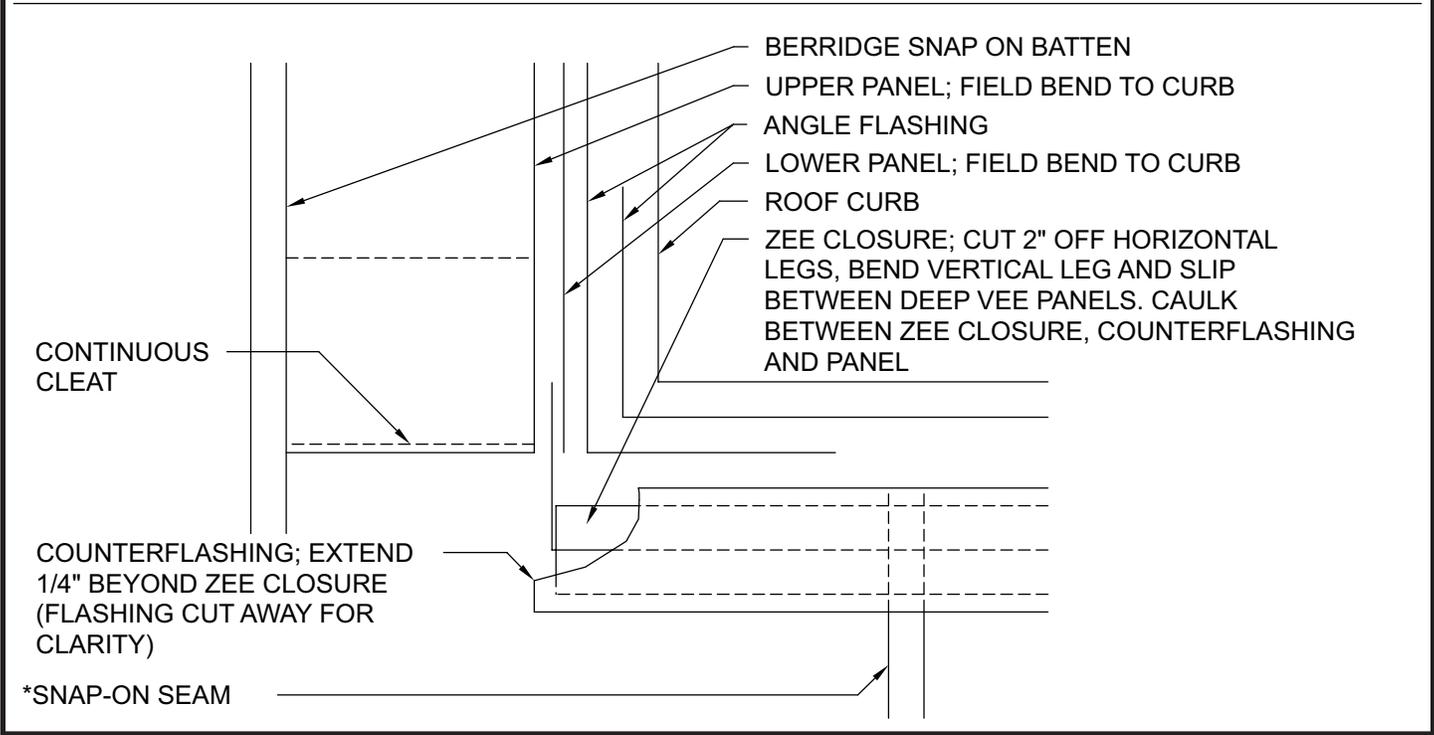
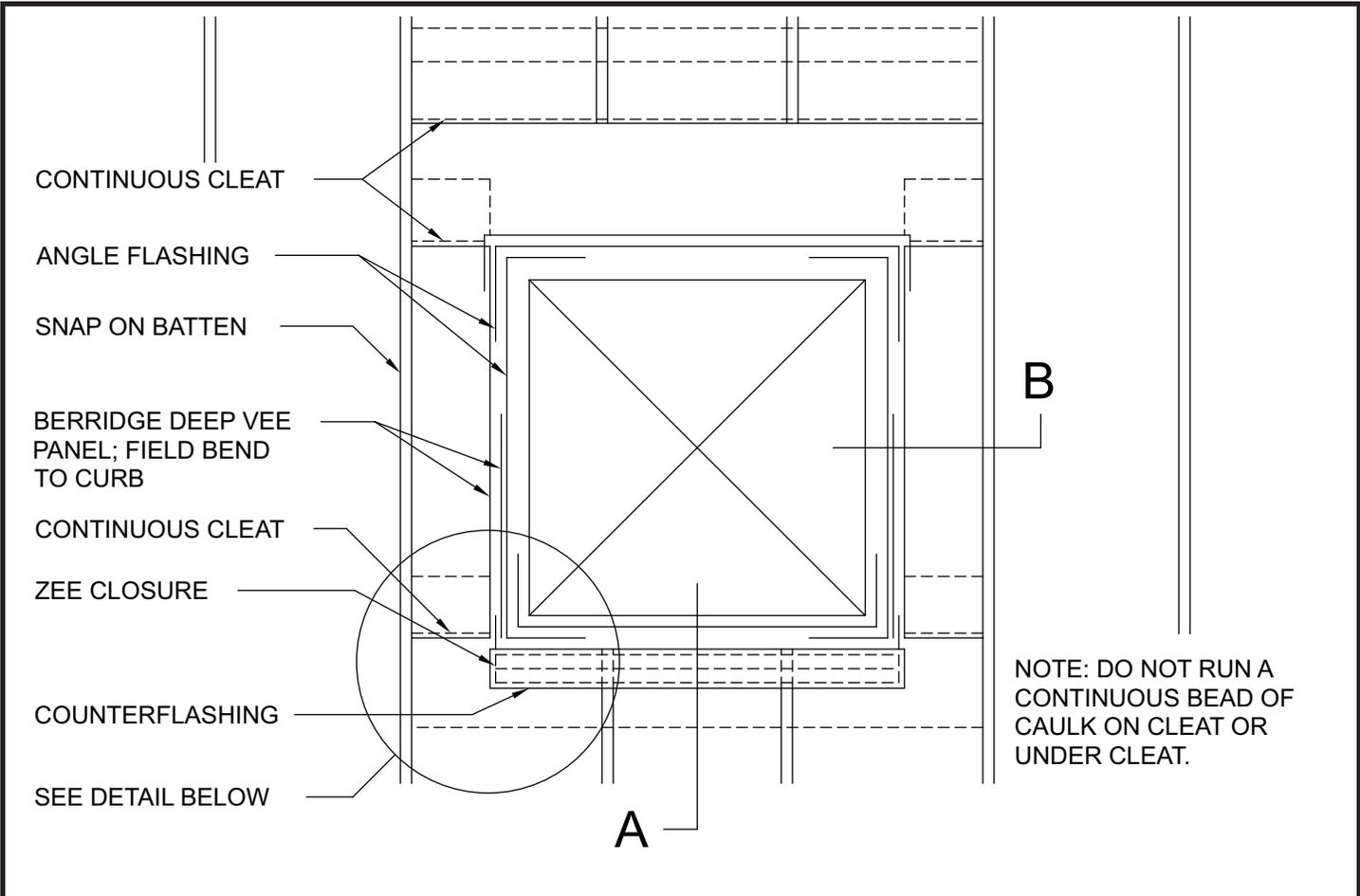
PIPE PENETRATION  
ON PANEL BATTEN; SECTIONS  
\*\*CALL BMC BEFORE USING THIS DETAIL

**Batten Seam System**

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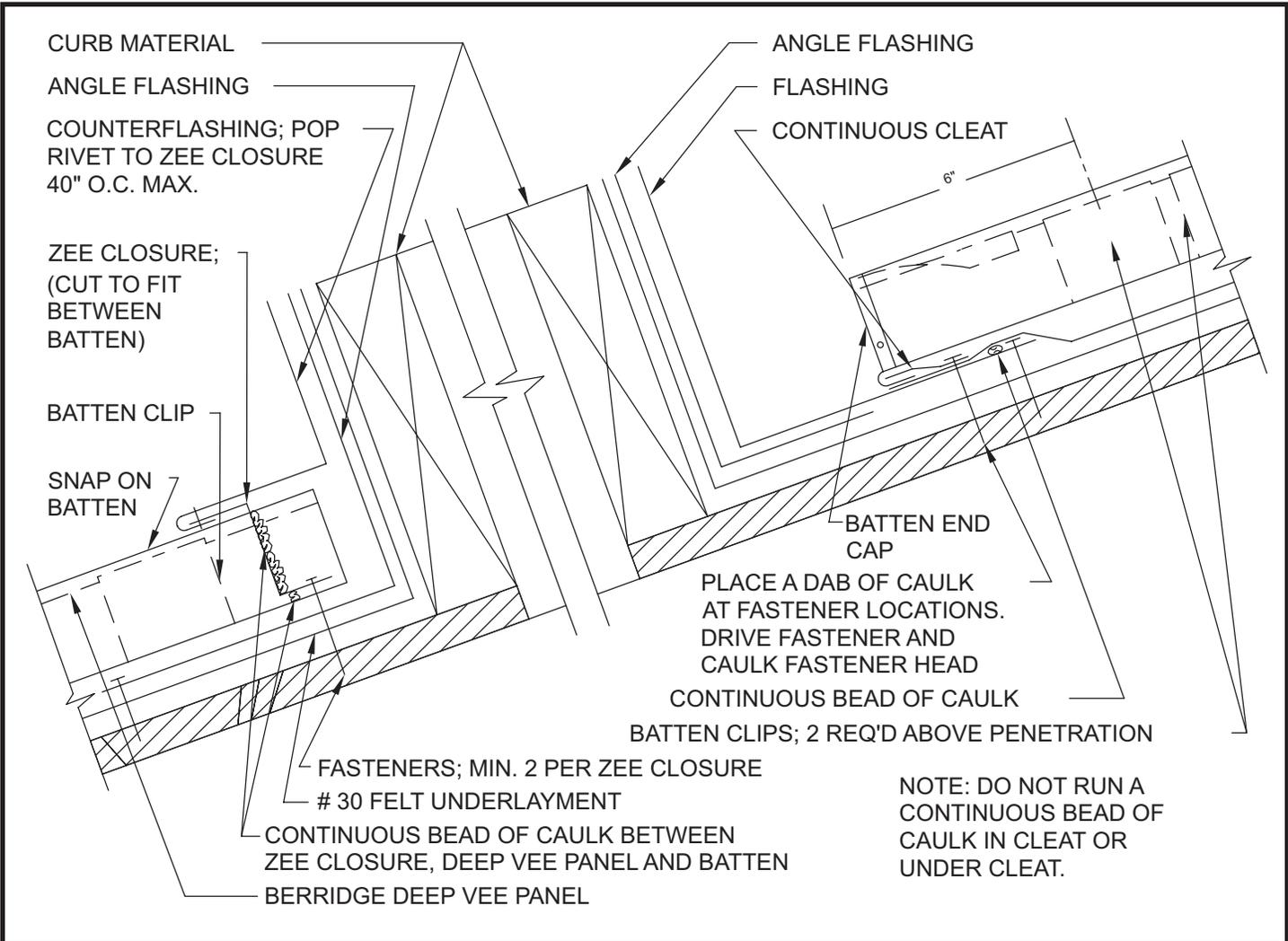
**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

**ROOF PENETRATION**  
**RECTANGULAR/SQUARE**

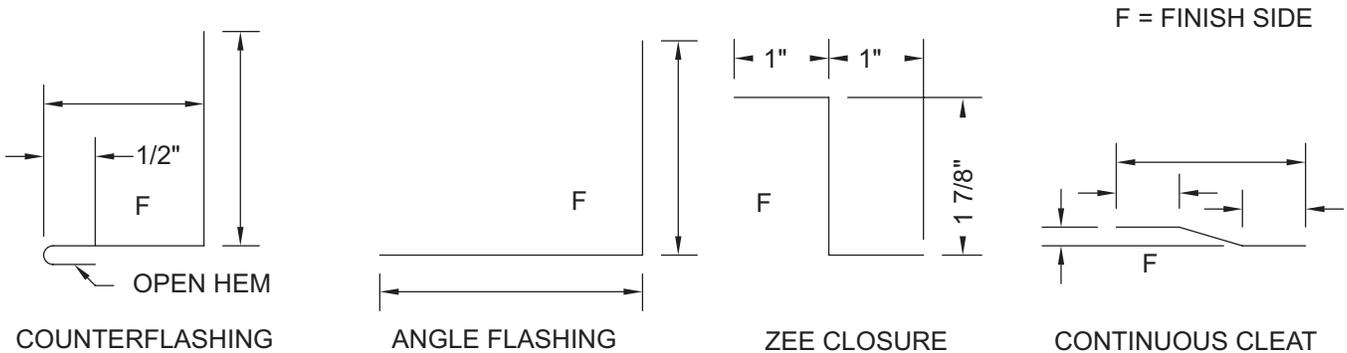
**Batten Seam System**

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1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
2. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



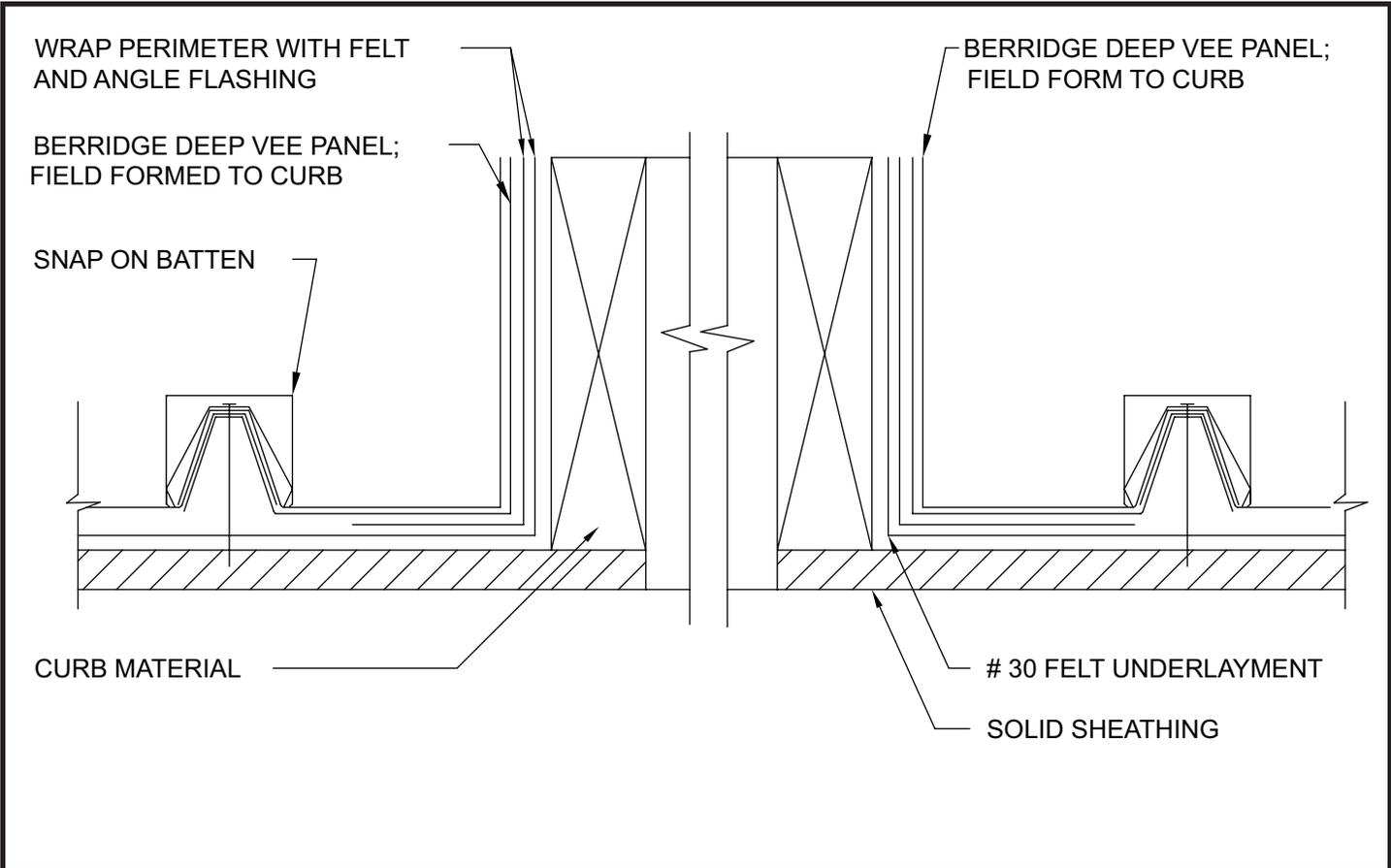
**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

**ROOF PENETRATION**  
**SECTION A**

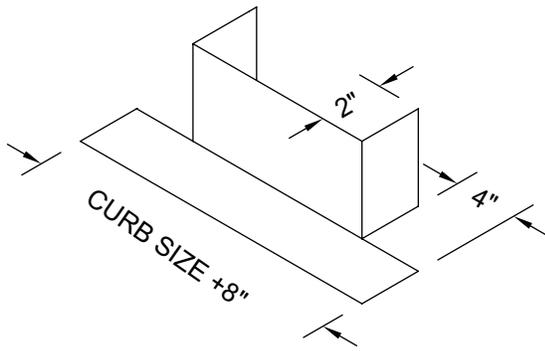
**Batten Seam System**

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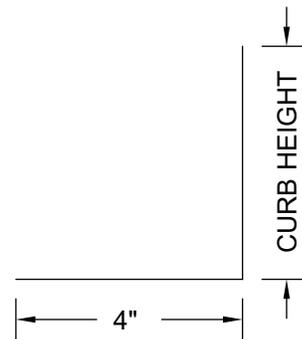
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 B-84



1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS. (METAL CORRUGATED SHEATHING, MIN. 24 GA. MAY BE USED IN LIEU OF PLYWOOD).
2. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



WRAP FLASHING



ANGLE FLASHING



**BERRIDGE  
MANUFACTURING  
COMPANY**

**ROOF PENETRATION  
SECTION B**

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DO NOT: RUN CONTINUOUS  
CAULK ON OR UNDER  
CONTINUOUS CLEAT

CONTINUOUS CLEAT

FLASHING

HEM PANEL PAN  
UNDER BOTH SIDES OF  
PENETRATION

BERRIDGE DEEP VEE PANEL;  
FIELD BEND TO CURB

ANGLE FLASHING

SEE DETAIL BELOW

ZEE CLOSURE; CUT  
AND BEND AT END  
AND CAULK

ANGLE FLASHING

UPPER  
DEEP VEE PANEL

LOWER  
DEEP VEE PANEL

CONTINUOUS CLEAT

COUNTERFLASHING; EXTEND  
1/4" BEYOND ZEE CLOSURE  
(CUT AWAY VIEW FOR CLARITY)

ZEE CLOSURE

CONTINUOUS BEAD OF CAULK  
BETWEEN ZEE CLOSURE  
AND PANEL



**BERRIDGE  
MANUFACTURING  
COMPANY**

*Roofs of Distinction*

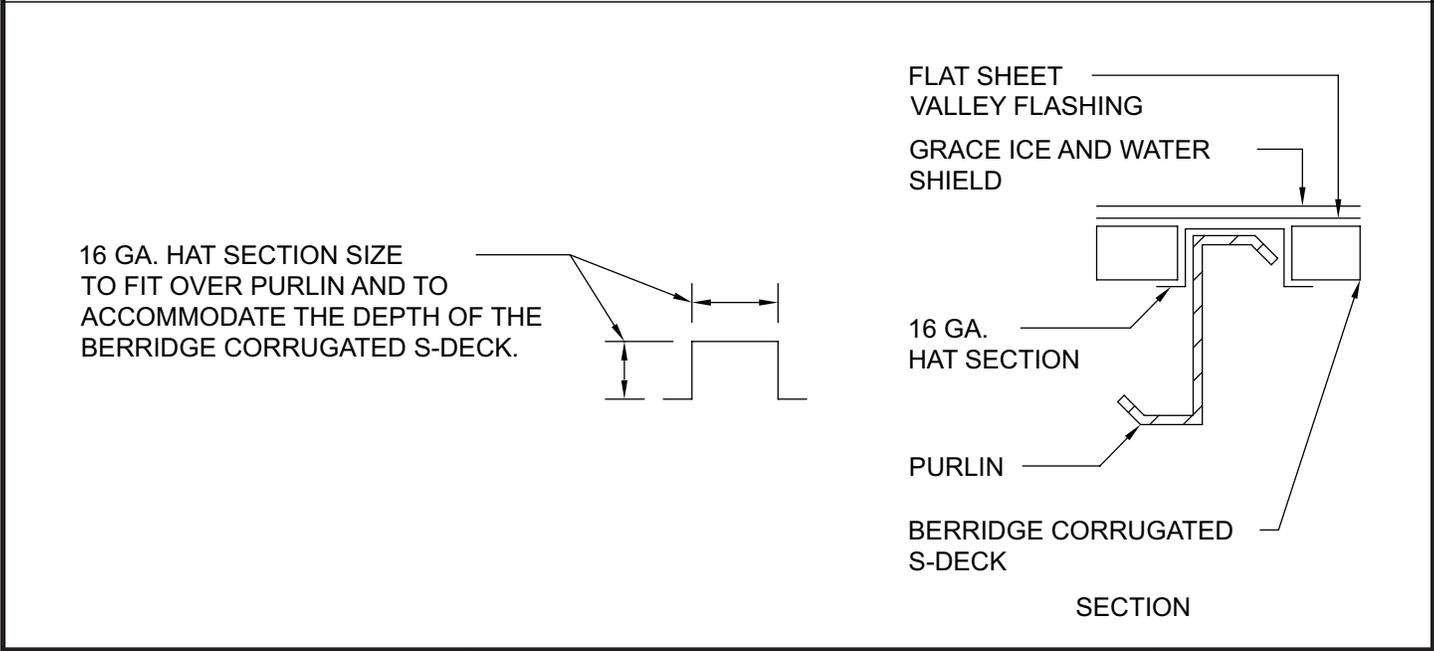
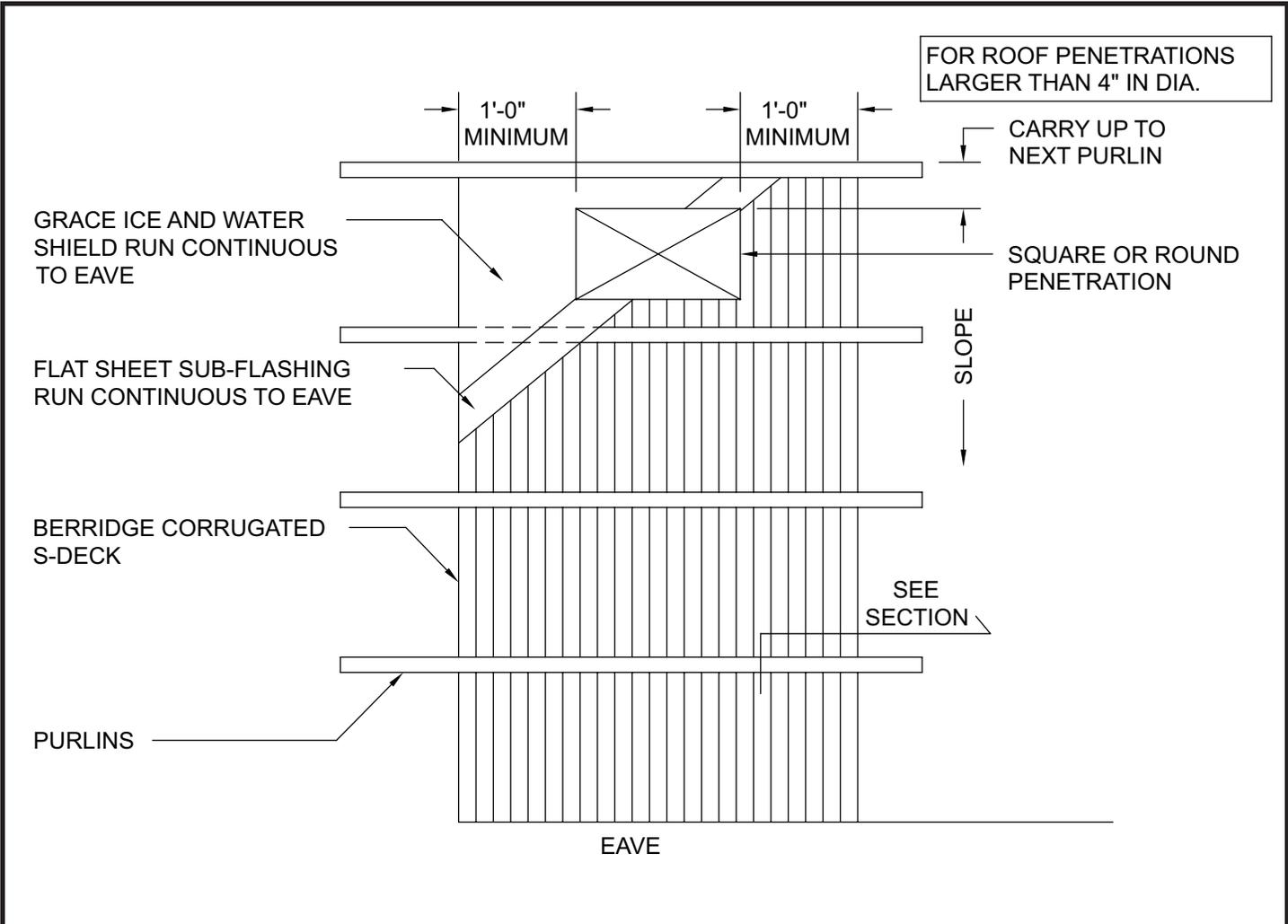
## ROOF PENETRATION ISOMETRIC

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**BERRIDGE  
MANUFACTURING  
COMPANY**

*Roofs of Distinction*

**PENETRATION  
LARGER THAN 4";  
OPEN FRAMING**

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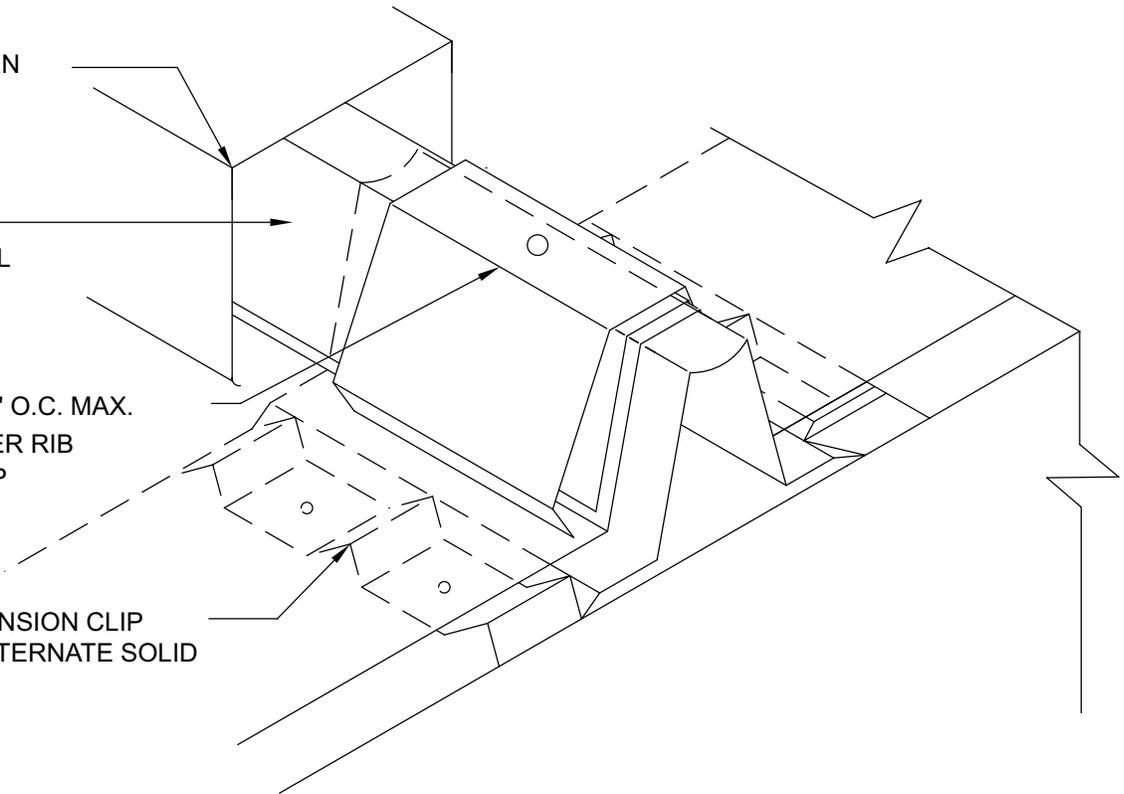
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SNAP ON BATTEN

BERRIDGE  
DEEP VEE PANEL

BATTEN CLIP 20" O.C. MAX.  
FASTEN TO INNER RIB  
EXPANSION CLIP

INNER RIB EXPANSION CLIP  
ON PURLINS (ALTERNATE SOLID  
SHEATHING)



1. THE INNER RIB EXPANSION CLIP MAY BE USED AS PER THIS DETAIL ON SOLID SHEATHING OR OPEN FRAMING CONDITIONS FOR PANEL LENGTHS UNDER 30'-0" FOR PANELS OVER 30'-0" SEE DETAILS B-93 AND B-94.
2. THE INNER RIB EXPANSION CLIP WHEN USED AS PER THIS DETAIL ALLOWS LARGER FASTENERS TO BE USED, TO RESIST HIGHER UPLIFT LOADS, WITHOUT THE HEAD TELESCOPING THROUGH THE PANEL OR BATTEN. CONSULT BERRIDGE MANUFACTURING FOR FASTENER REQUIREMENTS.
3. THE INNER RIB EXPANSION CLIP CAN ALSO BE USED WITH THE CONTINUOUS INNER RIB. THE CONTINUOUS INNER RIB ACTS AS A BEAM BETWEEN PURLINS TO INCREASE THE ALLOWABLES FOR BOTH POSITIVE AND NEGATIVE LOADING.

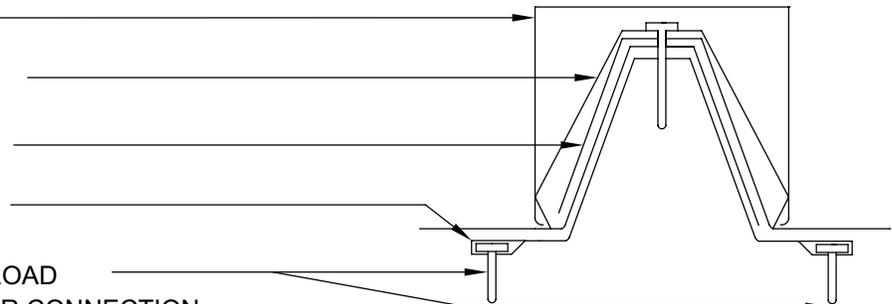
SNAP ON BATTEN

BATTEN CLIP, 20" O.C. MAX.

BERRIDGE DEEP VEE PANEL

INNER RIB EXPANSION CLIP

FASTENERS, DETERMINED BY LOAD  
REQUIREMENTS, MINIMUM 2 PER CONNECTION



**BERRIDGE  
MANUFACTURING  
COMPANY**

INNER RIB EXPANSION CLIP ASSEMBLY FOR:  
SPECIAL WIND LOAD APPLICATIONS OTHER  
THAN UL 90 REQUIREMENTS  
(FOR PANELS LESS THAN 30'-0" LONG)

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③ SNAP ON BATTEN

⑤ FASTENER, #10 X 1" @ 20" O.C.

④ BATTEN CLIP, 20" O.C.

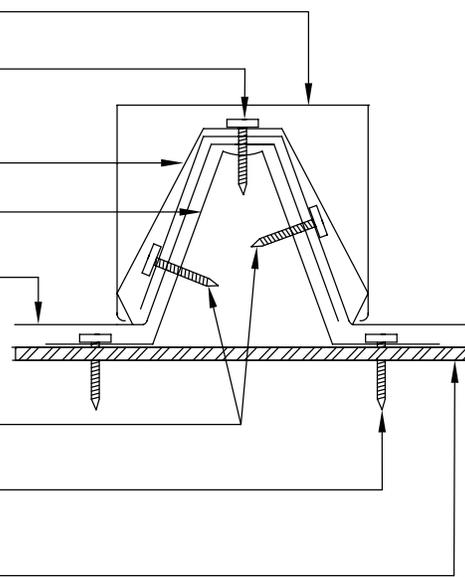
② CONTINUOUS INNER RIB

① METAL ROOF DECK PANELS  
(BERRIDGE DEEP VEE PANEL)

⑥ #10 FASTENERS, ALTERNATING 12" O.C.

⑦ FASTENER, (1) #10 X 1" PER  
PURLIN/RIB CONNECTION (EACH SIDE)

⑧ PURLIN



1. METAL ROOF DECK PANELS-NO. 24 MSG MIN. GUAGE COATED STEEL PANELS CONTINUOUS OVER 2 OR MORE SPANS WITHOUT END LAPS. PANEL WIDTH TO BE 16" O.C.

"BERRIDGE MANUFACTURING COMPANY-DEEP VEE PANEL"

2. CONTINUOUS INNER RIB-FABRICATED FROM .024 INCH THICK COATED STEEL TO GENERAL CONFIGURATION OF PANEL. CONTINUOUS INNER RIB LOCATED AT EACH PANEL RIB AND EQUAL TO LENGTH OF PANEL.

BERRIDGE MANUFACTURING COMPANY-"CONTINUOUS INNER RIB"

3. SNAP ON BATTEN-LOCATED AT EACH PANEL SIDE LAP. FABRICATED FROM .024 INCH THICK COATED STEEL, FORMED TO SNAP OVER BATTEN CLIPS.

4. BATTEN CLIP-LOCATED AT EACH PANEL RIB. SPACED 20" ON CENTER. FABRICATED FROM .024 INCH THICK COATED STEEL, IN LOCK FORMING CONFIGURATION.

5. FASTENERS-FASTENERS FOR ATTACHMENT OF BATTEN CLIP TO DEEP VEE PANEL TO BE #10 X 1" AT 20" ON CENTER.

6. FASTENERS-FASTENERS FOR ATTACHMENT OF DEEP VEE PANEL TO CONTINUOUS INNER RIB TO BE #10 X 1" ALTERNATING 12" ON CENTER FULL LENGTH OF RIB.

7. FASTENERS-FASTENERS FOR ATTACHMENT OF CONTINUOUS INNER RIB TO PURLIN CONNECTION TO BE (2) #10 X 1" PER PURLIN AND RIB CONNECTION.

8. PURLIN-STEEL NO. 16 MSG MIN. THICKNESS (50,000 PSI MIN. YIELD STRENGTH) @ 5'-0" MAX.

9. SEE DETAIL B-92



**BERRIDGE  
MANUFACTURING  
COMPANY**

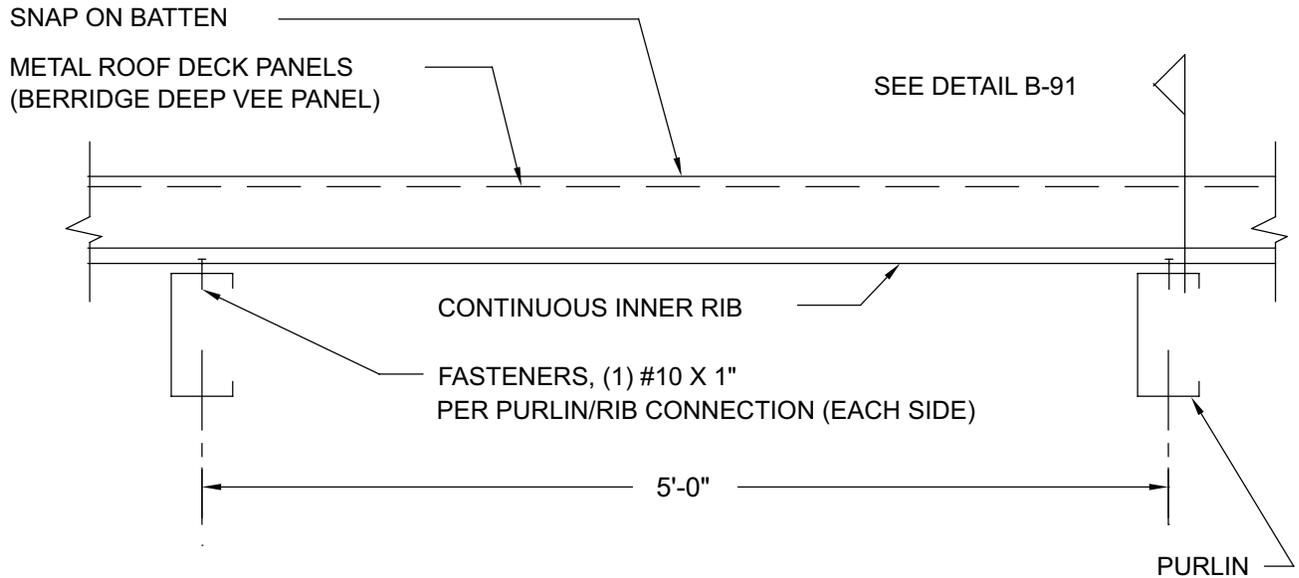
UL 90 APPROVED-CONST. NO. 262  
DEEP VEE PANEL  
CONTINUOUS RIB ASSEMBLY

**Batten Seam System**

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**SIDE ELEVATION**

1. METAL ROOF DECK PANELS-NO. 24 MSG MIN. GAUGE COATED STEEL. PANELS CONTINUOUS OVER 2 OR MORE SPANS WITHOUT END LAPS. PANEL WIDTH TO BE 16" O.C.
2. CONTINUOUS INNER RIB-FABRICATED FROM .024 INCH THICK COATED STEEL TO GENERAL CONFIGURATION OF PANEL. CONTINUOUS INNER RIB LOCATED AT EACH PANEL RIB AND EQUAL TO LENGTH OF PANEL.
3. SNAP ON BATTEN-LOCATED AT EACH PANEL SIDE LAP. FABRICATED FROM .024 INCH THICK COATED STEEL, FORMED TO SNAP OVER BATTEN CLIPS.
4. PURLIN-STEEL NO. 16 MSG MIN. THICKNESS (50,000 PSI MIN. YIELD STRENGTH).

**CONTINUOUS INNER RIB TO DEEP VEE PANEL ERECTION PROCEDURE**

IN ORDER TO AVOID BUCKLING OR DISTORTION OF THE DEEP VEE PANEL PAN WHEN USED WITH THE CONTINUOUS INNER RIB IN THE BERRIDGE BATTEN SEAM ROOF SYSTEM, EACH CONTINUOUS INNER RIB MUST BE ALIGNED AND INSTALLED SIMULTANEOUSLY WITH EACH DEEP VEE PANEL. IN ORDER TO AVOID DISTORTION OF THE DEEP VEE PANEL PAN, THE FOLLOWING PROCEDURE MUST BE ADHERED TO

1. WITH INNER RIB AND DEEP VEE PANEL IN ALIGNMENT, ATTACH ONE SIDE OF INNER RIB TO PURLIN.
2. NEXT, LIFT THE DEEP VEE PANEL AND ATTACH THE OTHER SIDE OF THE INNER RIB.
3. LAP THE NEXT PANEL OVER THE PREVIOUS PANEL AND ATTACH TO THE INNER RIB WITH #10 FASTENERS AT THE CROWN OF THE PANEL RIB TO ASSURE PANEL AND INNER RIB STAY IN ALIGNMENT.

**DO NOT LAY OUT INNER RIBS AHEAD OF PANELS  
DO NOT OVERDRIVE #10 FASTENERS**



**BERRIDGE  
MANUFACTURING  
COMPANY**

UL 90 APPROVED-CONST. NO. 262  
DEEP VEE PANEL  
CONTINUOUS RIB ASSEMBLY

**Batten Seam System**

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BERRIDGE DEEP VEE PANEL

BATTEN CLIP, 24" O.C.  
(DO NOT ATTACH TO THE  
INNER RIB EXPANSION CLIP)

SNAP ON BATTEN

12" MIN.

INNER RIB

INNER RIB EXPANSION  
CLIP AT EACH PURLIN

2 1/2" X 8" PURLIN  
AT 5'-0" O.C. MAX.

NOTES: FOR PROPER SPACING

1. ATTACH INNER RIB AND INNER RIB EXPANSION CLIP WITH EACH PANEL. ATTACH SCREWS ON ONE SIDE OF CLIP, LIFT PANEL AND ATTACH SCREWS ON OTHER SIDE OF CLIP.
2. DO NOT SCREW PANEL OR BATTEN CLIP TO INNER RIB EXPANSION CLIP.

BERRIDGE PORTABLE ROLL FORMERS HAVE BEEN WIDELY ACCEPTED AND USED. STRUCTURAL PANELS ARE NO LONGER LIMITED IN LENGTH BECAUSE OF SHIPPING RESTRICTIONS. PANELS CAN NOW BE RUN OVER ONE HUNDRED FEET LONG. BUT THE PANEL SYSTEM MUST BE DESIGNED TO MOVE FROM EXPANSION AND CONTRACTION.

BERRIDGE MANUFACTURING COMPANY IS NOW INTRODUCING THE "INNER RIB EXPANSION CLIP" WHICH ALLOWS THE BERRIDGE BATTEN SYSTEM TO FLOAT AND MOVE ON THE INNER RIB. THE PANELS ARE ATTACHED TO THE INNER RIB WHICH MOVES WITHIN THE INNER RIB EXPANSION CLIP.

EXPANSION AND CONTRACTION OF METAL PANELS WHICH EXCEED THIRTY FEET IN LENGTH CAN BE A FACTOR IN THE DESIGN AND INSTALLATION OF FLASHINGS. PLEASE REFER TO THE CHART ON PAGE BI-9 TO DETERMINE ANTICIPATED THERMAL MOVEMENT OF PANELS.

SEE ALSO EAVE EXPANSION DETAIL B-95



**BERRIDGE  
MANUFACTURING  
COMPANY**

**INNER RIB EXPANSION CLIP  
USED ON OPEN FRAMING**  
TO BE USED WHEN PANEL LENGTH IS 30'-0" OR MORE

**Batten Seam System**

DATE: 04-18-01

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B-93

BERRIDGE DEEP VEE PANEL

BATTEN CLIP, 24" O.C.  
(DO NOT ATTACH TO THE  
INNER RIB EXPANSION CLIP)

SNAP ON BATTEN

12" MIN.

INNER RIB

INNER RIB EXPANSION  
CLIP AT 5'-0" O.C. MAX.

SOLID SHEATHING

30# FELT UNDERLAYMENT  
(SEE FELTING INSTRUCTIONS)

**NOTES: FOR PROPER SPACING**

1. ATTACH INNER RIB AND INNER RIB EXPANSION CLIP WITH EACH PANEL. ATTACH SCREWS ON ONE SIDE OF CLIP, LIFT PANEL AND ATTACH SCREWS ON OTHER SIDE OF CLIP.
2. DO NOT SCREW PANEL OR BATTEN CLIP TO INNER RIB EXPANSION CLIP.

BERRIDGE PORTABLE ROLL FORMERS HAVE BEEN WIDELY ACCEPTED AND USED. STRUCTURAL PANELS ARE NO LONGER LIMITED IN LENGTH BECAUSE OF SHIPPING RESTRICTIONS. PANELS CAN NOW BE RUN OVER ONE HUNDRED FEET LONG. BUT THE PANEL SYSTEM MUST BE DESIGNED TO MOVE FROM EXPANSION AND CONTRACTION.

BERRIDGE MANUFACTURING COMPANY IS NOW INTRODUCING THE "INNER RIB EXPANSION CLIP" WHICH ALLOWS THE BERRIDGE BATTEN SYSTEM TO FLOAT AND MOVE ON THE INNER RIB. THE PANELS ARE ATTACHED TO THE INNER RIB WHICH MOVES WITHIN THE INNER RIB EXPANSION CLIP.

EXPANSION AND CONTRACTION OF METAL PANELS WHICH EXCEED THIRTY FEET IN LENGTH CAN BE A FACTOR IN THE DESIGN AND INSTALLATION OF FLASHINGS. PLEASE REFER TO THE CHART ON PAGE BI-9 TO DETERMINE ANTICIPATED THERMAL MOVEMENT OF PANELS.

SOLID SHEATHING TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.

SEE ALSO EAVE EXPANSION DETAIL B-95



**BERRIDGE  
MANUFACTURING  
COMPANY**

*Roofs of Distinction*

**INNER RIB EXPANSION CLIP  
USED ON SOLID SHEATHING**

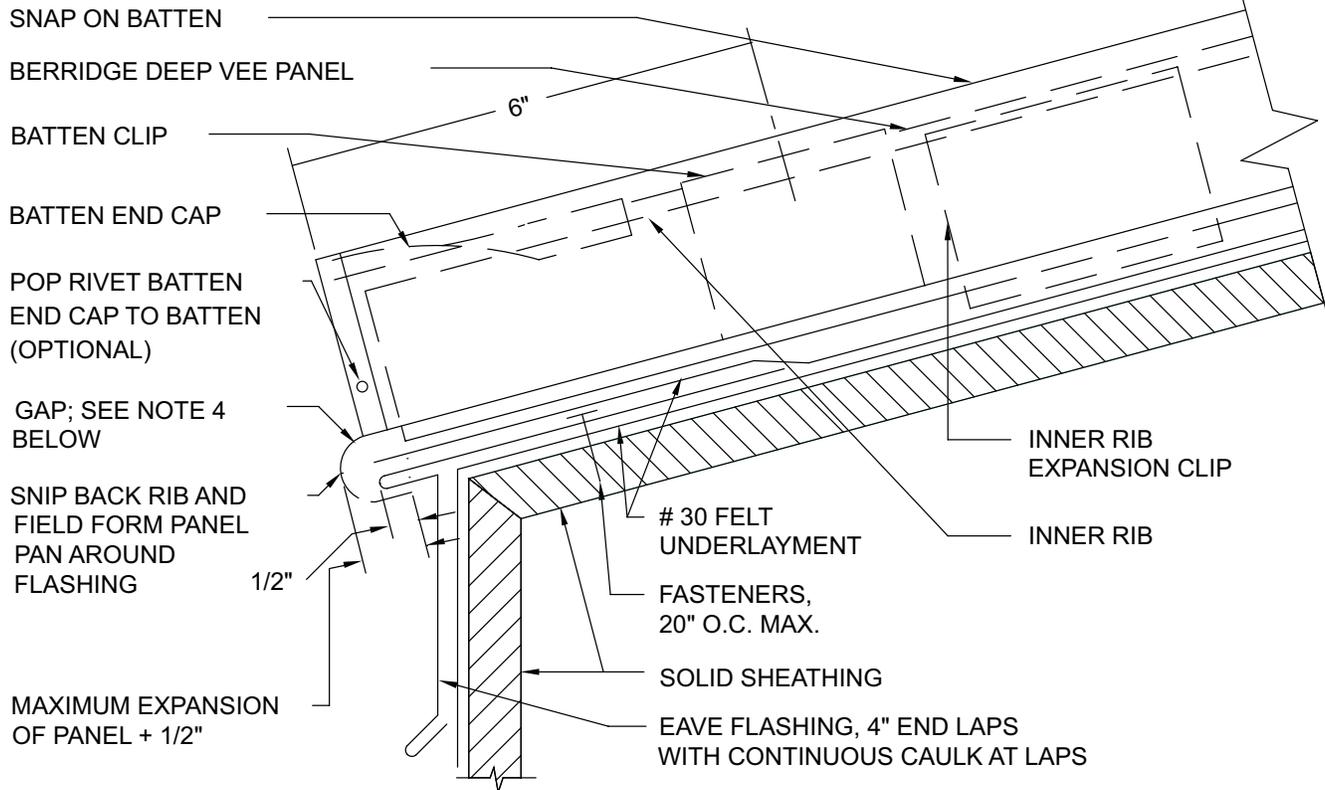
TO BE USED WHEN PANEL LENGTH IS 30'-0" OR MORE

**Batten Seam System**

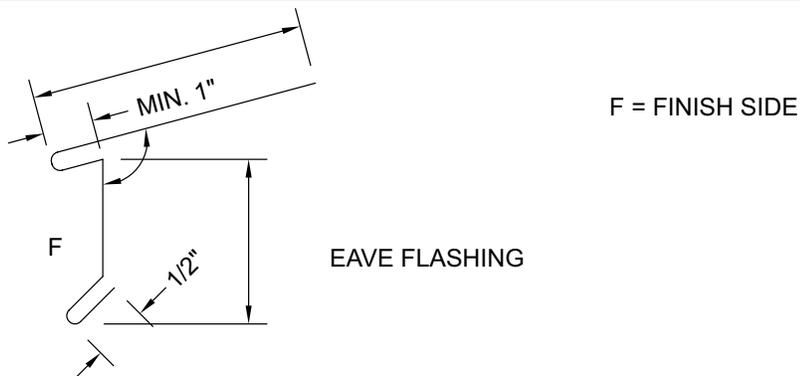
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1. THIS DETAIL IS RECOMMENDED FOR AREAS WITH HEAVY SNOW LOADS OR WHERE EXPANSION AND CONTRACTION OF PANELS IS A DESIGN FACTOR.
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
3. ALL FELT UNDERLAYMENT, CAULKING AND FASTENERS ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.
4. THE "GAP BETWEEN EAVE FLASHING AND PANEL (SEE DETAIL ABOVE) CAN BE INCREASED TO ALLOW FOR LINEAR EXPANSION AND CONTRACTION OF PANELS. NOTE 1/2" OF PANEL PAN MUST BE ENGAGED WITH EAVE FLASHING WHEN PANEL HAS EXPANDED TO ITS MAXIMUM LENGTH. REFER TO DETAIL BI-9.
5. GAP BETWEEN EAVE FLASHING AND PANEL MUST BE ADJUSTED TO SUIT TEMPERATURE DURING INSTALLATION.



**BERRIDGE**  
**MANUFACTURING**  
**COMPANY**

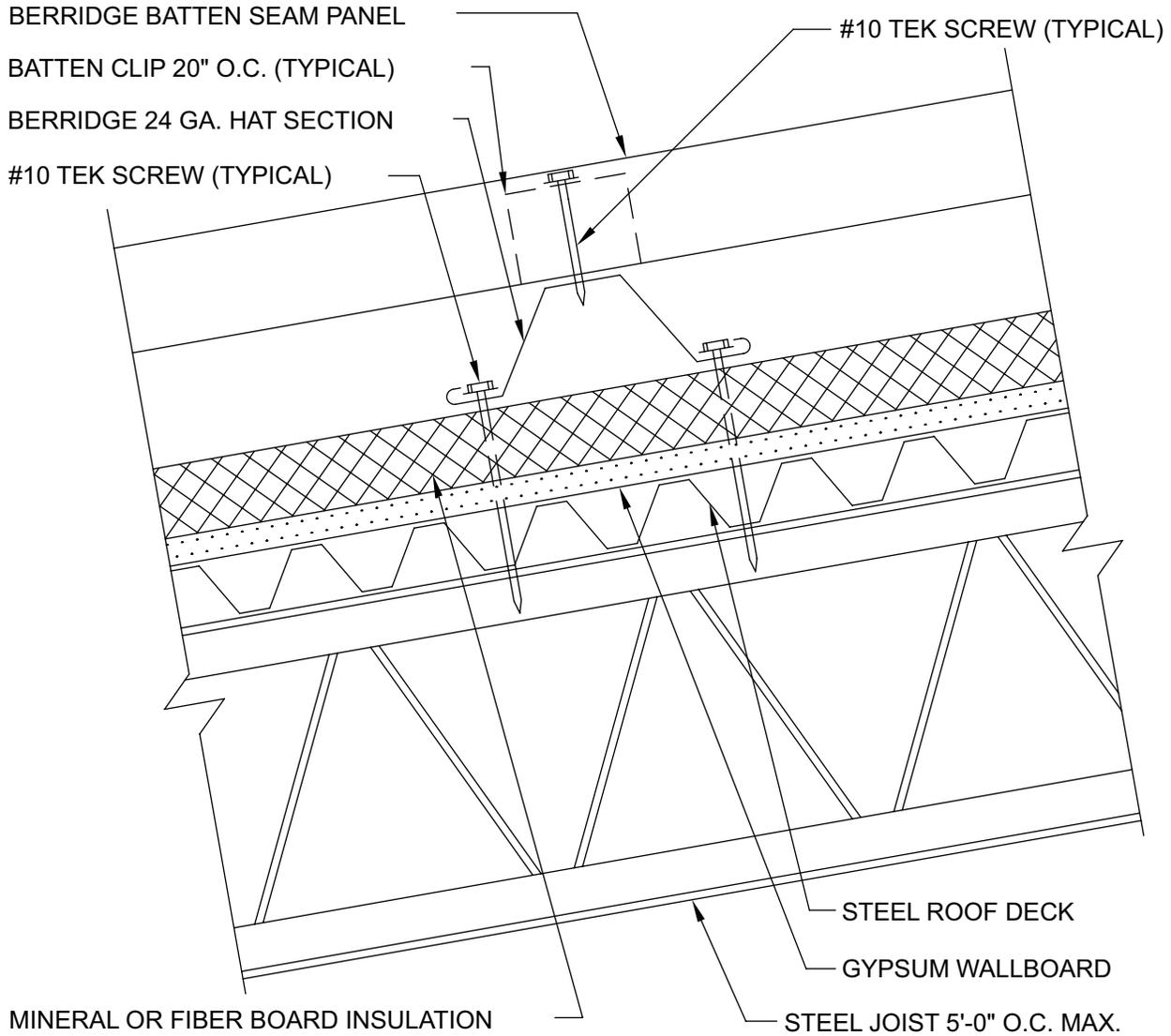
## EAVE EXPANSION DETAIL

### Batten Seam System

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1. IN ORDER TO QUALIFY FOR A FIRE-RESISTANT RATING, THE ROOF SYSTEM CANNOT MAKE A PENETRATION IN THE INSULATION SYSTEM, OTHER THAN THOSE MADE BY FASTENERS. THE BATTEN SEAM SYSTEM, A STRUCTURAL PANEL, IS TO SPAN OVER HAT SECTIONS (IF THE INSULATION SYSTEM HAS NO NAILABLE SURFACE). THE HAT SECTIONS ARE TO BE MOUNTED DIRECTLY TO THE INSULATION SYSTEM WITH FASTENERS FASTENED THROUGH INTO THE STRUCTURAL STEEL DECK.
2. THIS ASSEMBLY QUALIFIES FOR THE FOLLOWING UL FIRE-RESISTANT ROOF ASSEMBLIES:  
UL DESIGN NO. P224, P225, P230, P237, P508, P510, AND P227 USING CELLULAR GLASS BLOCK IN LIEU OF MINERAL INSULATION BOARD.
3. ADDITIONAL INFORMATION REGARDING THIS ASSEMBLY IS AVAILABLE IN THE UL FIRE RESISTANCE DIRECTORY.



**BERRIDGE  
MANUFACTURING  
COMPANY**

UL FIRE RESISTANCE ROOF ASSEMBLY  
OPEN WEB STEEL JOIST

**Batten Seam System**

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BERRIDGE BATTEN SEAM PANEL

BATTEN CLIP 20" O.C. (TYPICAL)

BERRIDGE 24 GA. HAT SECTION

#10 TEK SCREW (TYPICAL)

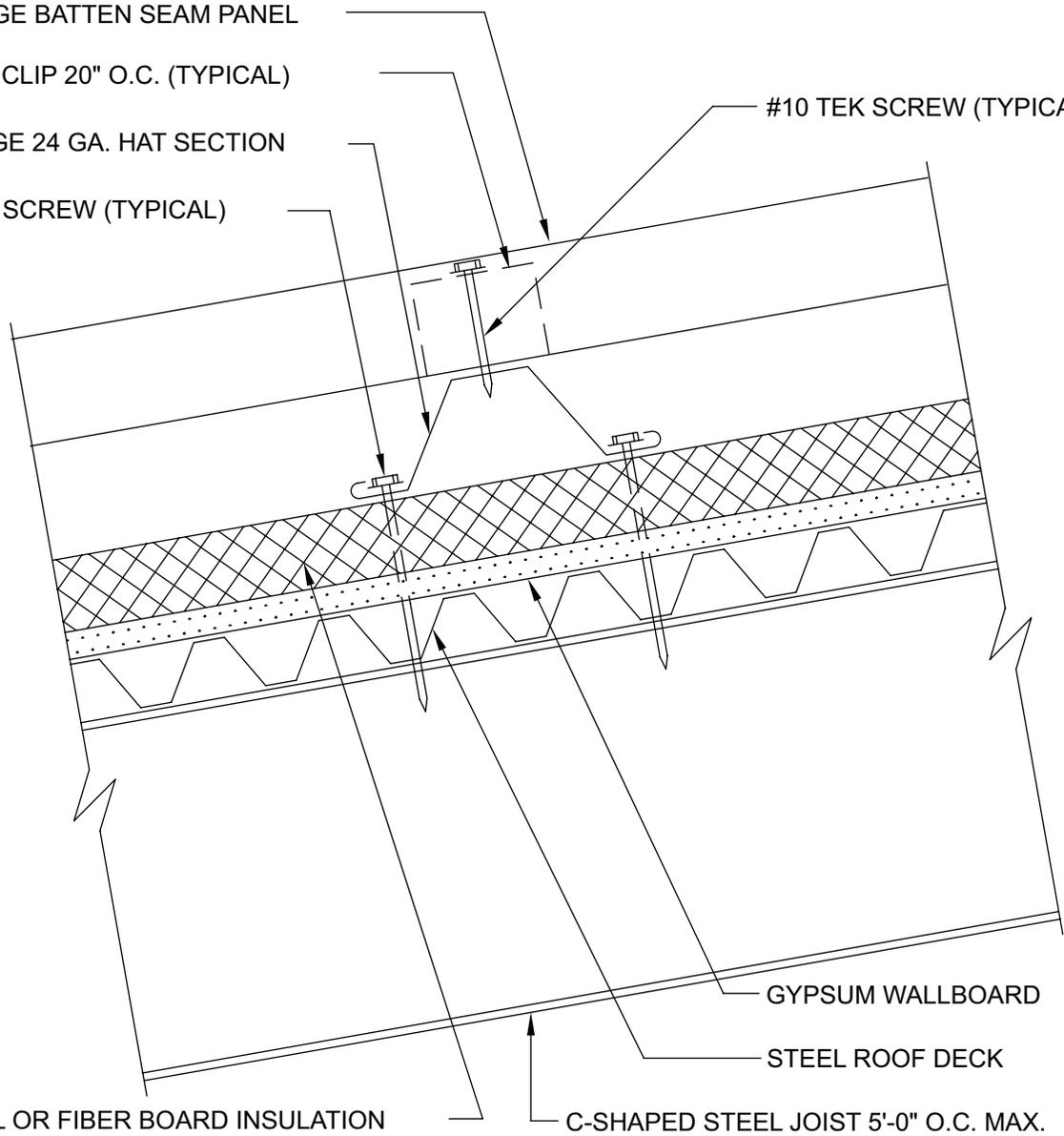
#10 TEK SCREW (TYPICAL)

MINERAL OR FIBER BOARD INSULATION

C-SHAPED STEEL JOIST 5'-0" O.C. MAX.

GYPSUM WALLBOARD

STEEL ROOF DECK



1. IN ORDER TO QUALIFY FOR A FIRE-RESISTANT RATING, THE ROOF SYSTEM CANNOT MAKE A PENETRATION IN THE INSULATION SYSTEM, OTHER THAN THOSE MADE BY FASTENERS. THE BATTEN SEAM SYSTEM, A STRUCTURAL PANEL, IS TO SPAN OVER HAT SECTIONS (IF THE INSULATION SYSTEM HAS NO NAILABLE SURFACE). THE HAT SECTIONS ARE TO BE MOUNTED DIRECTLY TO THE INSULATION SYSTEM WITH FASTENERS FASTENED THROUGH INTO THE STRUCTURAL STEEL DECK.
2. THIS ASSEMBLY QUALIFIES FOR THE FOLLOWING UL FIRE-RESISTANT ROOF ASSEMBLIES: UL DESIGN NO. P512.
3. ADDITIONAL INFORMATION REGARDING THIS ASSEMBLY IS AVAILABLE IN THE UL FIRE RESISTANCE DIRECTORY.



**BERRIDGE  
MANUFACTURING  
COMPANY**

*Roofs of Distinction*

UL FIRE RESISTANCE ROOF ASSEMBLY  
C-SHAPED STEEL JOIST

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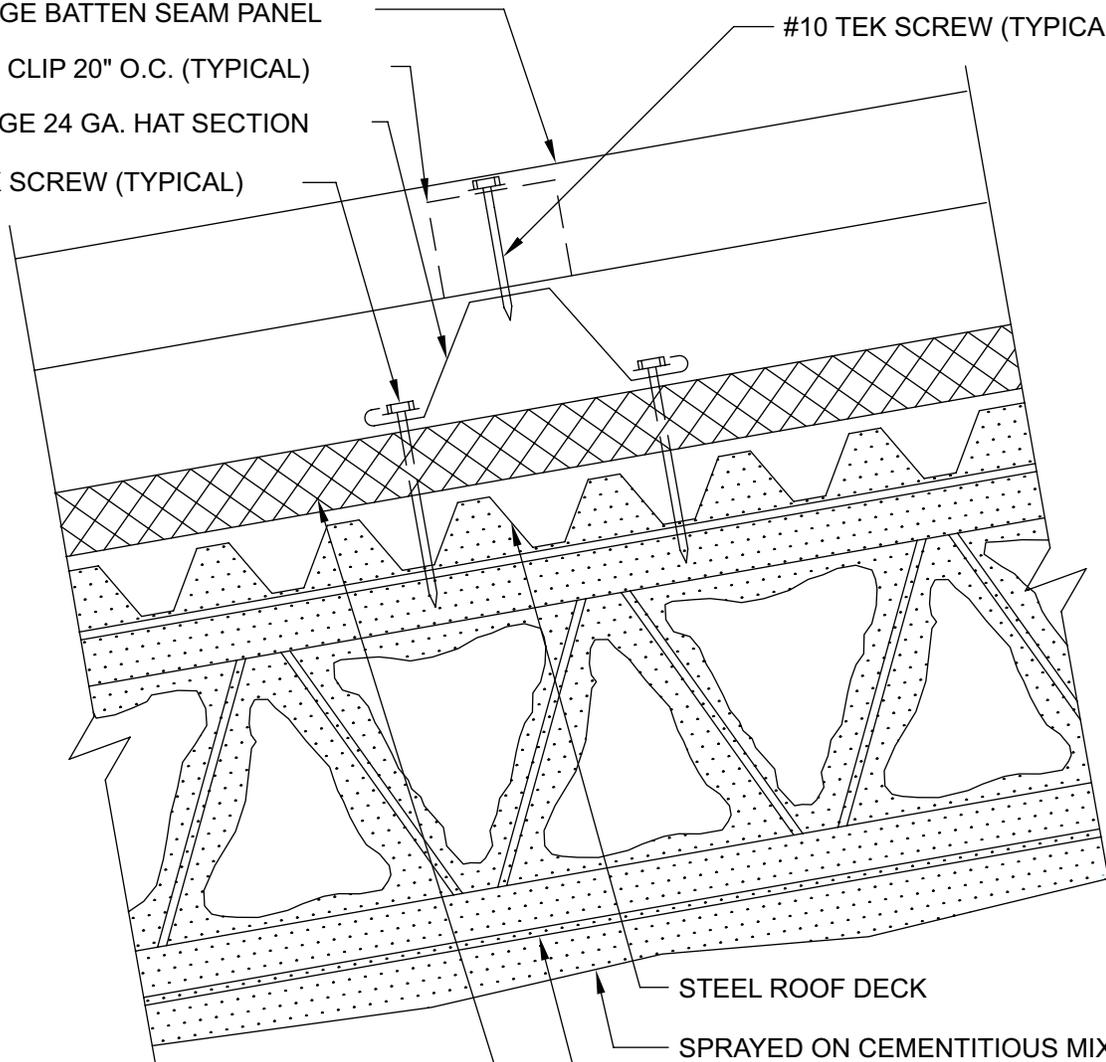
BERRIDGE BATTEN SEAM PANEL

BATTEN CLIP 20" O.C. (TYPICAL)

BERRIDGE 24 GA. HAT SECTION

#10 TEK SCREW (TYPICAL)

#10 TEK SCREW (TYPICAL)



MINERAL OR FIBER BOARD INSULATION

STEEL ROOF DECK

SPRAYED ON CEMENTITIOUS MIXTURE

STEEL JOIST 5'-0" O.C. MAX.

1. IN ORDER TO QUALIFY FOR A FIRE-RESISTANT RATING, THE ROOF SYSTEM CANNOT MAKE A PENETRATION IN THE INSULATION SYSTEM, OTHER THAN THOSE MADE BY FASTENERS. THE BATTEN SEAM SYSTEM, A STRUCTURAL PANEL, IS TO SPAN OVER HAT SECTIONS (IF THE INSULATION SYSTEM HAS NO NAILABLE SURFACE). THE HAT SECTIONS ARE TO BE MOUNTED DIRECTLY TO THE INSULATION SYSTEM WITH FASTENERS FASTENED THROUGH INTO THE STRUCTURAL STEEL DECK.
2. THIS ASSEMBLY QUALIFIES FOR THE FOLLOWING UL FIRE-RESISTANT ROOF ASSEMBLIES: UL DESIGN NO. P701, P711, AND P803, USING SPRAYED ON FIBER IN LIEU OF CEMENTIOUS MIXTURE.
3. ADDITIONAL INFORMATION REGARDING THIS ASSEMBLY IS AVAILABLE IN THE UL FIRE RESISTANCE DIRECTORY.



**BERRIDGE  
MANUFACTURING  
COMPANY**

*Roofs of Distinction*

UL FIRE RESISTANCE ROOF ASSEMBLY  
OPEN WEB STEEL JOIST WITH  
CEMENTIOUS THERMAL BARRIER

**Batten Seam System**

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