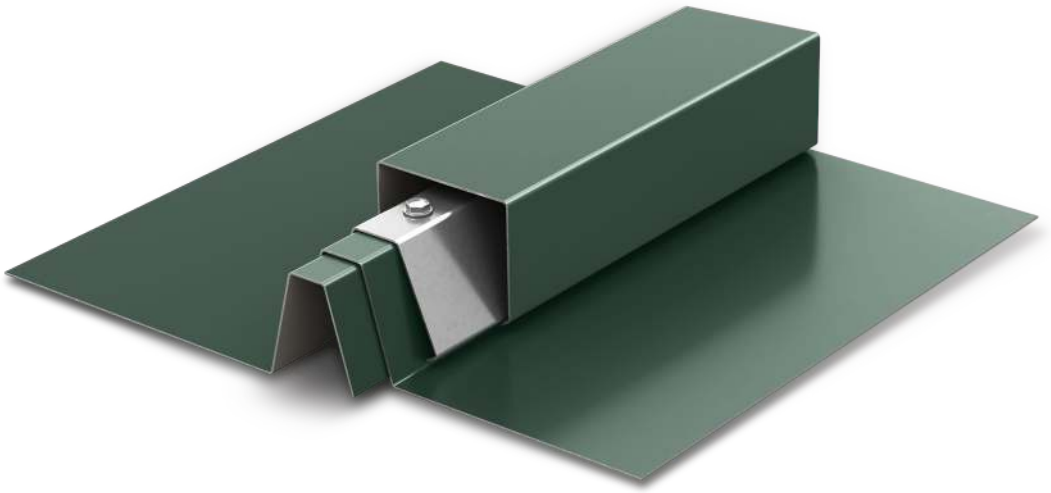
BATTEN SEAM
INSTALLATION DETAILS



BERRIDGE
MANUFACTURING
COMPANY

Roofs of Distinction

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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 FOT 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

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.

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

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.

FASTENERS: USE 3-1/2” LONG GALVANIZED RING SHANK NAILS FOR BATTEN SEAM CLIP

T. 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.

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

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

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^4/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 [3]	90 [3]
2"-6"	35	70	70	90	90 [3]	90 [3]
3'-0"	30	70	70	90	90 [3]	90 [3]
3'-6"	25	50	60	60 [d]	90 [3]	90 [3]
4'-0"	20	35	45	40 [d]	80 [3]	80 [3]
4'-6"		30	35		65 [3]	65 [3]
5'-0"		25	30		50	55 [3]
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.

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.

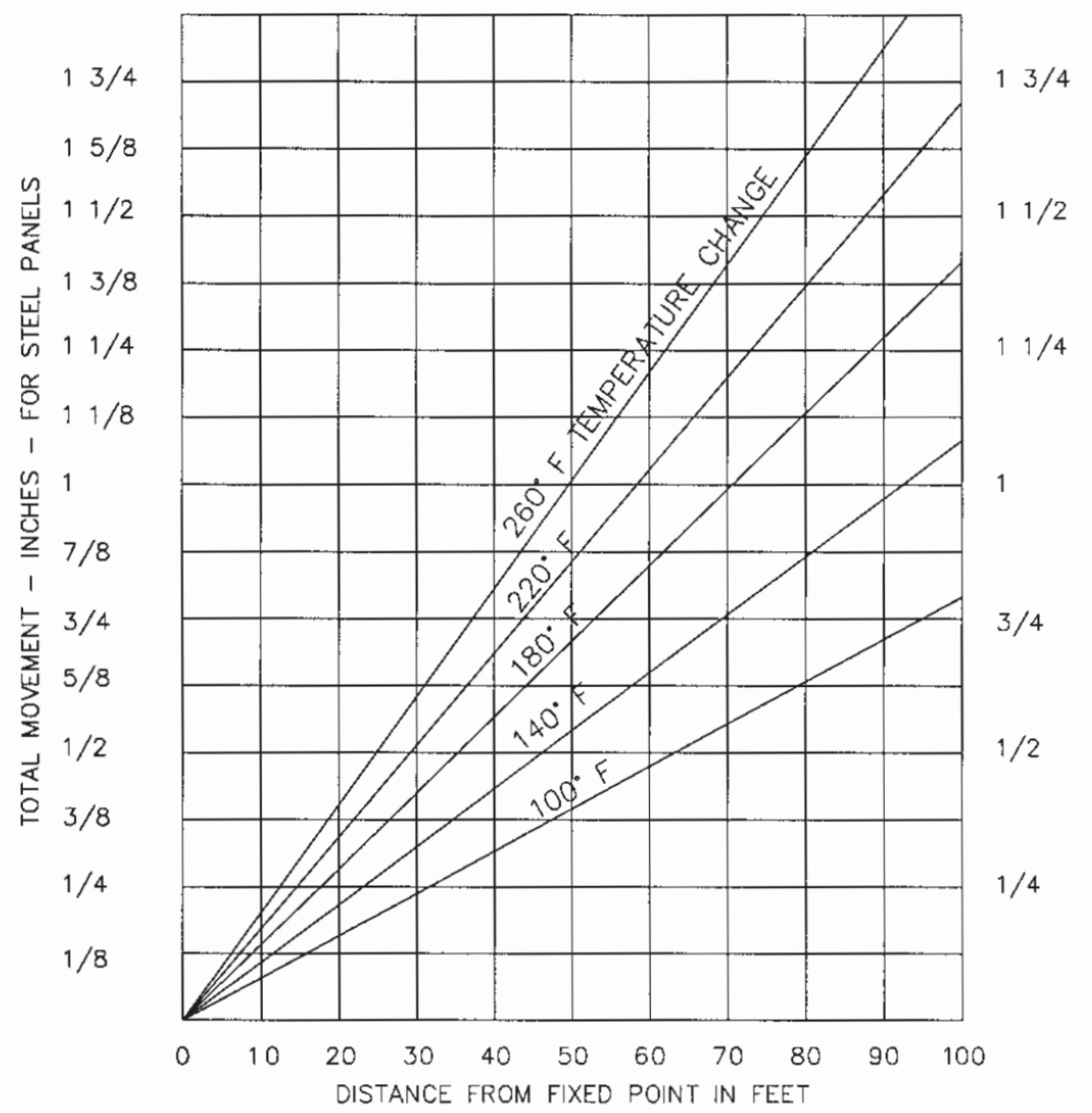
SECTION PROPERTIES BASED ON 24 GAUGE 40 K.S.I.			
BATTEN SEAM PANEL WITH CONTINUOUS 24 GA INNER RIB	dI_x(in⁴/ft)	M_A(Ft-lbs/Ft)	V_A(Lbs)
POSITIVE BENDING	0.1003	187.3	1320
NEGATIVE BENDING	0.0615	131.3	1320

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 [d]
5’-0”		40	45		60	60 [d]
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



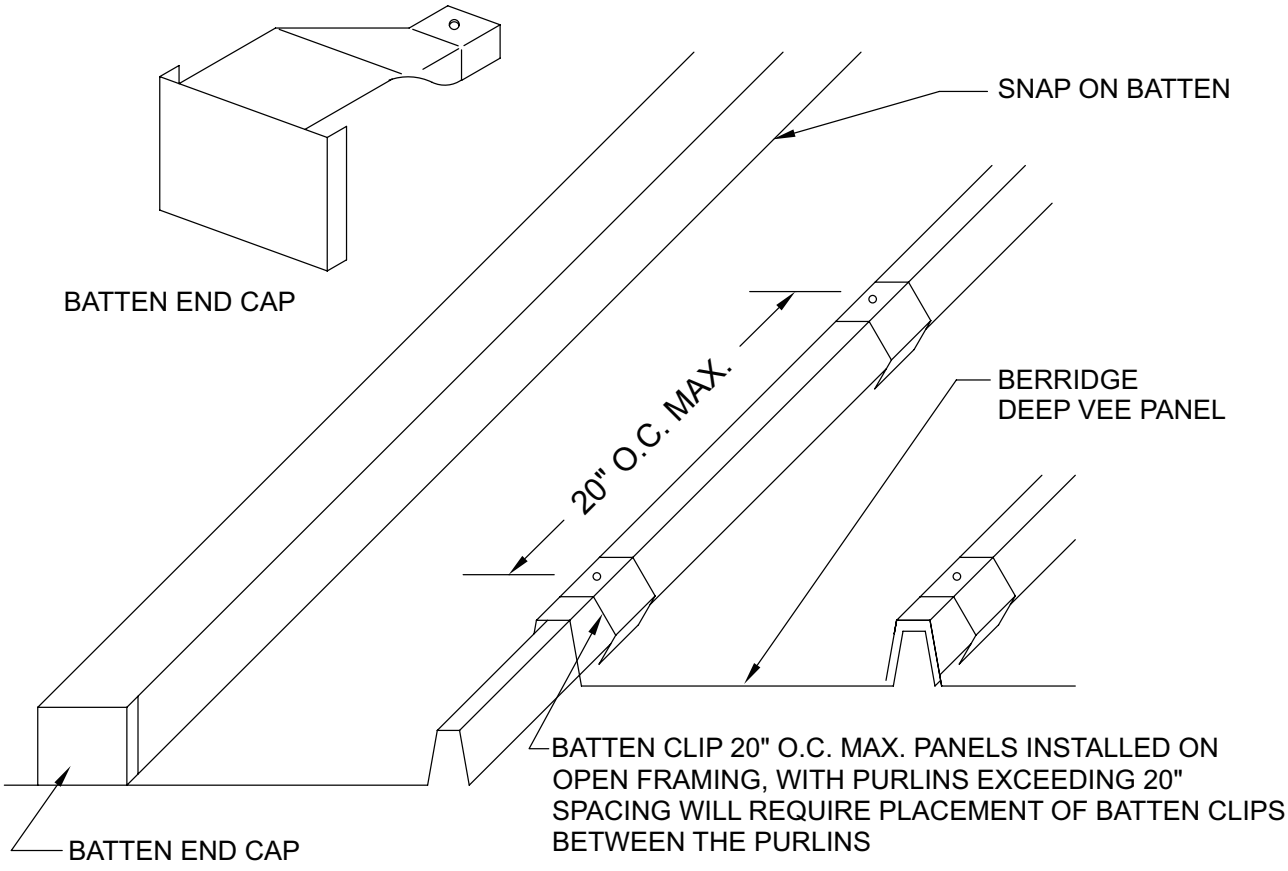
EXPANSION AND CONTRACTION OF METAL PANELS OVER 30 FEET IN LENGTH, DUE TO LONGITUDINAL THERMAL MOVEMENT, MUST BE CONSIDERED IN BOTH DESIGN AND INSTALLATION. THE ABOVE CHART EMPHASIZES THE NEED TO PROVIDE AMPLE CLEARANCES FOR GUTTERS RIDGES, END WALLS, ETC.

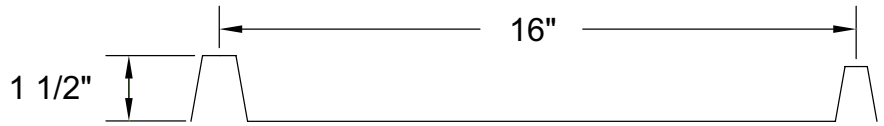
MAXIMUM TEMPERATURE SHOULD BE NO LOWER THAN 140º F FOR WHITE PANELS, UP TO 180º F FOR DARK PAINTED PANELS, REGARDLESS OF AMBIENT MAXIMUM. MINIMUM SHOULD BE FIGURED WELL BELOW AMBIENT MINIMUM TO ALLOW OR RADIATION TO NIGHT SKY. IN ANY CASE, A MINIMUM OF 100º F DIFFERENTIAL IS RECOMMENDED.

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.

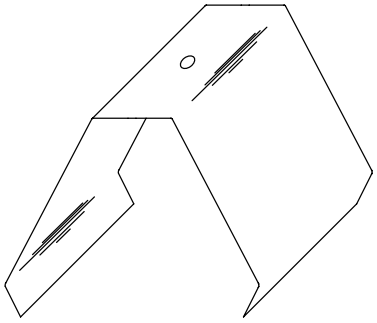
BERRIDGE MANUFACTURING COMPANY SHALL BE HELD HARMLESS FROM ANY AND ALL CLAIMS ARISING FROM A LACK OF WATERTIGHTNESS AS A RESULT OF FOLLOWING THESE RECOMMENDED DETAILS. ENSURING WATERTIGHTNESS ON ANY GIVEN PROJECT IS THE FUNCTION OF THE INSTALLER. THE ARCHITECT/GENERAL CONTRACTOR/INSTALLER MUST ACCEPT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

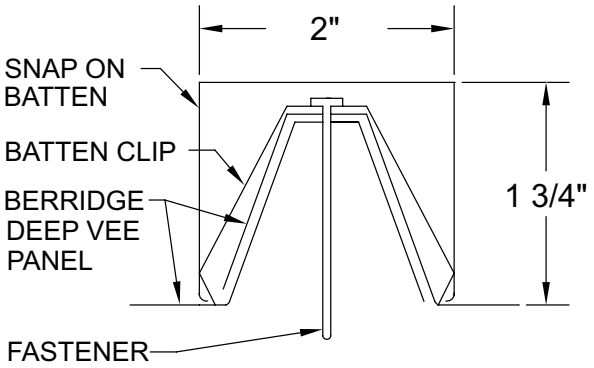




DEEP VEE PANEL
SECTION



BATTEN CLIP



BATTEN SEAM SYSTEM

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

OVERVIEW

BATTEN SEAM SYSTEM

Batten Seam System

DATE: 04-18-01

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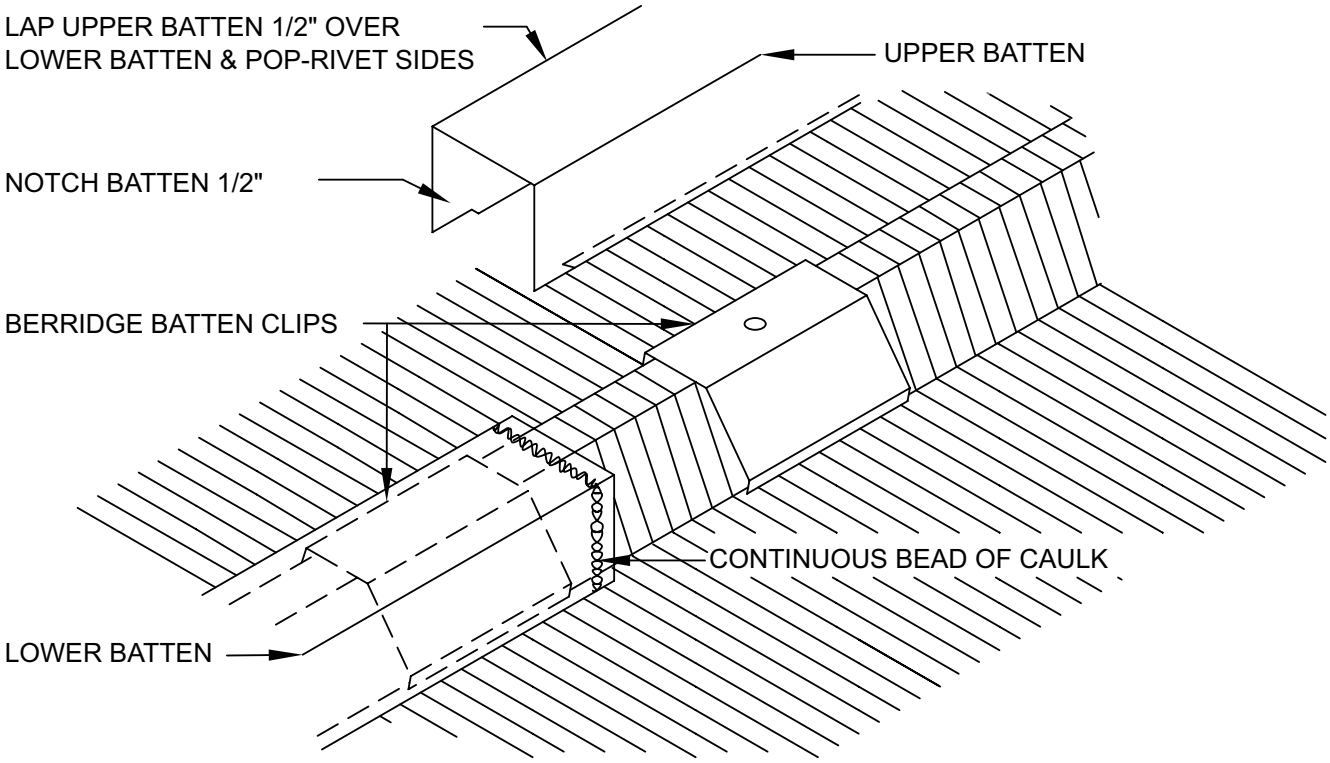
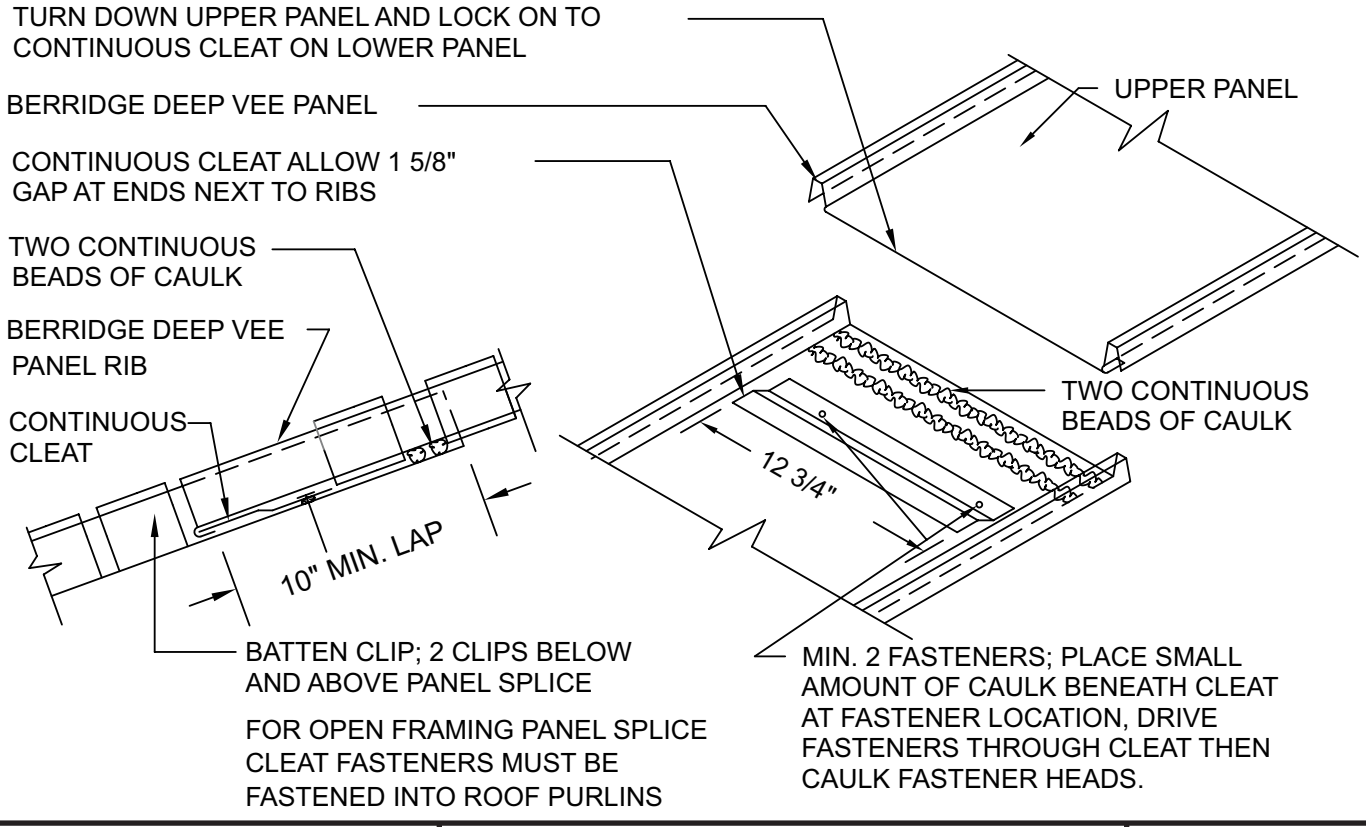


NOTE: DO NOT LAP BATTENS & PANELS AT SAME LOCATION



BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

DEEP VEE PANEL AND BATTEN SPLICE DETAIL

Batten Seam System

DATE: 04-18-01

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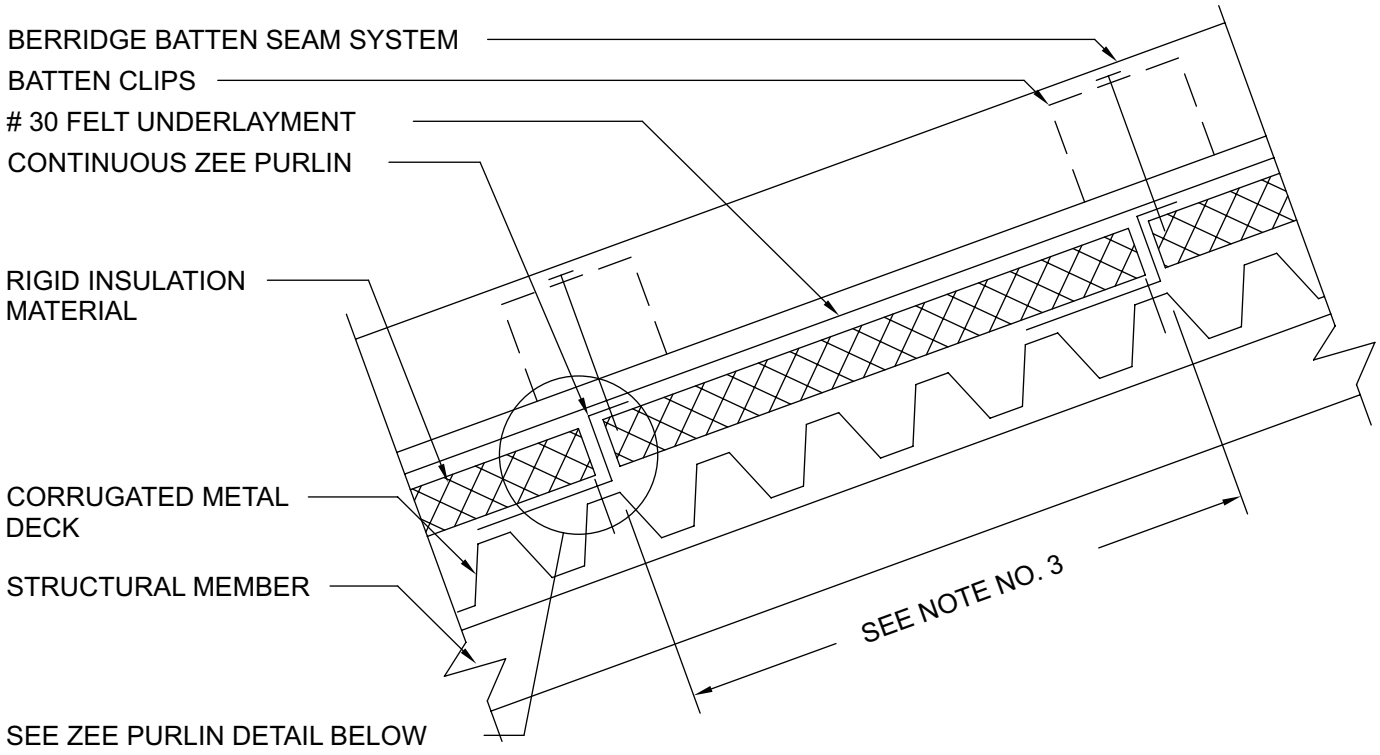


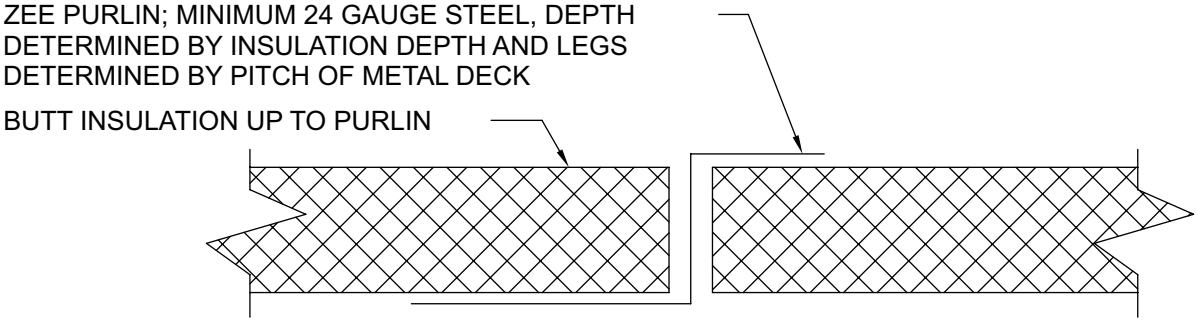
1. ALL FELT UNDERLAYMENT, STRUCTURAL MEMBERS, CORRUGATED DECK, AND INSULATING MATERIAL, ARE ITEMS TO BE FURNISHED AND INSTALLED BY OTHERS AT THE DISCRETION OF THE ARCHITECT.

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 DETAIL

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

INSULATED DECK DETAIL

DATE: 04-18-01

Batten Seam System

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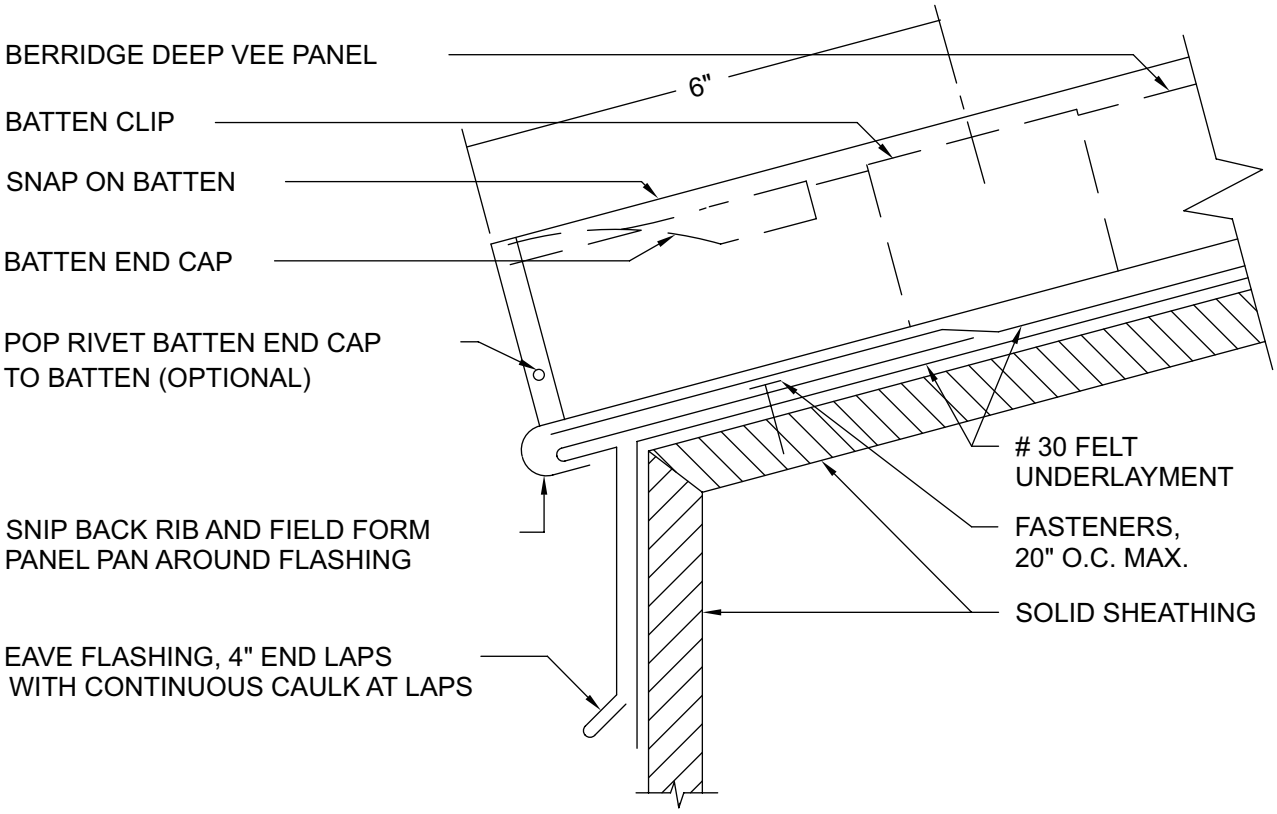
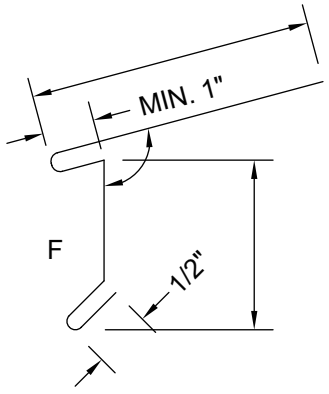


1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.
2. ALL FELT UNDERLAYMENT, CAULKING AND FASTENERS ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



EAVE FLASHING

F = FINISH SIDE

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

EAVE DETAIL

Batten Seam System

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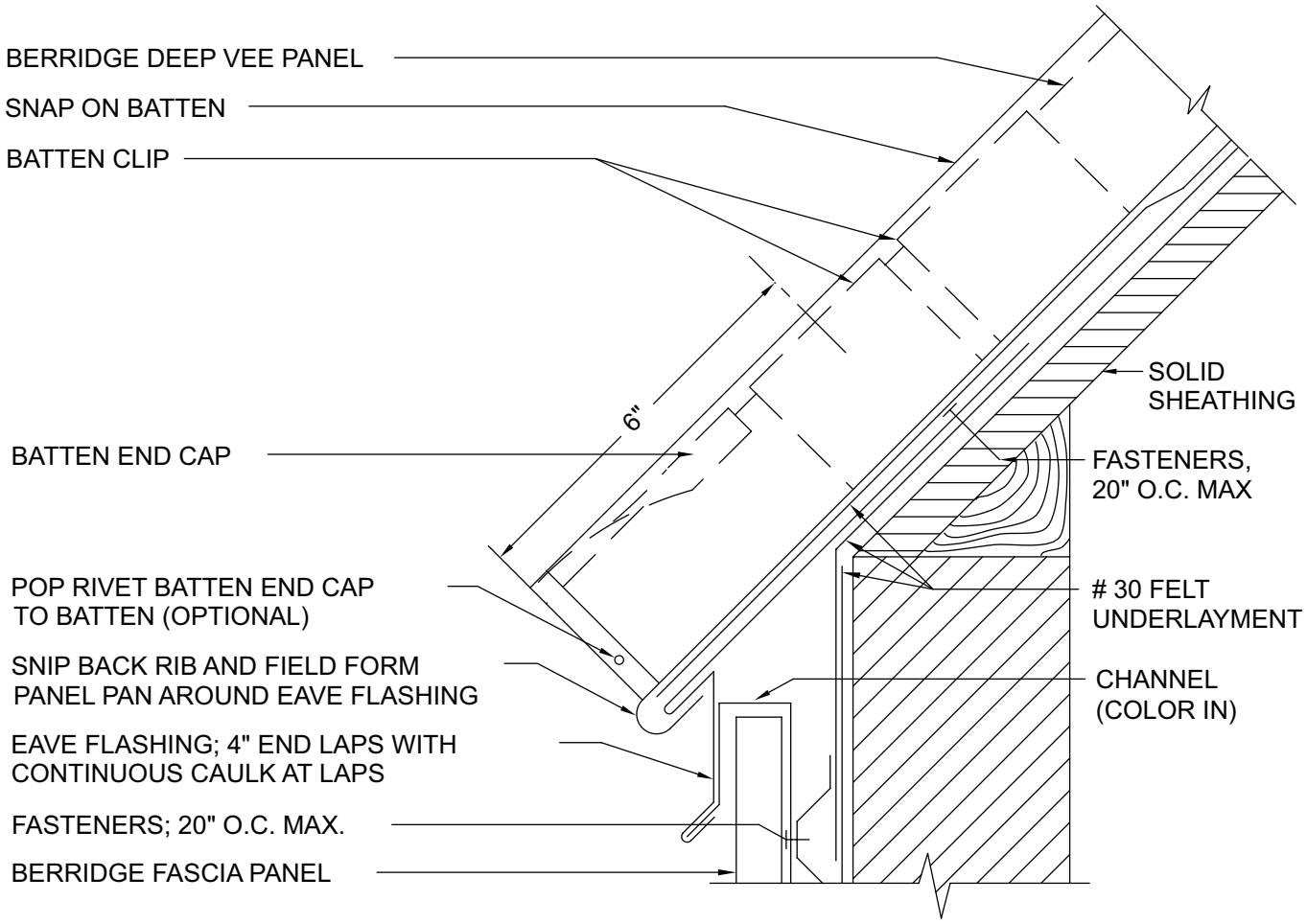

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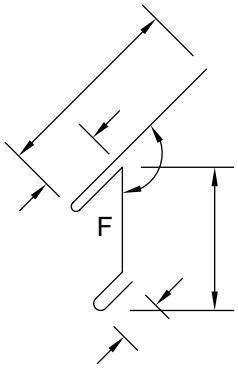
F = FINISH SIDE



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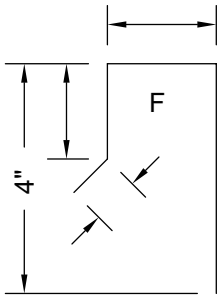

CHANNEL

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

EAVE DETAIL

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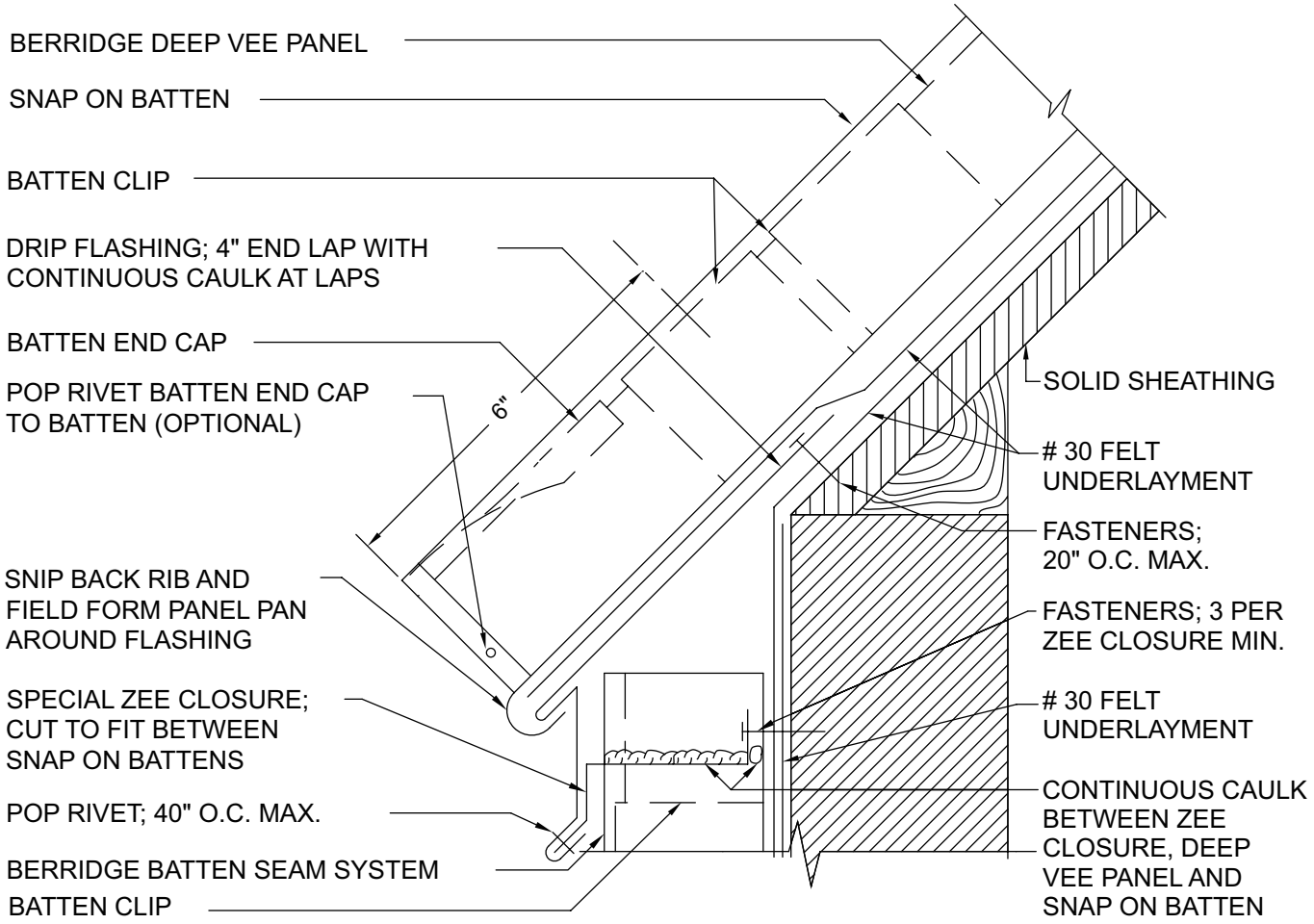

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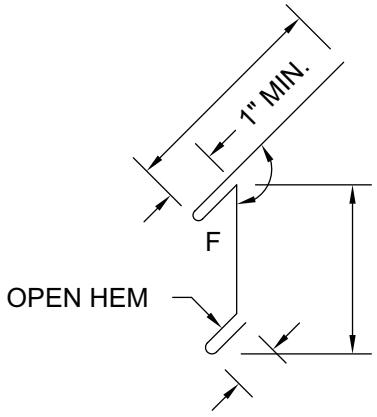
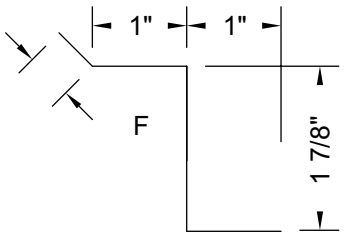
F = FINISH SIDE



DRIP FLASHING



SPECIAL ZEE CLOSURE

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

EAVE DETAIL

Batten Seam System

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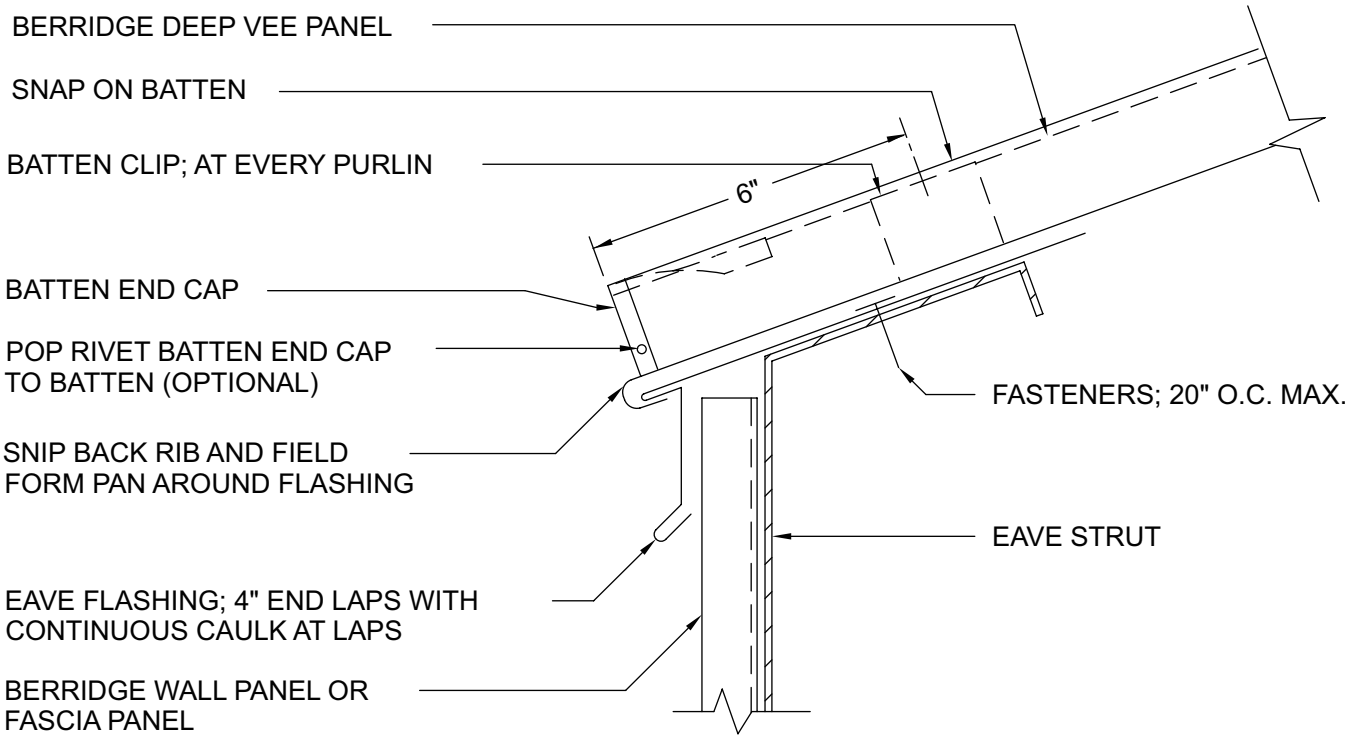
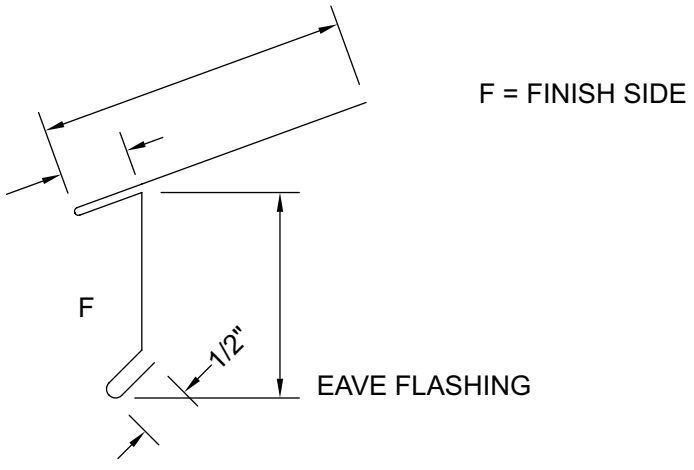


1. ALL CAULKING AND FASTENERS ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

EAVE DETAIL

PANEL TURNDOWN; OPEN FRAMING

Batten Seam System

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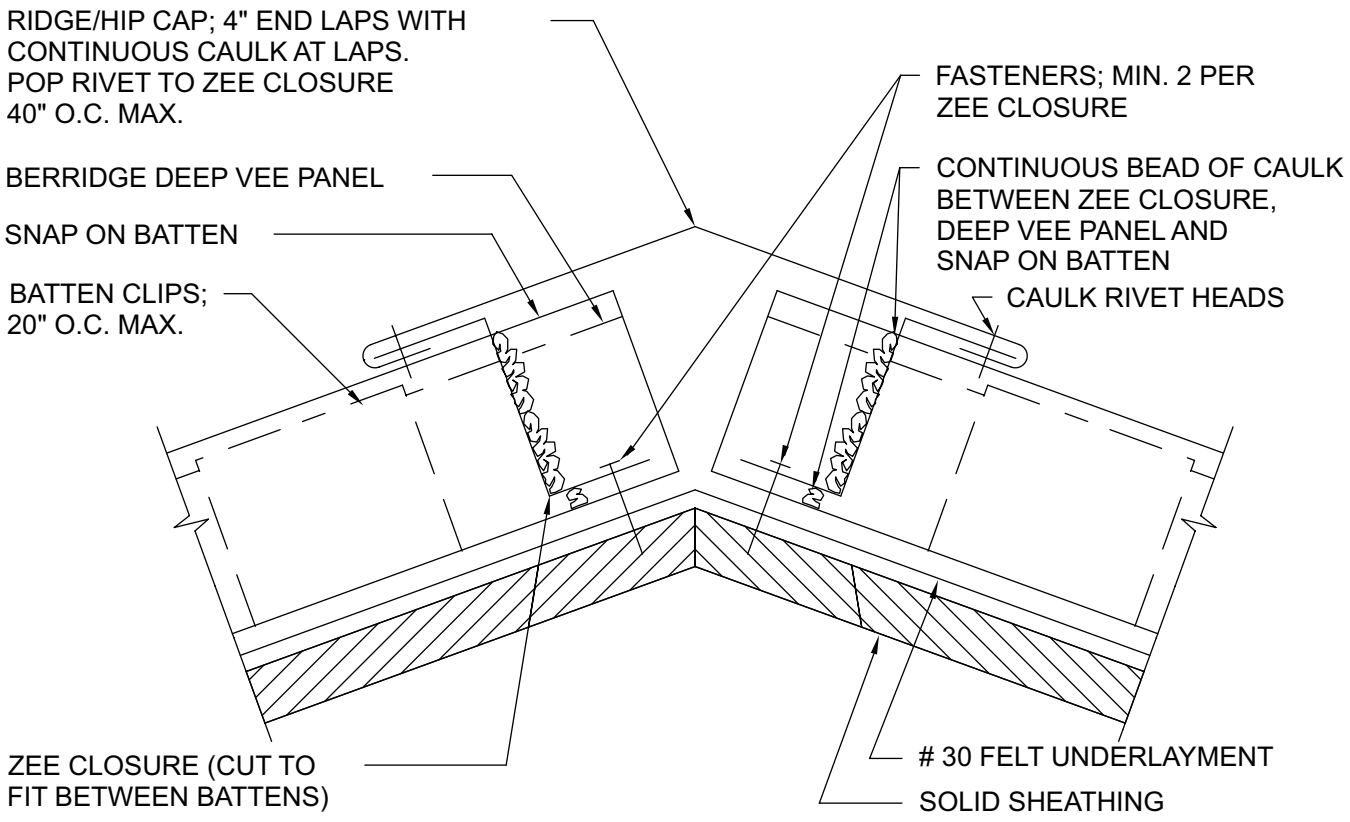
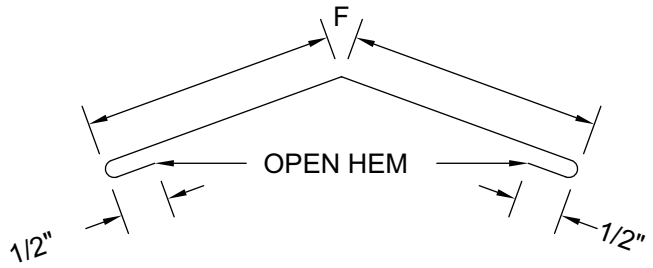


1. FIELD CUT ZEE CLOSURES TO FIT BETWEEN SNAP ON BATTENS.

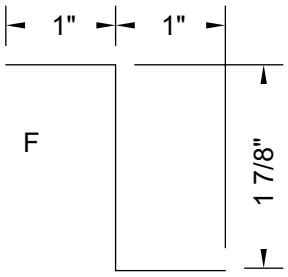
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.

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 COMPANY
Roofs of Distinction

RIDGE AND HIP DETAIL

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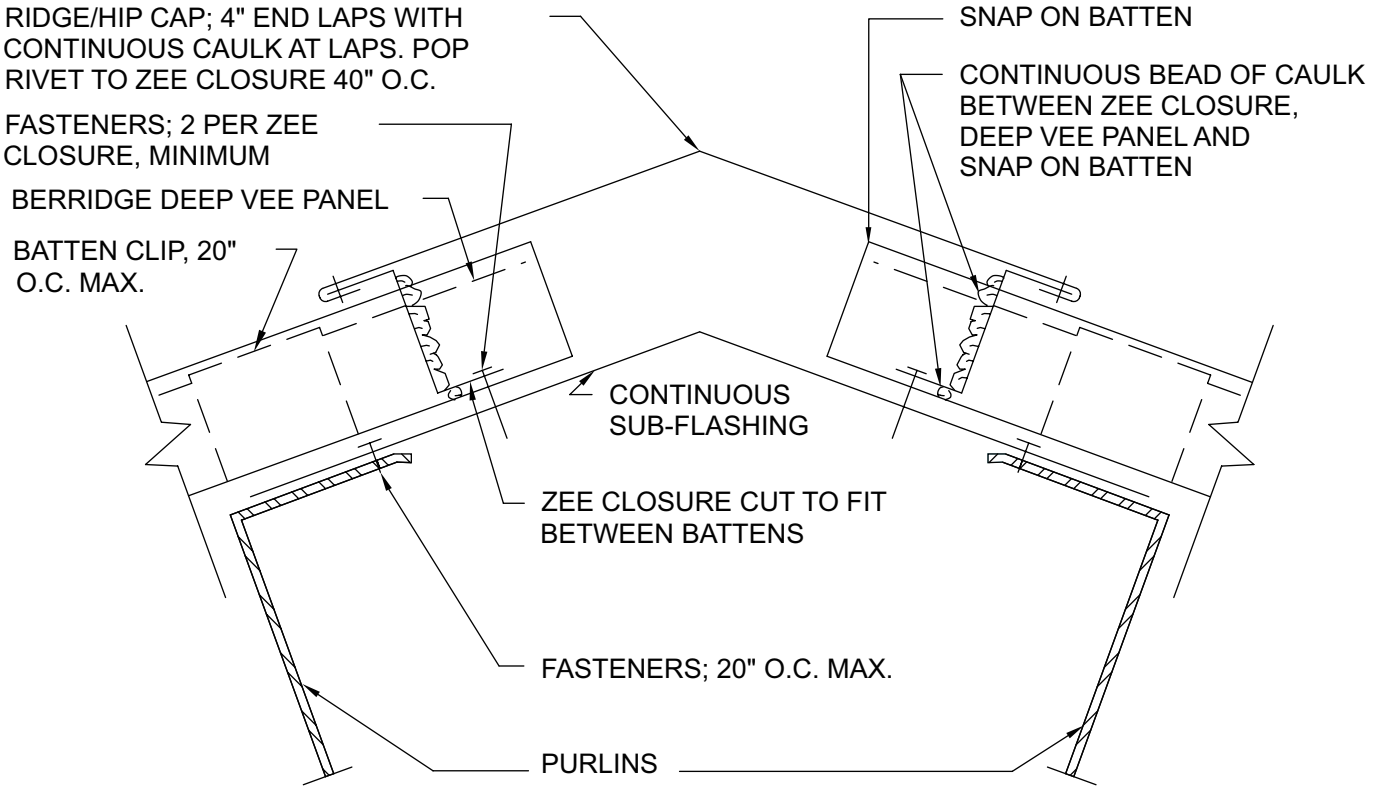
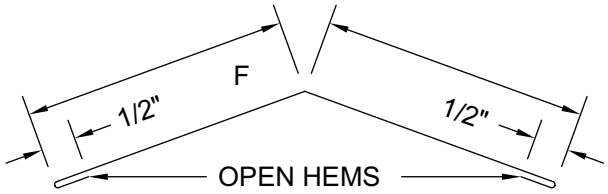


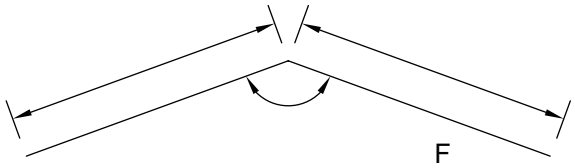
1. FIELD CUT ZEE CLOSURE TO FIT BETWEEN SNAP ON BATTENS.

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

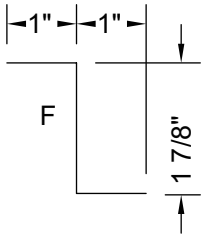


RIDGE/HIP CAP

F = FINISH SIDE



SUB-FLASHING



ZEE CLOSURE

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

RIDGE/HIP DETAIL

OPEN FRAME CONDITION

Batten Seam System

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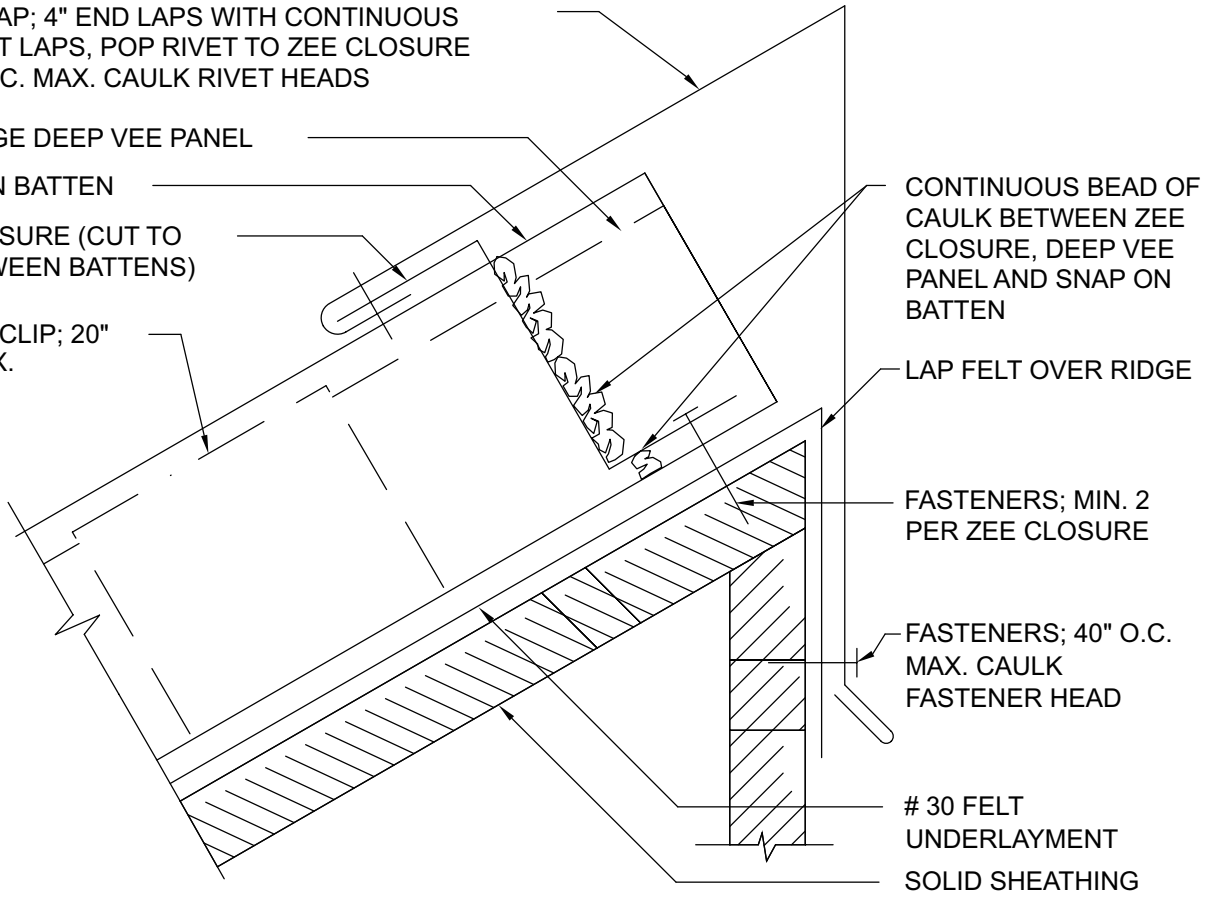
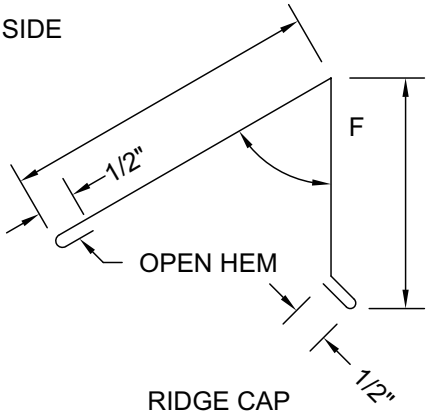


1. FIELD CUT ZEE CLOSURE TO FIT BETWEEN SNAP ON BATTENS.

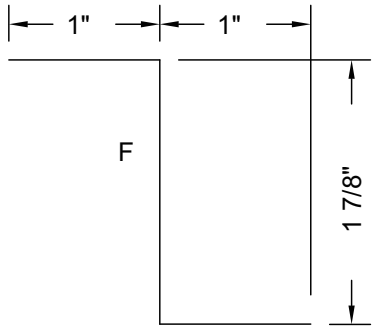
2. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.

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
Roofs of Distinction

SHED ROOF RIDGE CAP DETAIL

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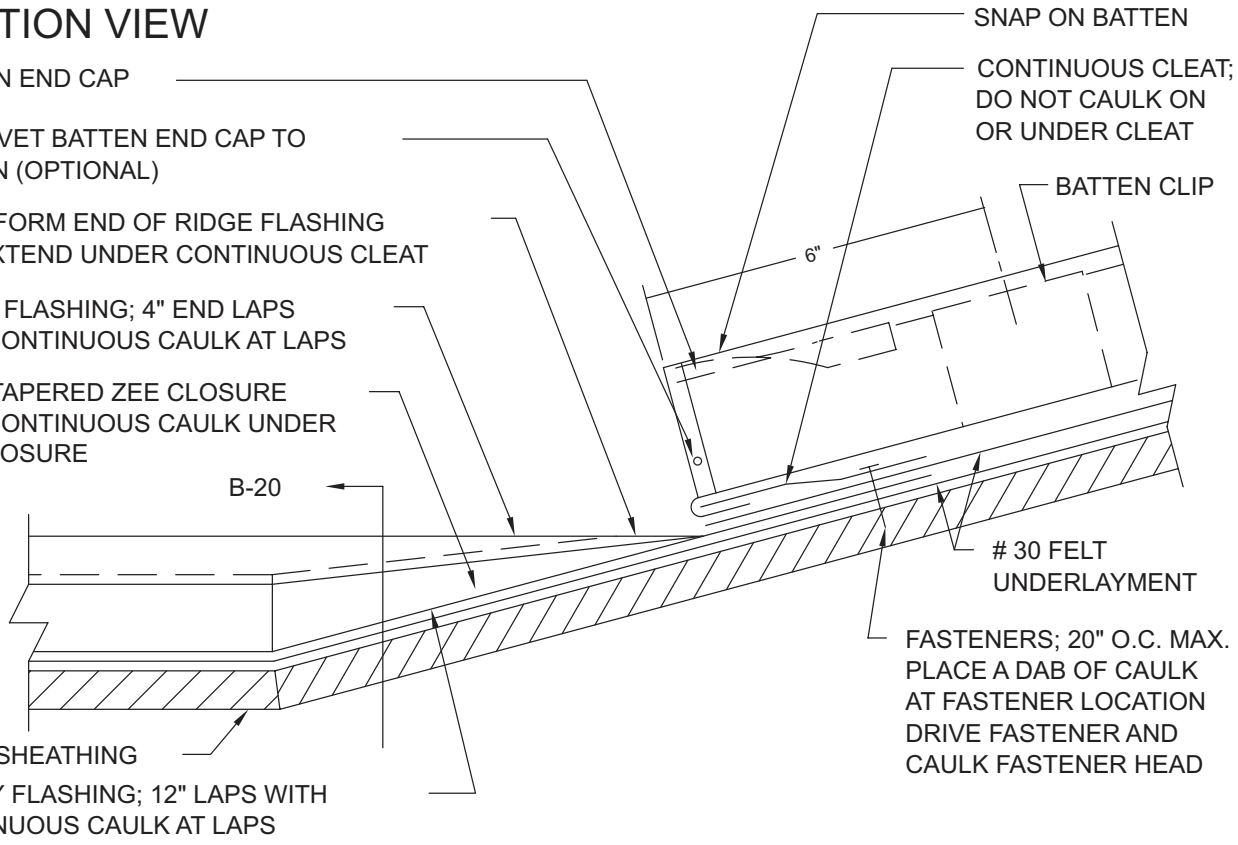
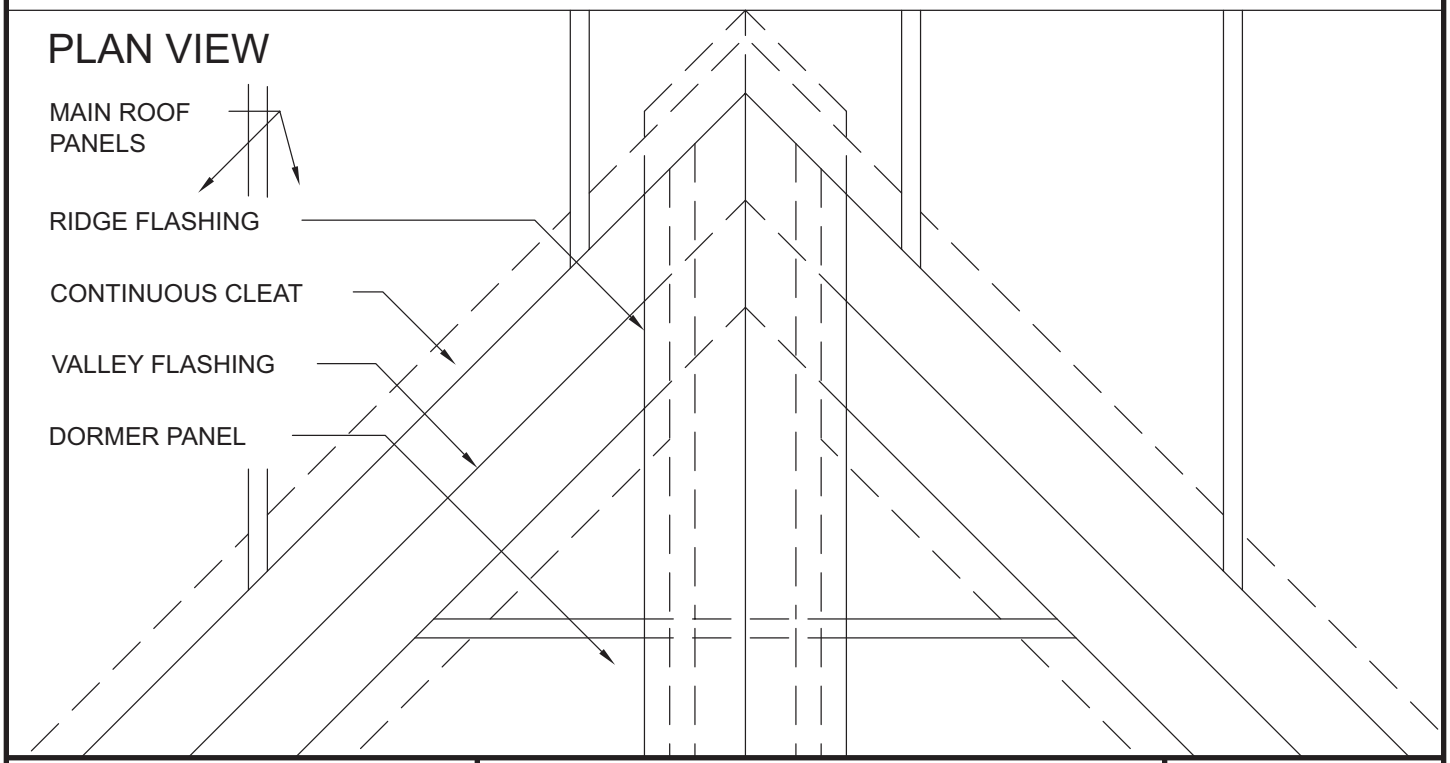
SECTION VIEW



PLAN VIEW



BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

RIDGE TERMINATION AT DORMER VALLEY

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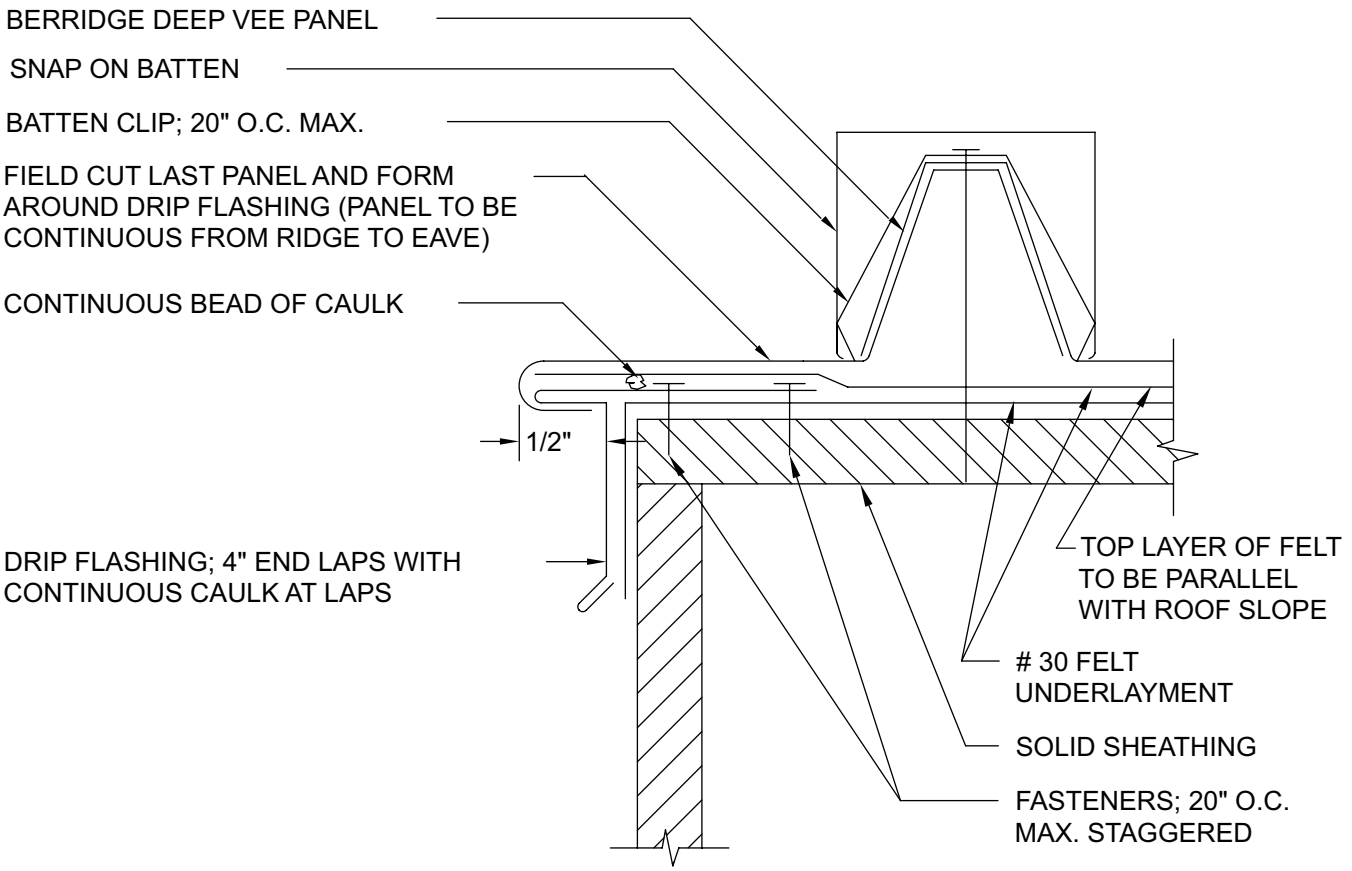
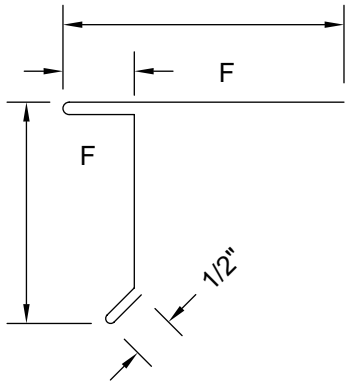


1. FIELD CUT AND FORM LAST PANEL AROUND DRIP FLASHING. PANEL MUST BE CONTINUOUS FROM RIDGE TO EAVE.

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

Roofs of Distinction

GABLE DETAIL

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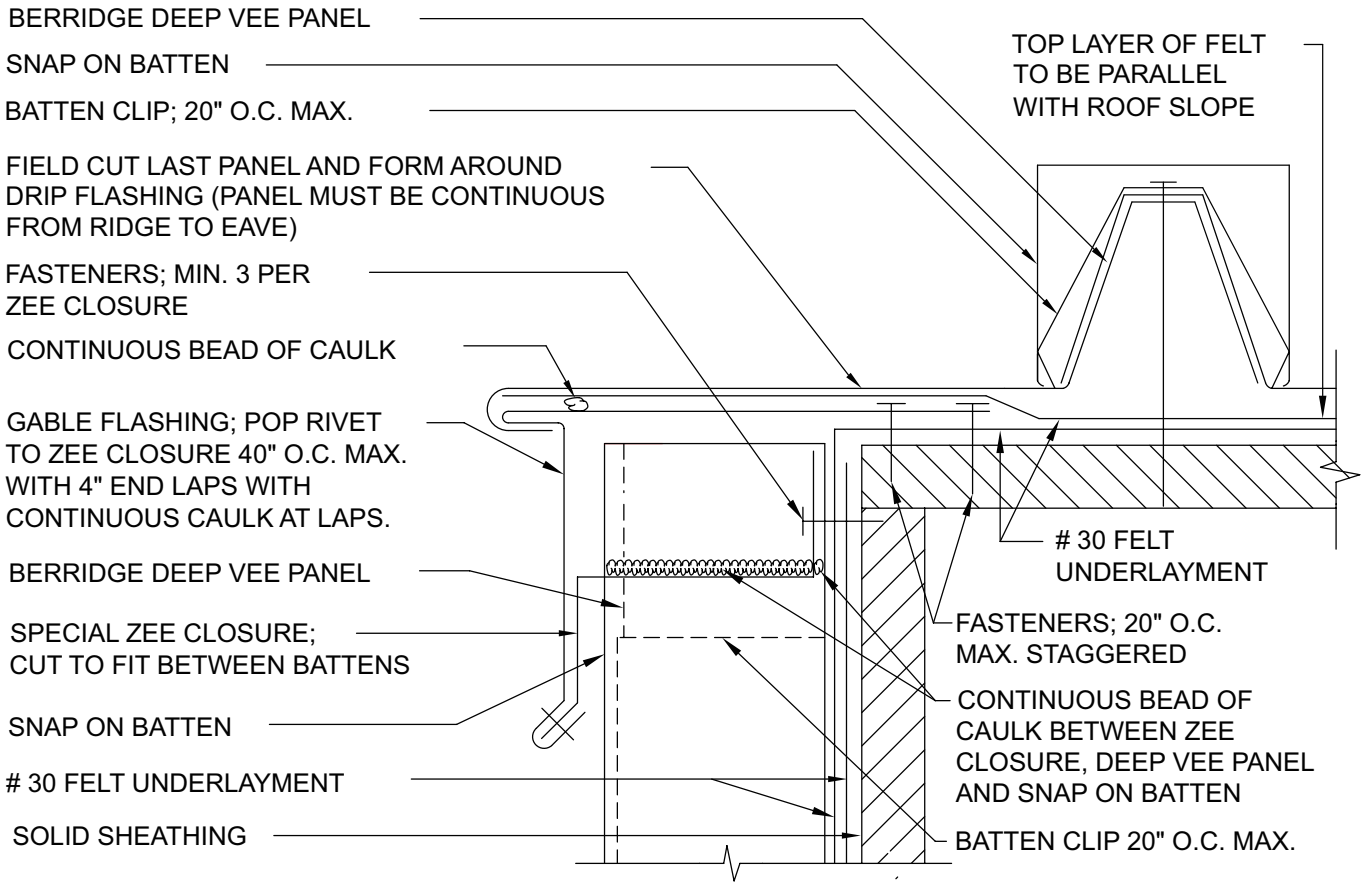

1. FIELD CUT AND FORM LAST PANEL AROUND GABLE FLASHING PANEL MUST BE CONTINUOUS RIDGE TO EAVE.

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

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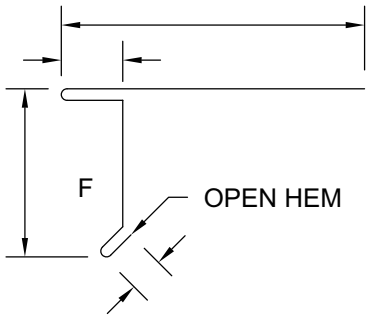
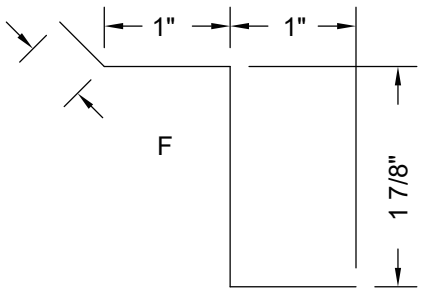


GABLE FLASHING



SPECIAL ZEE CLOSURE

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

GABLE DETAIL

Batten Seam System

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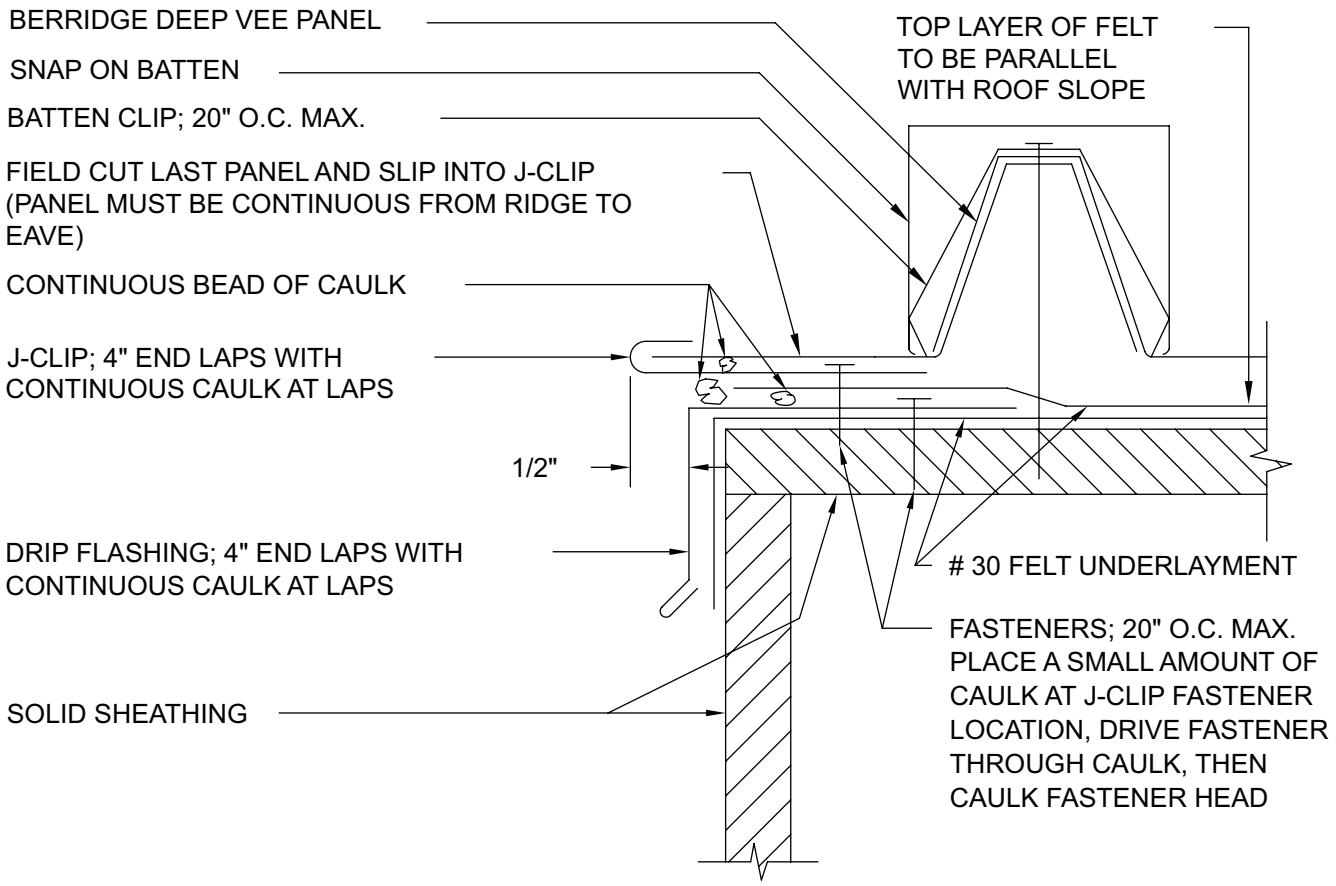

1. FIELD CUT LAST PANEL AND SLIP INTO J-CLIP. PANEL MUST BE CONTINUOUS RIDGE TO EAVE.

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

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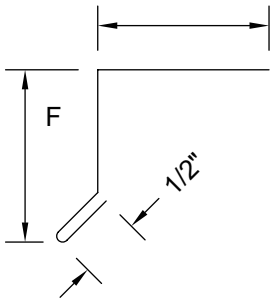
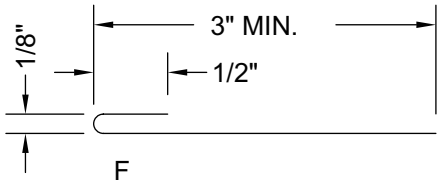


DRIP FLASHING

F = FINISH SIDE



J-CLIP

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

GABLE DETAIL

Batten Seam System

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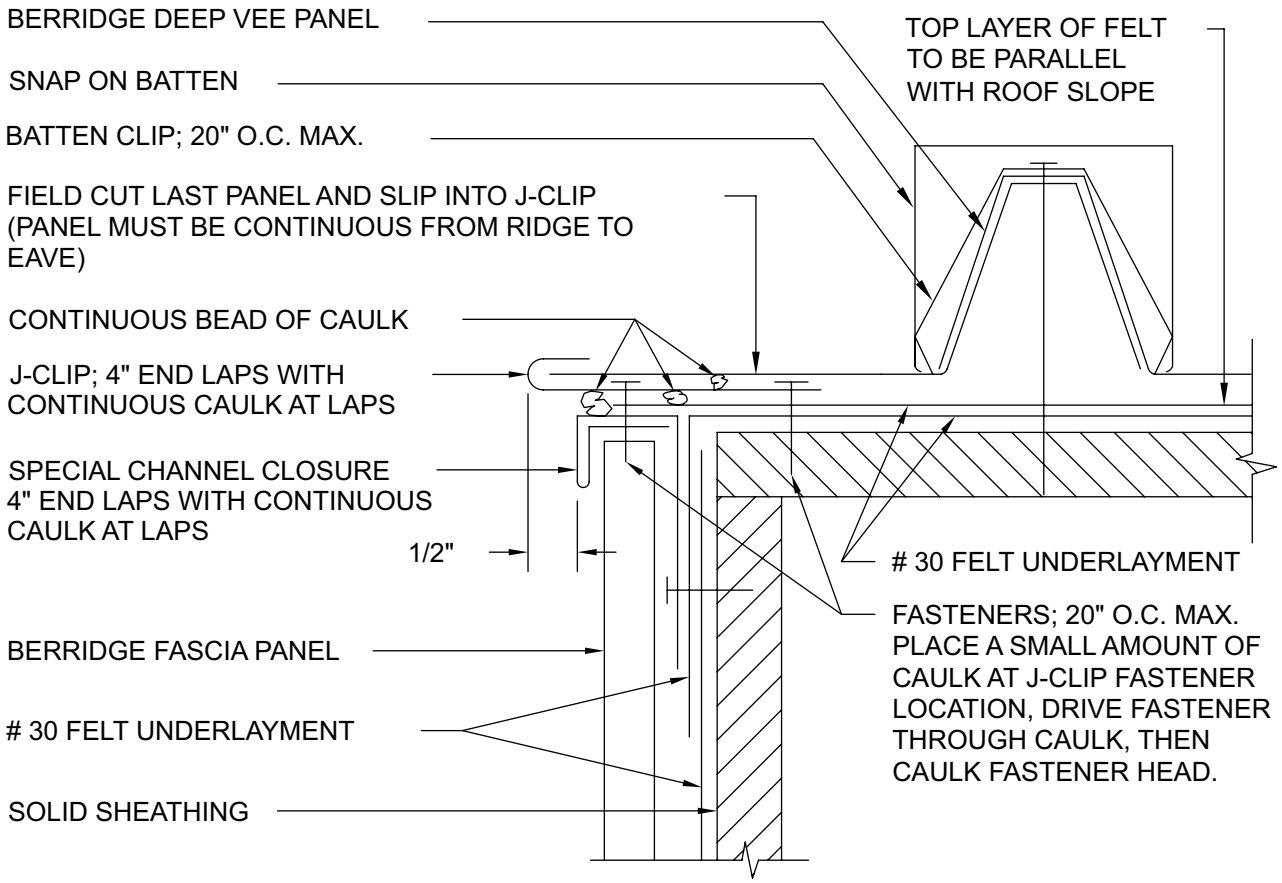

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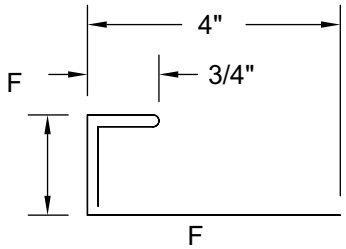
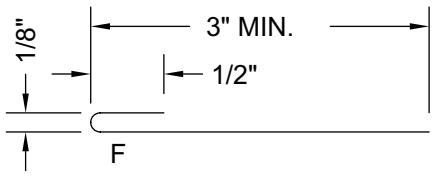


SPECIAL CHANNEL CLOSURE



J-CLIP

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

GABLE DETAIL

Batten Seam System

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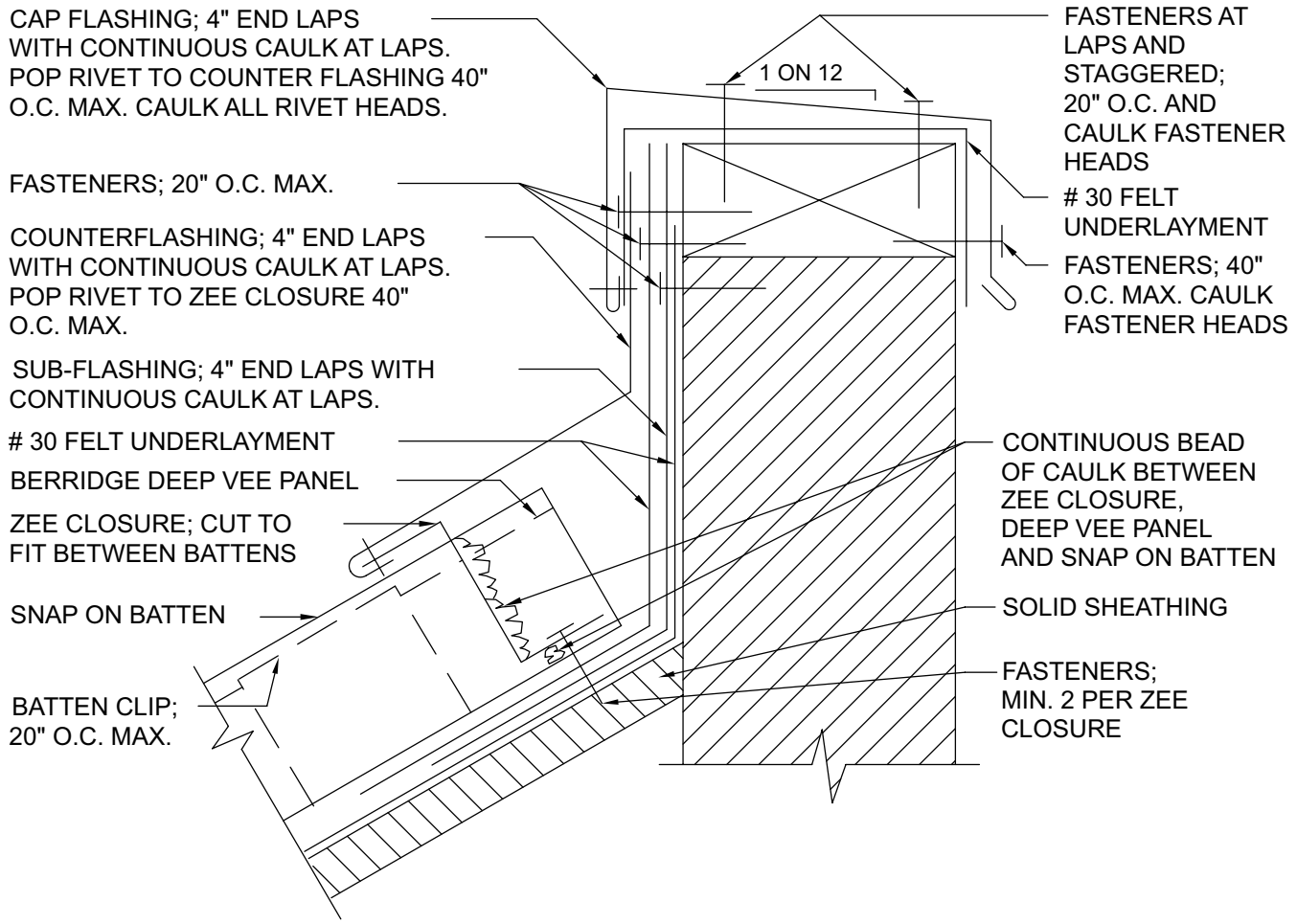

1. FIELD CUT ZEE CLOSURES TO FIT BETWEEN SNAP ON BATTENS.

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

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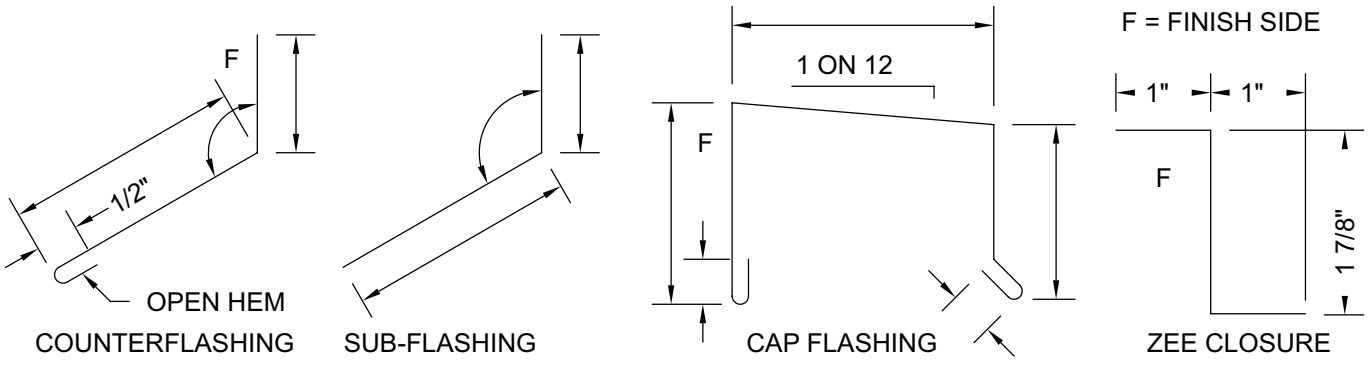

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

PARAPET DETAIL

Batten Seam System

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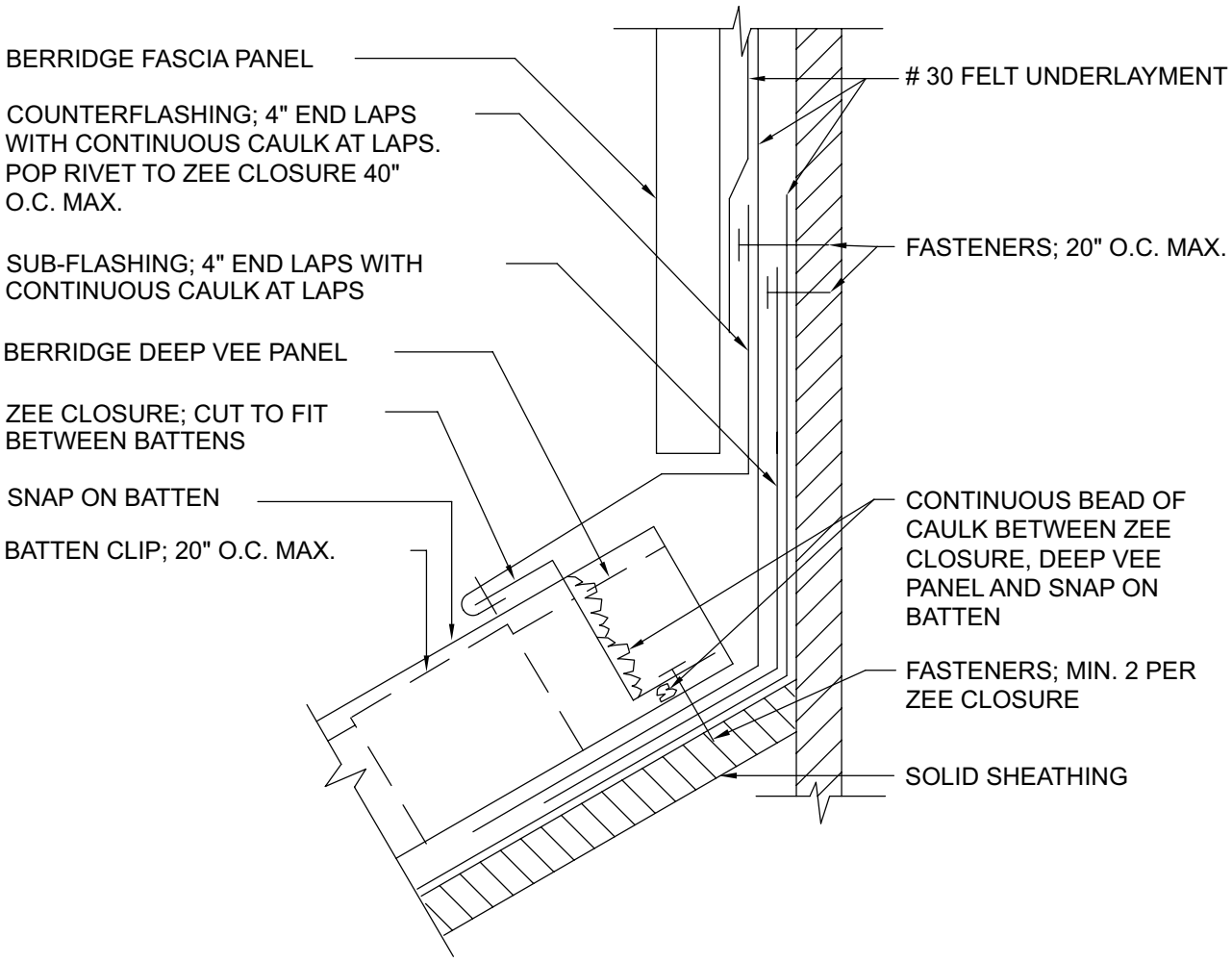

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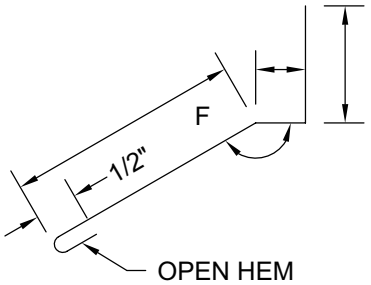
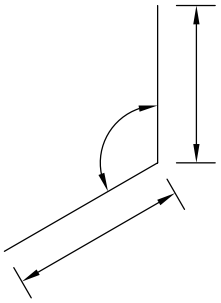
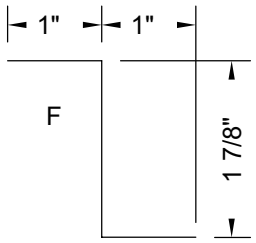
F = FINISH SIDE



COUNTERFLASHING



SUB-FLASHING



ZEE CLOSURE

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

HEAD WALL DETAIL

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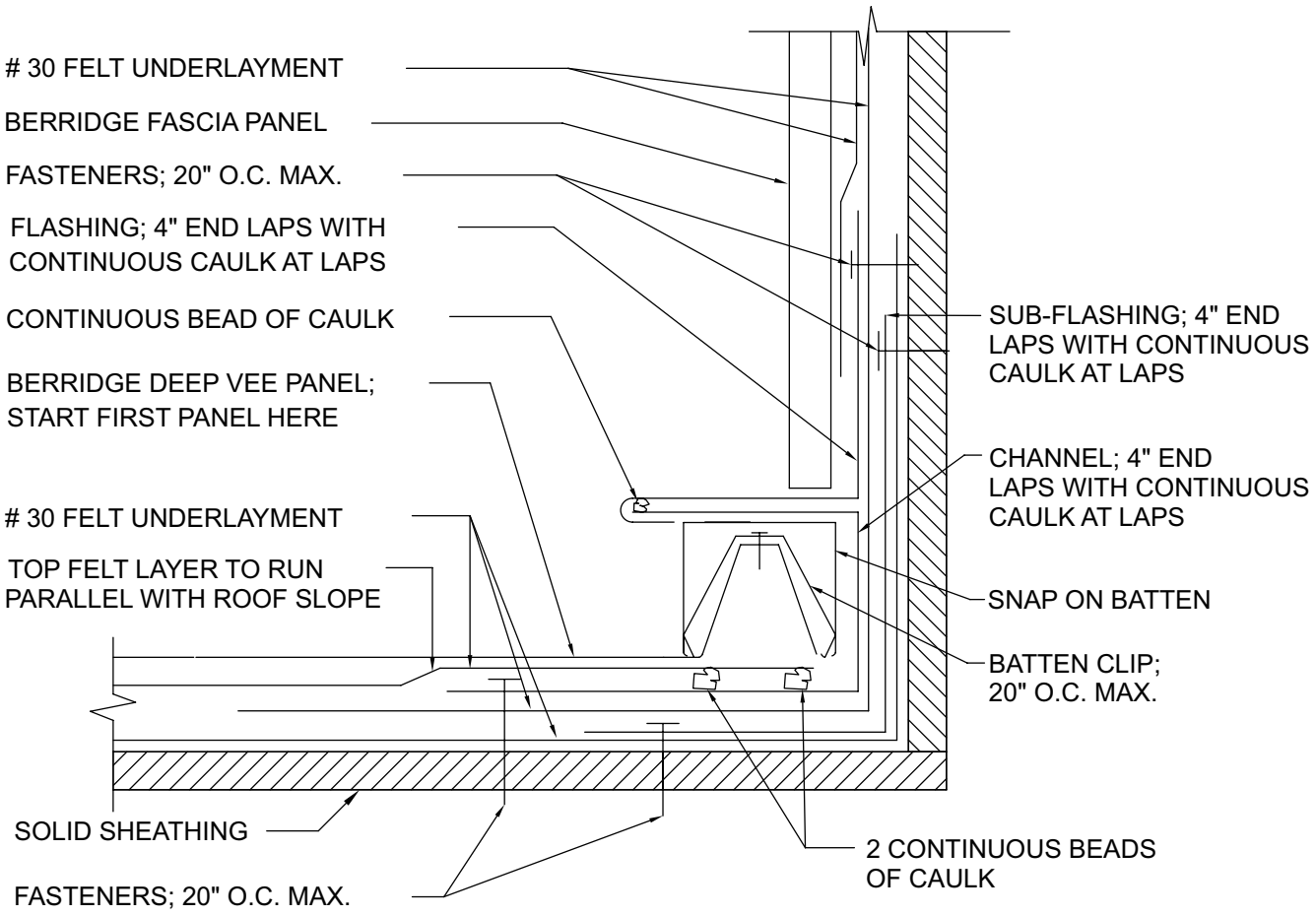
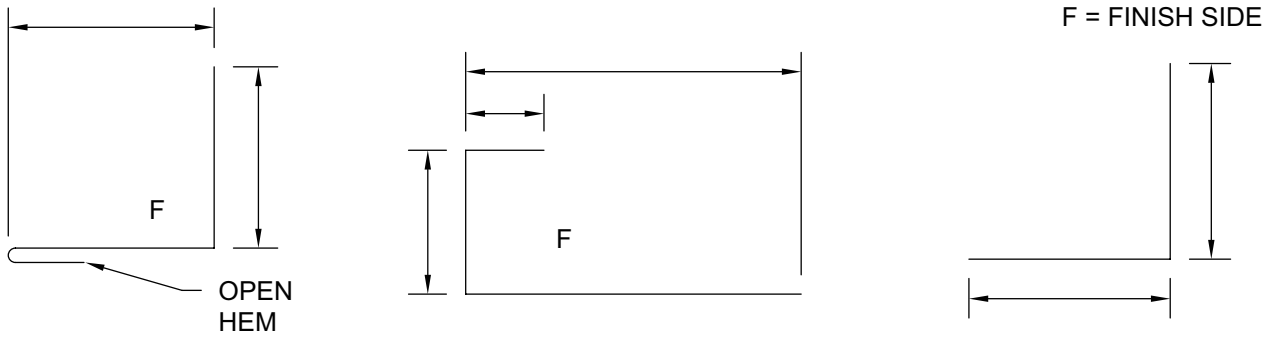


1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.

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



FLASHING CHANNEL SUB-FLASHING

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

RAKE WALL DETAIL

Batten Seam System

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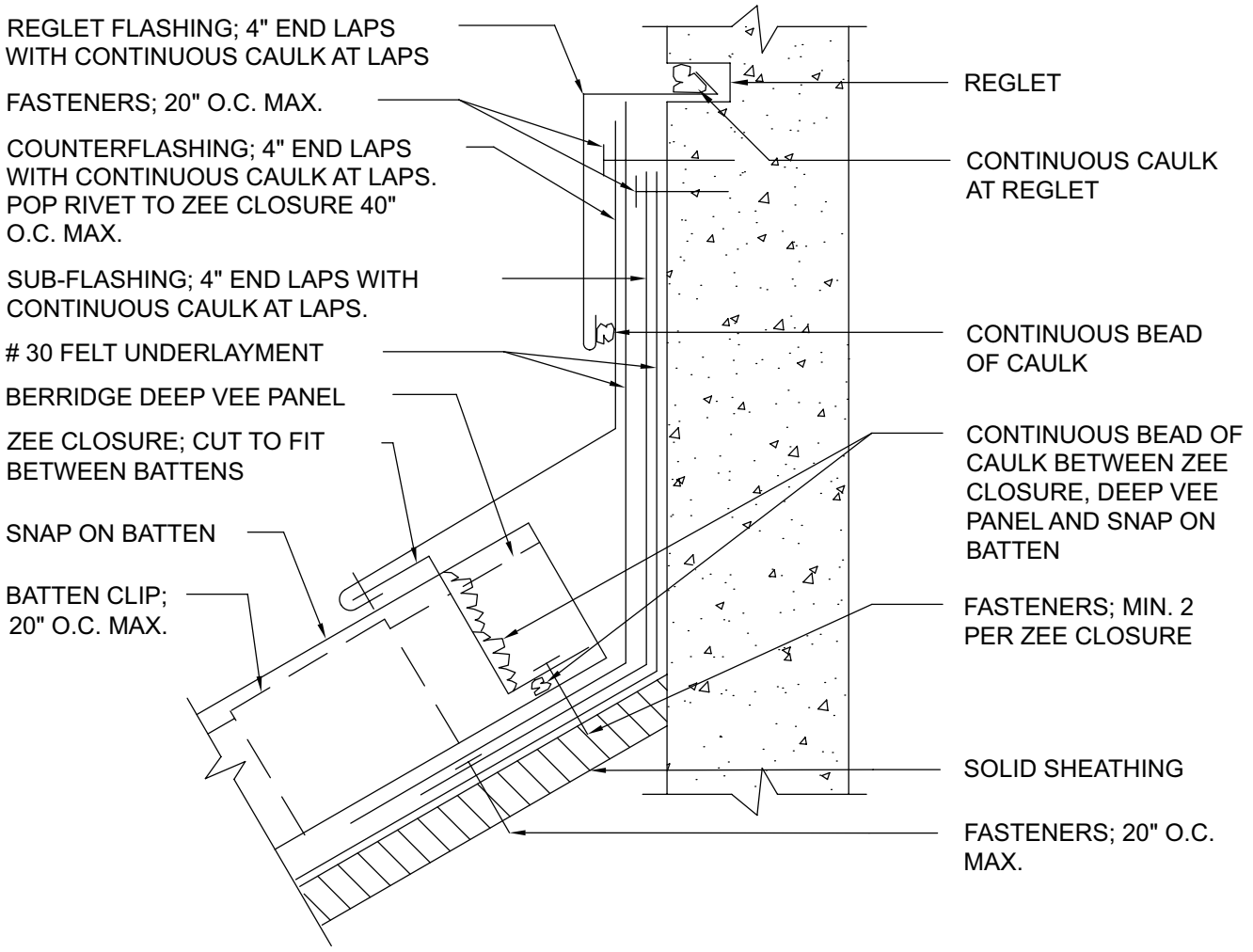
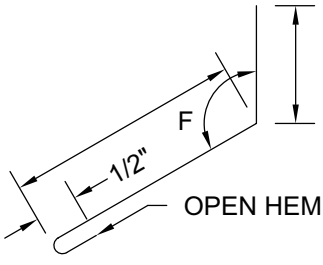


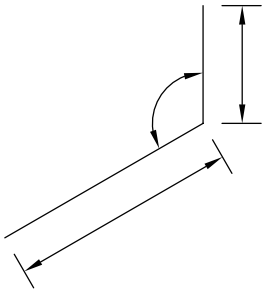
1. FIELD CUT ZEE CLOSURES TO FIT BETWEEN SNAP ON BATTENS.

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

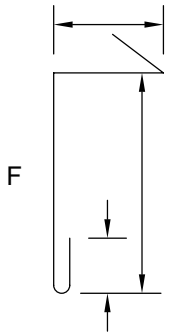
3. ALL FELT UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.



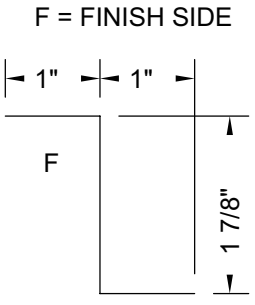
COUNTERFLASHING



SUB-FLASHING



REGLET FLASHING



ZEE CLOSURE

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

HEAD WALL DETAIL

Batten Seam System

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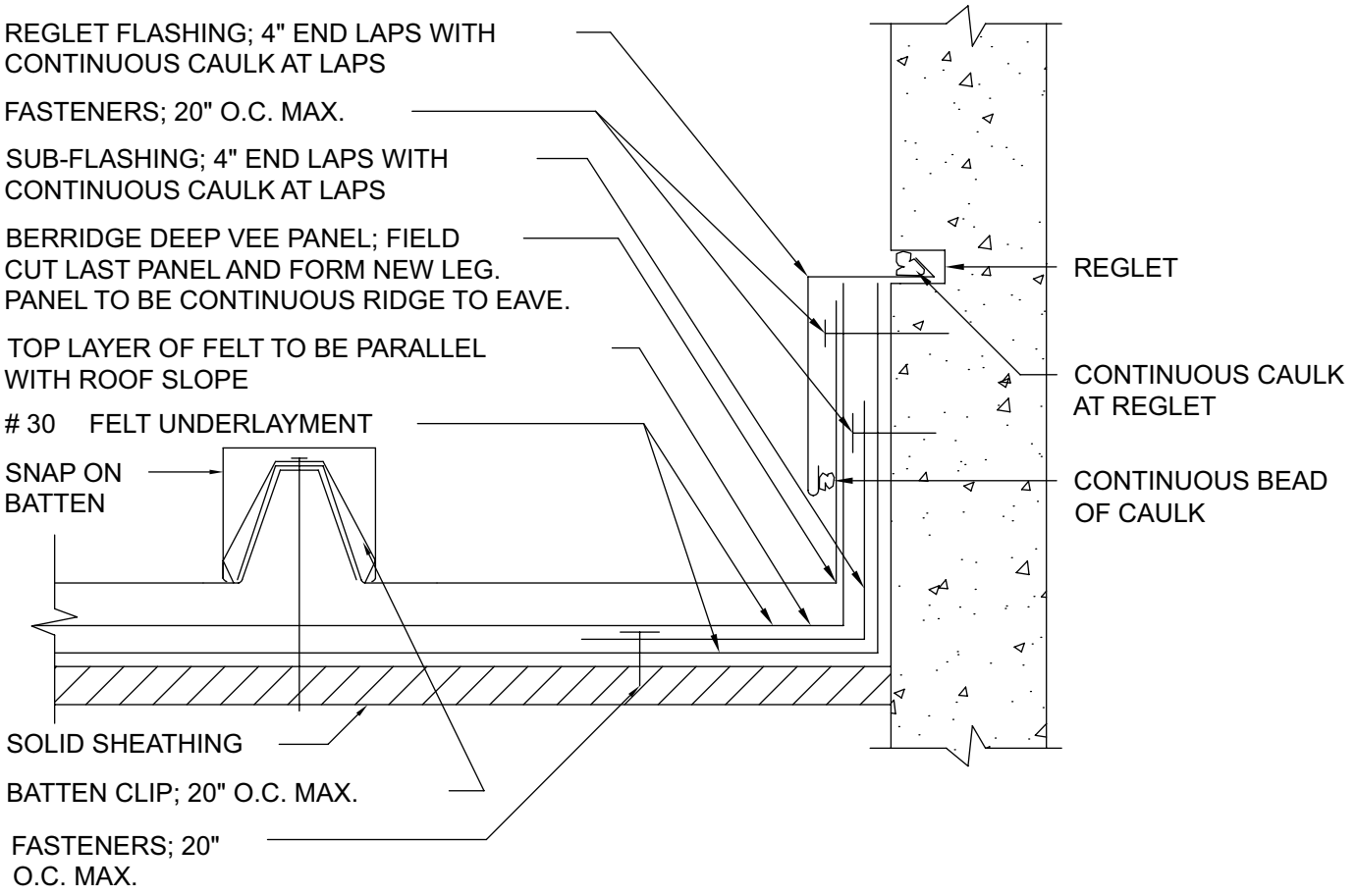
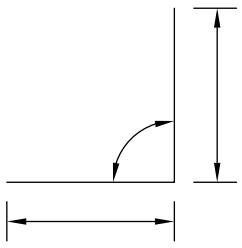


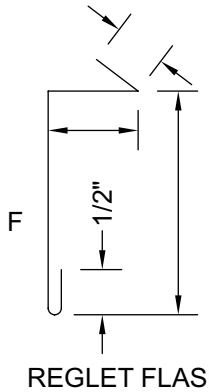
1. FIELD CUT LAST PANEL AND FORM NEW LEG. PANEL MUST BE CONTINUOUS RIDGE TO EAVE.

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
Roofs of Distinction

RAKE WALL DETAIL

Batten Seam System

DATE: 04-18-01

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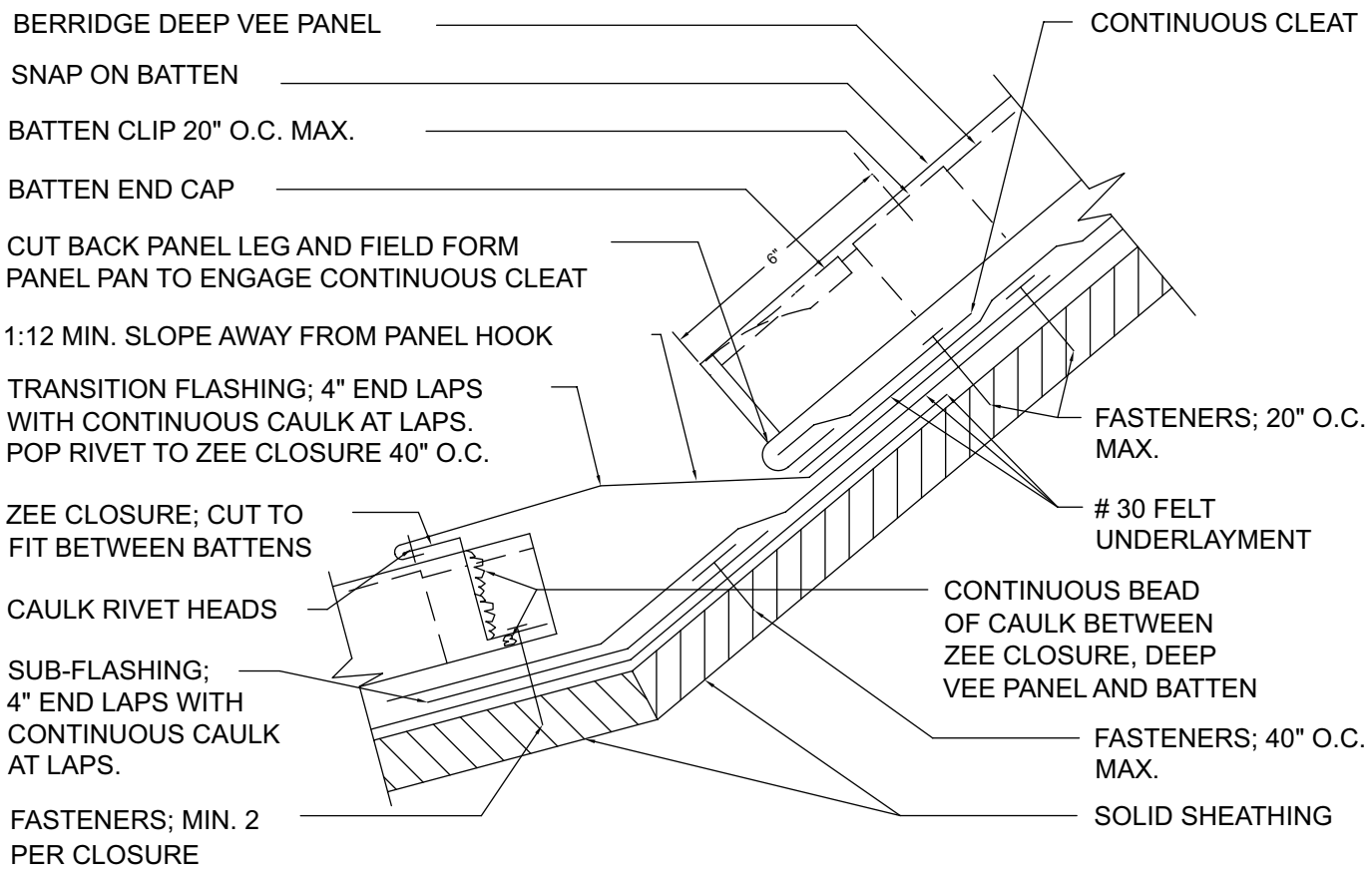


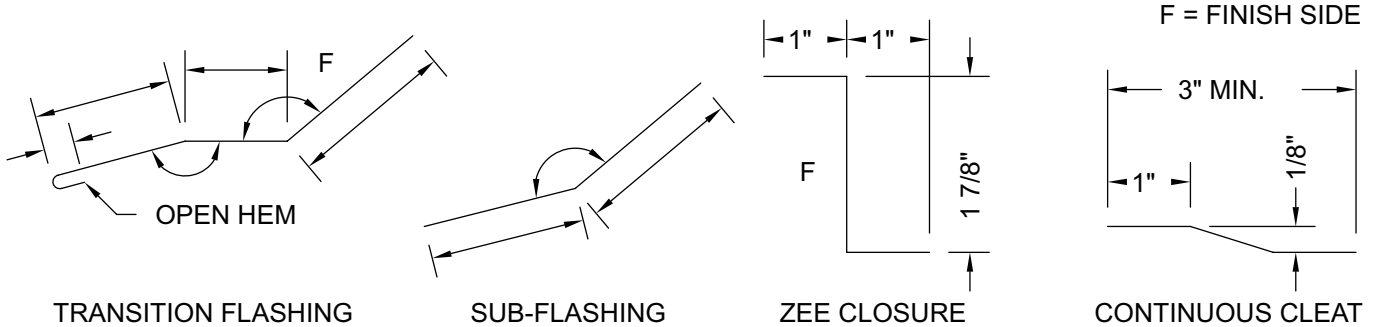
NOTE: PLACE A SMALL AMOUNT OF CAULK AT CLEAT FASTENER LOCATION, DRIVE FASTENER, THEN CAULK FASTENER HEAD.

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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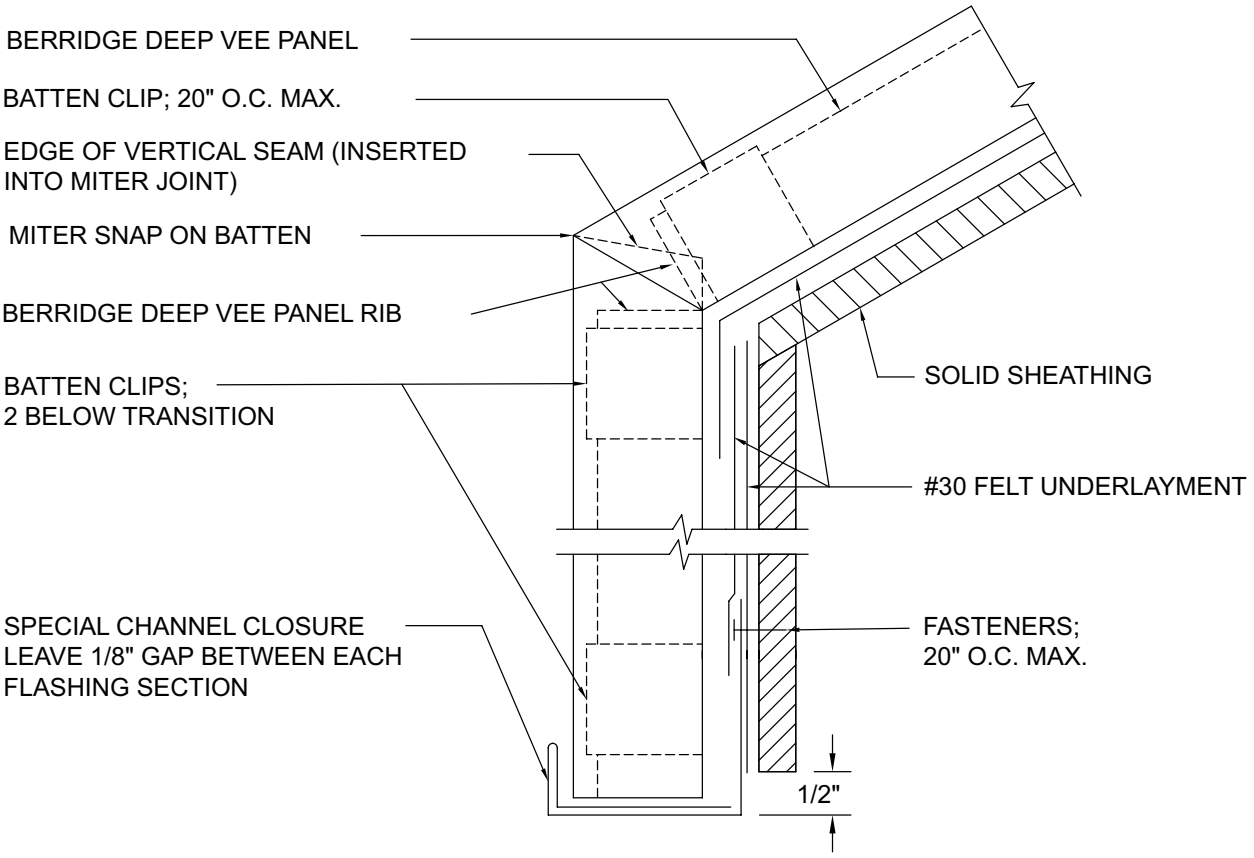
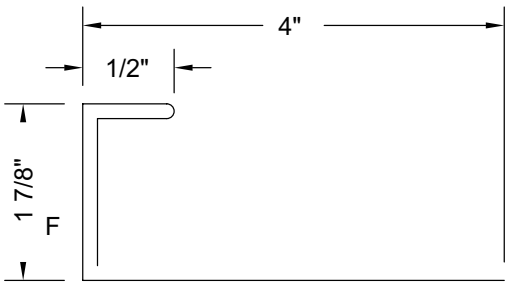


1. FIELD CUT PANEL RIB AND BEND PANEL AS REQUIRED FOR CHANGE IN SLOPE FROM ROOF TO FASCIA.
2. FIELD MITER SNAP-ON BATTEN TO SLOPE CHANGE.
3. ONLY ONE SLOPE TRANSITION PER PANEL IS RECOMMENDED.
4. SEE SLOPE TRANSITION ISOMETRIC FOR ROOF TO FASCIA FOR CAULK AND SNAP-ON BATTEN MITER DETAIL. (DETAIL B-62)
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.



F = FINISH SIDE

SPECIAL CHANNEL CLOSURE

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

SLOPE TRANSITION DETAIL ROOF TO FASCIA - A

Batten Seam System

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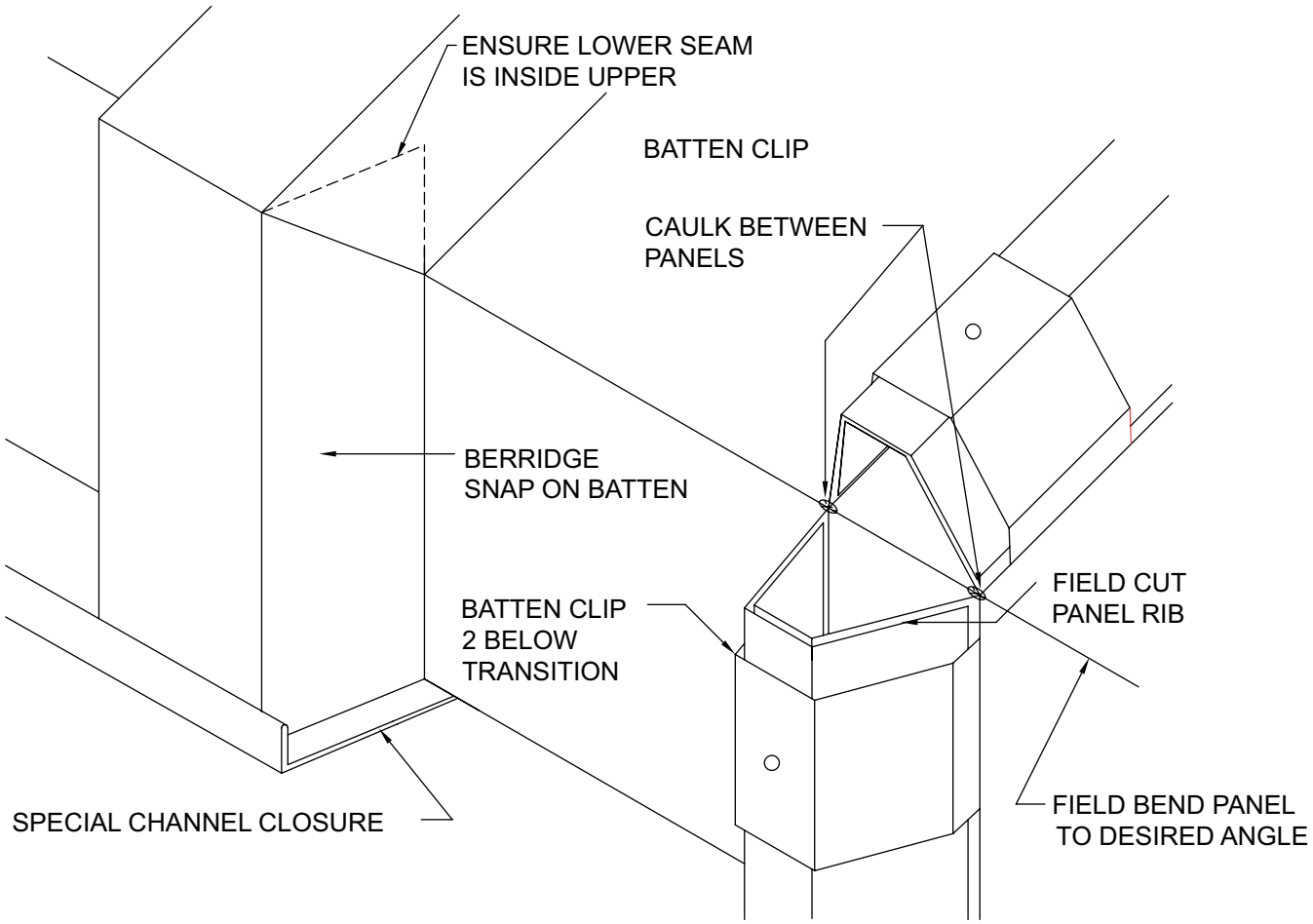

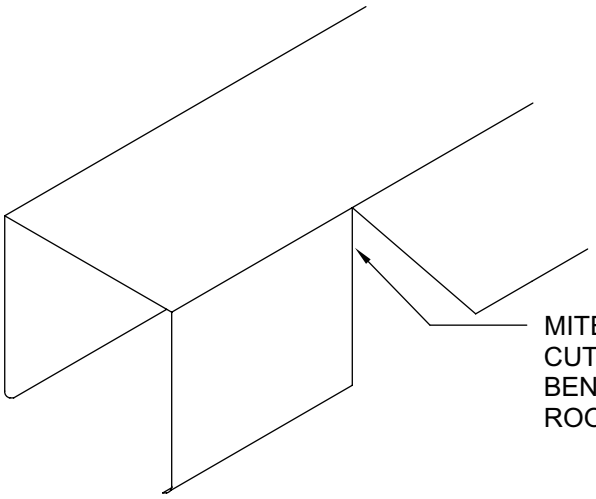

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

SLOPE TRANSITION DETAIL ROOF TO FASCIA - B

Batten Seam System

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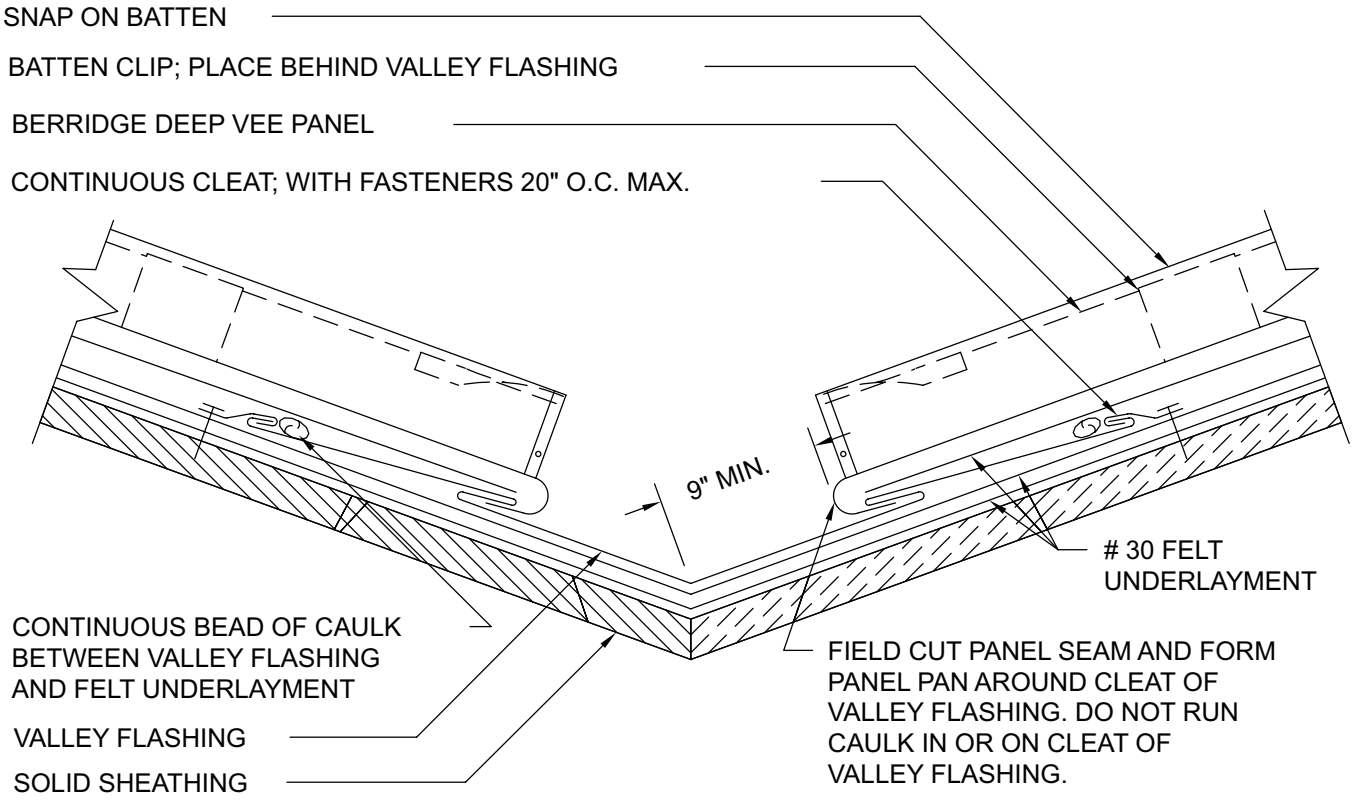
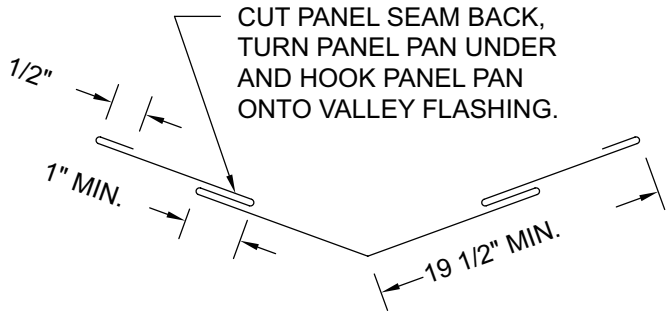
B-62



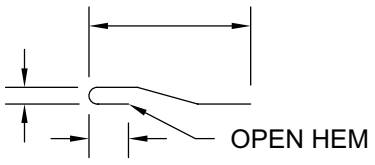
SEE DETAIL B-71 FOR VALLEY FLASHING LAPPING.

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
Roofs of Distinction

VALLEY DETAIL

Batten Seam System

DATE: 04-18-01

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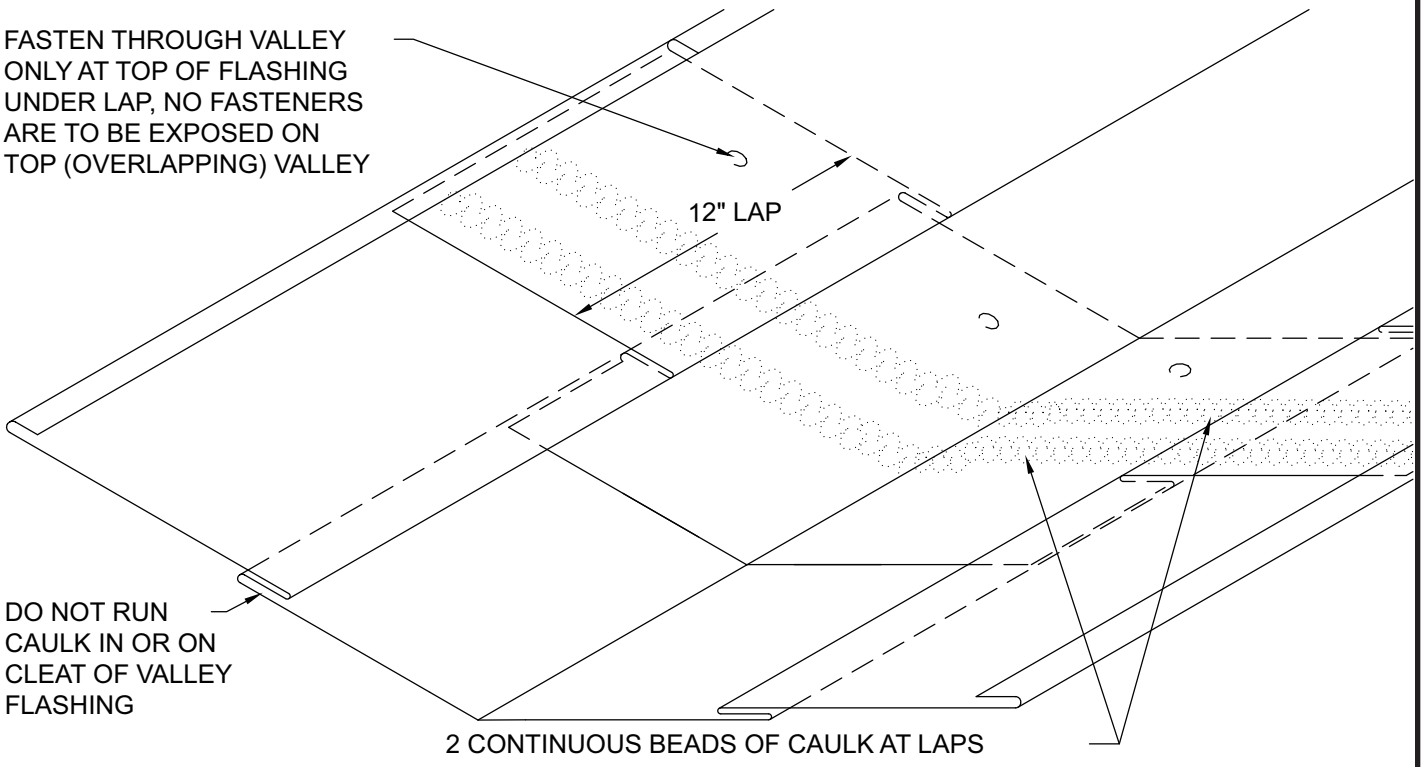
B-70



BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

LAP DETAIL

Batten Seam System

DATE: 04-18-01

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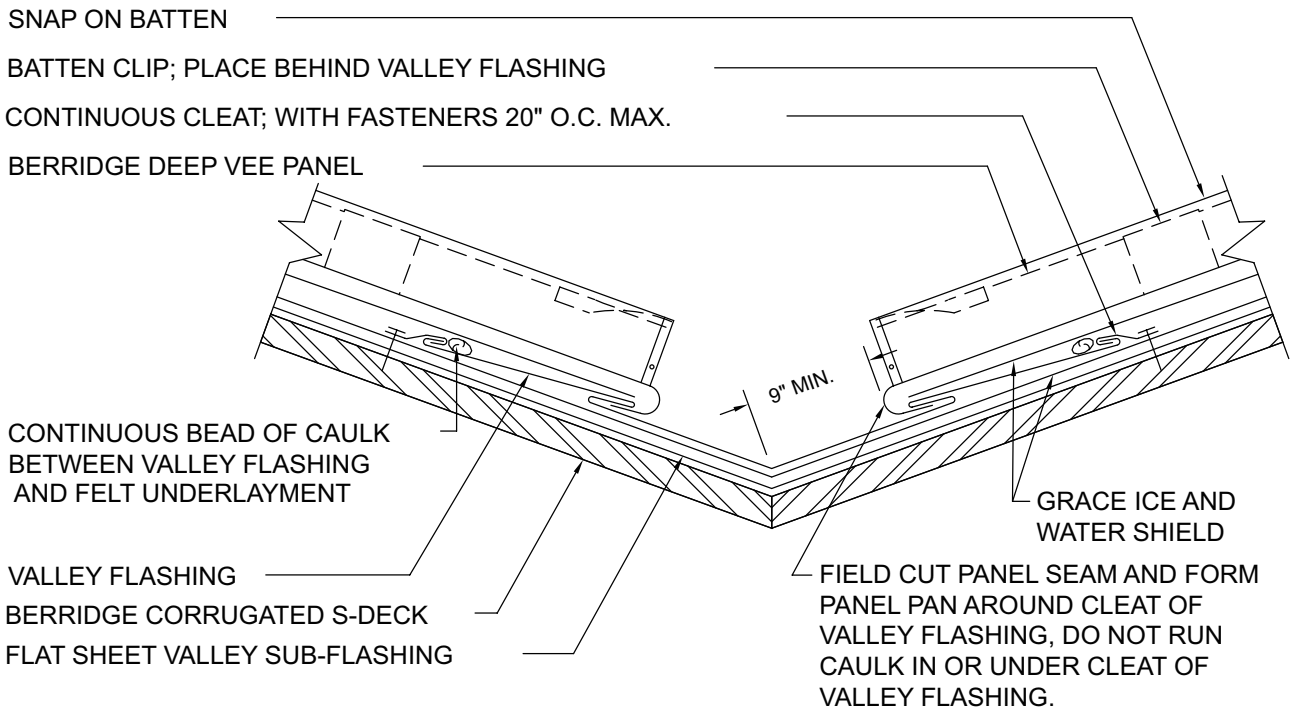
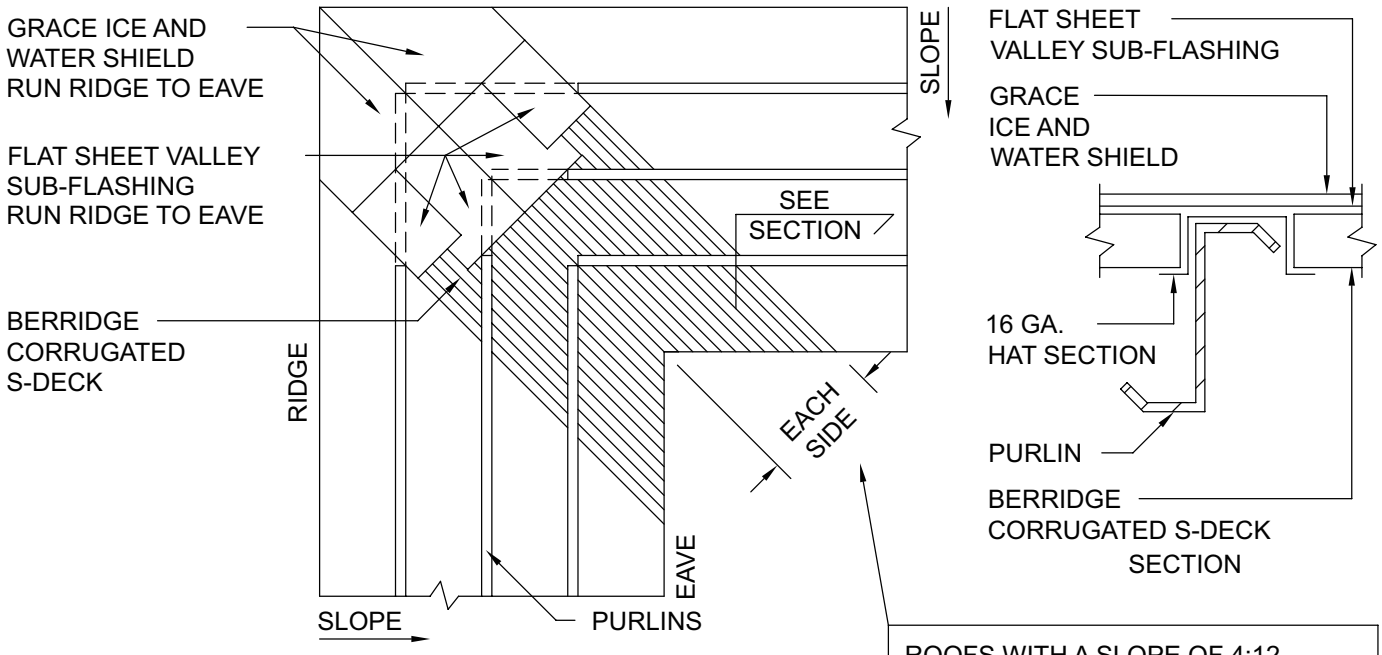
B-71

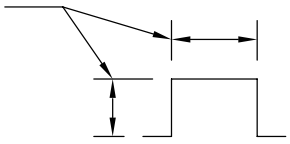


* FLASHING PROFILES AND NOTES, SEE DETAIL B-70 AND B-71



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

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



BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

VALLEY DETAIL OPEN FRAMING

Batten Seam System

DATE: 04-18-01

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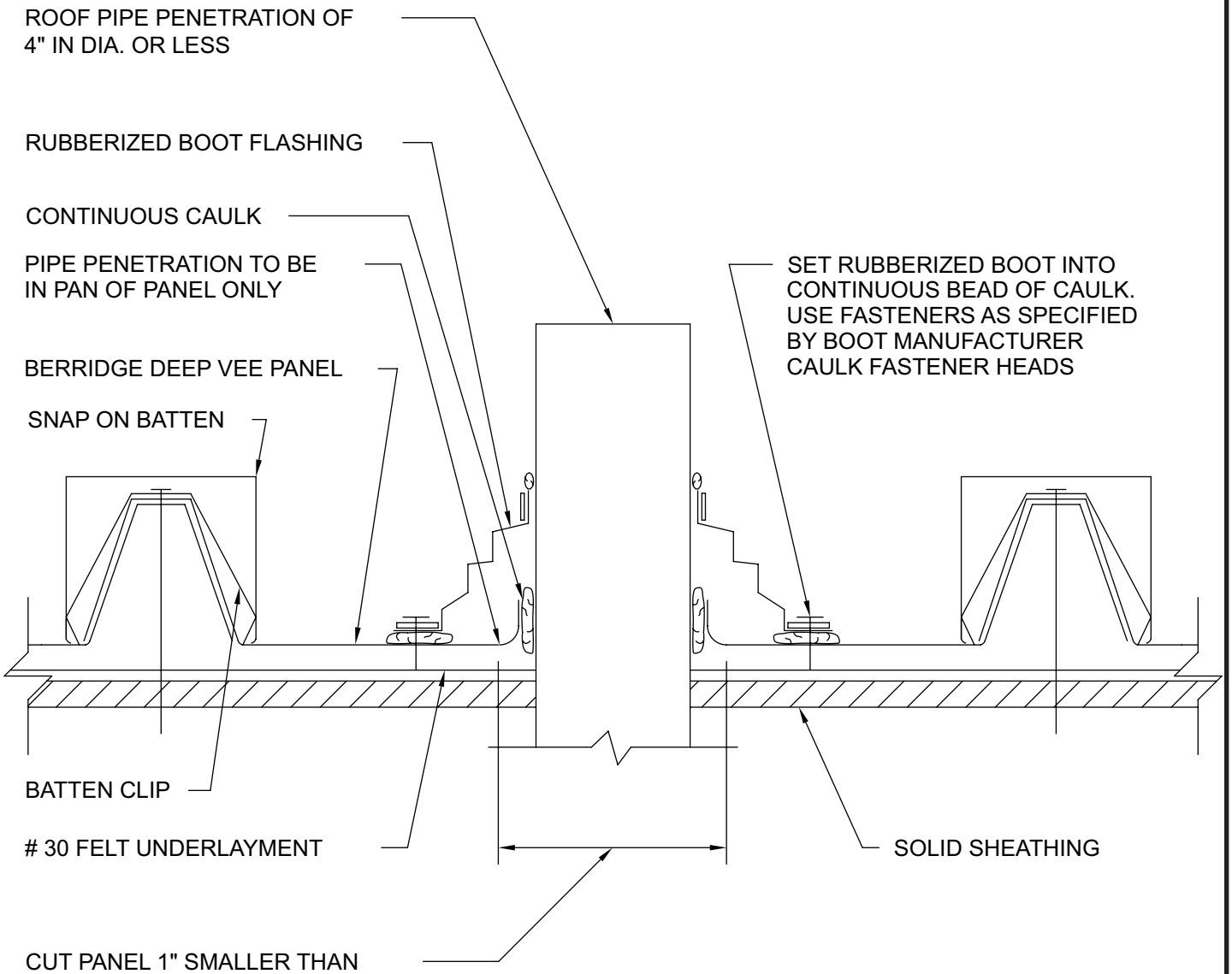


CUT PANEL 1" SMALLER THAN PENETRATION, BACK CUT TABS, FOLD TABS UP AROUND PENETRATION, AND CAULK.

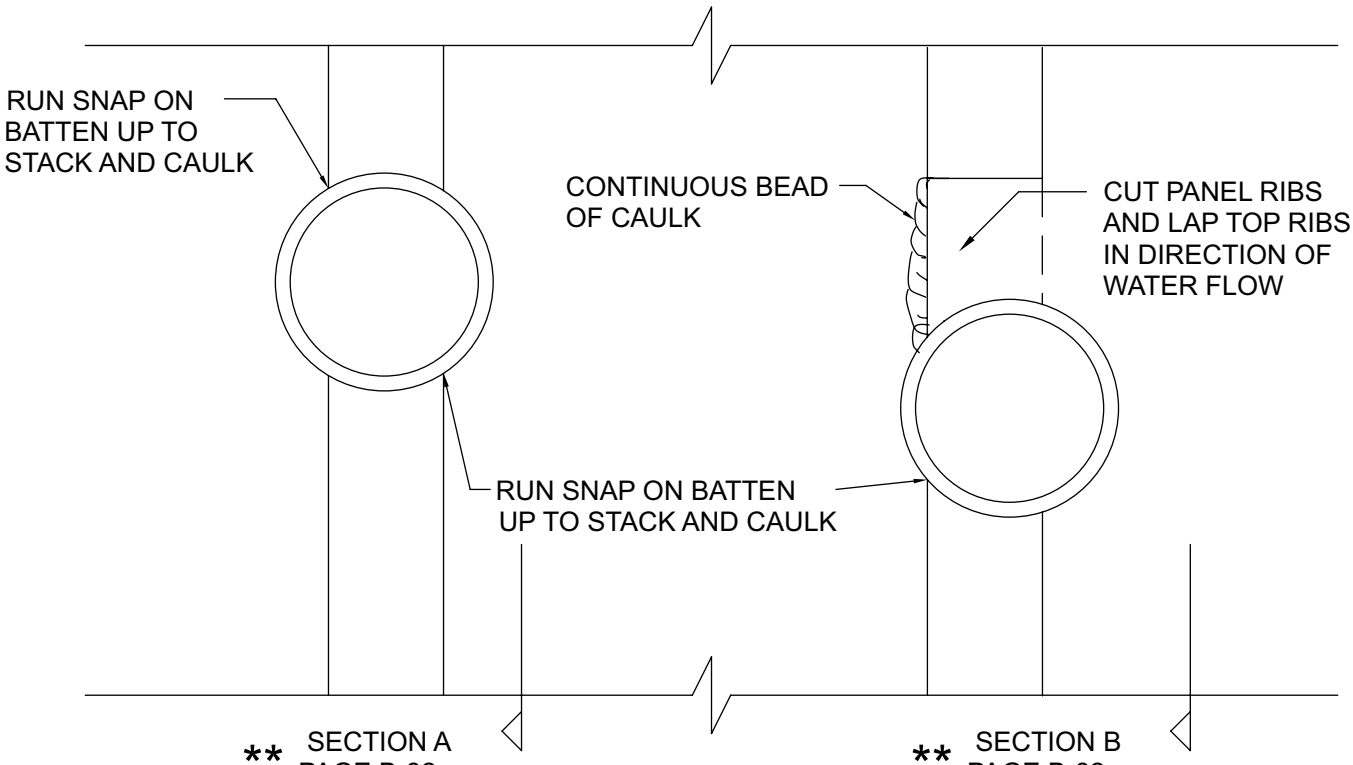
NOTE: CUT HOLE TO ALLOW FOR THERMAL MOVEMENT IF PANELS ARE 30'-0" OR LONGER.

NOTE: IF PIPE IS MADE OF METAL, IT MUST BE PAINTED TO PREVENT RUST RUN-OFF FROM STAINING PANELS.

NOTE: POSITION SQUARE BASED BOOTS IN A DIAMOND ORIENTATION WHERE POSSIBLE TO AID IN DIVERTING WATER.

*SNAP-ON SEAM IS COVERED UNDER US PATENT NO. 4,641,475.

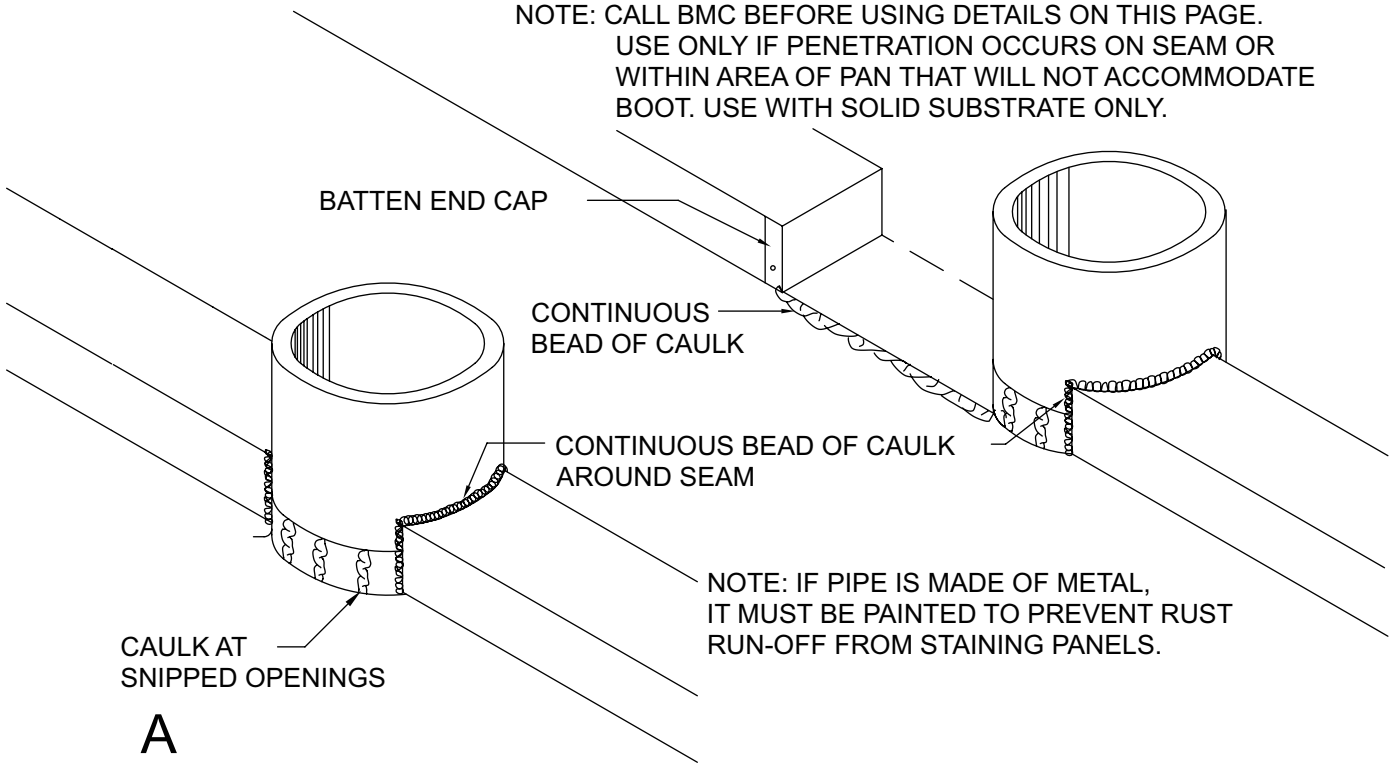
BERRIDGE MANUFACTURING COMPANY Roofs of Distinction	PIPE PENETRATION (PREFERRED METHOD) IN PAN OF PANEL ONLY 4" DIA. OR LESS	DATE: 04-18-01
	Batten Seam System	PAGE/FILE B-80



** SECTION A
PAGE B-82
ROOF PENETRATION CENTERED ON SEAM

** SECTION B
PAGE B-82
ROOF PENETRATION OFF CENTER OF SEAM

**CALL BMC BEFORE USING THIS DETAIL



A

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

PIPE PENETRATION OF PANEL BATTEN
ISOMETRIC AND PLAN VIEW
**CALL BMC BEFORE USING THIS DETAIL

DATE: 04-18-01

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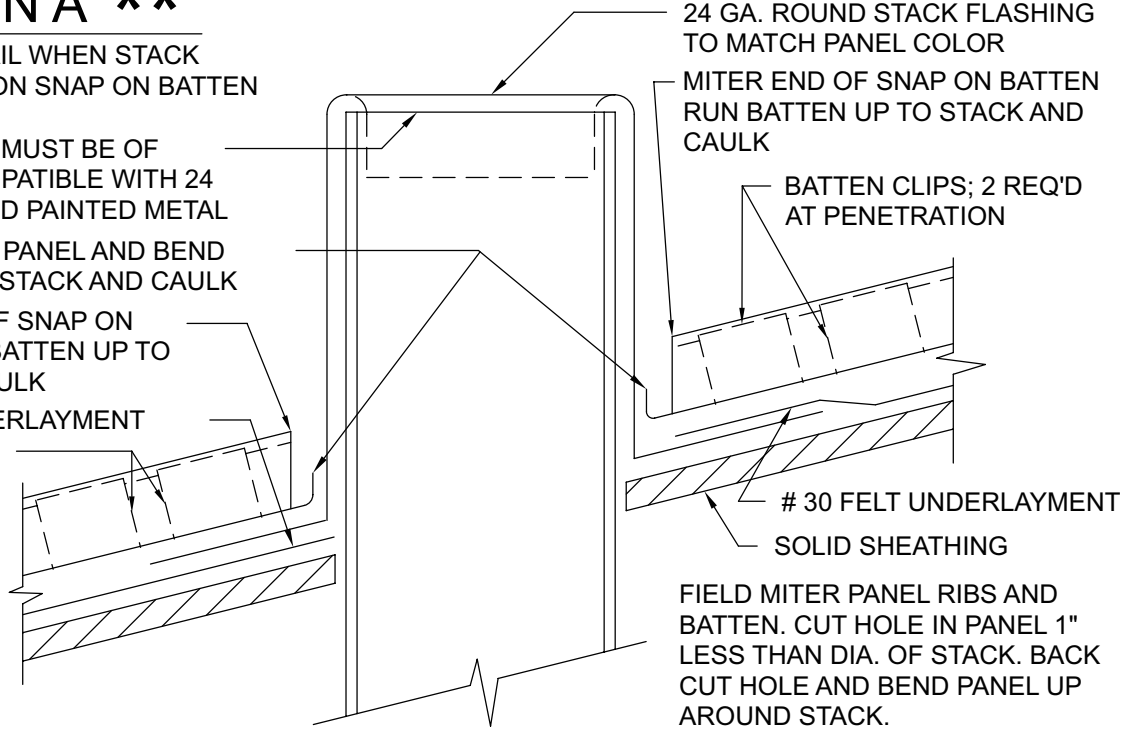
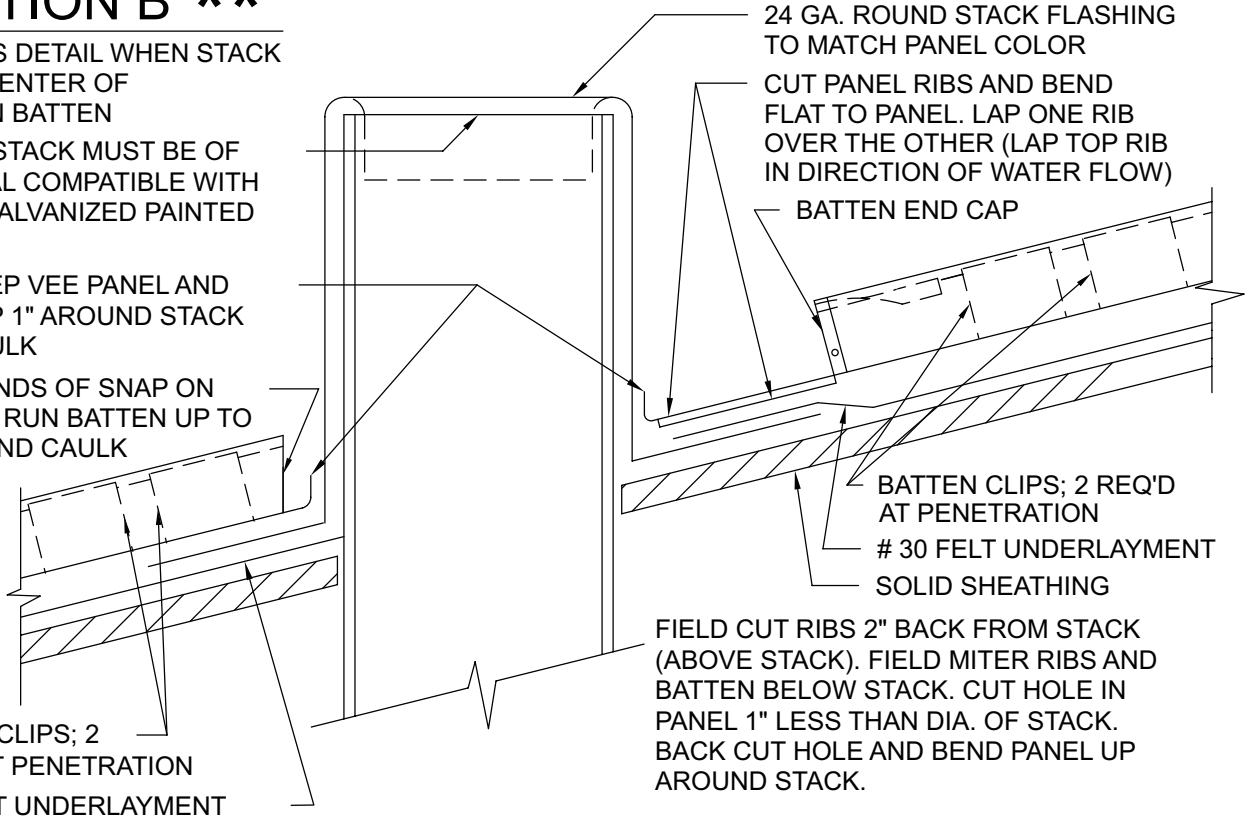
SECTION A **

USE THIS DETAIL WHEN STACK IS CENTERED ON SNAP ON BATTEN



SECTION B **

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



BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

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

Batten Seam System

DATE: 04-18-01

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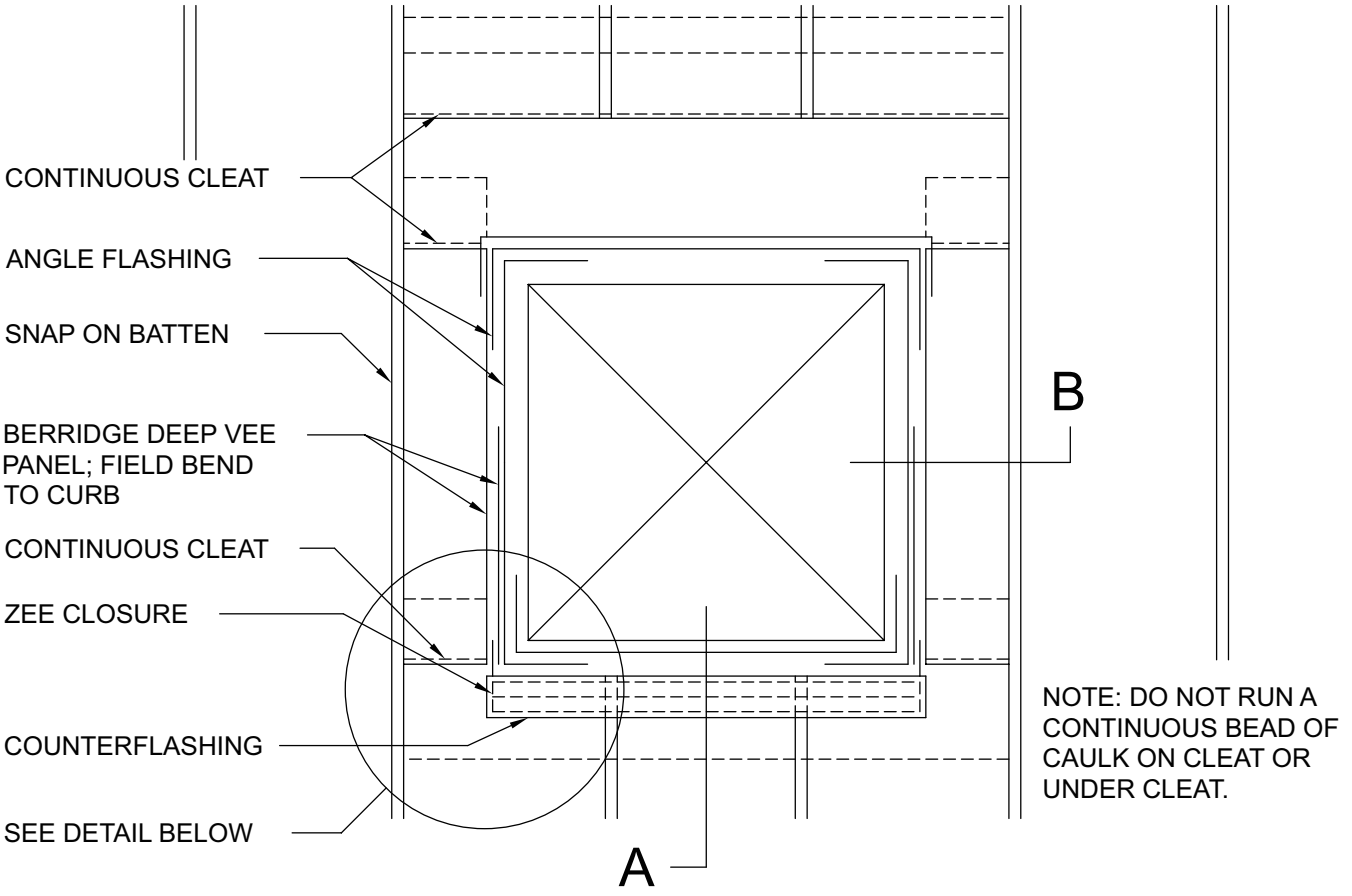

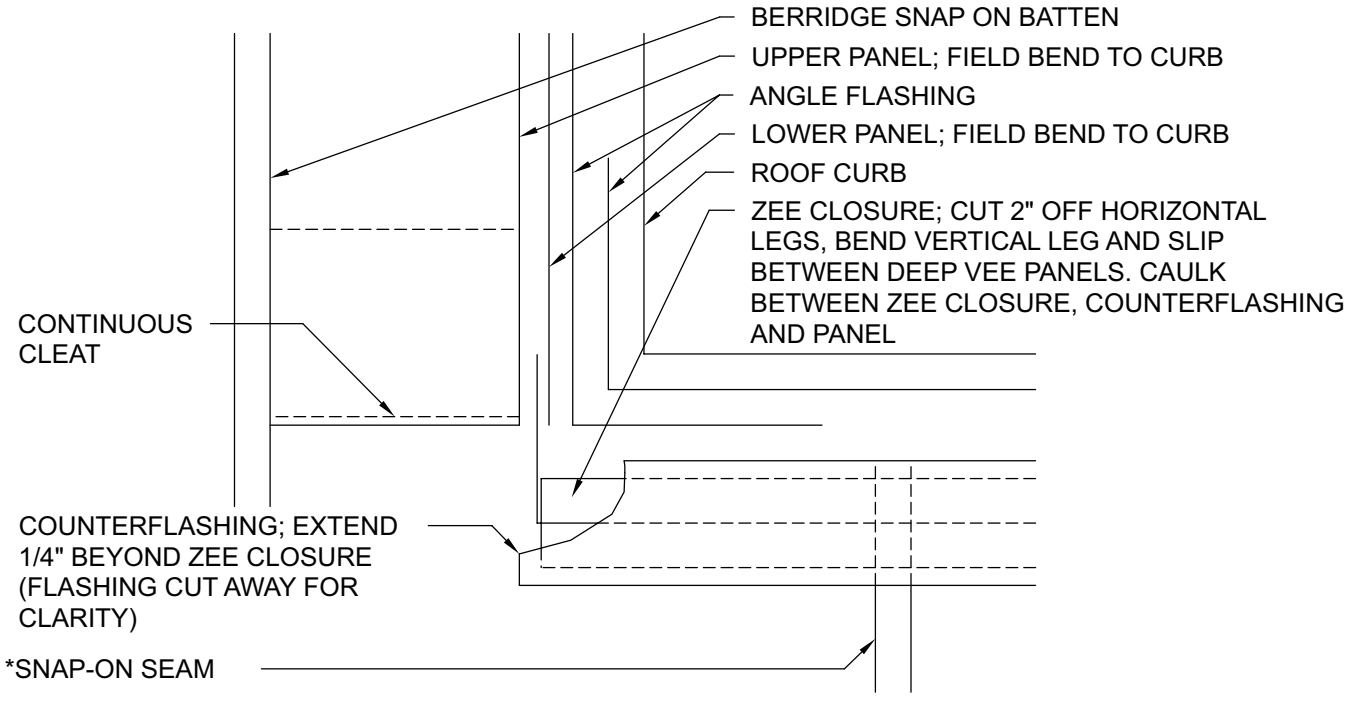

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

ROOF PENETRATION RECTANGULAR/SQUARE

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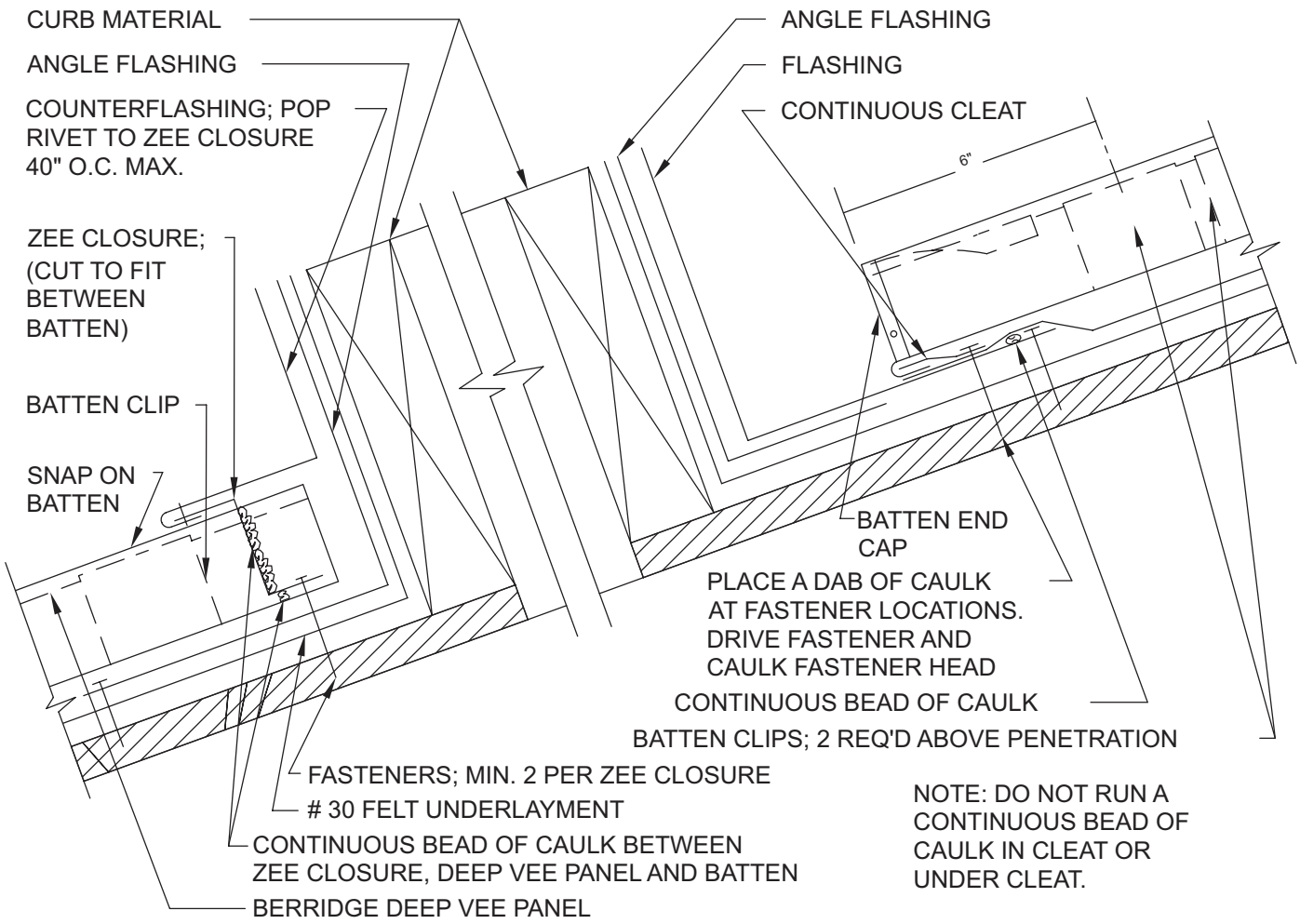
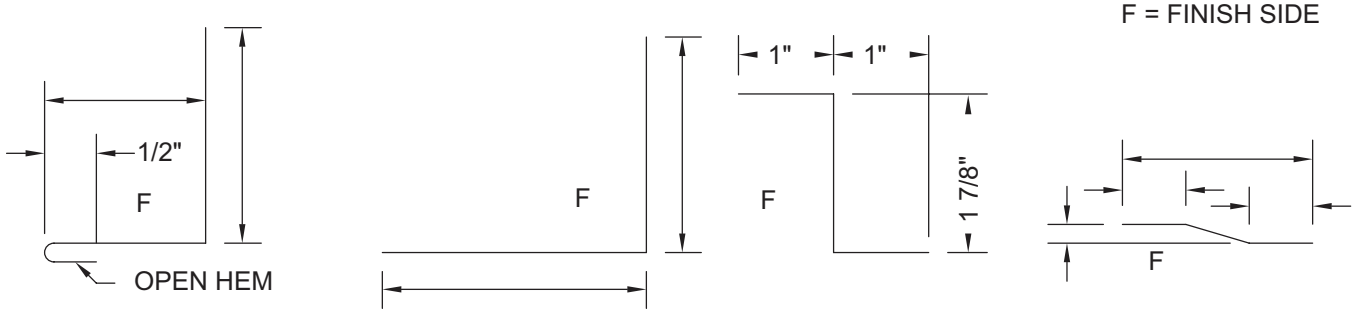


1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS.

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

F = FINISH SIDE



COUNTERFLASHING | ANGLE FLASHING | ZEE CLOSURE | CONTINUOUS CLEAT

BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

ROOF PENETRATION SECTION A

Batten Seam System

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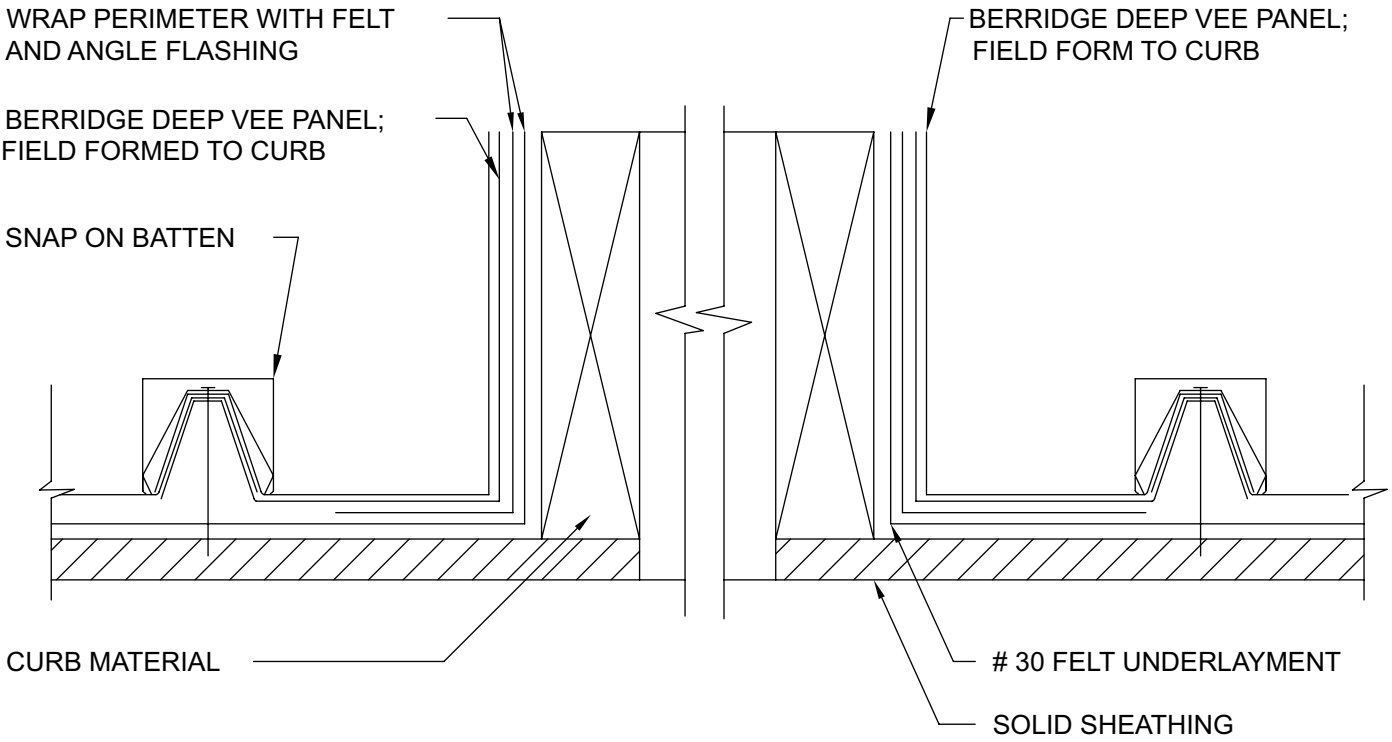
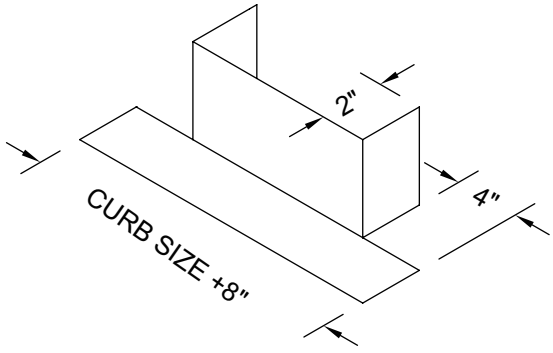
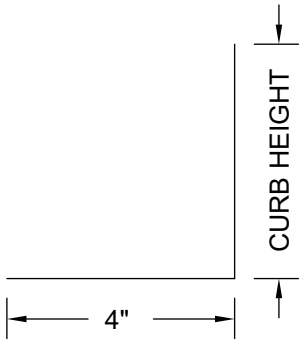


1. SOLID SHEATHING (BY OTHERS) TO BE MINIMUM 1/2" PLYWOOD OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS. (METAL CORRUGATED SHEATHING, MIN. 24 GA. MAY BE USED IN LIEU OF PLYWOOD).

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
Roofs of Distinction

ROOF PENETRATION SECTION B

Batten Seam System

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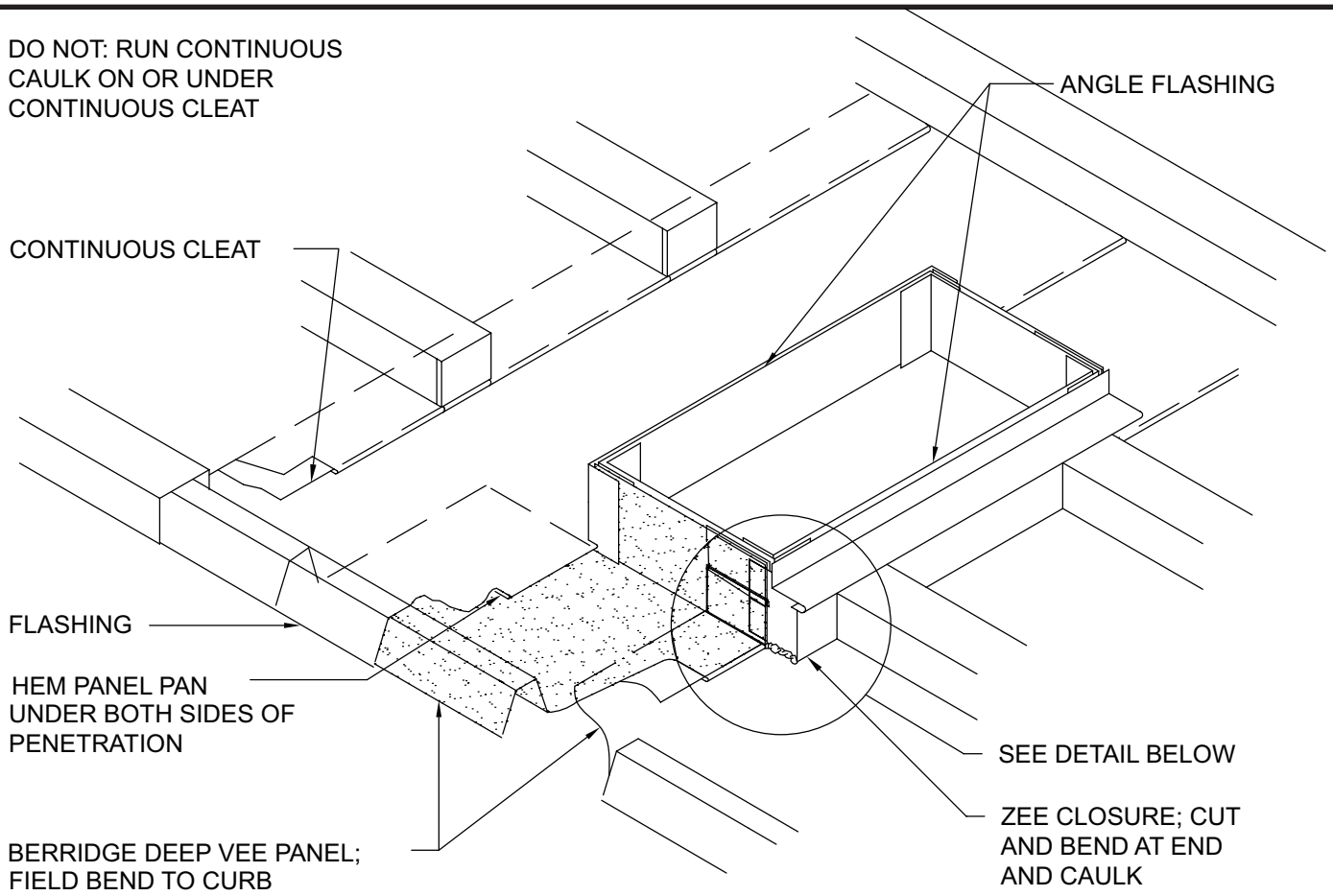

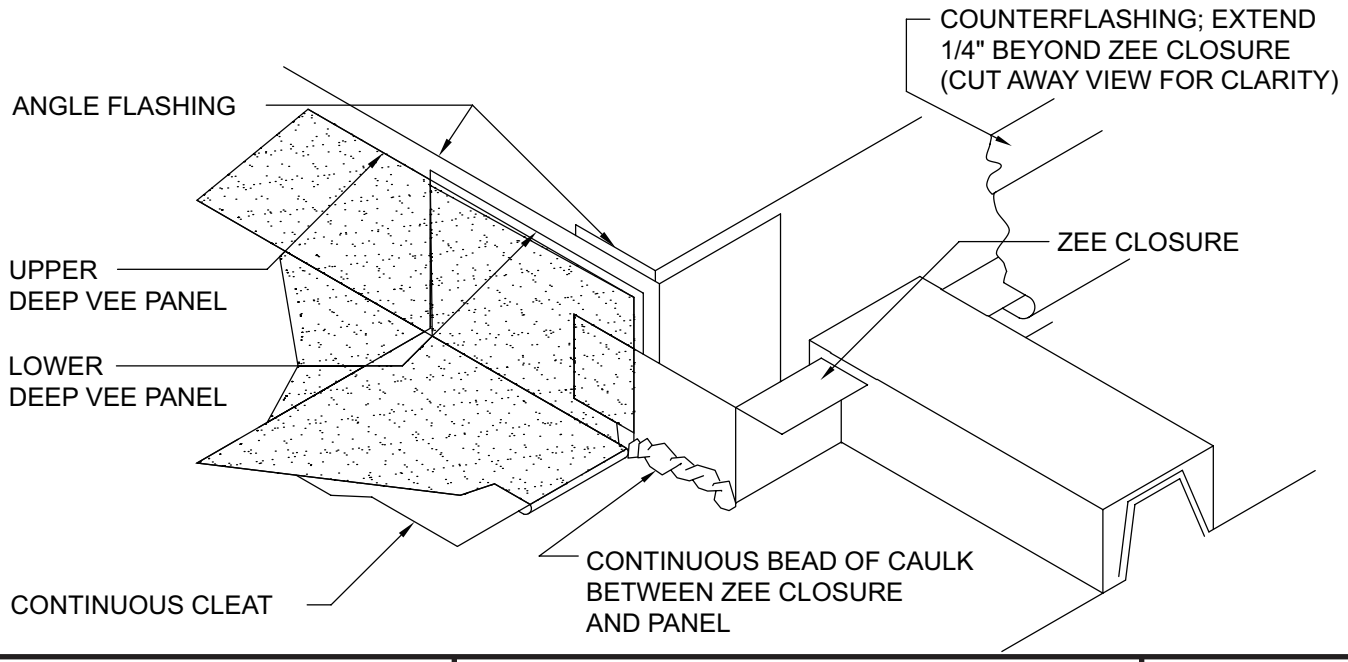

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

ROOF PENETRATION ISOMETRIC

Batten Seam System

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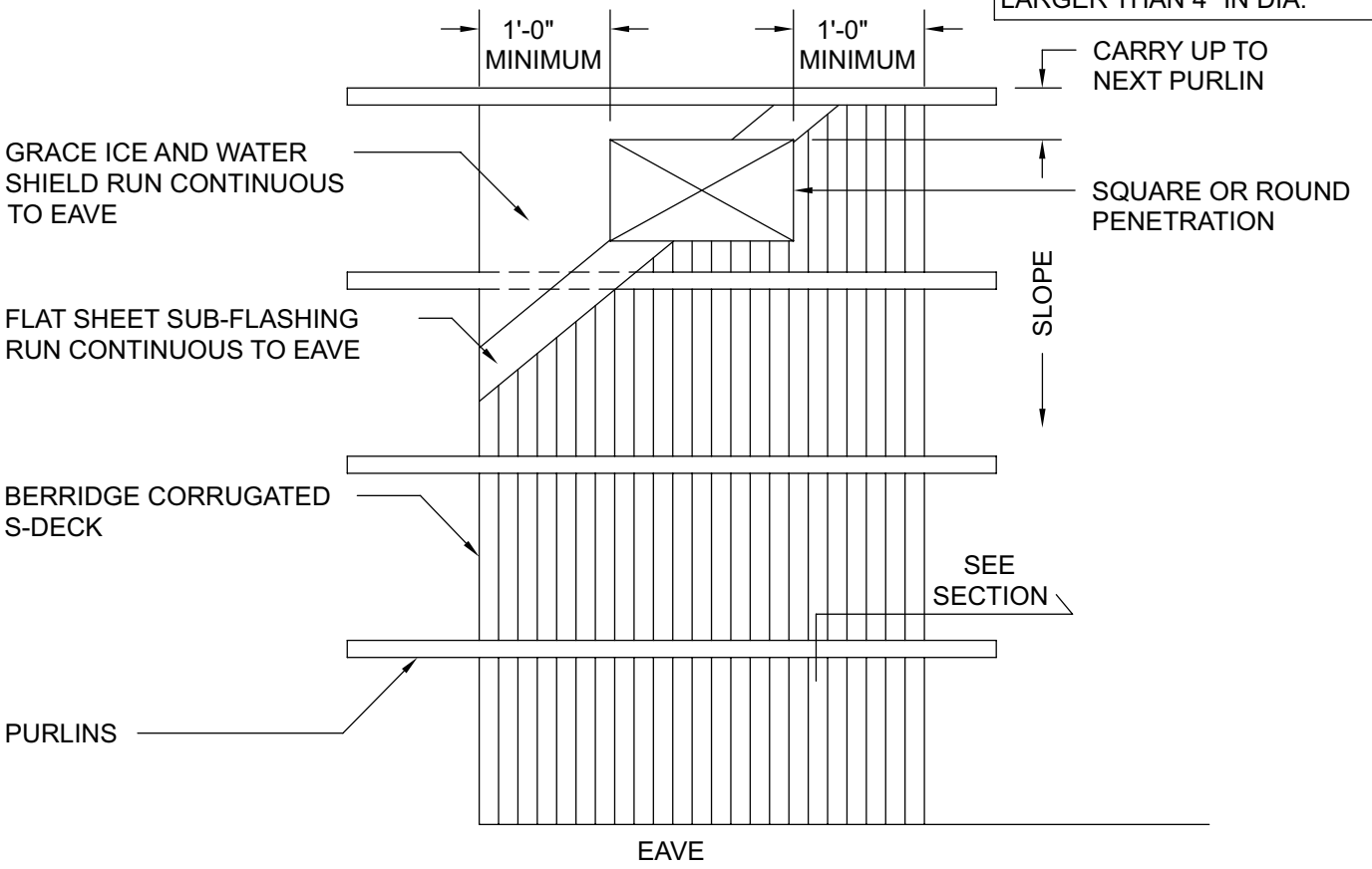
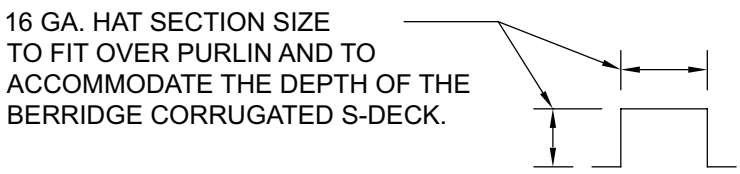
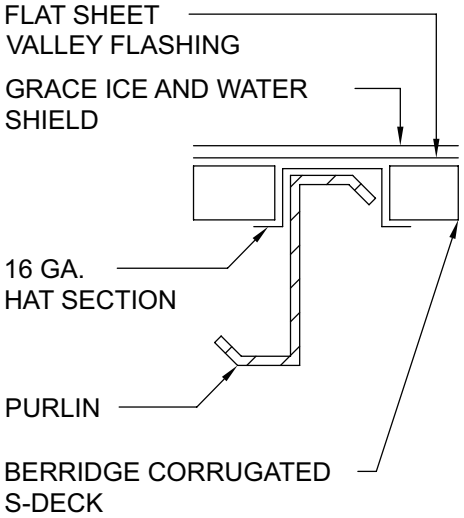
FOR ROOF PENETRATIONS LARGER THAN 4" IN DIA.







SECTION

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

PENETRATION

LARGER THAN 4";
OPEN FRAMING

Batten Seam System

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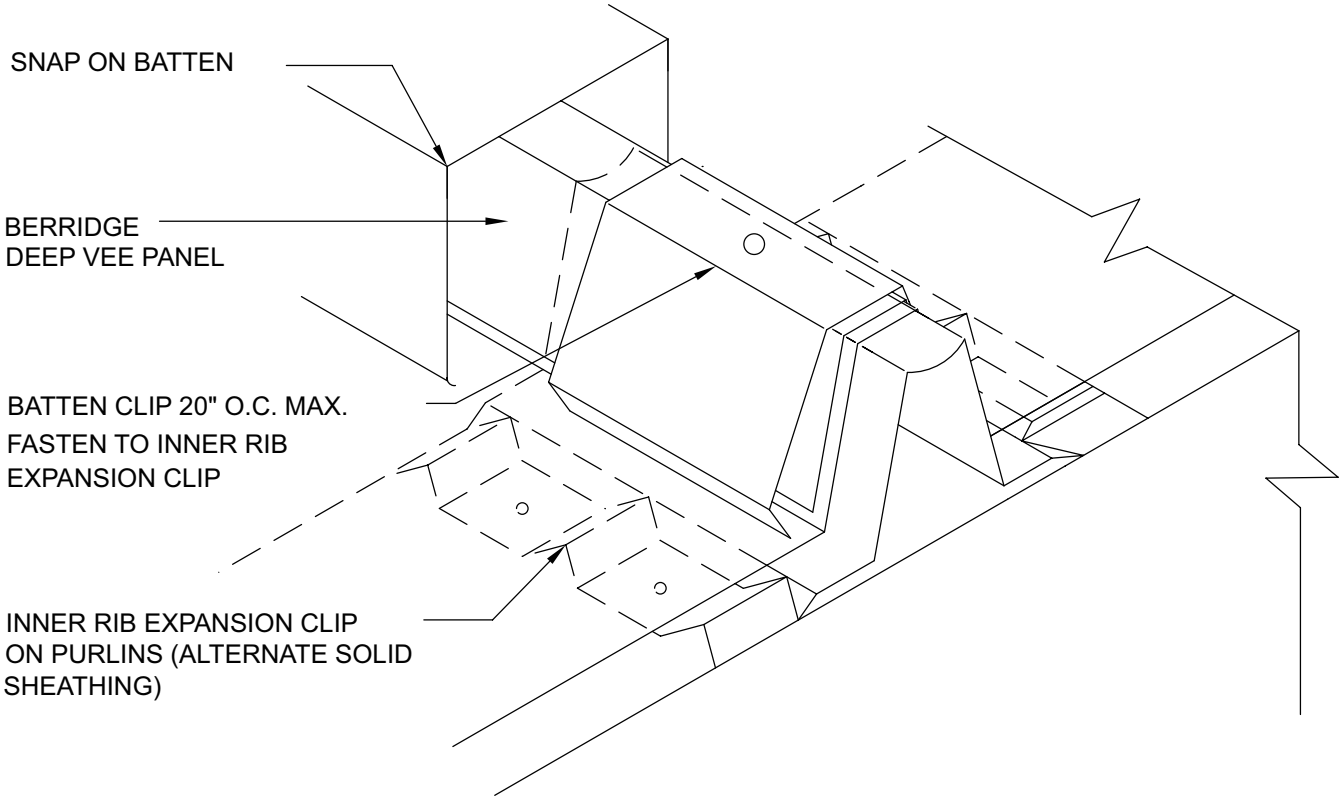
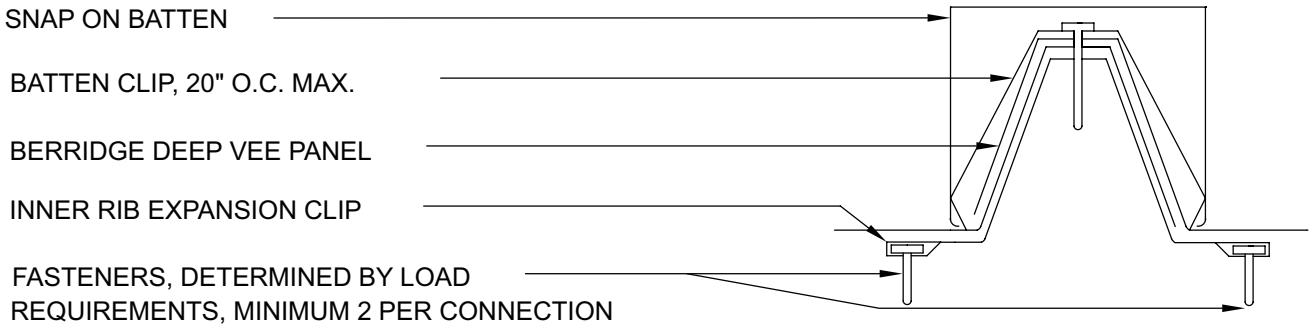
B-87



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 USD 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.



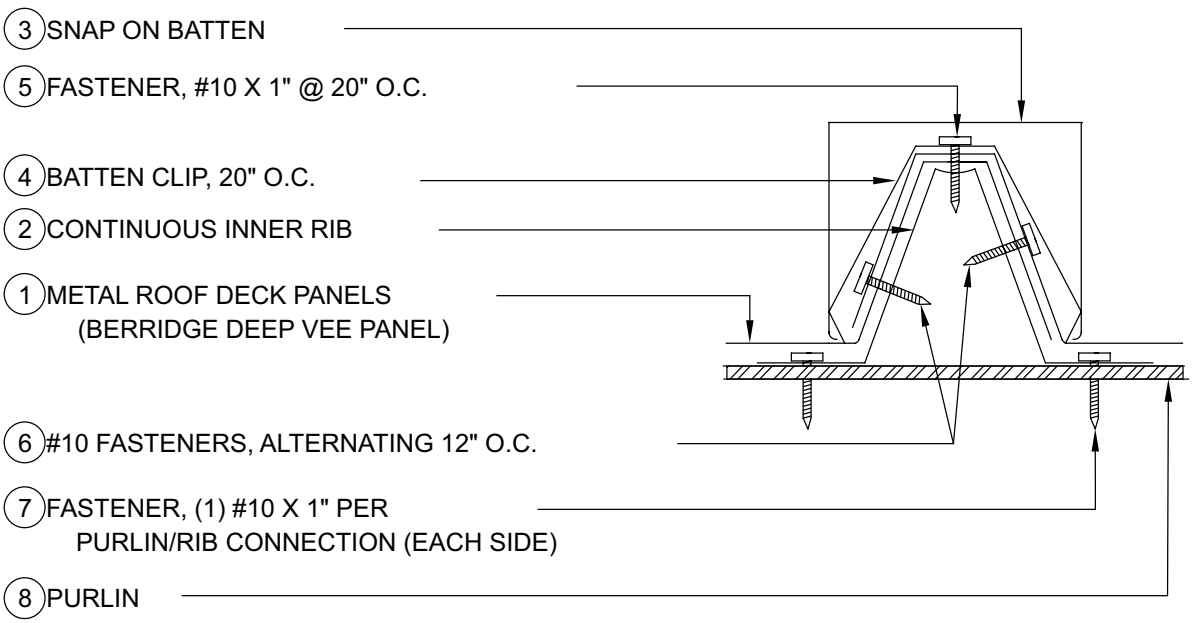
BERRIDGE MANUFACTURING COMPANY
Roofs of Distinction

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

DATE: 04-18-01

Batten Seam System

PAGE/FILE
B-90



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.

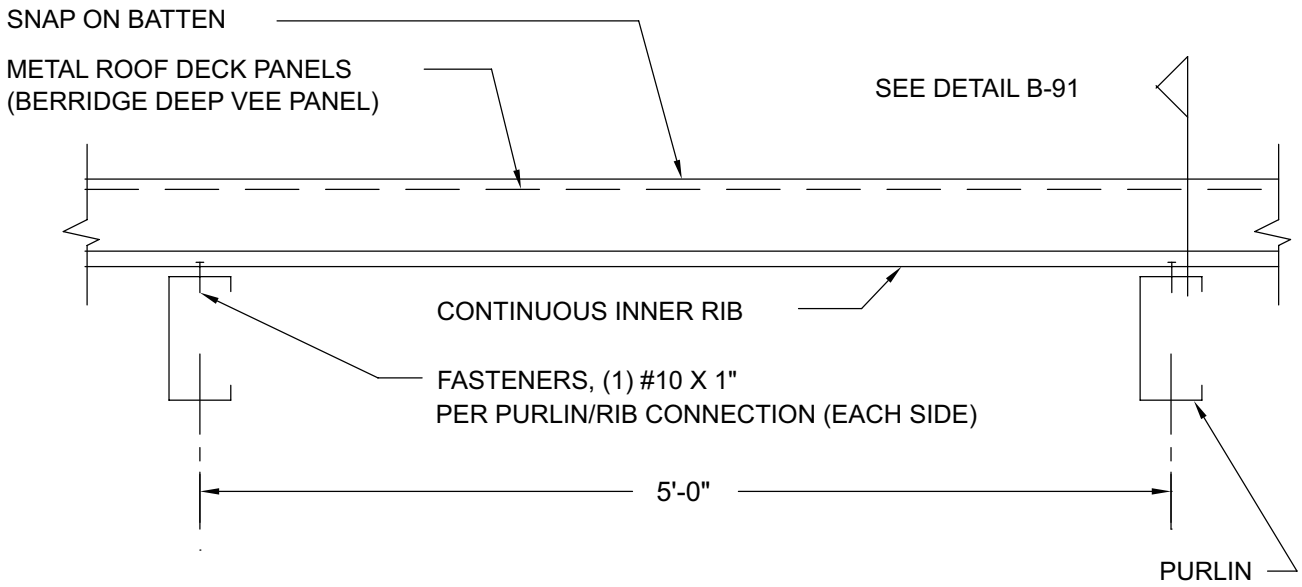
5. FASTENERS-FASTENERS FOR ATTACHMENT OF BATTEN CLIP TO DEEP VEE PANEL TO BE #10 X 1" AT 20" ON CENTER.

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



SIDE ELEVATION

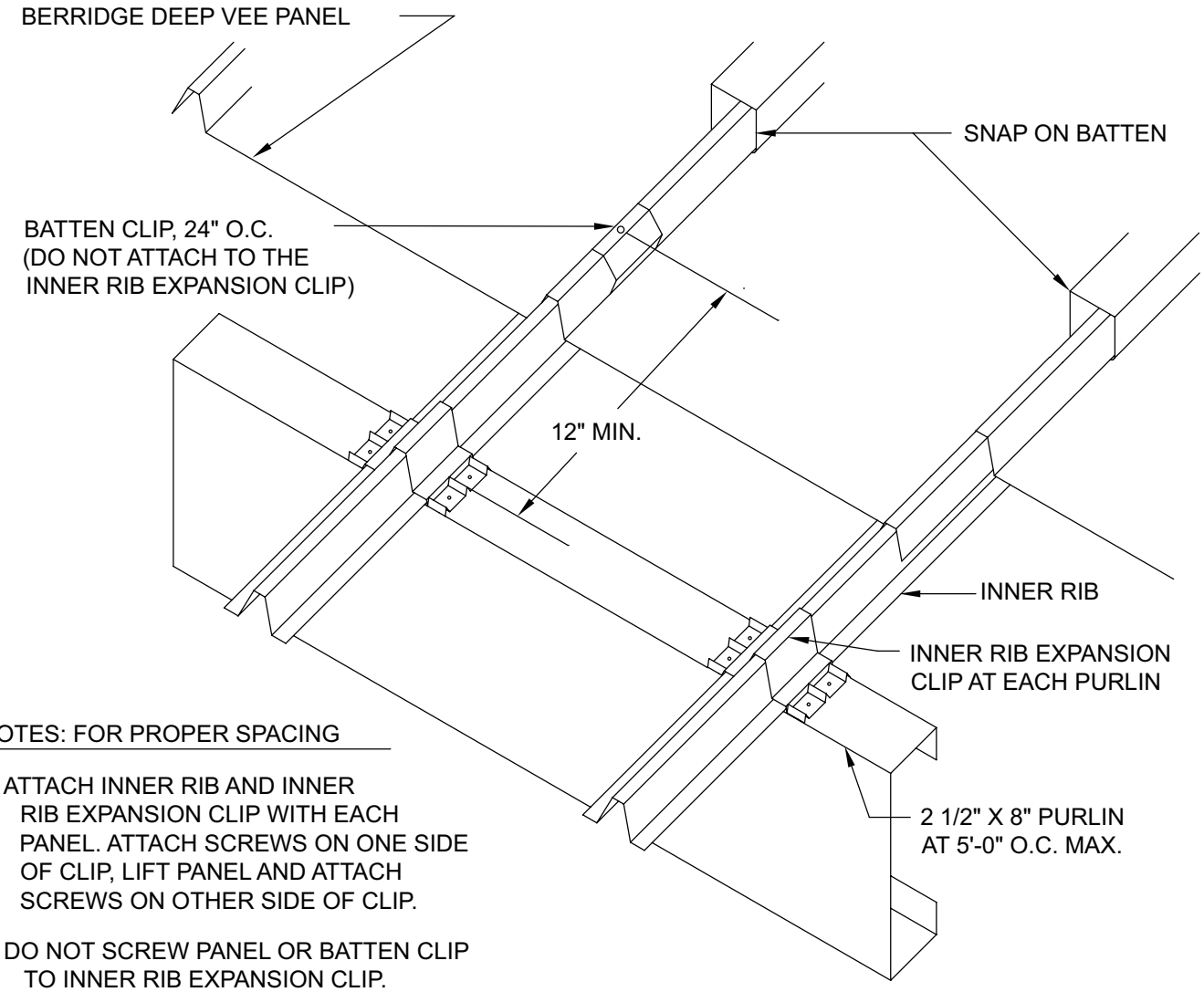
1. METAL ROOF DECK PANELS-NO. 24 MSG MIN. GAUGE COATED STEEL. PANELS CONTINUOUS OVER 2 OR MORE SPANS WITHOUT END LAPS. PANEL WIDTH TO BE 16" O.C.
2. CONTINUOUS INNER RIB-FABRICATED FROM .024 INCH THICK COATED STEEL TO GENERAL CONFIGURATION OF PANEL. CONTINUOUS INNER RIB LOCATED AT EACH PANEL RIB AND 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



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.

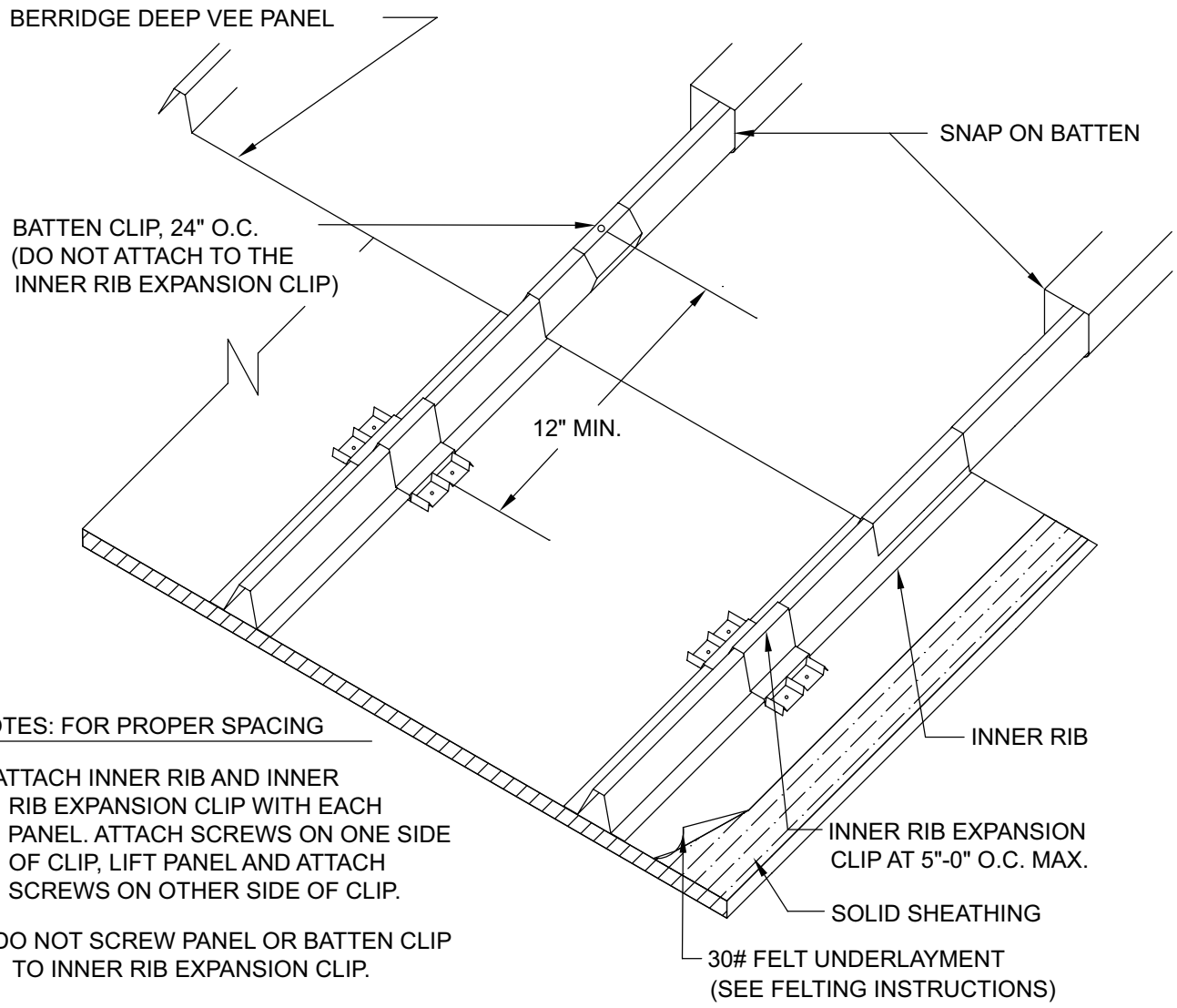
2. DO NOT SCREW PANEL OR BATTEN CLIP TO INNER RIB EXPANSION CLIP.

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



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.

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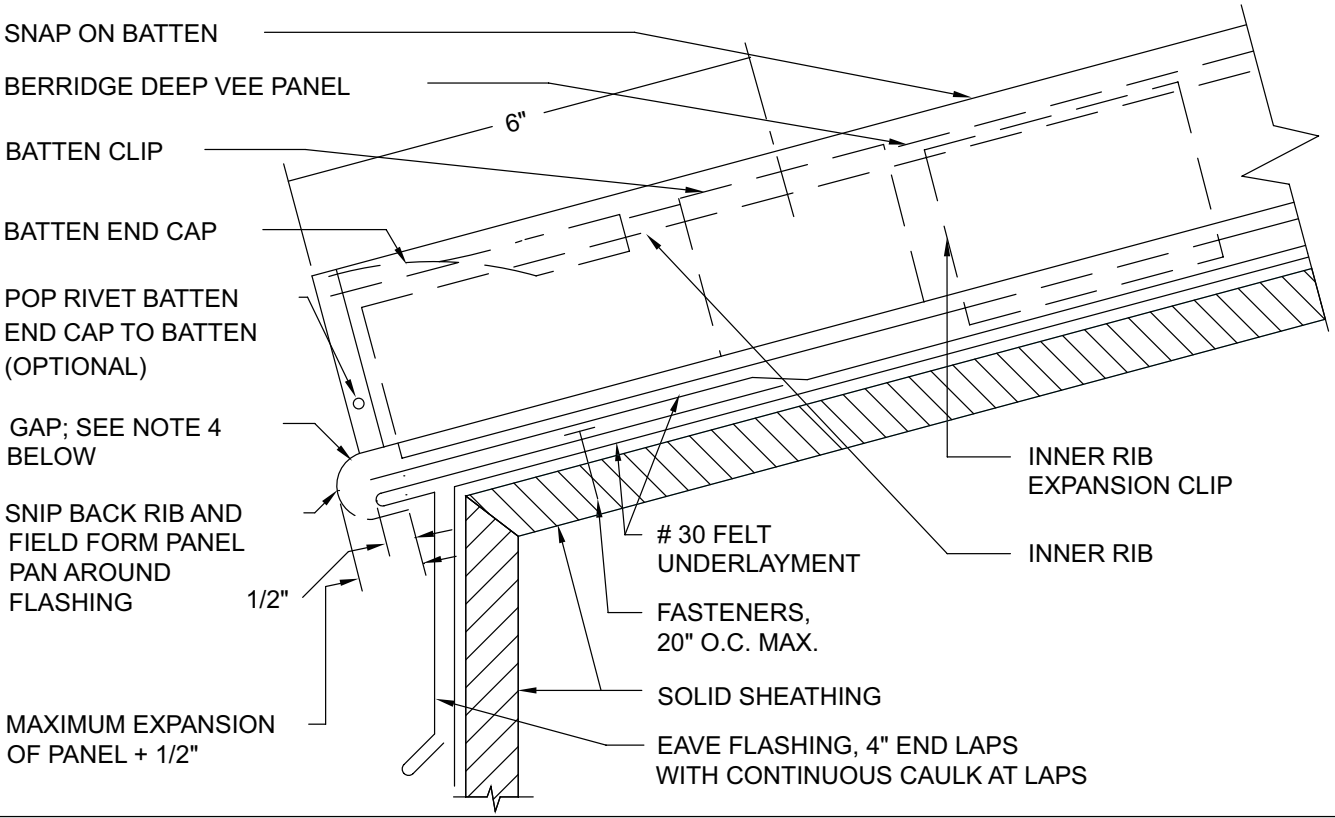
EXPANSION AND CONTRACTION OF METAL PANELS WHICH EXCEED THIRTY FEET IN LENGTH CAN BE A FACTOR IN THE DESIGN AND INSTALLATION OF FLASHINGS. PLEASE REFER TO THE CHART ON PAGE BI-9 TO DETERMINE ANTICIPATED THERMAL MOVEMENT OF PANELS.

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

SEE ALSO EAVE EXPANSION DETAIL B-95



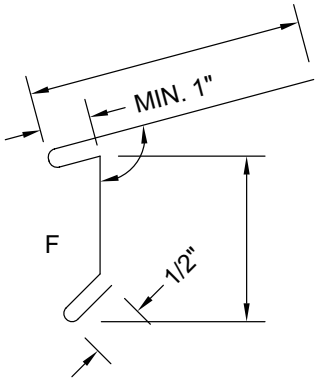
1. THIS DETAIL IS RECOMMENDED FOR AREAS WITH HEAVY SNOW LOADS OR WHERE EXPANSION AND CONTRACTION OF PANELS IS A DESIGN FACTOR.

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.



F = FINISH SIDE

EAVE FLASHING

BERRIDGE MANUFACTURING COMPANY

Roofs of Distinction

EAVE EXPANSION DETAIL

Batten Seam System

DATE: 04-18-01

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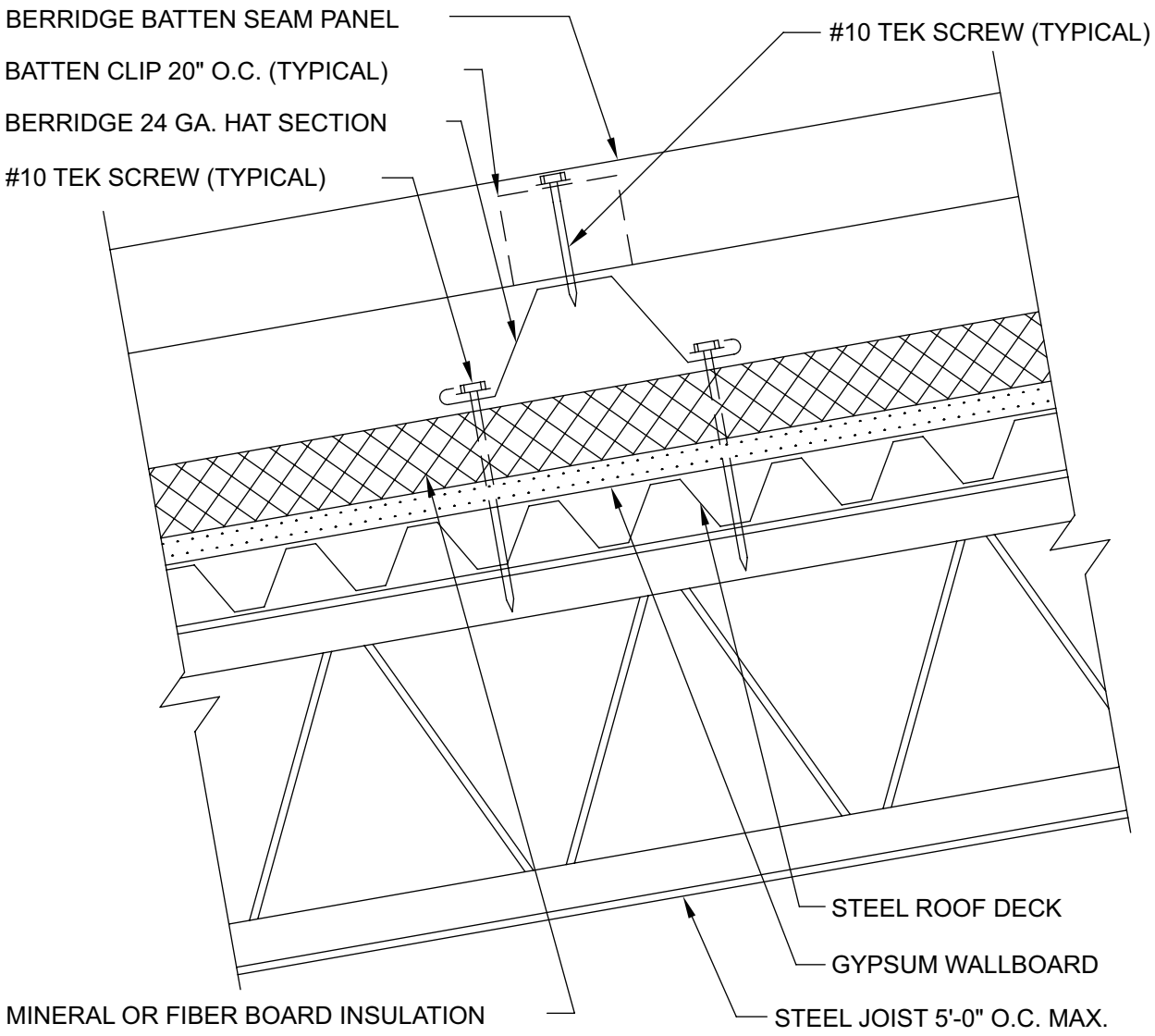
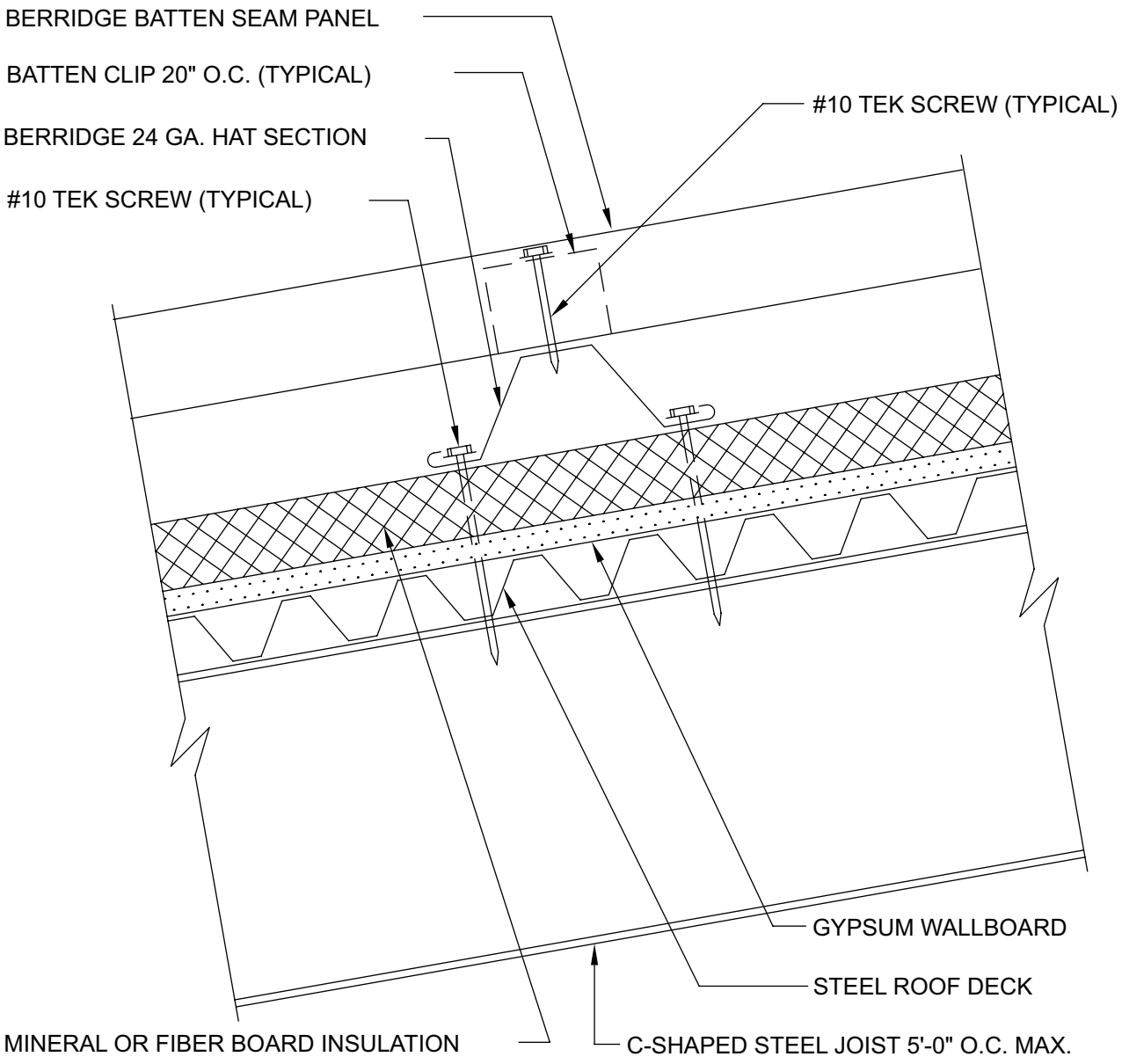


1. IN ORDER TO QUALIFY FOR A FIRE-RESISTANT RATING, THE ROOF SYSTEM CANNOT MAKE A PENETRATION IN THE INSULATION SYSTEM, OTHER THAN THOSE MADE BY FASTENERS. THE BATTEN SEAM SYSTEM, A STRUCTURAL PANEL, IS TO SPAN OVER HAT SECTIONS (IF THE INSULATION SYSTEM HAS NO NAILABLE SURFACE). THE HAT SECTIONS ARE 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 *Roofs of Distinction*	UL FIRE RESISTANCE ROOF ASSEMBLY OPEN WEB STEEL JOIST	DATE: 04-18-01
	Batten Seam System	PAGE/FILE B-96

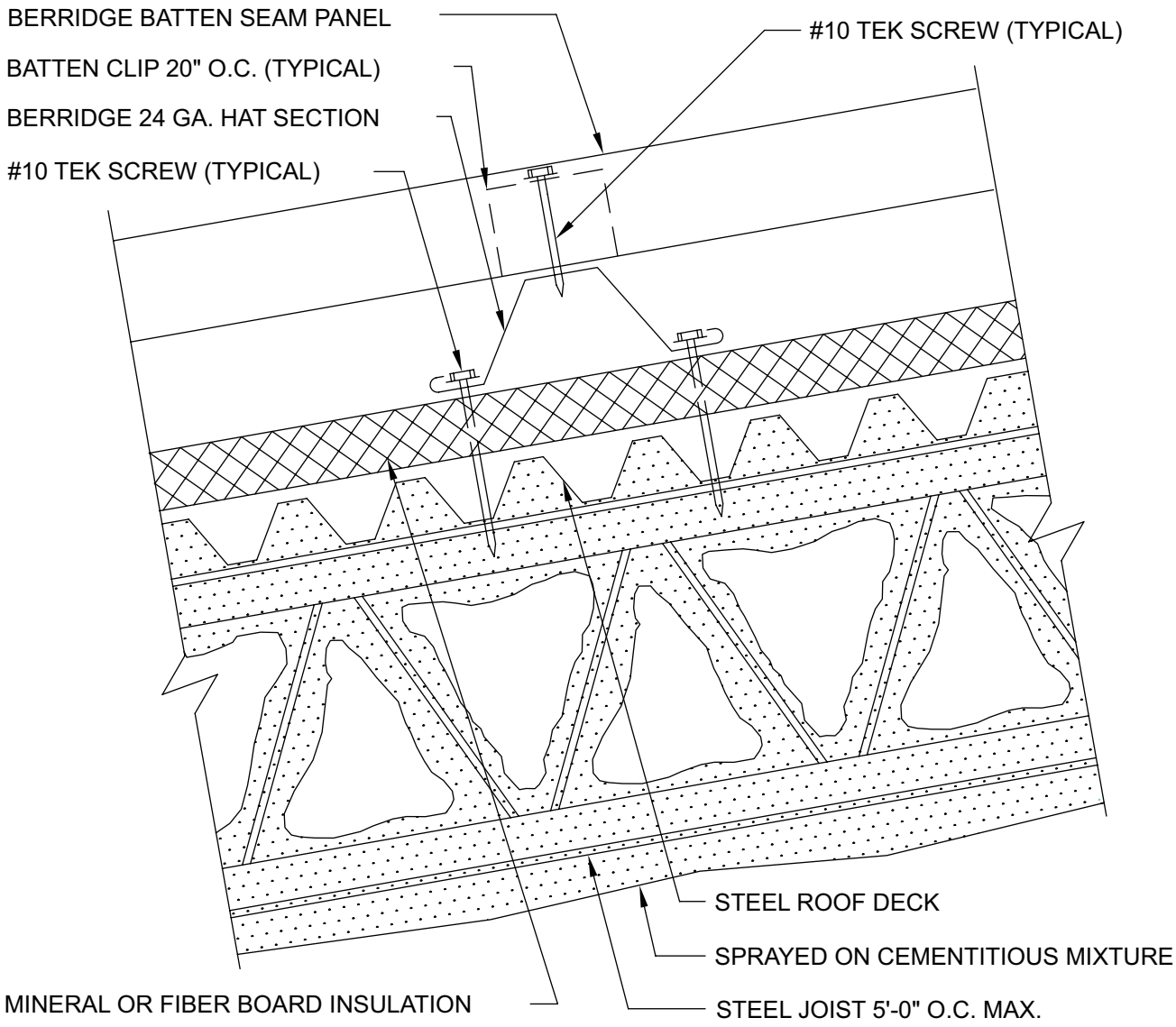


1. IN ORDER TO QUALIFY FOR A FIRE-RESISTANT RATING, THE ROOF SYSTEM CANNOT MAKE A PENETRATION IN THE INSULATION SYSTEM, OTHER THAN THOSE MADE BY FASTENERS. THE BATTEN SEAM SYSTEM, A STRUCTURAL PANEL, IS TO SPAN OVER HAT SECTIONS (IF THE INSULATION SYSTEM HAS NO NAILABLE SURFACE). THE HAT SECTIONS ARE 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	DATE: 04-18-01
	Batten Seam System	PAGE/FILE B-97



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	DATE: 04-18-01
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