# CURVED TEE-PANEL INSTALLATION DETAILS





800-669-0009 • www.Berridge.com

INDEX INDEX		CT-0 CT-1
INSTALLATION INSTRUCTIONS INSTALLATION INSTRUCTIONS INSTALLATION INSTRUCTIONS INSTALLATION INSTRUCTIONS INSTALLATION INSTRUCTIONS INSTALLATION INSTRUCTIONS APPLICATION NOTES NOMINAL	LINEAR EXPANSION	CTI-1 CTI-2 CTI-3 CTI-4 CTI-5 CTI-6 CTI-7
INTRODUCTION TO TYPICAL DE OVERVIEW CURVED TEE-PANEL FOLDING TEE-CLIP INSTALLATI SEAM SPLICE DETAIL ALTERNATE SEAM SPLICE DETA INSULATED DECK DETAIL CANOPY SECTIONS - CONVEX CANOPY SECTIONS - CONCAV	_ SYSTEM ON AIL	CT-2 CT-3 CT-4 CT-5 CT-6 CT-7 CT-8 CT-9
EAVE DETAIL – CONVEX EAVE DETAIL – CONVEX EAVE DETAIL – CONVEX EAVE DETAIL – CONCAVE EAVE DETAIL – CONCAVE EAVE DETAIL – CONCAVE		CT-10 CT-11 CT-12 CT-13 CT-14 CT-15
RIDGE CAP DETAIL - CONVEX RIDGE CAP DETAIL - CONCAV HIP ISOMETRIC AND SECTION HIP ISOMETRIC AND SECTION HIP ISOMETRIC AND SECTION HIP ISOMETRIC AND SECTION FRAMING DETAILS - CONCAVE COMPOUND CURVED HIP COMPOUND CURVED HIP COMPOUND CURVED HIP TEMP	E - CONVEX - CONVEX - CONCAVE - CONCAVE	CT-20 CT-21 CT-22 CT-23 CT-24 CT-25 CT-26 CT-27 CT-28 CT-29
COMPOUND CURVE FRAMING I COMPOUND CURVE FRAMING I SECTION, CURVED CANOPY AN	SOMETRIC AND DETAILS	CT-30 CT-31 CT-32
PARAPET DETAIL - CONVEX PARAPET DETAIL - CONCAVE		CT-40 CT-41
END WALL DETAIL - CONVEX END WALL DETAIL - CONVEX RAKE WALL DETAIL - CONVEX RAKE WALL DETAIL - CONVEX RAKE WALL DETAIL - CONVEX RAKE WALL DETAIL - CONVEX CANOPY ISOMETRIC - CONVEX CANOPY ISOMETRIC - CONCA CANOPY ISOMETRIC - CONCA	K K K VE	CT-50 CT-51 CT-52 CT-53 CT-54 CT-55 CT-56 CT-57 CT-58 CT-59
Berridge Manufacturing Company	INDEX	DATE: 11-01-97
Roofs of Distinction	CURVED TEE-PANEL	PAGE\FILE

PAGE\FILE CT-1	DATE: 11-01-97	UL FIRE RESIST	ROOF PENETRAT ROOF PENETRAT ROOF PENETRAT ROOF PENETRAT ROOF PENETRAT		END WALL DETA END WALL DETA RAKE WALL DETA RAKE WALL DETA RAKE WALL DETA GABLE DETAIL GABLE DETAIL GABLE DETAIL GABLE DETAIL
CURVE		D CURVED TEE- ANCE ROOF ASSE ANCE ROOF ASSE	ON (PREFERRED ION ROUND STAC ION ROUND STAC ION RECTANGULAI ION SECTION A - ION SECTION B - ION SECTION A - ION SECTION B - ION ISOMETRIC -	G ISOMETRIC - ( G CONVEX AND (	IL CONCAVE AIL CONCAVE AIL CONCAVE AIL CONCAVE AIL CONCAVE CONVEX CONVEX
D TEE-	INDEX	MBLY MBLY	- CONVEX - CONVEX - CONVEX - CONCAVE - CONCAVE		
-PANEL		LY CONSTRUCTION	VEX AND CONCAVE VEX AND CONCAVE VEX AND CONCAVE VEX AND CONCAVE VEX AND CONCAVE		
Roots of Distin		ł NO. 296	E E VE		
Company	Berridge Manufacturing	CT-90 CT-91 CT-92 CT-93	CT80 CT81 CT82 CT83 CT84 CT85 CT86 CT87 CT88 CT89	CT-70 CT-71 CT-72 CT-73	CT-60 CT-61 CT-62 CT-63 CT-64 CT-65 CT-66 CT-67 CT-68 CT-69

A. BERRIDGE CURVED TEE-PANEL: AVAILABLE WITH A PAN WIDTH OF 12-3/4" AND USED WITH THE BERRIDGE PATENTED SNAP-ON SEAM (US PATENT NO. 4,641,475) TO PROVIDE A CONSTANT SEAM HEIGHT OF 1".

THE 12-3/4" PAN IS FIELD FABRICATED USING THE BERRIDGE MODEL SS-14 PORTABLE ROLL FORMER.

PLEASE CONTACT BERRIDGE MANUFACTURING COMPANY FOR FURTHER INFORMATION REGARDING THE BERRIDGE SS-14 PORTABLE ROLL FORMER.

B. RADIUS LIMITATIONS: THE MINIMUM RADIUS OVER WHICH THE BMC TEE-PANEL CAN BE CURVED IS 3'-0". WHEN PREWEATHERED GALVALUME, PREFINISHED GALVALUME OR UNFINISHED GALVALUME PANELS ARE USED, THE MINIMUM RADIUS RECOMMENDED IS 5'-0" FOR CONVEX SURFACES.

THERE IS NO RESTRICTION ON THE MAXIMUM RADIUS OTHER THAN THE REQUIREMENT FOR AN ADEQUATE SLOPE TO PROVIDE DRAINAGE AND AVOID PONDING OF WATER, OR BUILDUP OF SNOW OR ICE.

A RADIUS THAT PROVIDES FOR 1" OF RISE PER 12" OF HORIZONTAL RUN IS THE RECOMMENDED MINIMUM APPLICATION EXCEPT IN AREAS WHERE HEAVY SNOW OR NUMEROUS FREEZE-THAW CYCLES OCCUR. IN THESE AREAS, THE RADIUS SHOULD PROVIDE A MINIMUM RISE OF 3" PER 12" OF HORIZONTAL RUN.

- C. COMBINATION STRAIGHT AND CURVED PANELS: A ONE-PIECE COMBINATION CURVED RADIUS AND STRAIGHT PANEL CAN NORMALLY BE FORMED TO AVOID END LAP SPLICE OR FLASHING.
- D. LENGTH LIMITATIONS: DUE TO THE METHOD OF FABRICATION THERE IS NO RESTRICTION ON THE MAXIMUM LENGTH OF CURVED PANEL WHICH CAN BE PRODUCED. THERE MAY, HOWEVER BE SOME LOGISTICAL RESTRICTIONS THAT COULD AFFECT THE ABILITY OF THE CONTRACTOR TO ECONOMICALLY INSTALL EXTREMELY LONG CURVED PANELS, ESPECIALLY WHERE THE CONFIGURATION INVOLVES A COMBINATION OF STRAIGHT AND CURVED PANEL.
- E. SEAM LENGTHS: WILL NORMALLY BE LIMITED TO A MAXIMUM LENGTH OF 40'-0". USE SEAM SPLICE DETAIL CT-5 AND CT-6 FOR LONGER SEAM COVERAGE.
- F. 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 CAUSED THE FACTORY APPLIED STRIPPABLE PLASTIC FILM TO ADHERE TO THE METAL PERMANENTLY AND DISCOLOR THE FINISH.



- **G. STRIPPABLE FILM:** THE STRIPPABLE PLASTIC 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.
- H. SOLID SHEATHING REQUIREMENTS: BERRIDGE MANUFACTURING COMPANY RECOMMENDS THE USES OF EITHER BERRIDGE 24 GA. CORRUGATED METAL (NOMINAL 2-1/2" PITCH × 11/16" DEPTH) OR A MINIMUM OF 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.

#### SHEATHING INSPECTION:

- 1. 24 GAUGE METAL CORRUGATED (NOMINAL 2-1/2" PITCH, 11/16" DEPTH) OR A MINIMUM OF 1/2" THICK PLYWOOD OR EQUIVALENT, TO PROVIDE NECESSARY HOLDING STRENGTH FOR FASTENERS, MUST BE USED.
- 2. END JOINTS OF SUBSTRATE (SHEATHING) SHOULD BE STAGGERED.
- 3. ALL ENDS SHOULD MEET AT EITHER A JOIST OR RAFTER.
- 4. BLOCKING OR "H" CLIPS SHOULD BE USED IF JOINTS DO NOT REMAIN FLAT UNDER WEIGHT OF WORKMEN.
- 5. USE SHIMS TO KEEP ENTIRE SUBSTRATE EVEN. UNEVEN SUBSTRATE CAN RESULT IN "OIL-CANNING" IN PANEL. SUBSTRATE SHOULD BE LEVEL TO 1/4" IN 20'.
- 6. ALL CUTS AT PENETRATIONS SHOULD BE TIGHT, WITHOUT GAPS.
- 7. USE WOOD FRAMED CRICKETS AT LARGE PENETRATIONS.
- 8. MAKE SURE SUBSTRATE JOINTS ARE TIGHT AT ALL HIPS, VALLEYS AND RIDGES.
- I. FASCIA/RAKE INSPECTION:
  - 1. STRIKE A LINE THE FULL LENGTH OF FASCIA/RAKE; IF NOT STRAIGHT, CORRECT WITH SHIMS.
  - 2. MAKE SURE FASCIA/RAKE IS FLUSH WITH SHEATHING.

ICE AND WATER SHIELD UNDERLAYMENT INSTALLATION:

- 1. DO NOT USE RED ROSIN PAPER UNDER METAL ROOFING.
- 2. SWEEP ROOF AREA CLEAN.
- 3. FOLLOW BERRIDGE FELTING DETAILS, USING ICE AND WATER SHIELD IN PLACE OF # 30 FELT UNDERLAYMENT.
- 4. INSTALL VALLEY UNDERLAYMENT FIRST.
- 5. INSTALL UNDERLAYMENT PARALLEL TO EAVE, STARTING AT EAVE AND USING 6" LAPS.



6. INSULATE BETWEEN WOOD BLOCKING AND METAL WITH ICE AND WATER SHIELD.

- J. 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 CTI-7 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.
- K. 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.
- L FLASHING: IF BERRIDGE MANUFACTURING COMPANY IS TO SUPPLY FLASHING, ALL FLASHINGS WILL BE FABRICATED IN 10'-0" LENGTHS WITH SQUARE END CUTS ONLY. THE PURCHASER MUST PROVIDE ALL DIMENSIONS AND DEGREE OF ANGLES.

## M. FLASHING INSTALLATION:

- 1. REMOVE STRIPPABLE PLASTIC FILM FORM ALL FLASHINGS PRIOR TO INSTALLATION.
- 2. ALWAYS STAGGER JOINTS WHEN ONE FLASHING IS INSTALLED OVER OTHER FLASHINGS.
- 3. INSTALL ALL FLASHINGS AS PER BERRIDGE TYPICAL DETAILS.
- 4. ALL FLASHINGS ARE TO BE DESIGNED AND INSTALLED TO NOT TRAP WATER.
- N. PANELS: BERRIDGE MANUFACTURING COMPANY WILL PROVIDE COIL STOCK FOR CURVED TEE-PANELS. COMPUTATION OF ALL QUANTITIES AND DIMENSIONS ARE THE RESPONSIBILITY OF THE PURCHASER.

## O. PANELS FABRICATION AND INSTALLATION:

- 1. THE CURVED TEE-PANEL IS A FIELD-FORMED PANEL, FABRICATED ON THE BERRIDGE MODEL SS-14 PORTABLE ROLL FORMER.
- 2. PERIODICALLY CHECK THE PANELS AND SEAMS WITH THE RADIUS OF THE SUBSTRATE TO MAKE SURE OF PROPER FIT. PANELS OF IMPROPER RADIUS SHOULD NOT BE FORCED TO FIT SUBSTRATE.
- 3. REMOVE STRIPPABLE PLASTIC FILM FROM EACH PANEL PRIOR TO INSTALLATION.
- 4. DETERMINE CENTER LINE OF ROOF AREA AND START PANEL INSTALLATION AT CENTER OF ROOF, WORKING TOWARDS THE GABLE ENDS. MAKE SURE PANELS ARE PERPENDICULAR TO EAVE. AT VALLEY AREAS, MAKE SURE PANELS ARE INSTALLED SO THAT DRAINAGE HAS FREE FLOW AND IS NOT OBSTRUCTED BY PANEL SEAMS.



- INSTALL FOLDING TEE-CLIPS PER DETAILS; NEVER EXCEED 20" ON CENTER. CHECK WITH BERRIDGE MANUFACTURING COMPANY FOR SPECIAL CLIP SPACING IF A SPECIFIC WIND UPLIFT RATING IS REQUIRED.
- 6. EACH PANEL IS 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 SEAM INSTALLATION.
- 7. ALWAYS INSTALL SEAMS AS YOU INSTALL EACH PANEL. DO NOT INSTALL PANELS FIRST AND THEN FOLLOW LATER WITH SEAM INSTALLATION.
- 8. USE TWO (2) WORKERS (OR MORE, DEPENDING ON LENGTH) TO INSTALL SEAMS; ONE WORKER HOLDING ONE END OF THE SEAM AT AN ANGLE OFF THE ROOF SURFACE AND THE OTHER WORKER INSERTING THE SEAM OVER THE PANEL LEGS.
- 9. **NEVER** INSTALL SEAMS WITH ANYTHING OTHER THAN HAND PRESSURE. INSPECT EACH SEAM AS YOU INSTALL TO MAKE SURE THE VINYL IS PROPERLY SEATED IN THE METAL CAP AND IS SNUGGLE FIT NEXT TO PANEL LEGS. **DO NOT** POUND OR HAMMER THE SEAM INTO PLACE. THIS WILL DAMAGE THE SEAMS AND PERMIT WATER INFILTRATION.
- 10. KEEP PANELS ALIGNED SO THAT SEAM MATCH AT HIPS, VALLEYS AND WHERE VERTICAL PANELS ADJOIN ROOF PANELS. DO NOT INSTALL LONG, CONTINUOUS RUNS OF PANELS ALL AT ONE TIME WHERE SEAM LINES MUST MATCH; INSTALL TEN OR TWELVE PANELS IN ONE ELEVATION AN THEN FOLLOW WITH A LIKE NUMBER OF PANELS ON THE OTHER ELEVATION. WHEN YOU INSTALL PANELS IN MANNER, YOU WILL BE ABLE TO MAKE ANY ADJUSTMENTS REQUIRED TO INSURE SEAM MATCHING.
- 11. 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 ON EVERY PANEL ARE ALL POINTING IN THE SAME DIRECTION. IF A PANEL IS REVERSED (ARROWS 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.**
- P. SNAP-ON SEAM: BERRIDGE PATENTED SNAP-ON SEAMS HAVE BEEN LABORATORY TESTED ON BOTH SOLID WOOD SUBSTRATE AN METAL FRAMING, BOTH ASSEMBLIES SHOWED NO SIGNIFICANT LEAKAGE IN ACCORDANCE WITH THE ASTM E 283-84 AND ASTM E 331-86 AIR AND WATER INFILTRATION TESTS. TEST REPORTS ARE AVAILABLE UPON REQUEST.



- Q. SNAP-ON SEAM INSTALLATION:
  - 1. INSTALL SEAMS WITH HAND PRESSURE ONLY. DO NO POUND OR HAMMER SEAMS INTO PLACE; THIS WILL DAMAGE THE SEAM AND VINYL, PERMITTING WATER INFILTRATION.
  - 2. INSPECT EACH SEAM AS YOU INSTALL IT TO MAKE SURE THE VINYL IS PROPERLY SEATED IN THE METAL CAP AND IS SNUGLY FITTED NEXT TO THE PANEL LEGS.
  - 3. USE TWO (2) WORKERS (OR MORE, DEPENDING ON SEAM LENGTH) TO INSTALL SEAMS; ONE WORKER (OR WORKERS) HOLDING ONE END OF THE SEAM AT AN ANGLE OFF THE ROOF SURFACE AND THE OTHER WORKER INSERTING THE SEAM OVER THE PANEL LEGS.
  - 4. REMOVE STRIPPABLE FILM FROM SEAM PRIOR TO INSTALLATION.

#### R. TEE-CLIP INSTALLATION:

- 1. THE CLIPS ARE TO BE INSTALLED AS SHOWN IN THE BERRIDGE TEE-PANEL DETAILS.
- 2. CLIP SPACING IS TYPICALLY TWENTY (20) INCHES ON CENTER.\*
- S. FASTENERS: INSTALL FASTENERS AS PER TYPICAL DETAILS. USE 11 GAUGE 1-1/4" GALVANIZED ROOFING NAILS FOR INSTALLATION OVER WOOD SHEATHING AND USE #10 PANCAKE HEAD TEKS FASTENERS (ZINC-PLATED SCREW WITH PHILLIPS INSERT, AS MADE BY CONSTRUCTION FASTENERS CO.) FOR INSTALLATION TO METAL.\*\* 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.

- T. UNDERWRITERS LABORATORIES RATINGS: THE BERRIDGE TEE-PANEL COMPLIES WITH THE FOLLOWING UL RATINGS:
  - 1. "TEST FOR WIND UPLIFT RESISTANCE OF ROOF ASSEMBLIES" CLASS UL 90 CONSTRUCTION NUMBER 296. (REFER TO BERRIDGE TYPICAL DETAIL T-90)
  - 2. UL FIRE-RESISTANT ROOF ASSEMBLIES: UL DESIGN NUMBERS P-224, 225,227, 230, 237, 508, 510, 512, 701, 711, 713, 715, 717, 803, 814, 815, 819, 821. REFER TO BERRIDGE TYPICAL DETAILS CT-91, CT-92, AND CT-93.
- U. SEALANT RECOMMENDATIONS: TREMCO INC. SPECTREM 1 OR EQUAL. DO NOT USE CLEAR CAULK.
- \*NOTE: IF LOCAL CODES OR OTHER REGULATIONS DICTATE SPECIFIC WIND UPLIFT REQUIREMENTS, CONSULT THE BERRIDGE ENGINEERING DEPARTMENT, AS IT 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.



- V. FRAMING COMPONENTS: BERRIDGE MANUFACTURING COMPANY CAN FURNISH FRAMING COMPONENTS FOR CANOPIES AND BARREL VAULTS, UTILIZING VARIOUS FRAMING MEMBERS SUCH AS THOSE ILLUSTRATED IN THE BERRIDGE SWEET'S CATALOG (07610/BER).
  - 1. PERLIMINARY FRAMING DESIGN FOR ALL CANOPIES AND BARREL VAULTS CAN BE PROVIDED BY BMC FOR BERRIDGE - SUPPLIED MATERIALS, FOR THE SOLE PURPOSE OF ESTABLISHING A QUOTED PRICE. FINAL DESIGN, CERTIFICATION AND CALCULATIONS WILL BE FURNISHED ONLY UPON THE TECEIPT OF A PURCHASE ORDER FOR THE MATERIALS AND INCLUDING THE COST OF THE ENGINEERING DEPARTMENT FOR FURTHER INFORMATION.
- W. ORDERING INFORMATION: BMC WILL SUPPLY COIL, STRAIGHT SEAMS, ACCESSORIES, AND FLAT SHEETS OR FACTORY - FORMED FLASHING AND FRAMING COMPONENTS TO THE BERRIDGE ROLL FORMER OWNER OR LEASEE. PANELS WILL BE FIELD -FABRICATED AND CURVED ALONG WITH THE SEAMS ON A BERRIDGE SS-14 PORTABLE ROLL FORMER. ALL QUANTITIES AND DIMENSIONS ARE THE RESPONSIBILITY OF THE PURCHASER.

IF BERRIDGE MANUFACTURING COMPANY IS TO SUPPLY FLASHINGS, THE PURCHASER MUST PROVIDE ALL DIMENSIONS AN DEGREE OF ANGLES. ALL FLASHING WILL BE PROVIDED IN 10'-0" LENGTHS ONLY.

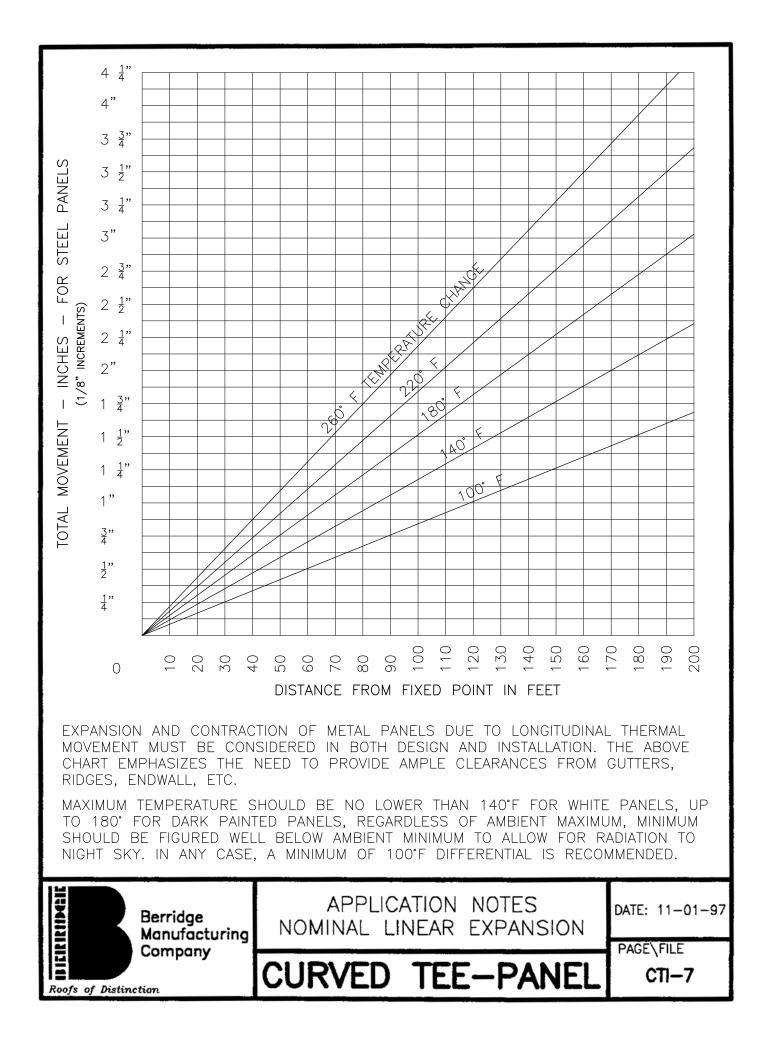
BERRIDGE MANUFACTURING COMPANY STRIVES TO PROVIDE ITS CUSTOMERS WITH THE HIGHEST QUALITY STRETCHER LEVELED STEEL AVAILABLE. THE LATEST TECHNOLOGY IS ALSO INCORPORATED IN BERRIDGE'S HIGH-PRECISION COIL HANDLING AND ROLL FORMING EQUIPMENT TO MINIMIZE THE STRESS ON METAL DURING PRODUCTION. FURTHERMORE, 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.

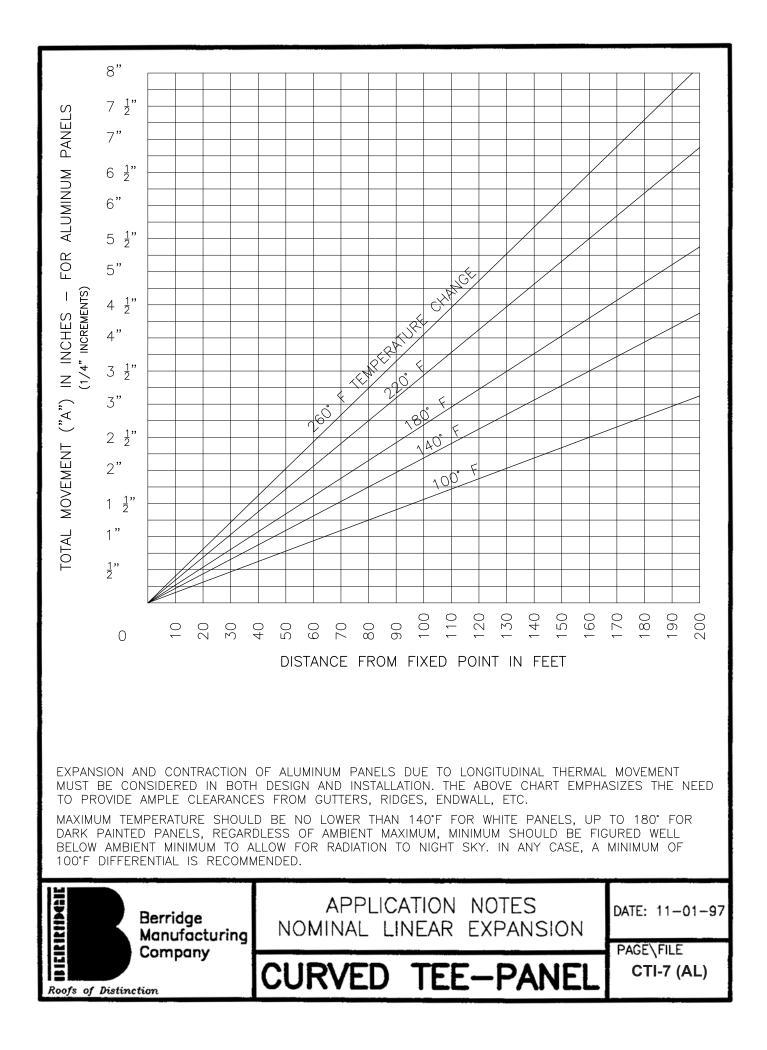
ALL ARCHITECTURAL PANELS REQUIRE CARE IN HANDLING AND INSTALLATION TO AVOID DAMAGING OR DEFORMING THE PANELS.

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 TEE-PANEL SYSTEM.

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



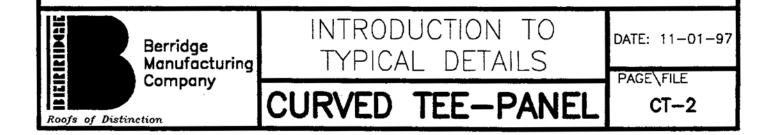


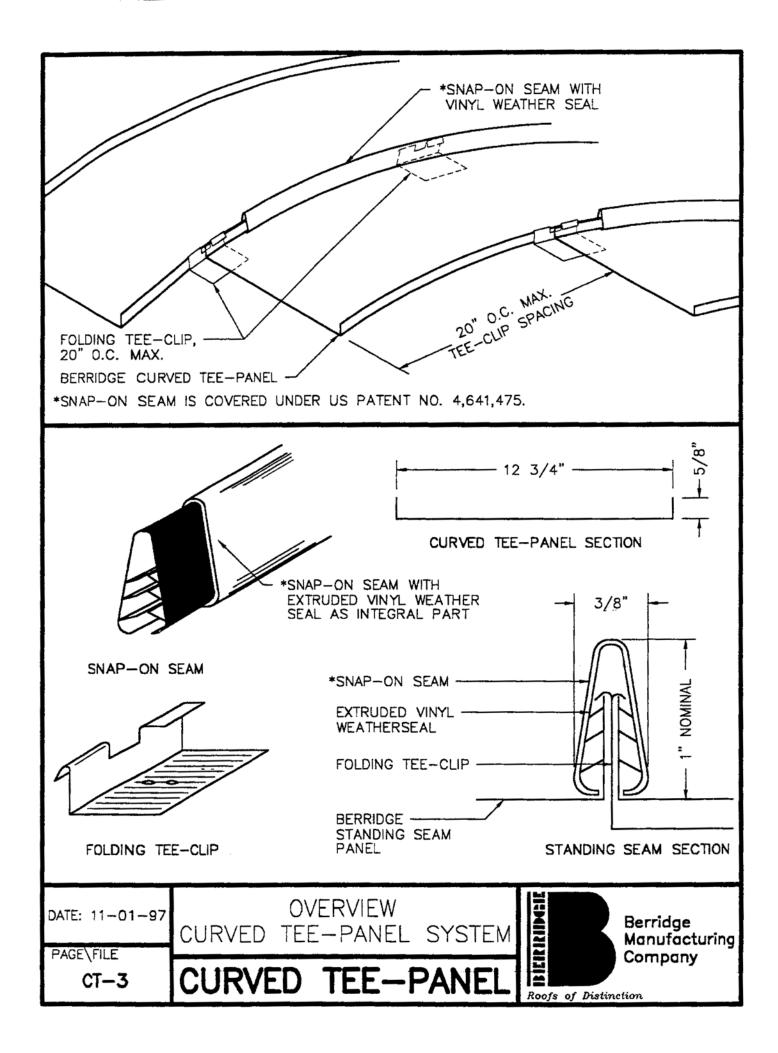


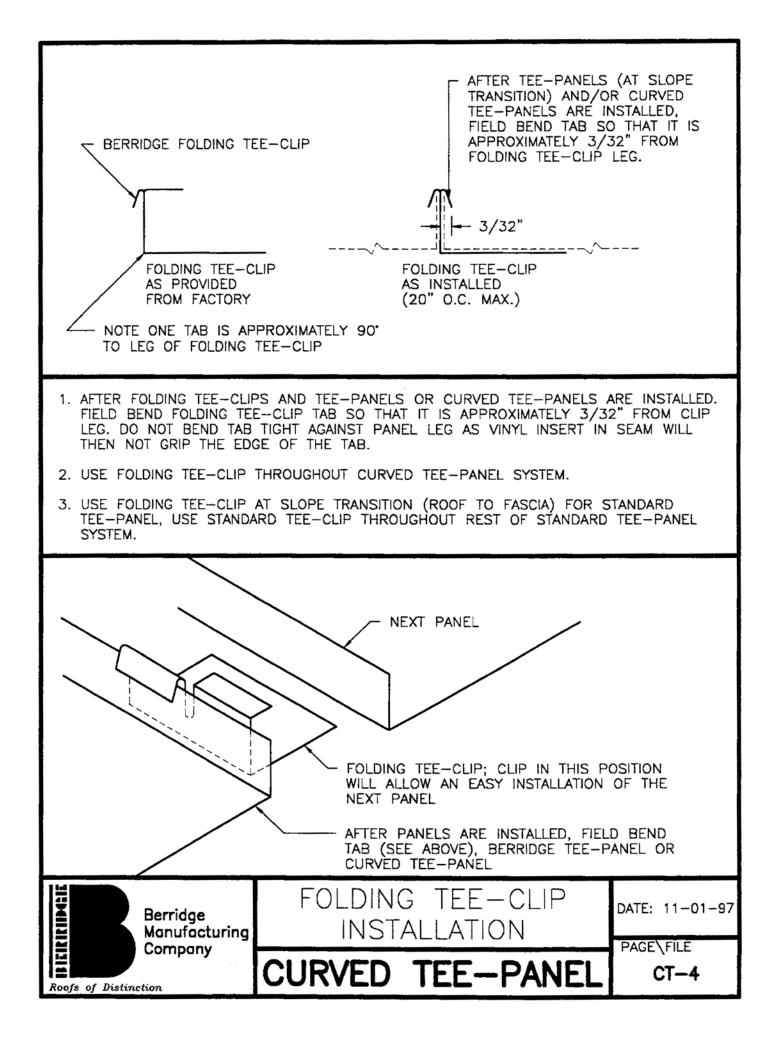
THE DETAILS CONTAINED IN THE FOLLOWING PAGES ARE MERELY RECOMMENDATIONS AS TO HOW BERRIDGE MANUFACTURING MATERIALS SHOULD BE INSTALLED. THEY MAY REQUIRE ADAPTATIONS OR MODIFICATIONS FOR A SPECIFIC PROJECT AS CONDITIONS VARY IN BOTH BUILDING DESIGN AND LOCAL WEATHER PECULIARITIES.

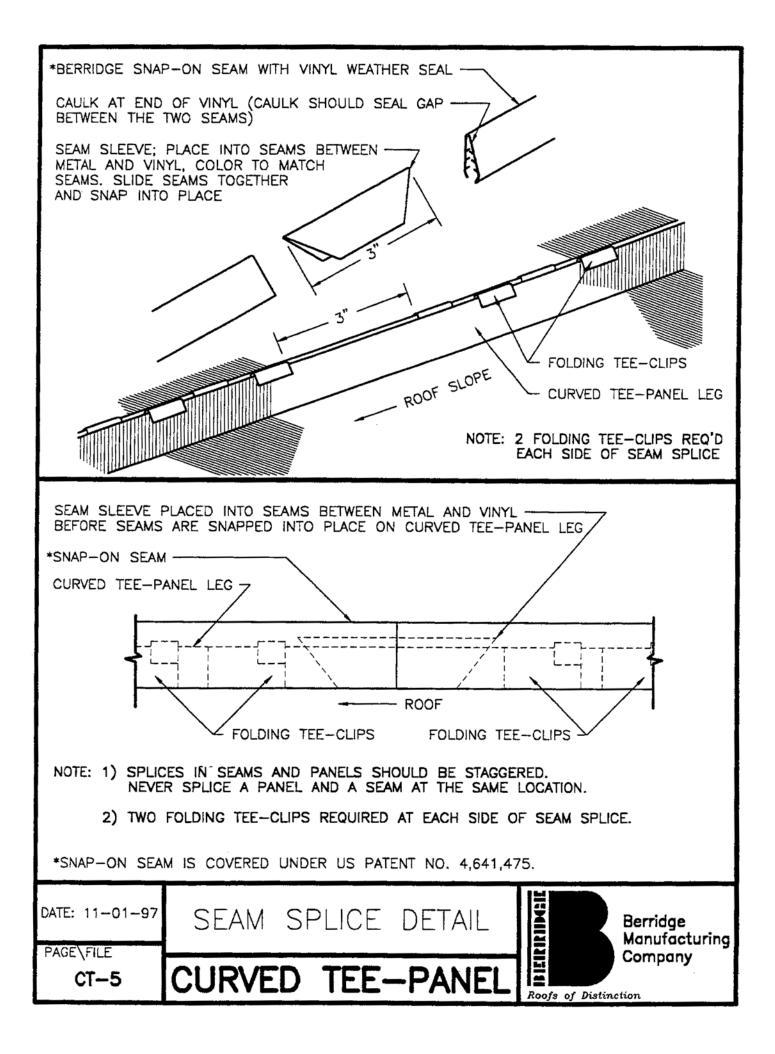
BERRIDGE MANUFACTURING COMPANY SHALL BE HELD HARMLESS FROM ANY AND ALL CLAIMS ARISING FROM A LACK OF WATERTIGHTNESS AS A RESULT OF FOLLOWING THESE RECOMMENDED DETAILS. ENSURING WATERTIGHTNESS ON ANY GIVEN PROJECT IS THE FUNCTION OF THE INSTALLER. THE ARCHITECT/GENERAL CONTRACTOR/INSTALLER MUST ACCEPT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

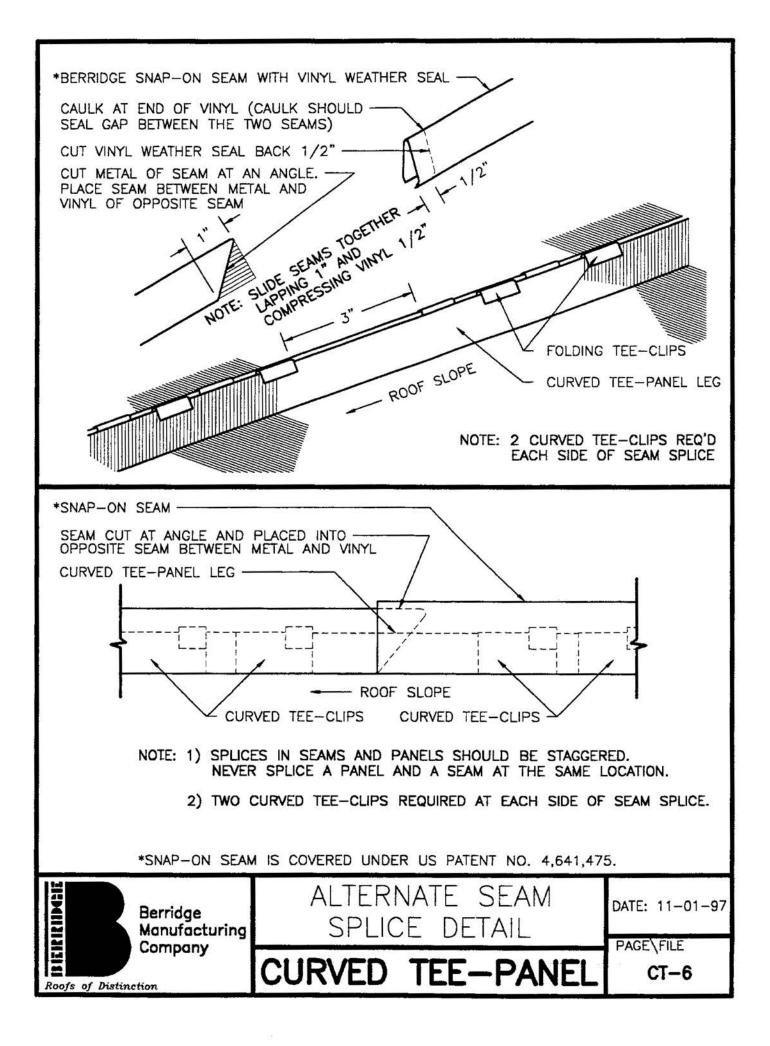
THE INSTALLER CAN VIRTUALLY ASSURE WATERTIGHTNESS IF THESE FLASHING DETAILS HAVE BEEN PROPERLY ADAPTED, ADEQUATE LAPS HAVE BEEN PROVIDED, CORRECT TYPE OF SEALANT USED, ALL JOINTS ADEQUATELY CAULKED AND PROFESSIONAL WORKMANSHIP EMPLOYED.

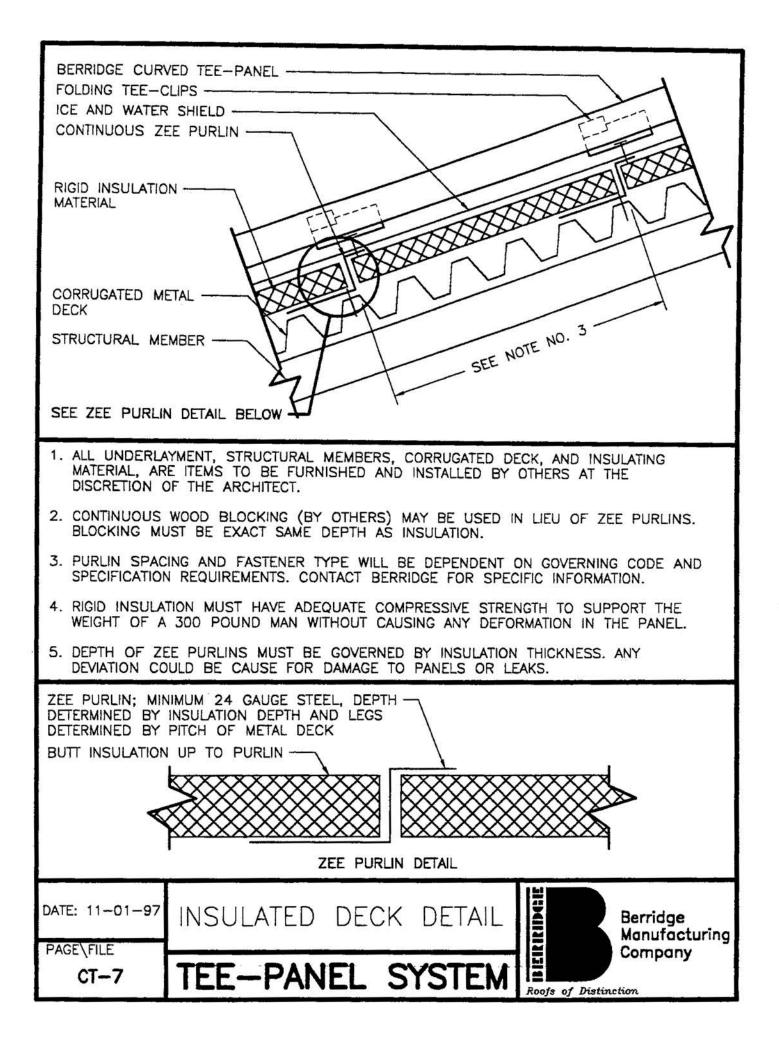


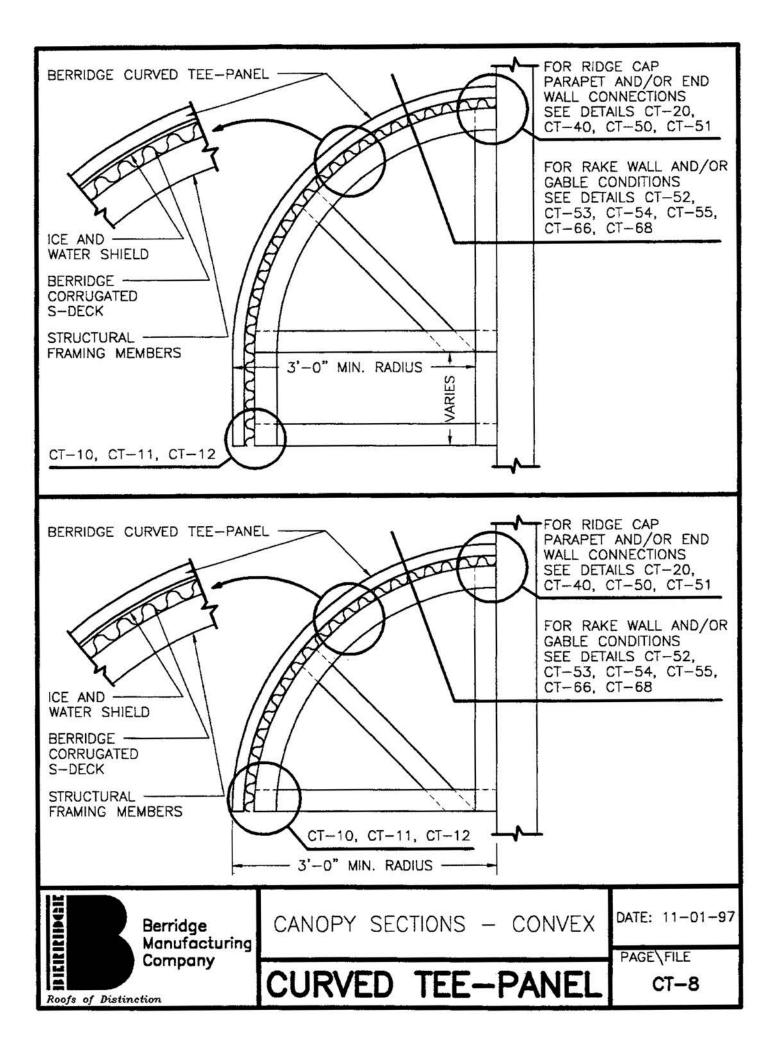


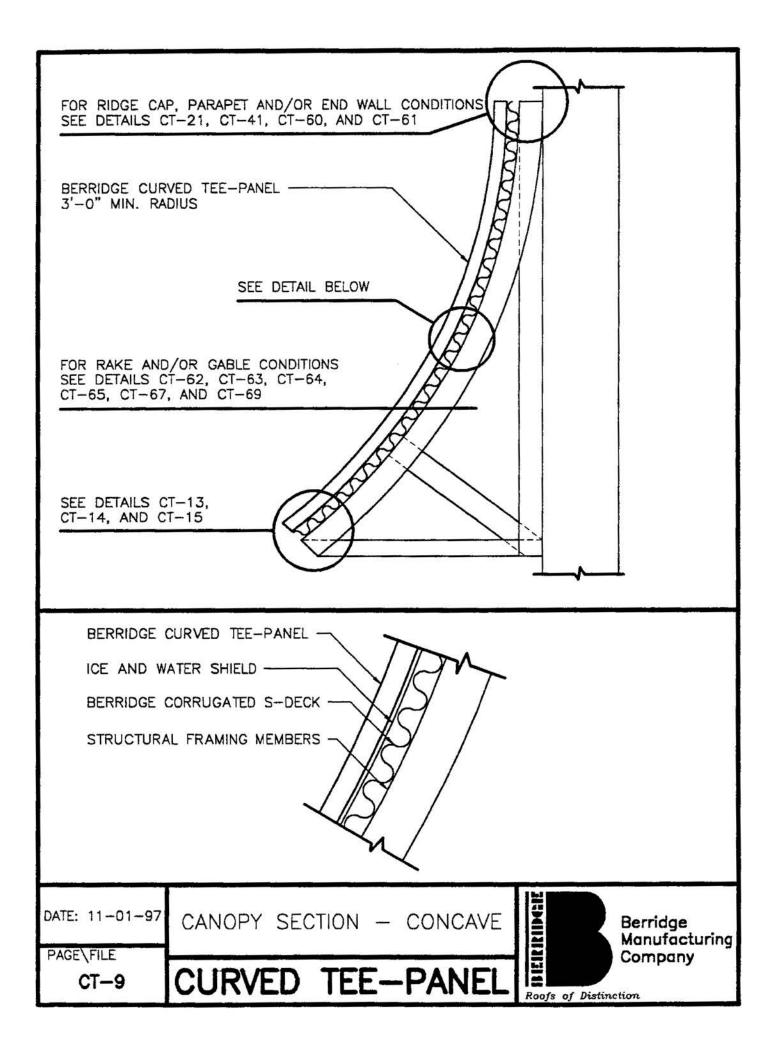


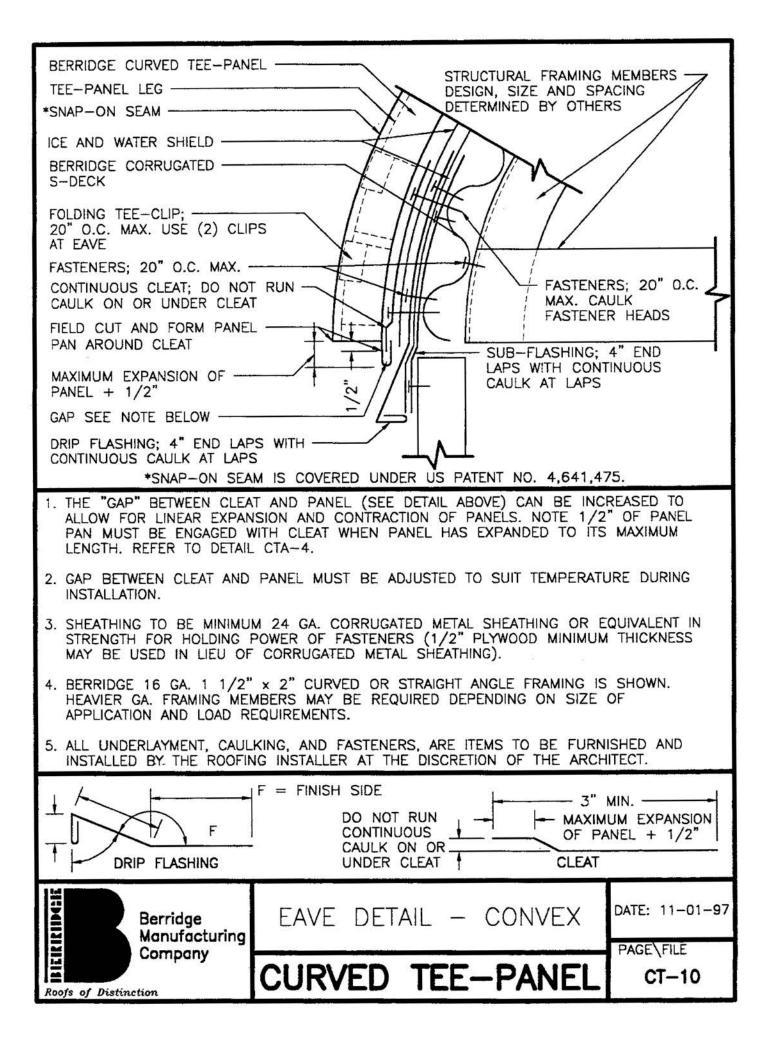


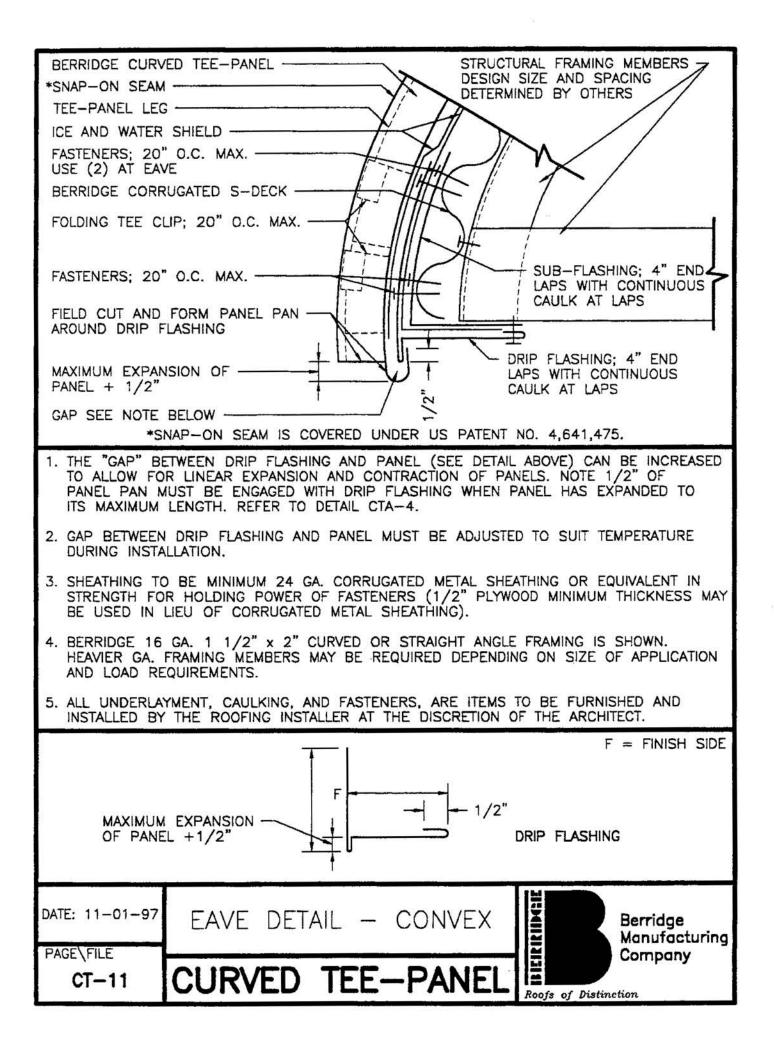


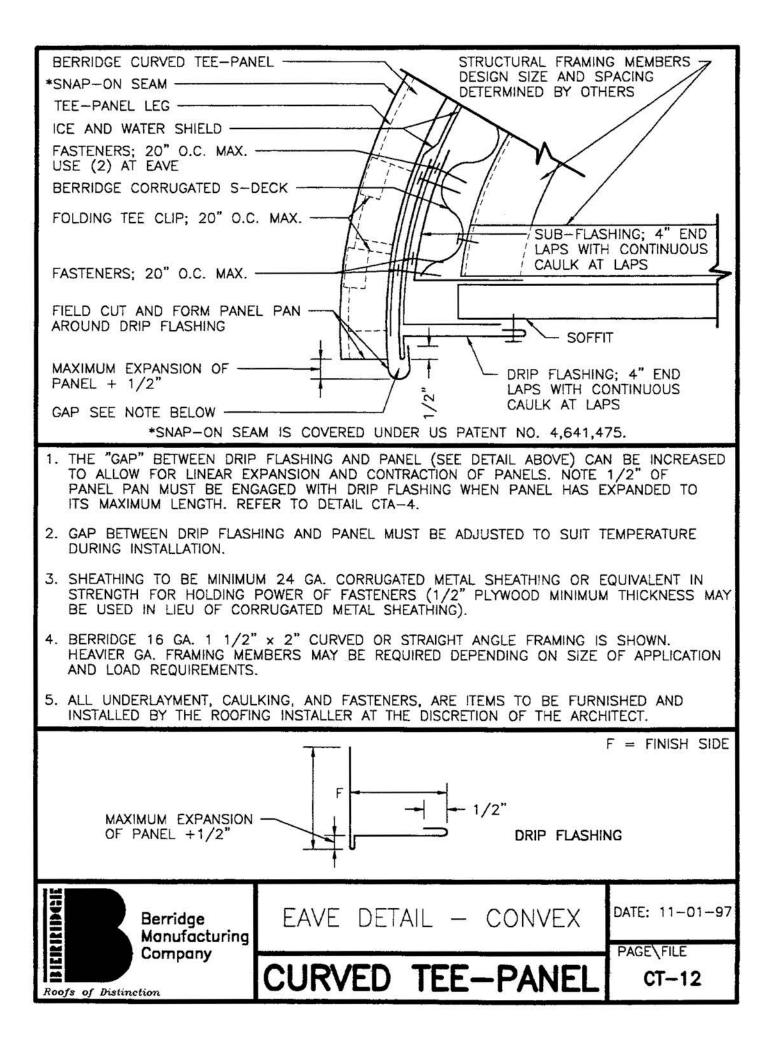


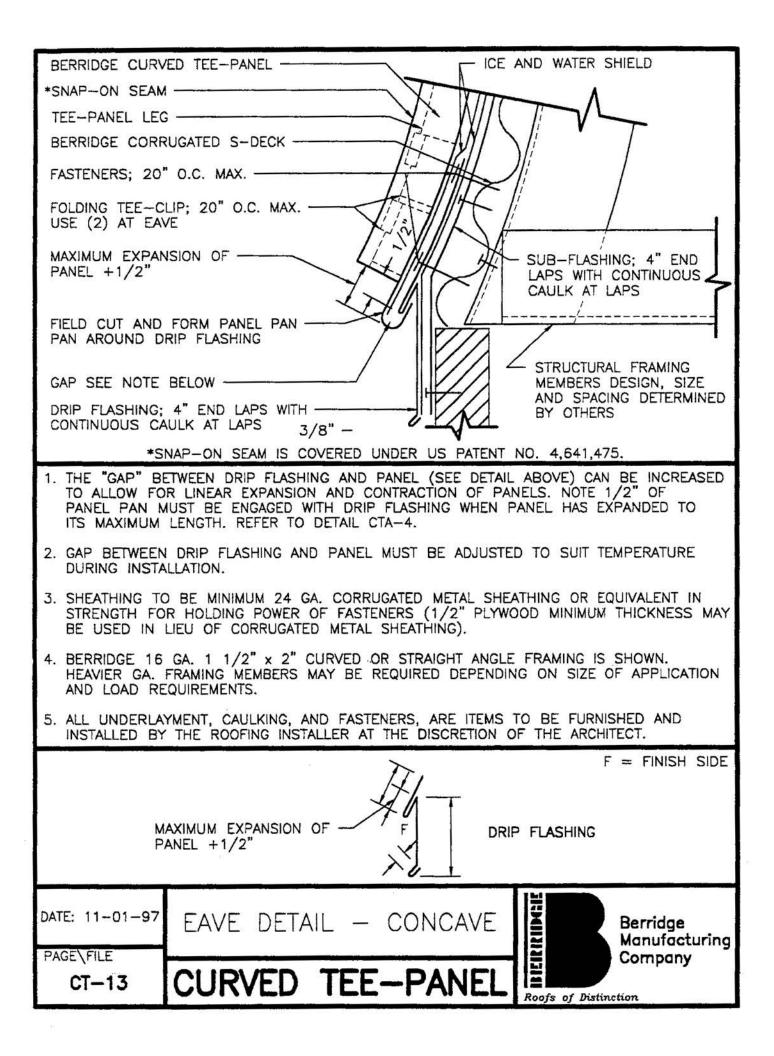


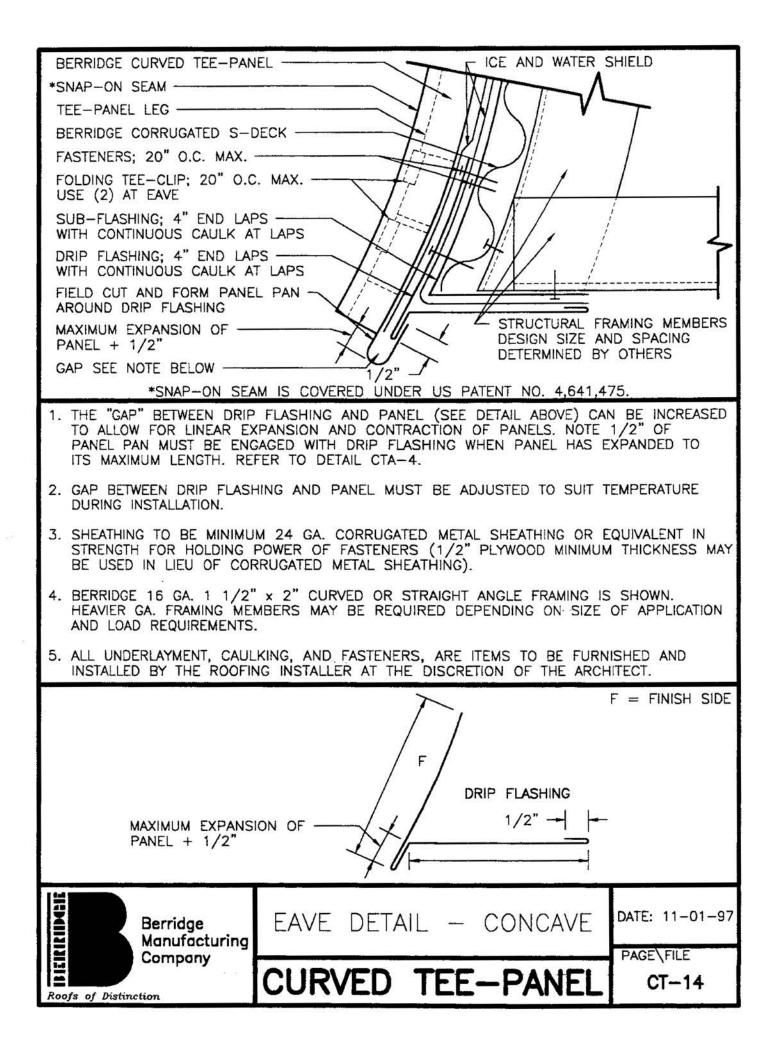


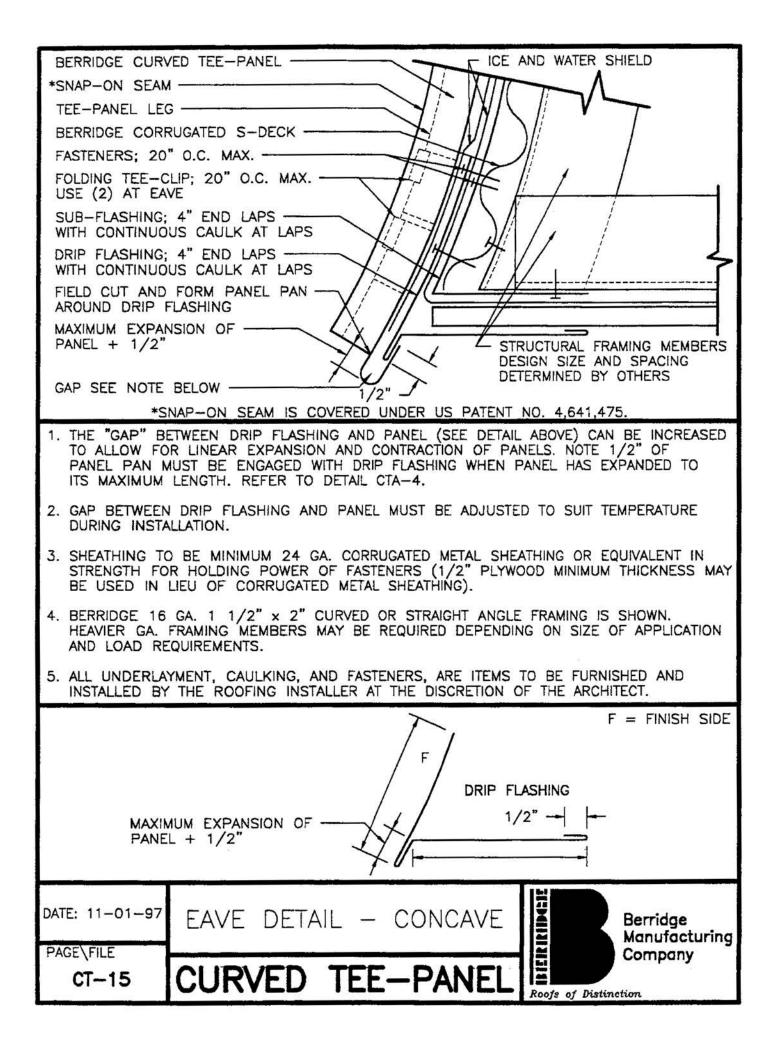


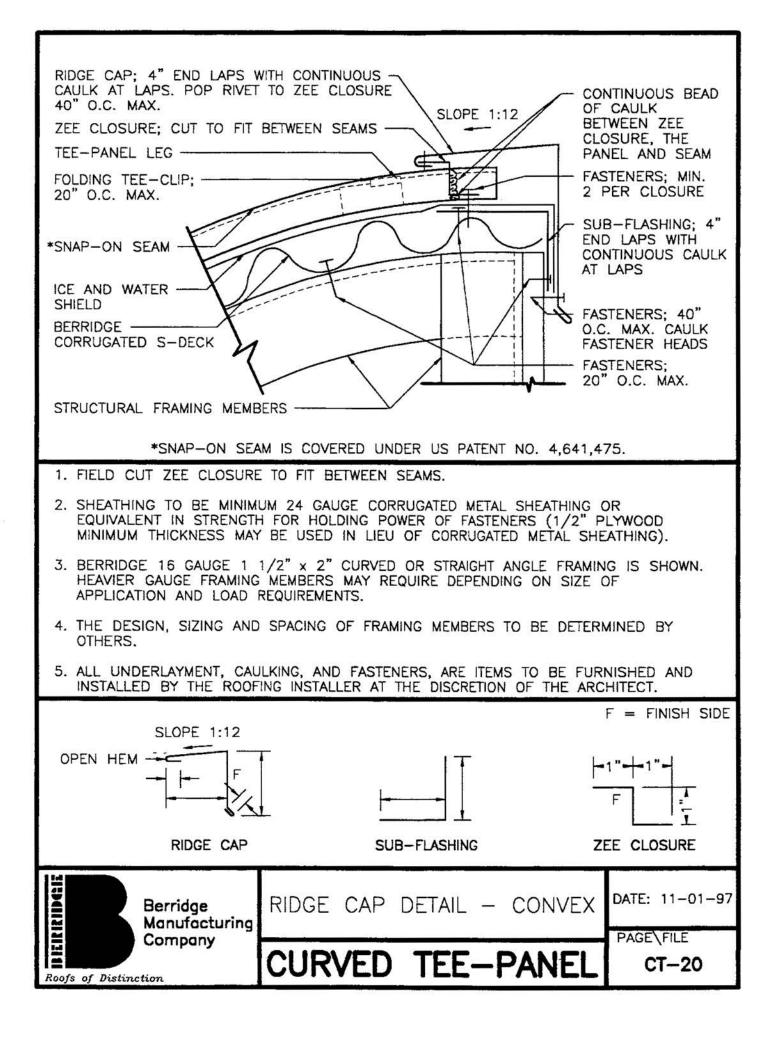


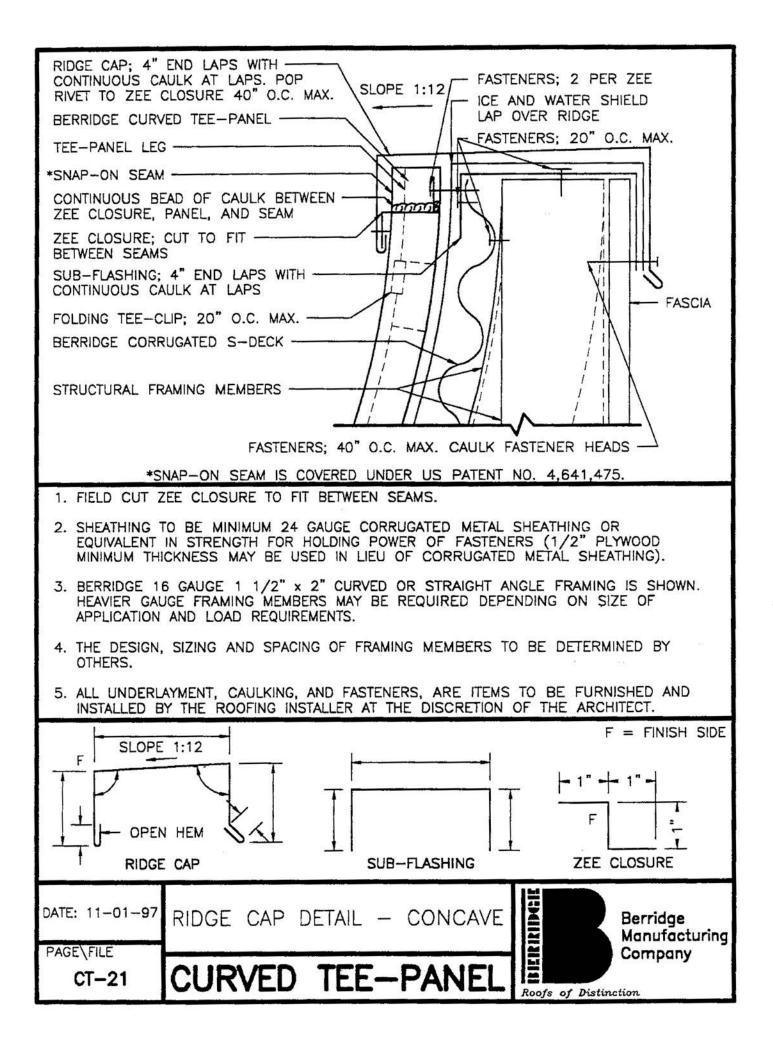


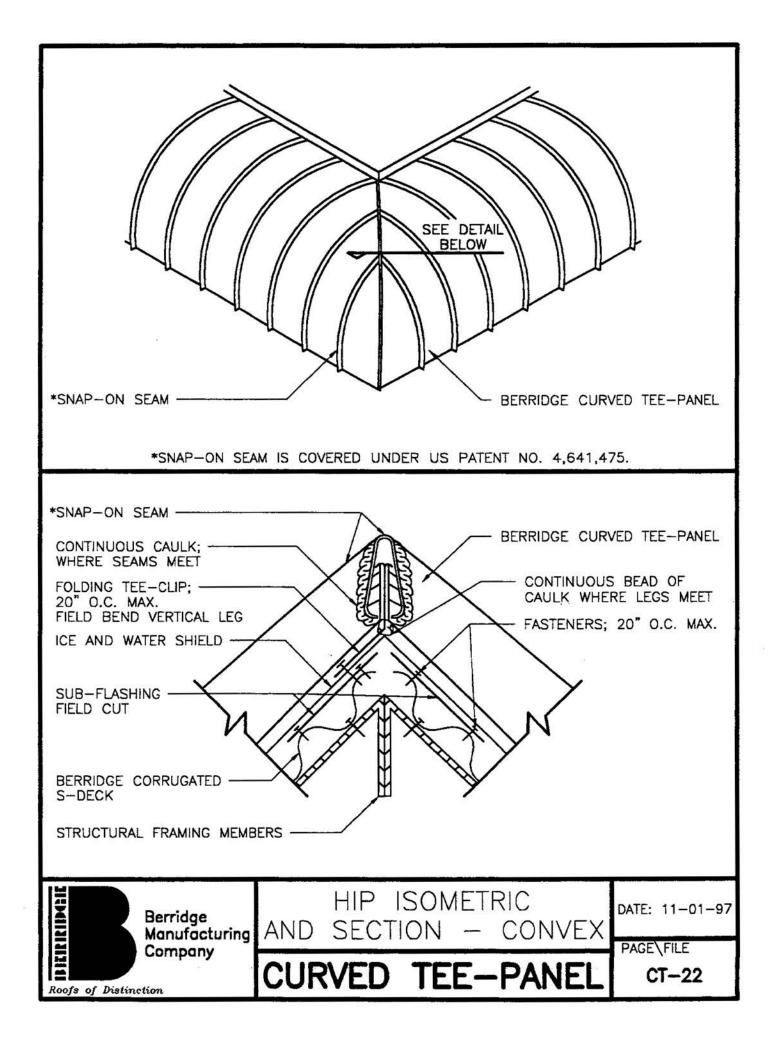


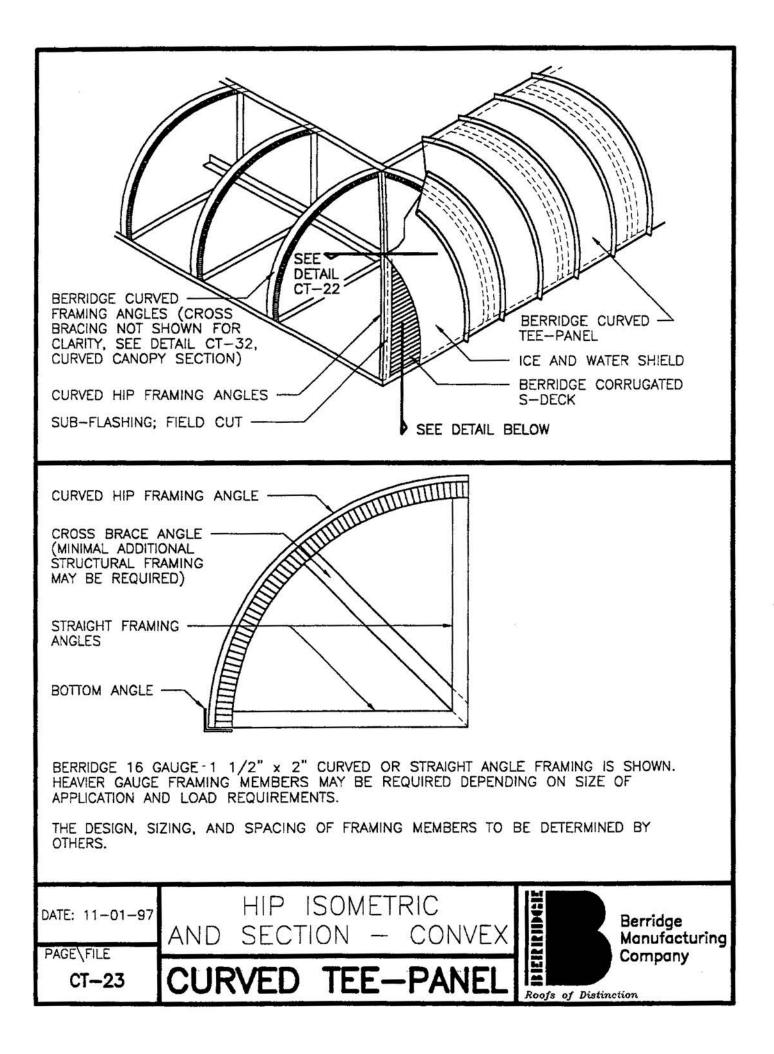


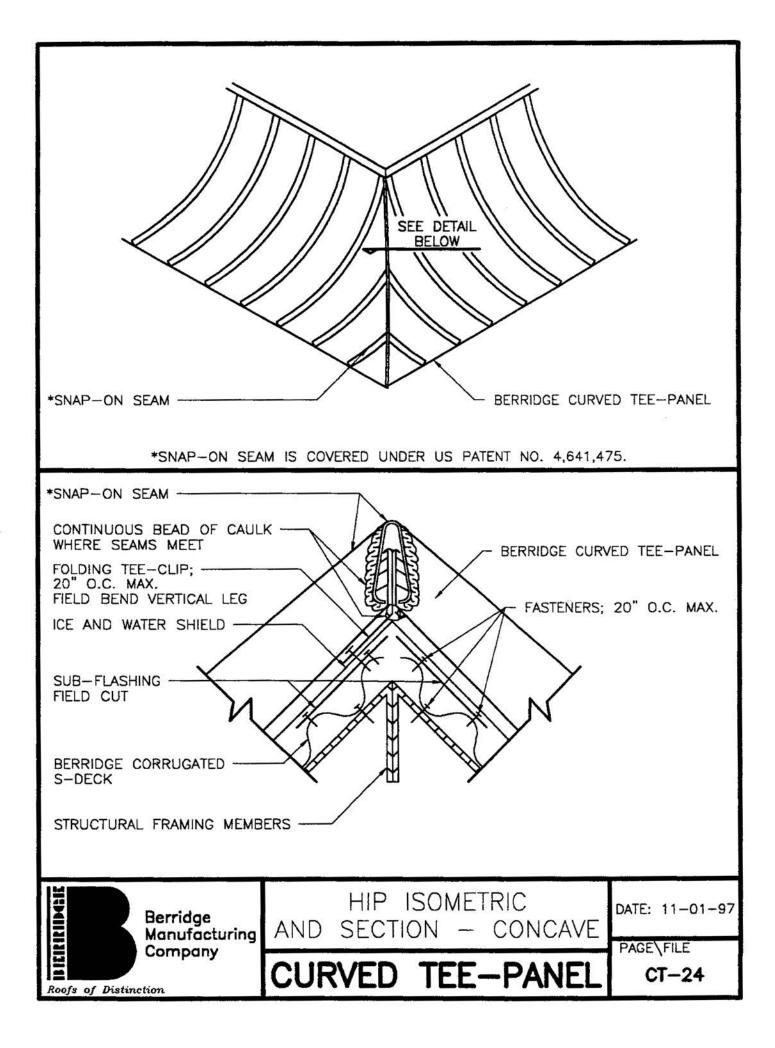


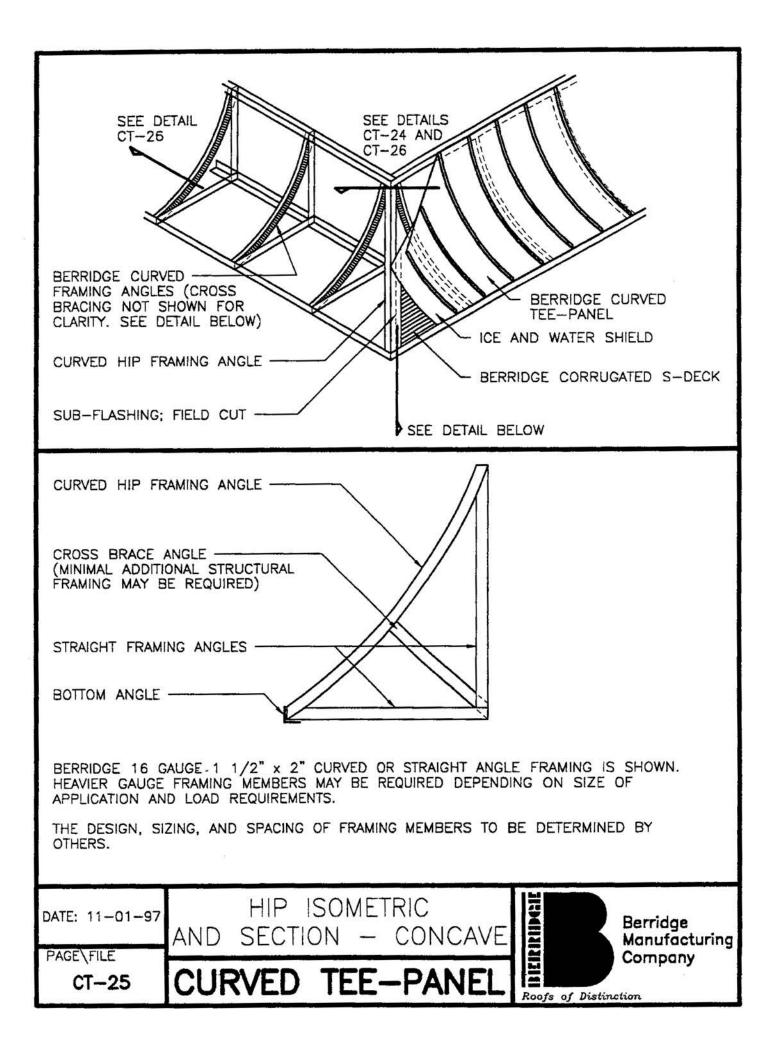


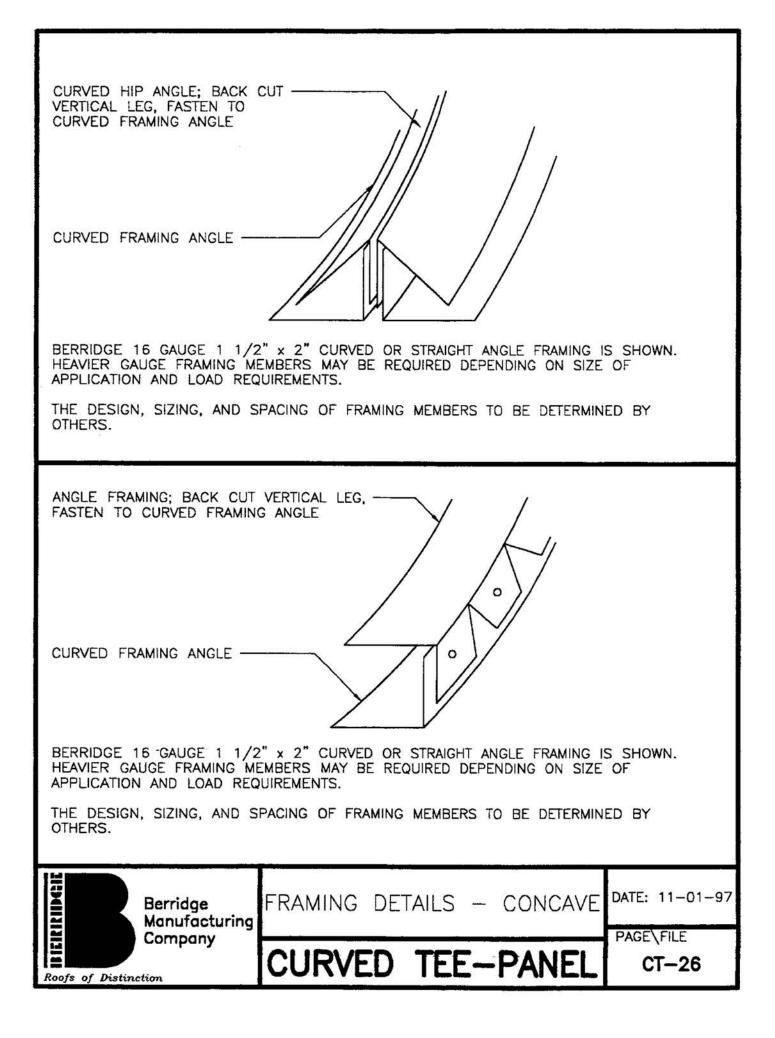


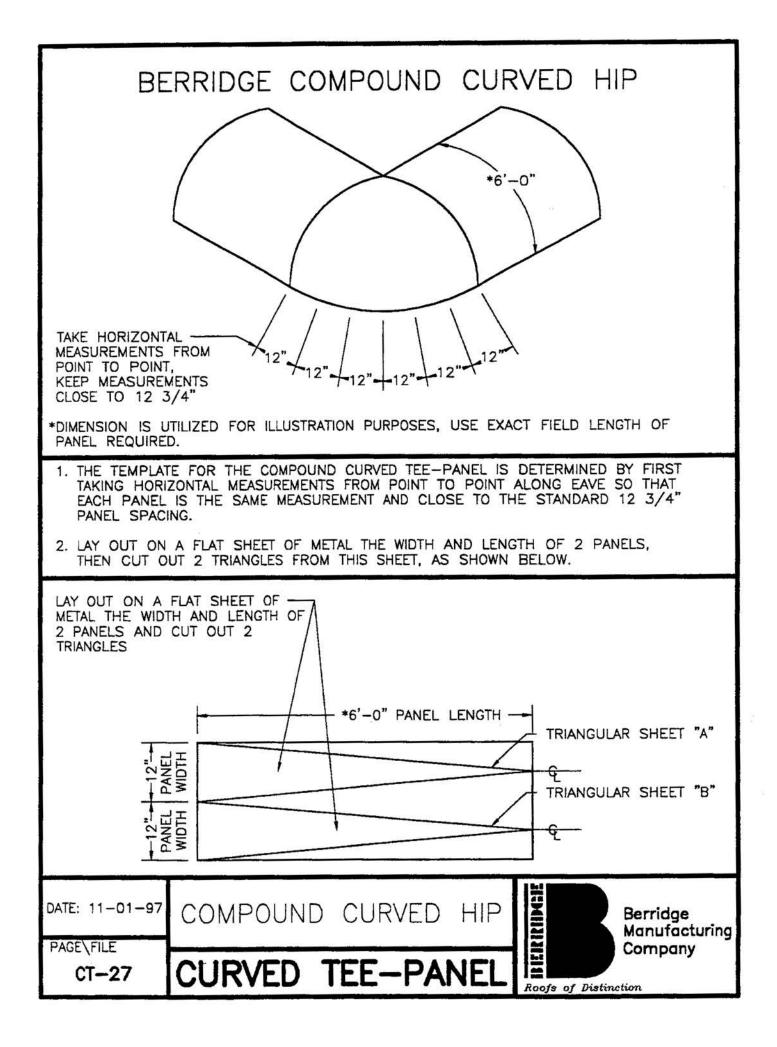


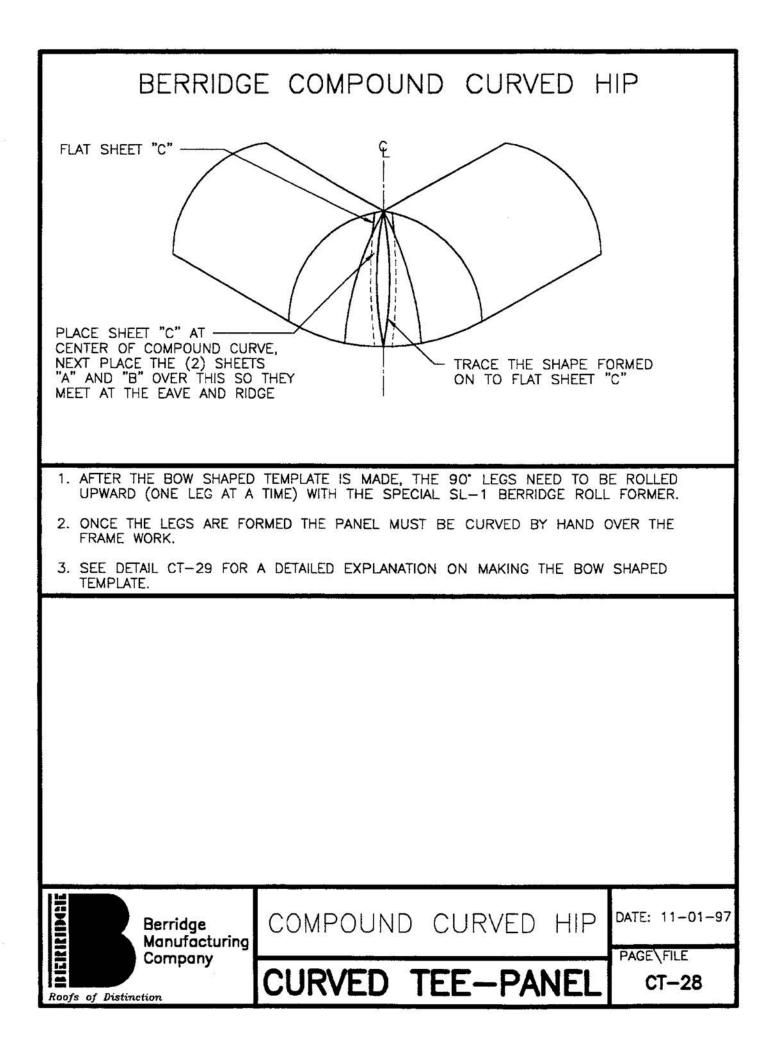


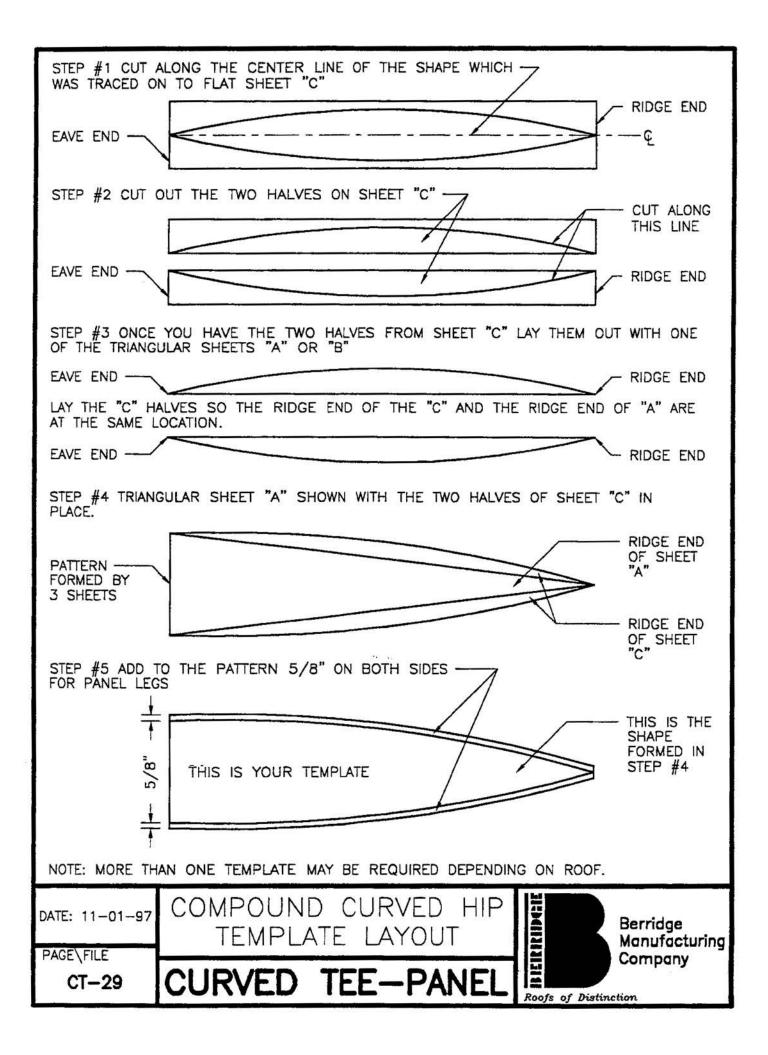


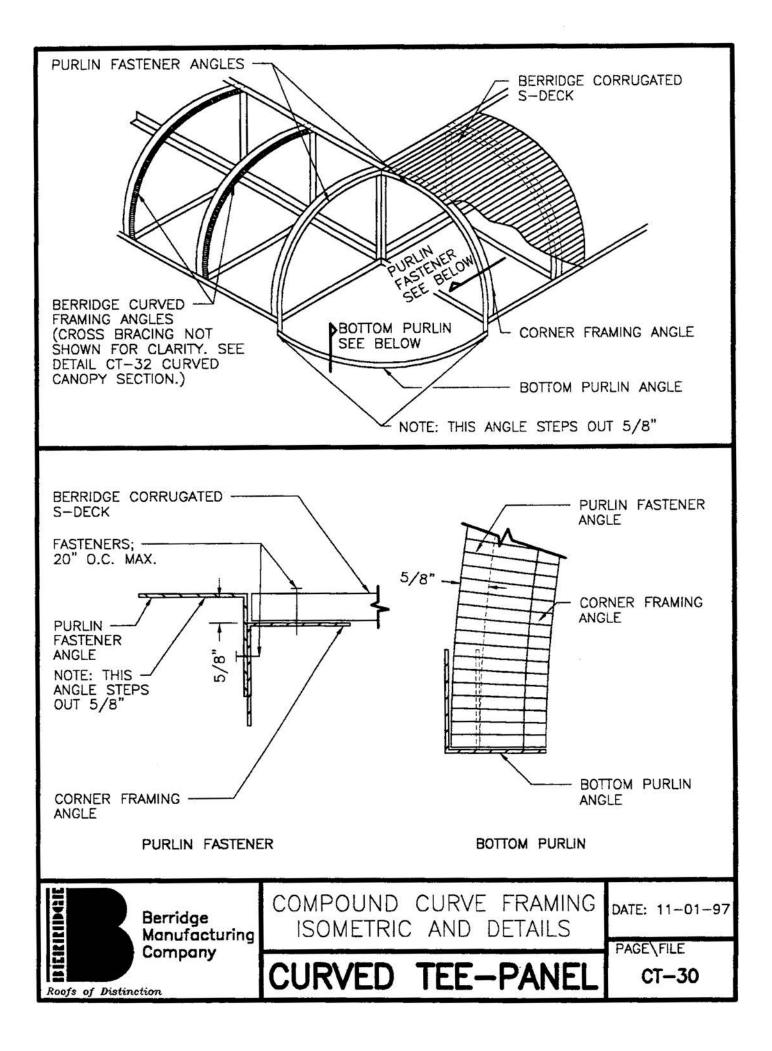


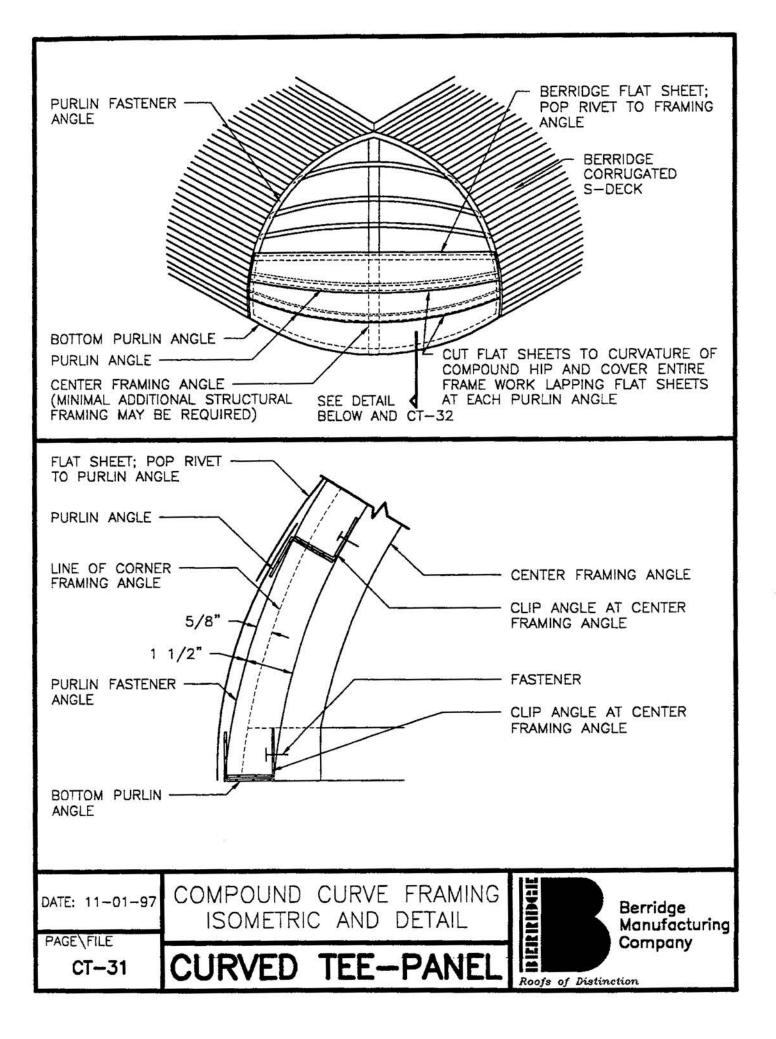


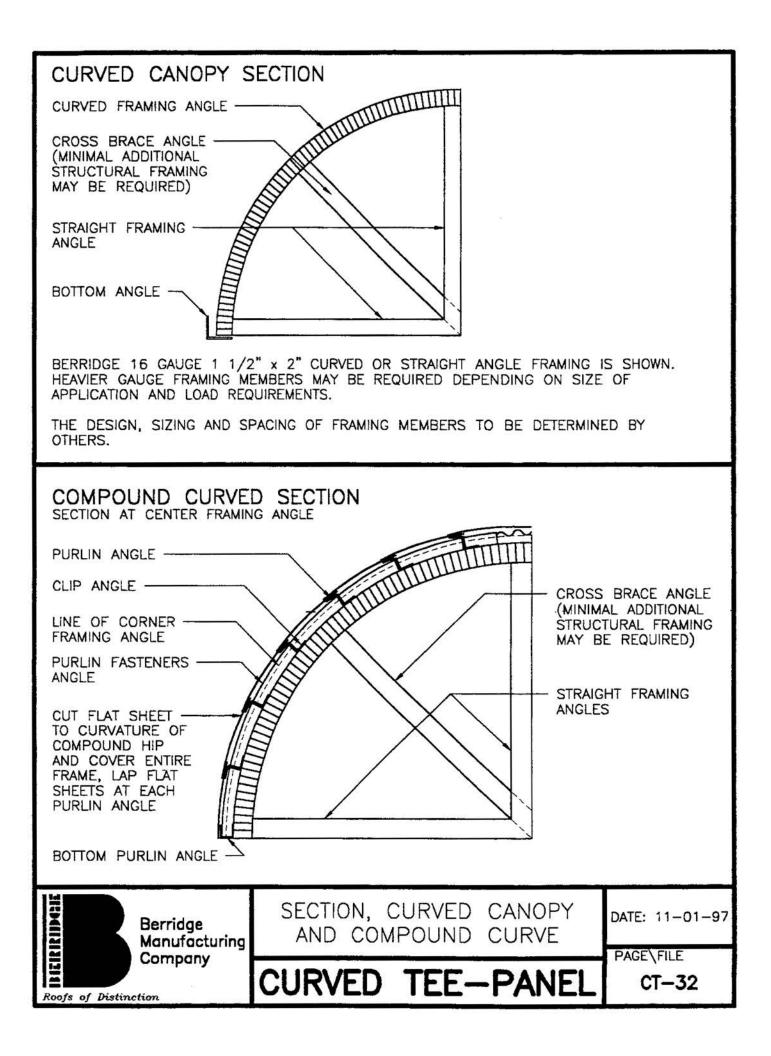


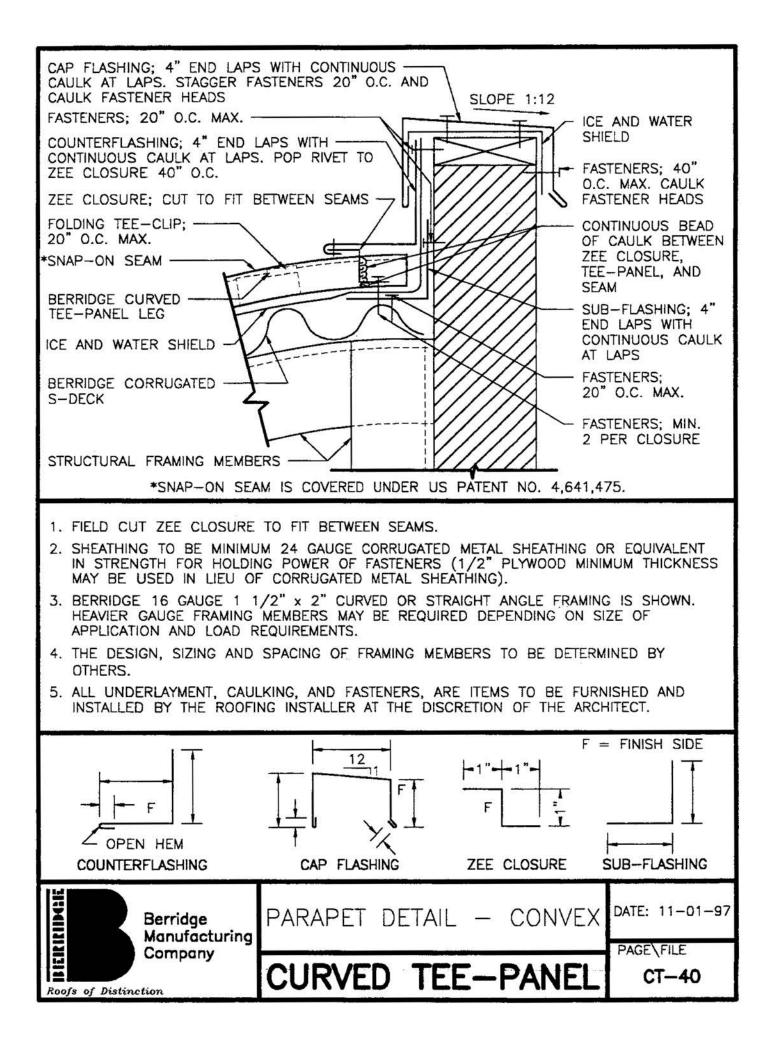


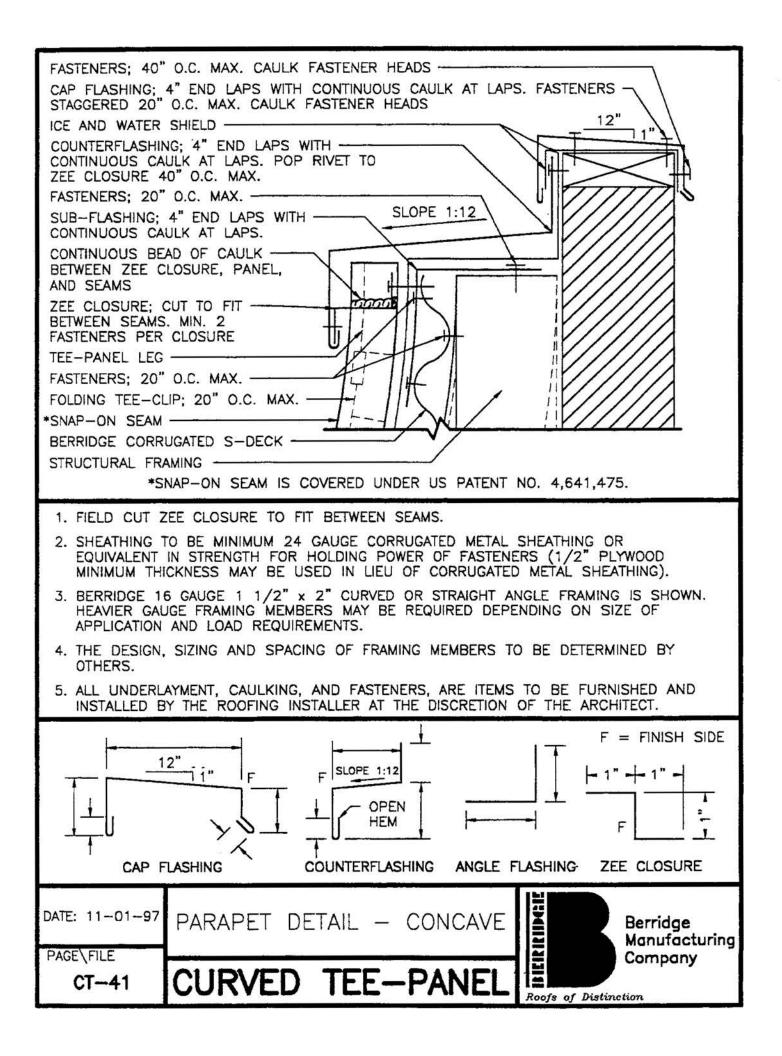


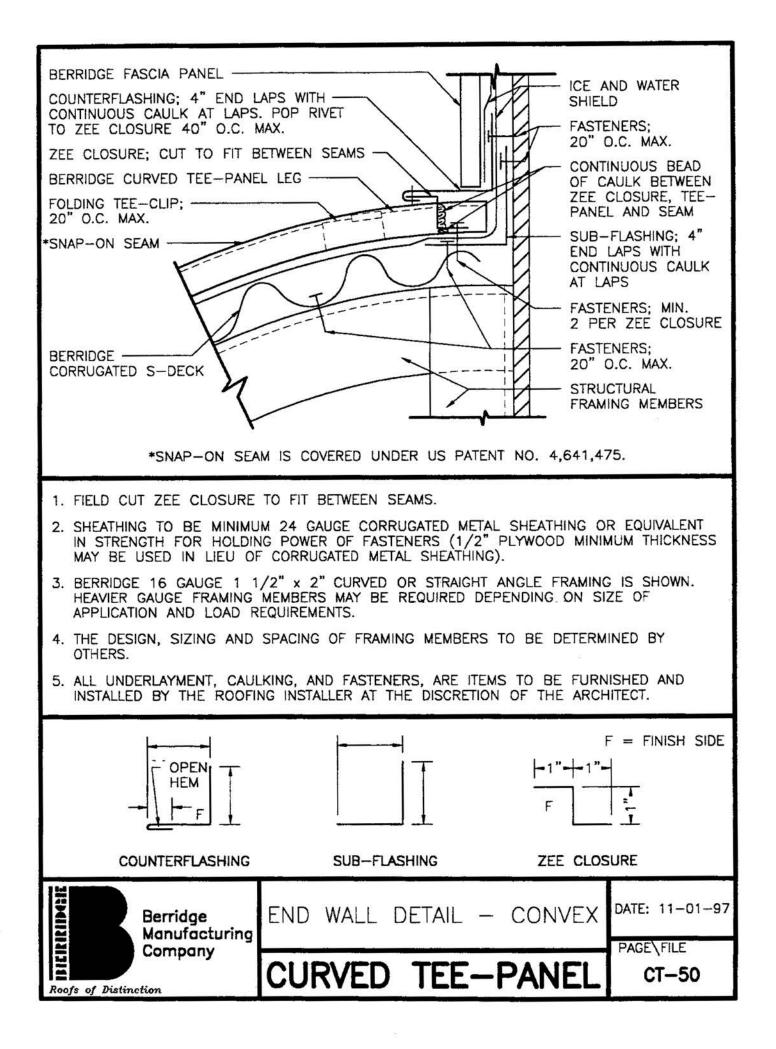


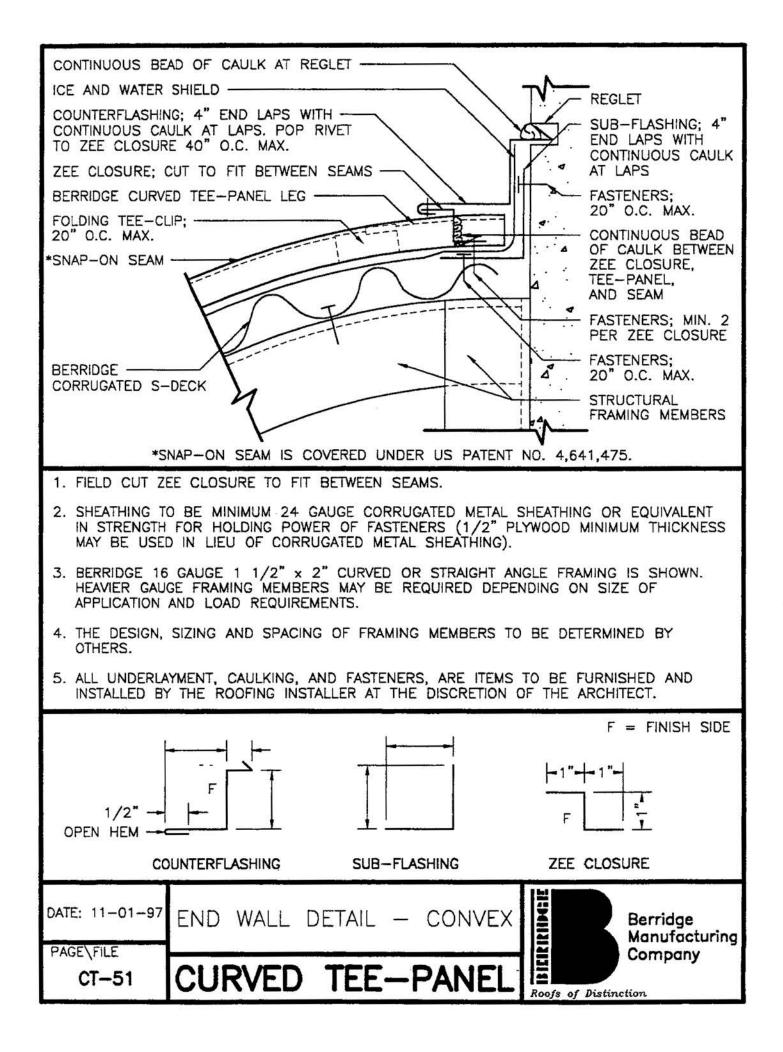




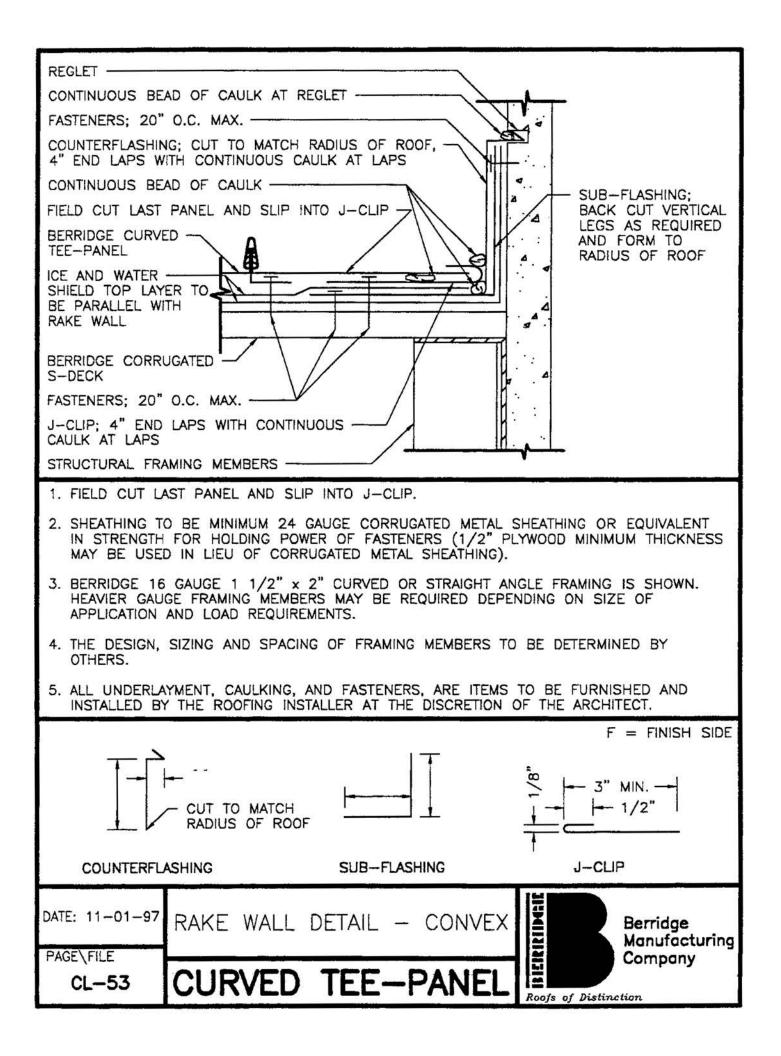


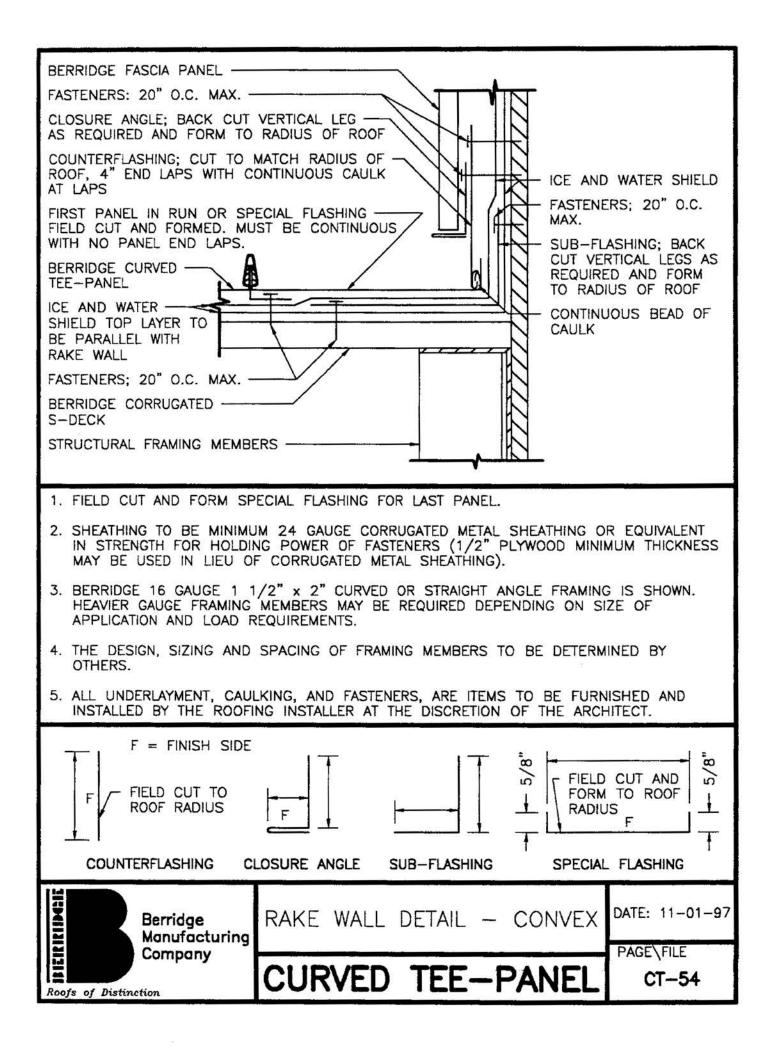


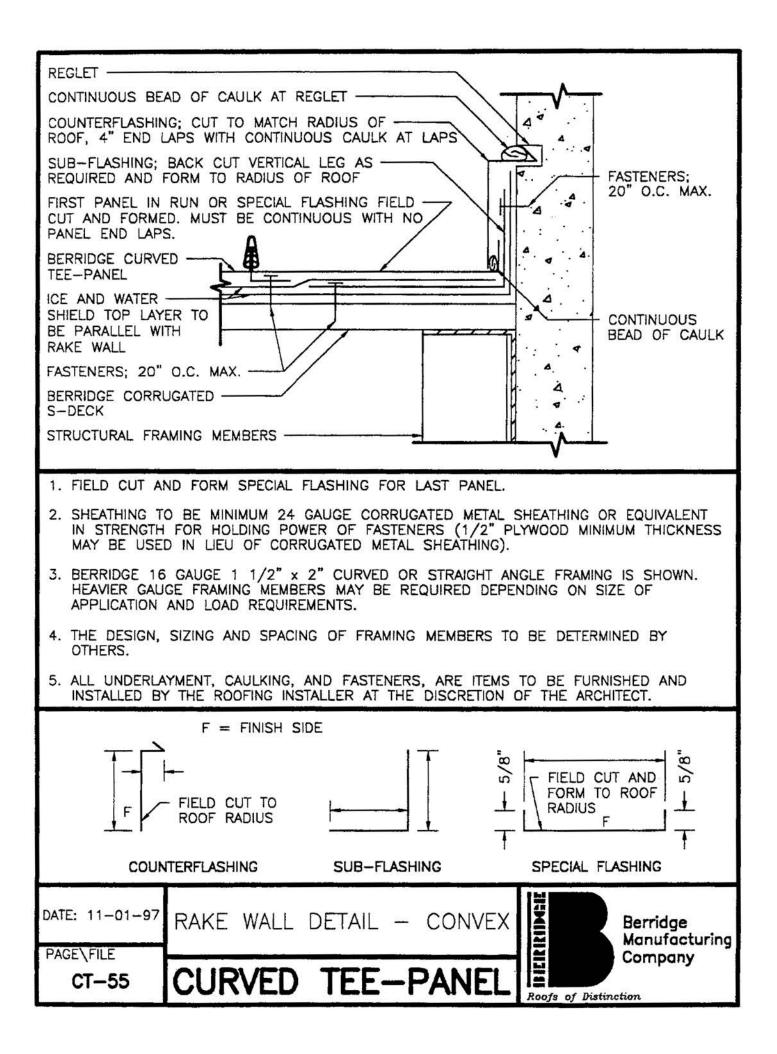


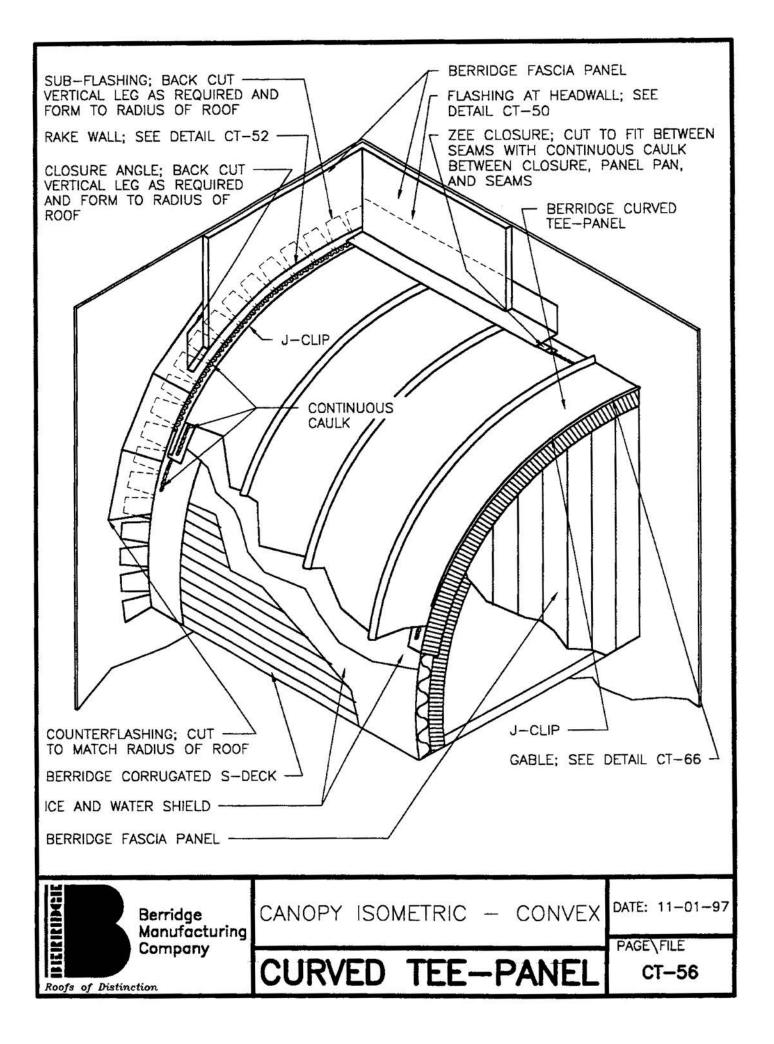


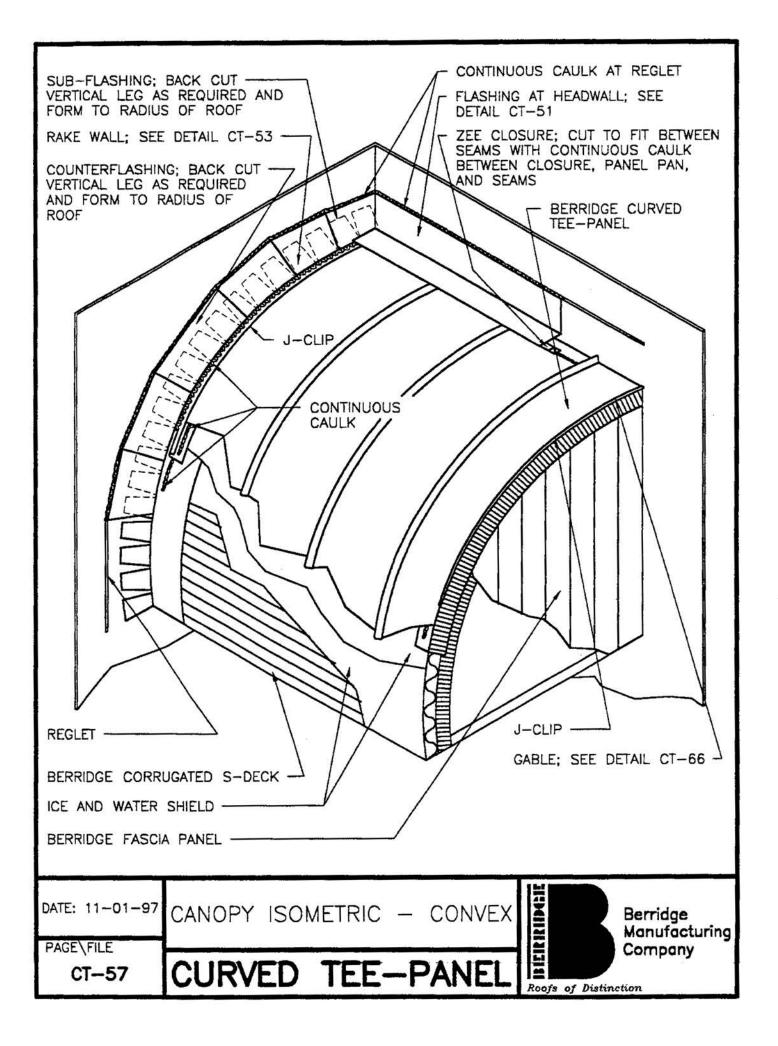
BERRIDGE FASCIA PANEL
FASTENERS; 20" O.C. MAX.
CLOSURE ANGLE; BACK CUT VERTICAL LEG AS REQUIRED AND FORM TO RADIUS OF ROOF 4" END LAPS WITH CONTINUOUS CAULK AT LAPS
COUNTERFLASHING; CUT TO MATCH RADIUS OF ROOF - FASTENERS; 4" END LAPS WITH CONTINUOUS CAULK AT LAPS - FASTENERS; 20" O.C. MAX.
FIELD CUT LAST PANEL AND SLIP INTO J-CLIP - SUB-FLASHING; PANEL CONTINUOUS WITH A SUB-FLASHING; BACK CUT VERTICAL
BERRIDGE CURVED
ICE AND WATER CONTINUOUS BEAD
BERRIDGE CORRUGATED BEAD OF CAULK
FASTENERS; 20" O.C. MAX
STRUCTURAL FRAMING MEMBERS CONTINUOUS CAULK
1. FIELD CUT LAST PANEL AND SLIP INTO J-CLIP.
<ol> <li>SHEATHING TO BE MINIMUM 24 GAUGE CORRUGATED METAL SHEATHING OR EQUIVALENT IN STRENGTH FOR HOLDING POWER OF FASTENERS (1/2" PLYWOOD MINIMUM THICKNESS MAY BE USED IN LIEU OF CORRUGATED METAL SHEATHING).</li> </ol>
<ol> <li>BERRIDGE 16 GAUGE 1 1/2" x 2" CURVED OR STRAIGHT ANGLE FRAMING IS SHOWN. HEAVIER GAUGE FRAMING MEMBERS MAY BE REQUIRED DEPENDING ON SIZE OF APPLICATION AND LOAD REQUIREMENTS.</li> </ol>
4. THE DESIGN, SIZING AND SPACING OF FRAMING MEMBERS TO BE DETERMINED BY OTHERS.
5. ALL UNDERLAYMENT, CAULKING, AND FASTENERS, ARE ITEMS TO BE FURNISHED AND INSTALLED BY THE ROOFING INSTALLER AT THE DISCRETION OF THE ARCHITECT.
$ \begin{array}{c c} \hline \\ \hline \\ F \\ \hline \\ RADIUS \\ OF ROOF \\ \hline \\ COUNTERFLASHING \\ \end{array} \begin{array}{c c} \hline \\ F \\ \hline \\ CLOSURE \\ ANGLE \\ \hline \\ SUB-FLASHING \\ \hline \\ SUB-FLASHING \\ \hline \\ \hline \\ J \\ \hline \\ \hline$
Berridge Manufacturing Company RAKE WALL DETAIL – CONVEX PAGE\FILE CLIB\/FD TEE_PANEI CT-52
Roofs of Distinction Company CORVED TEE-PANEL CT-52

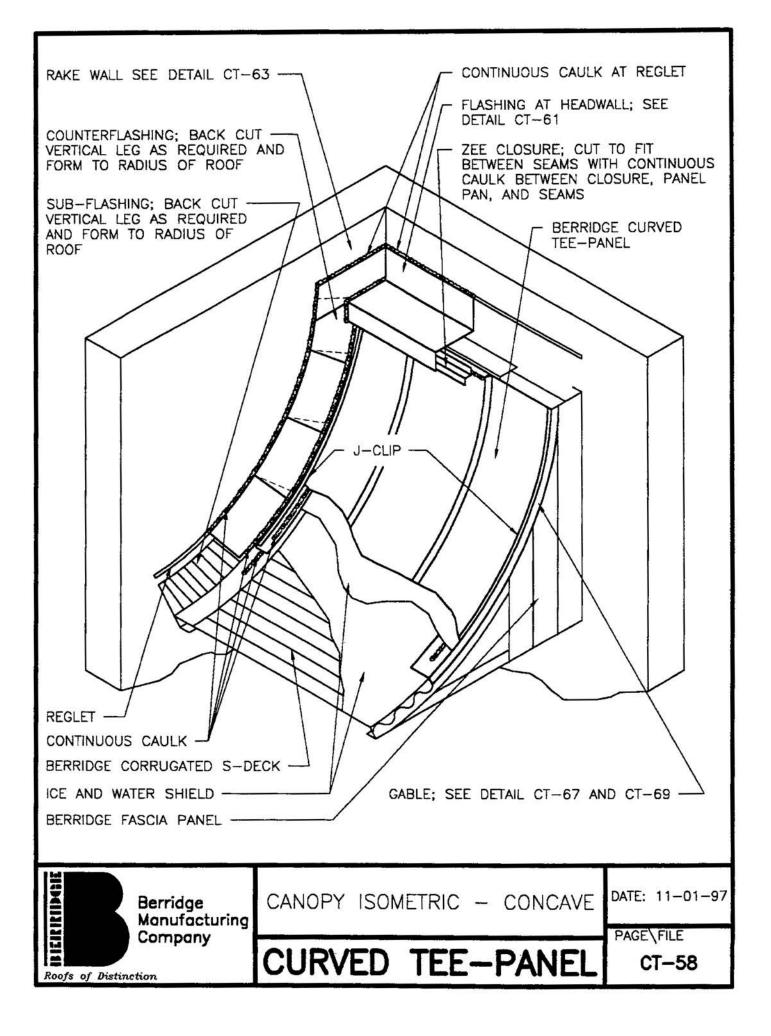


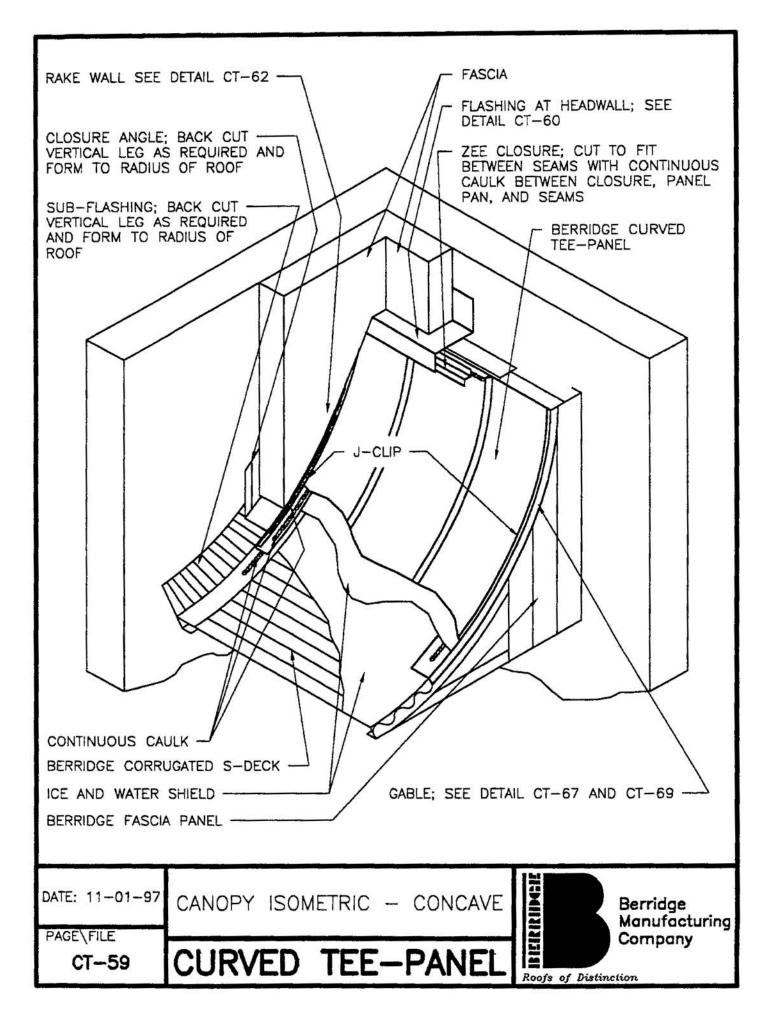


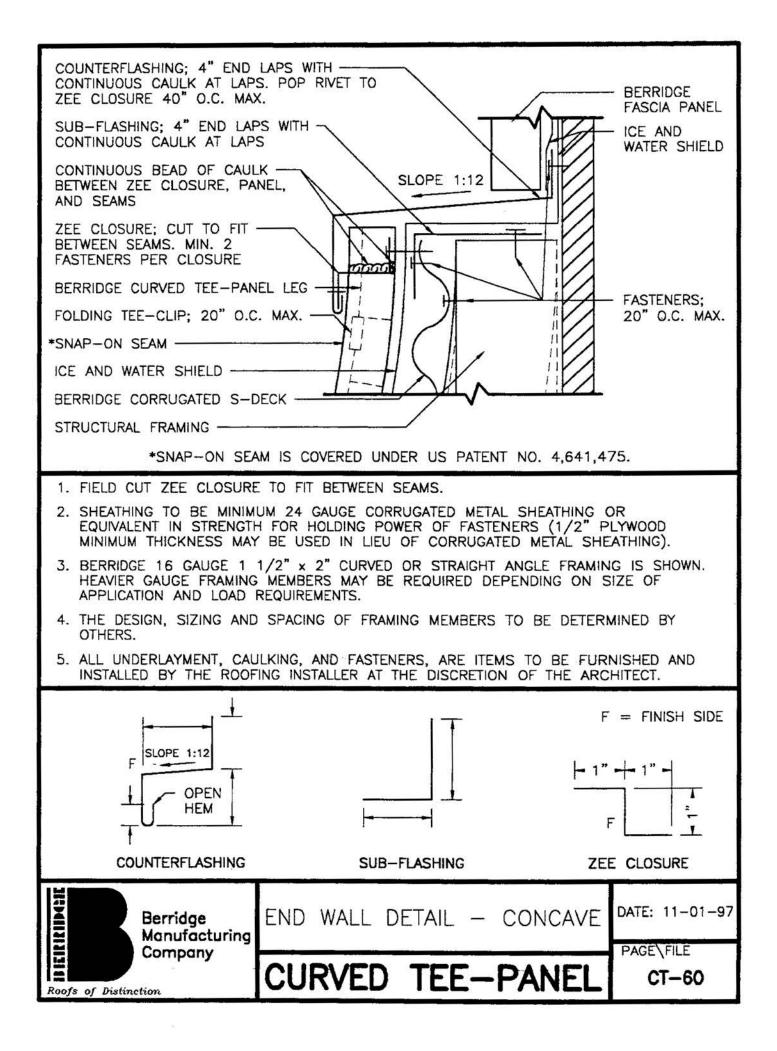


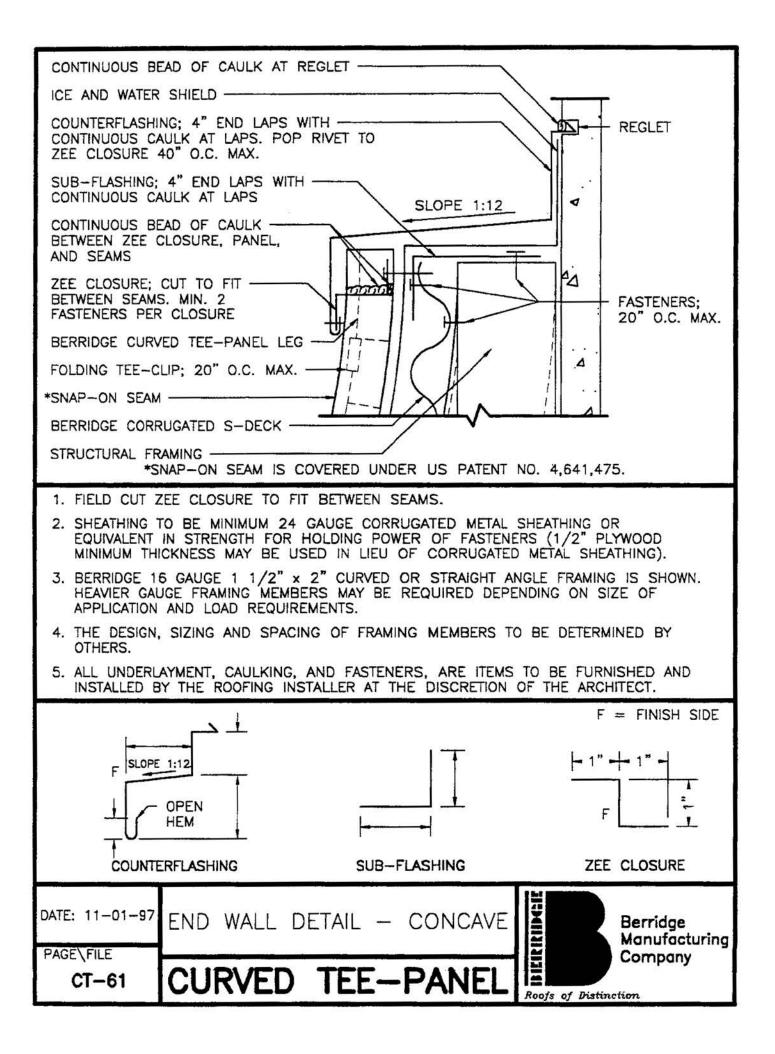


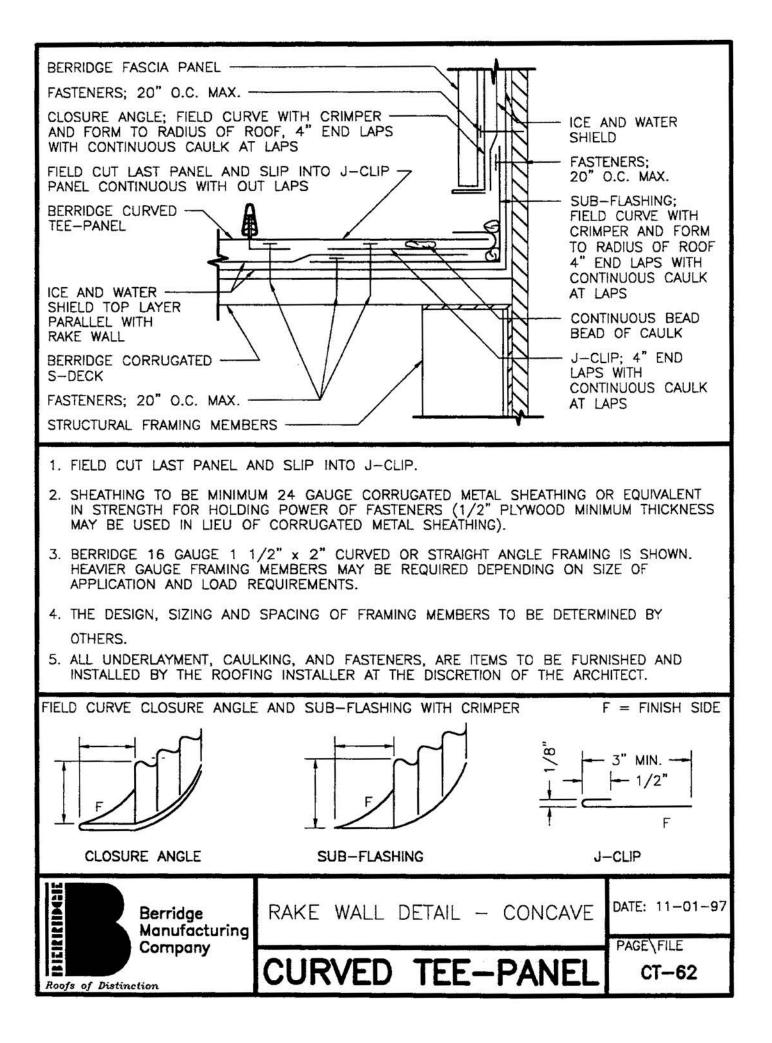


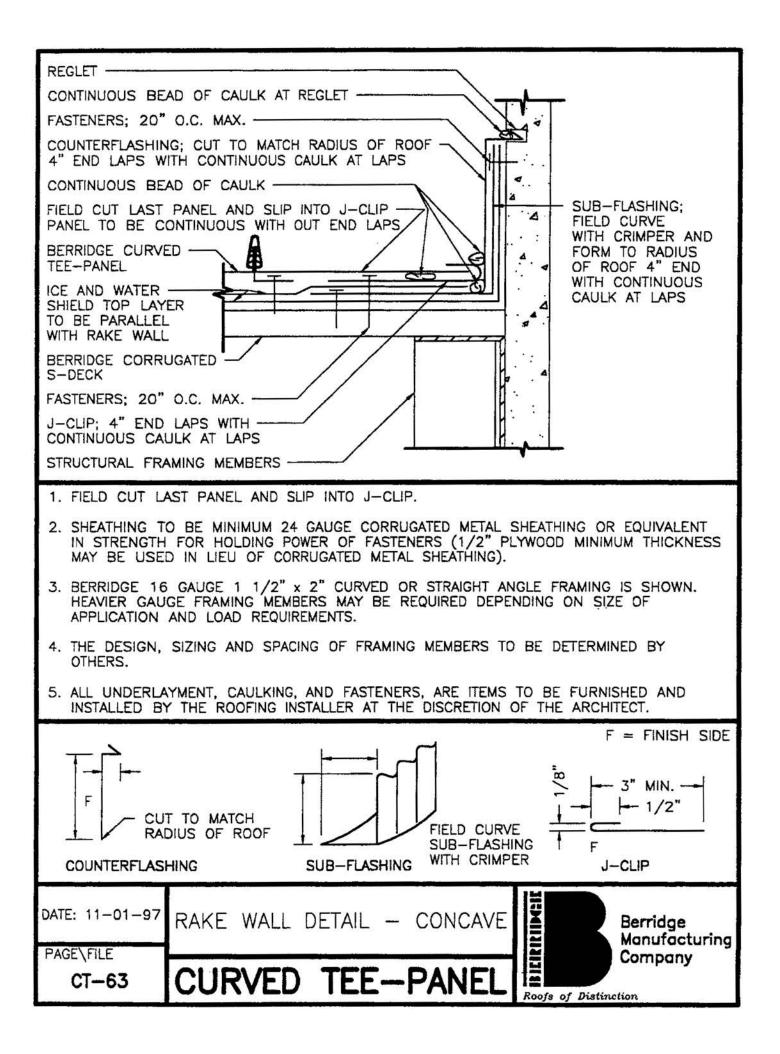


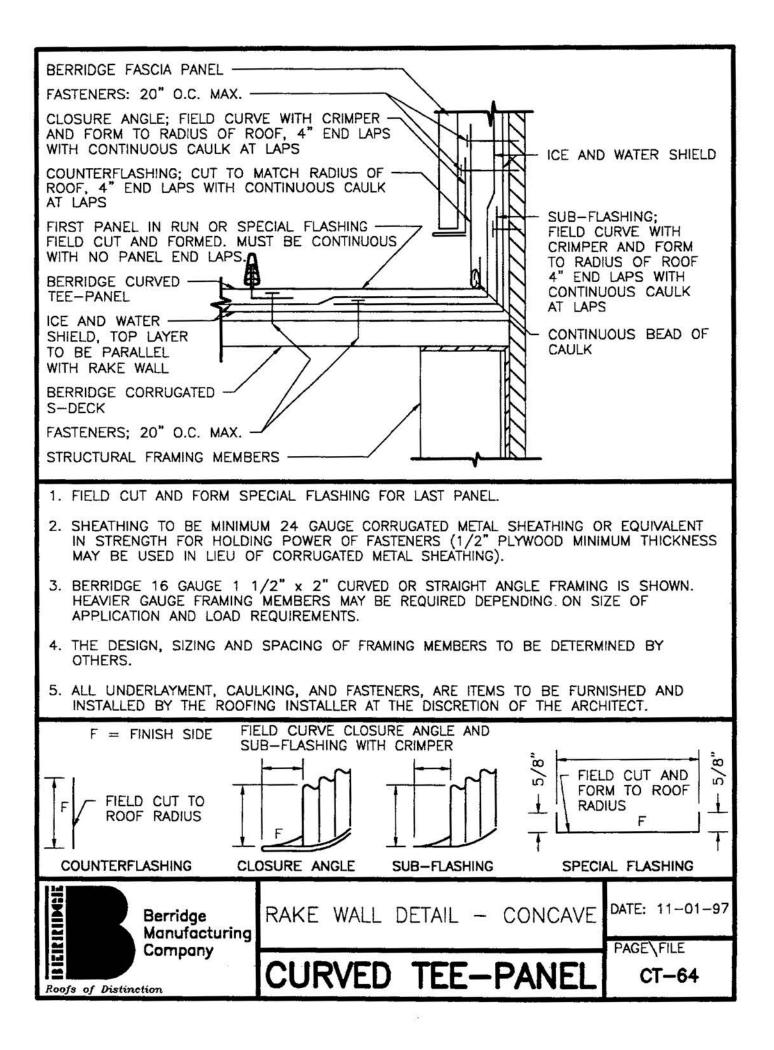


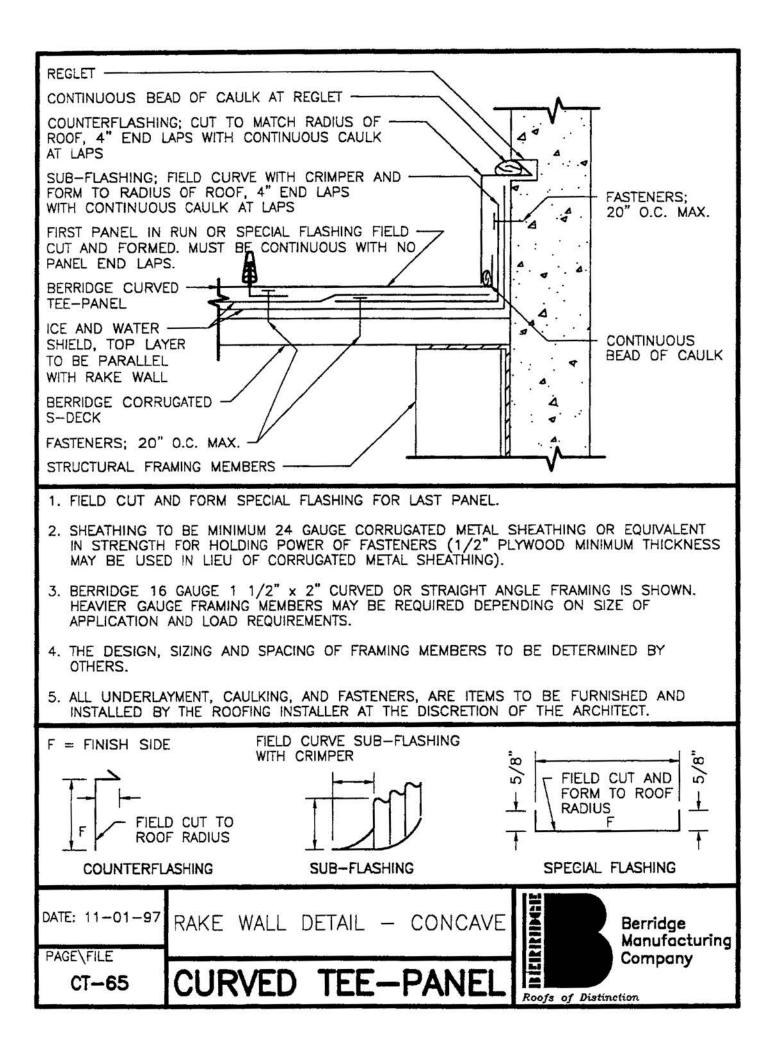


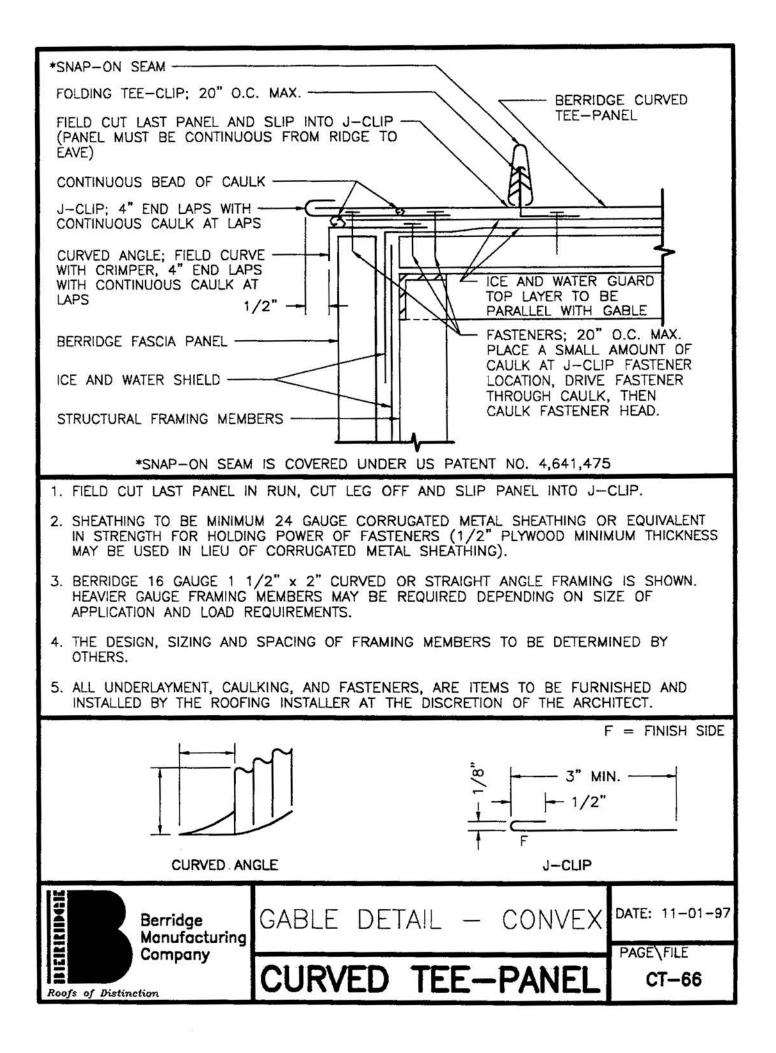


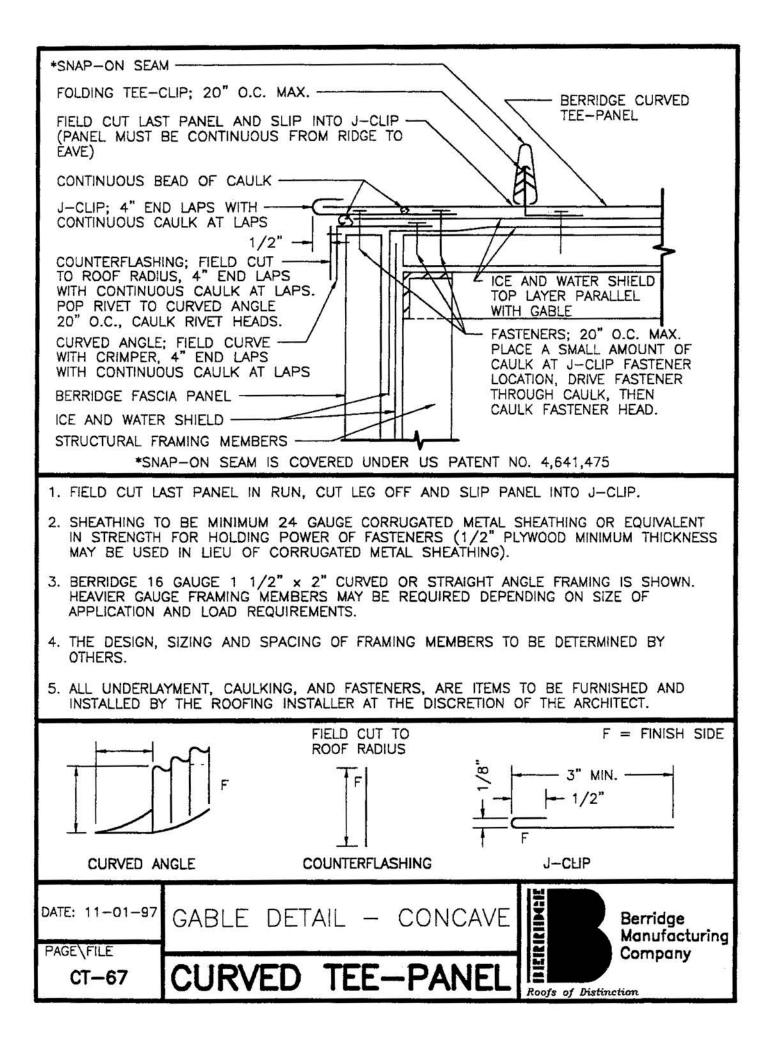


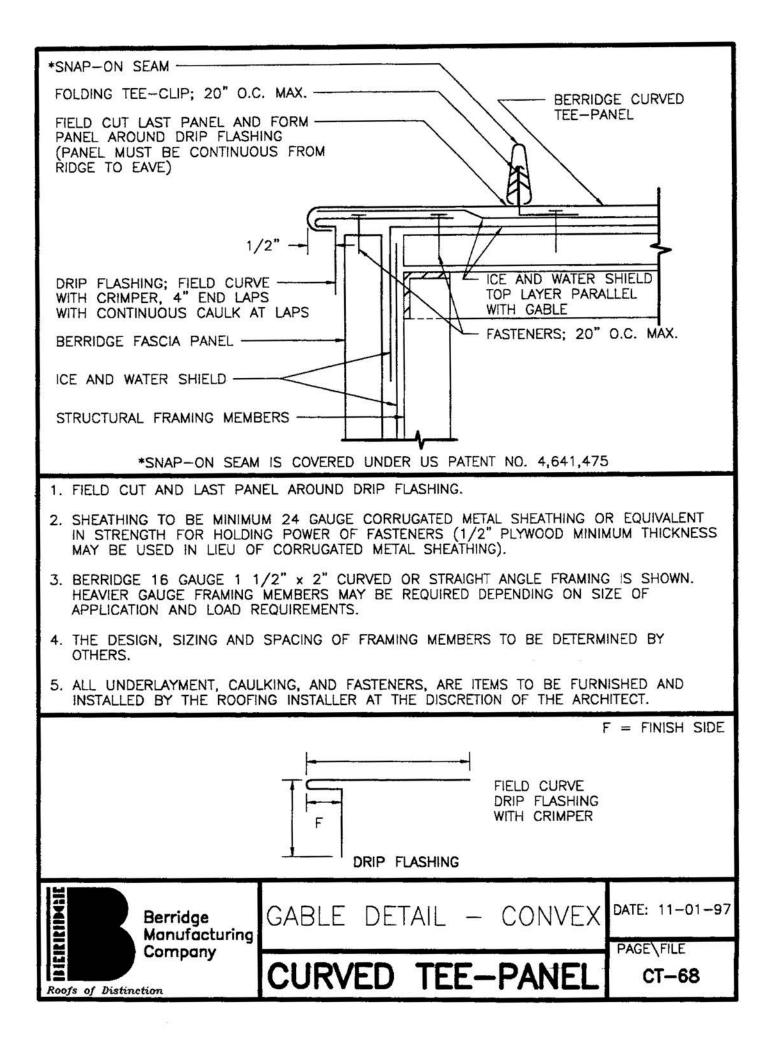


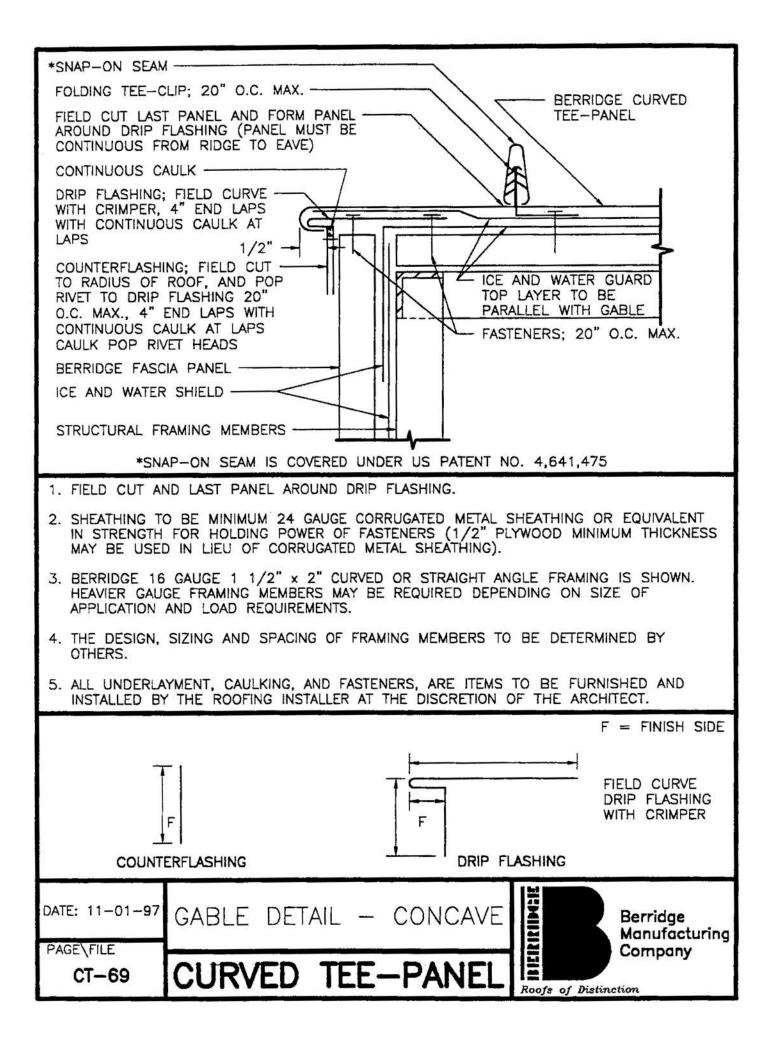


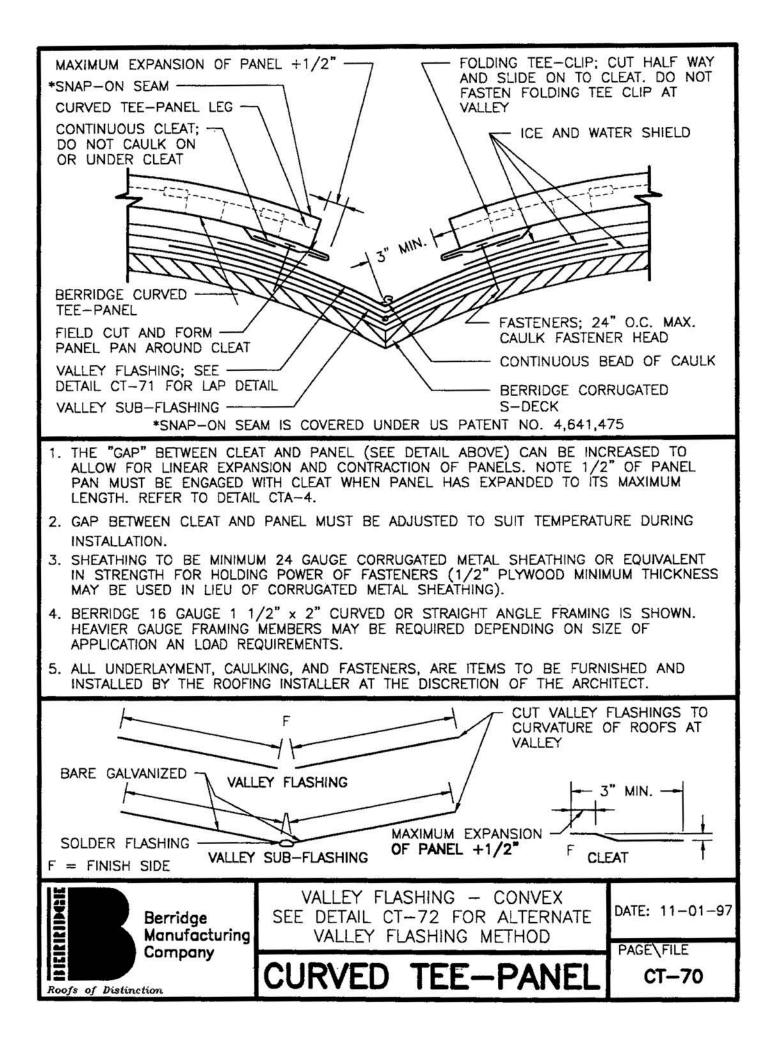


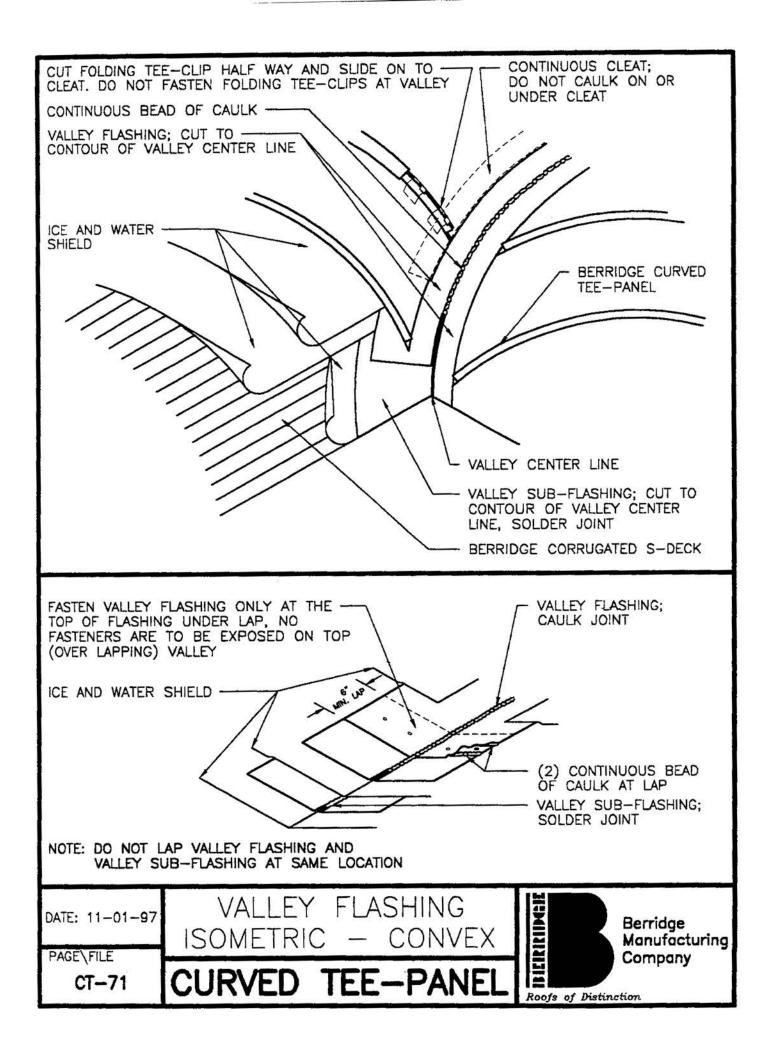


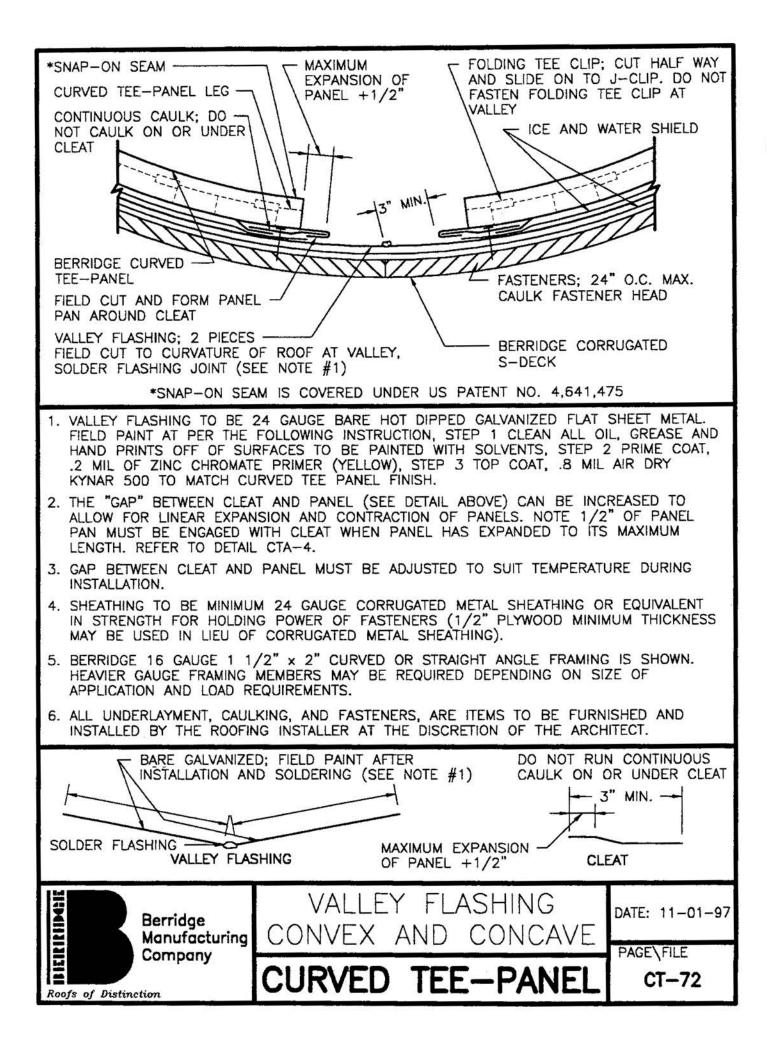


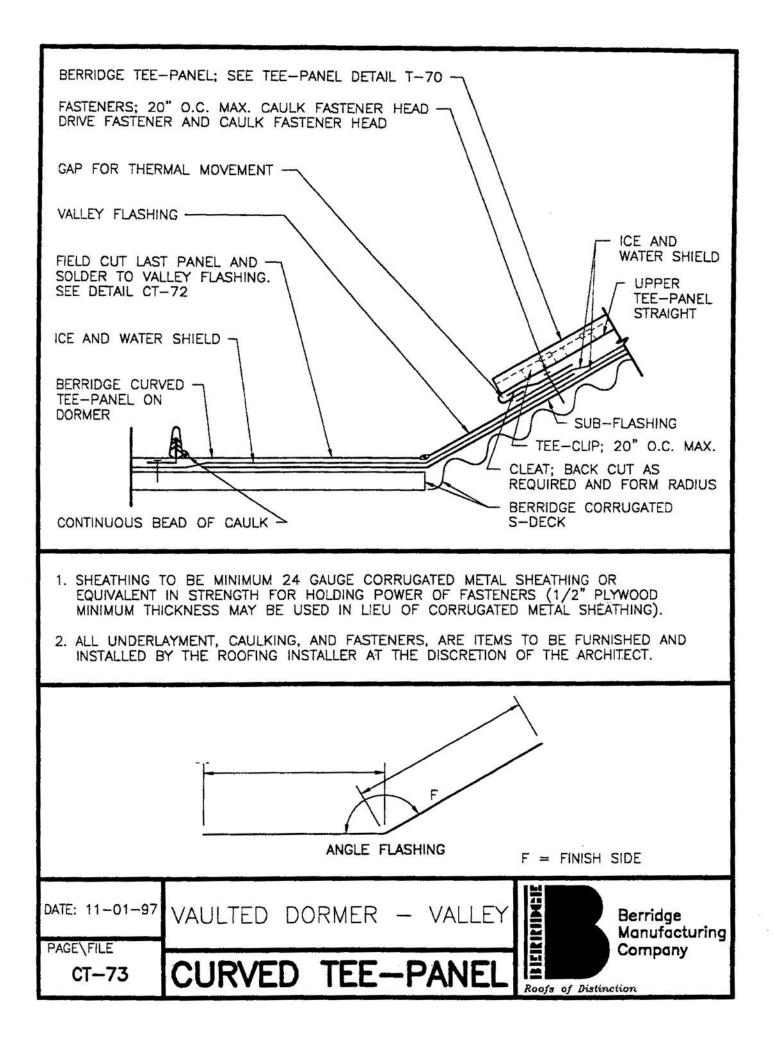


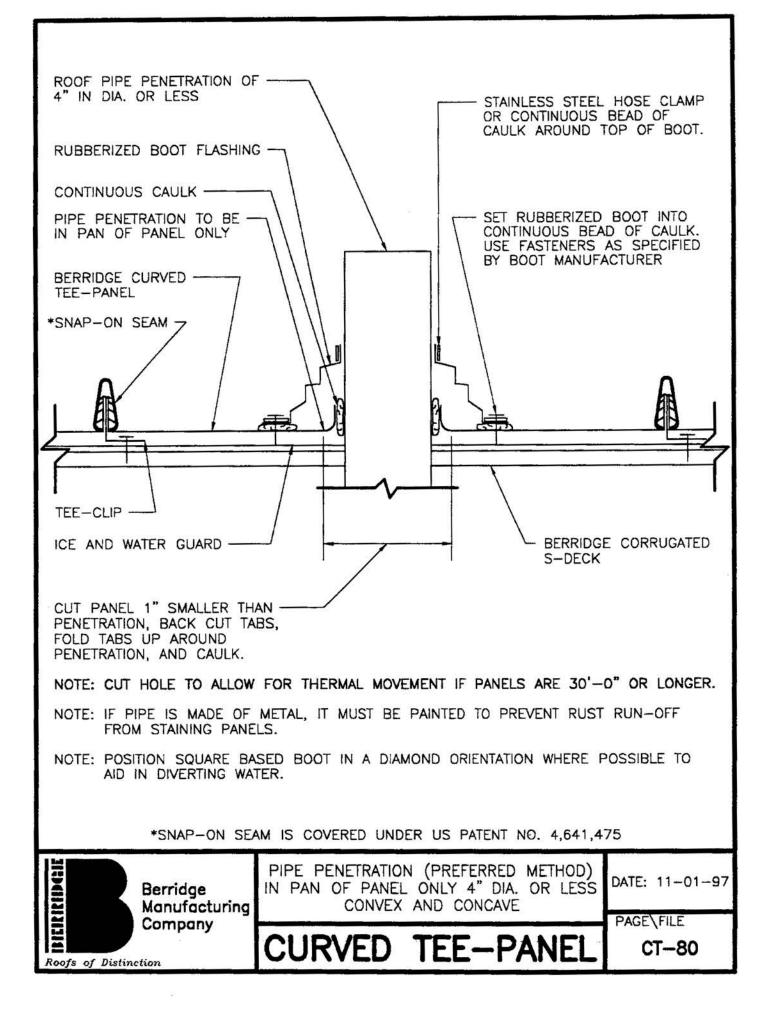


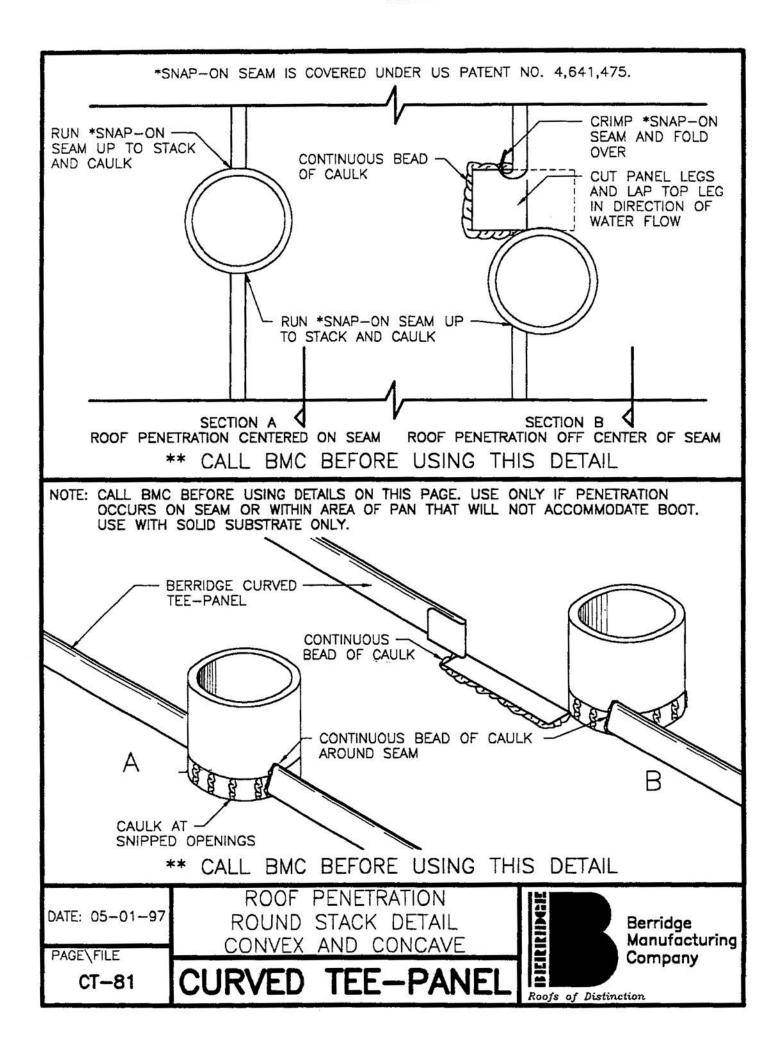


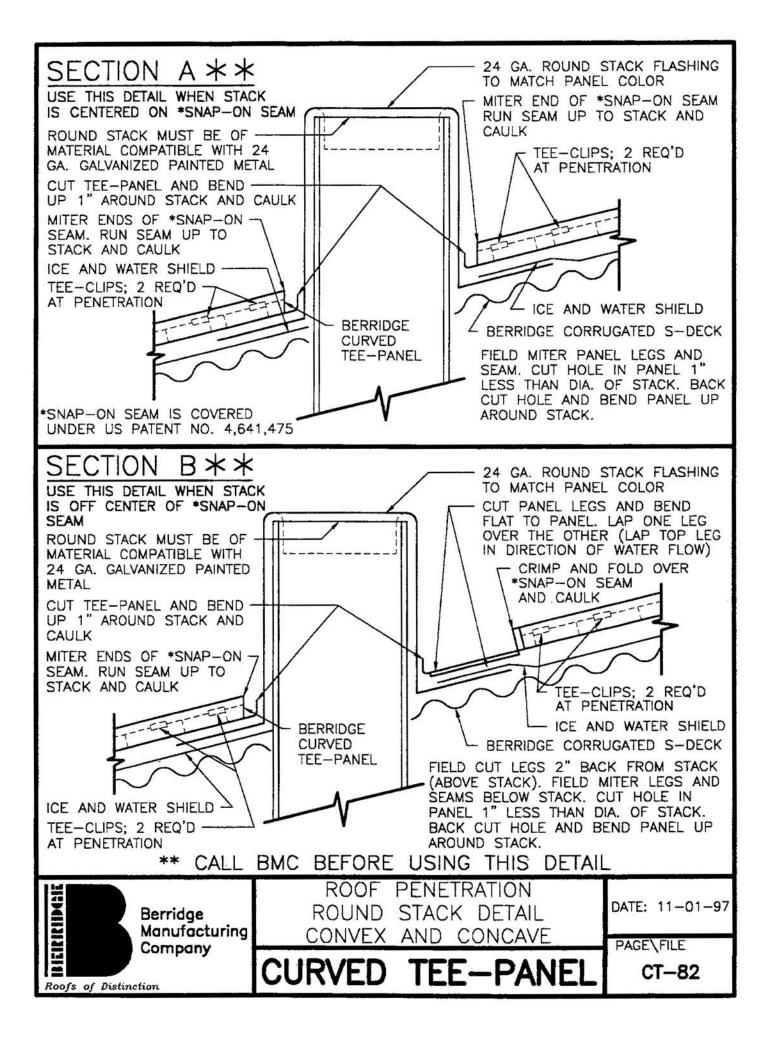


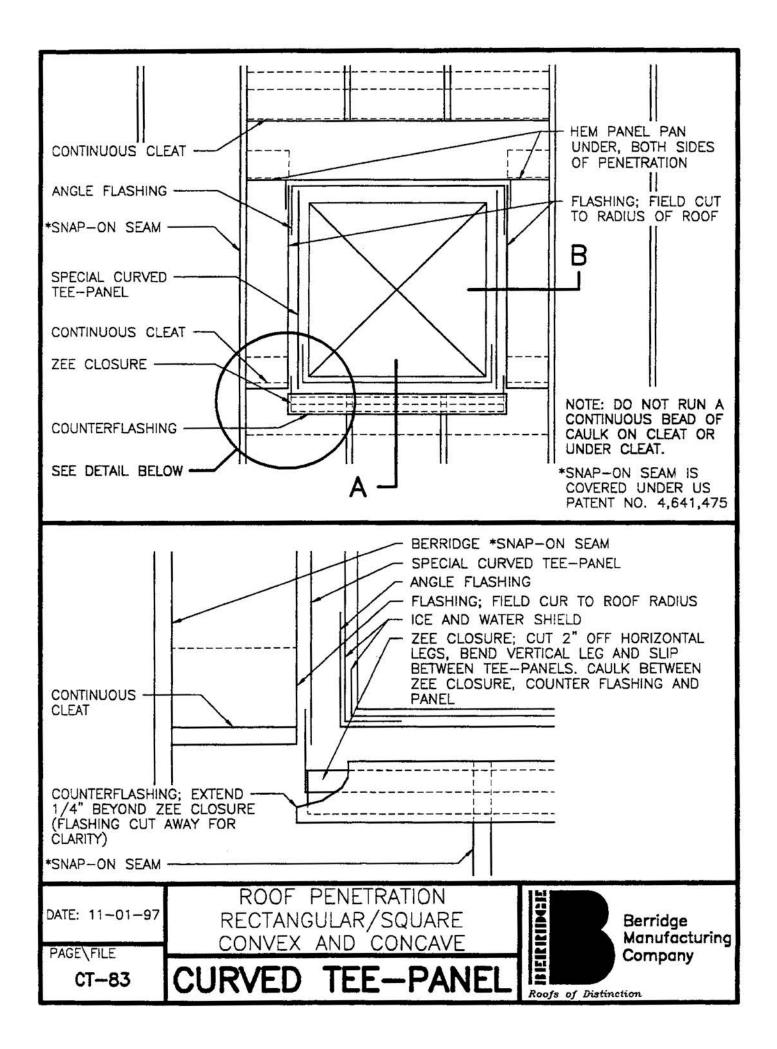


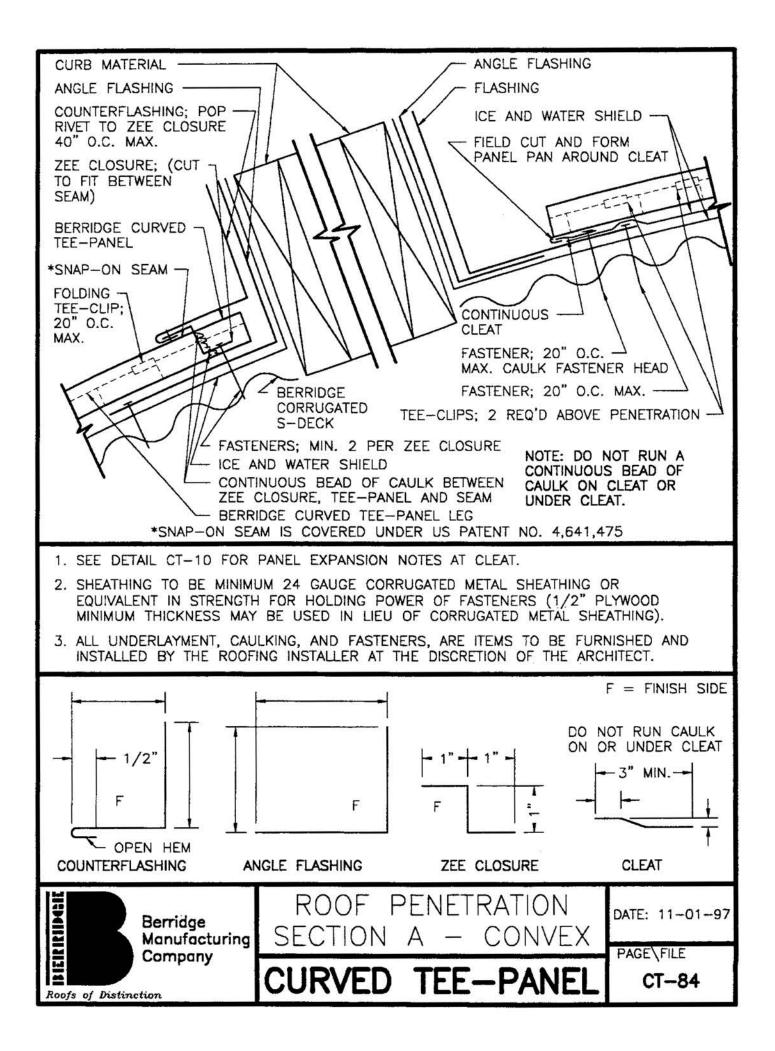


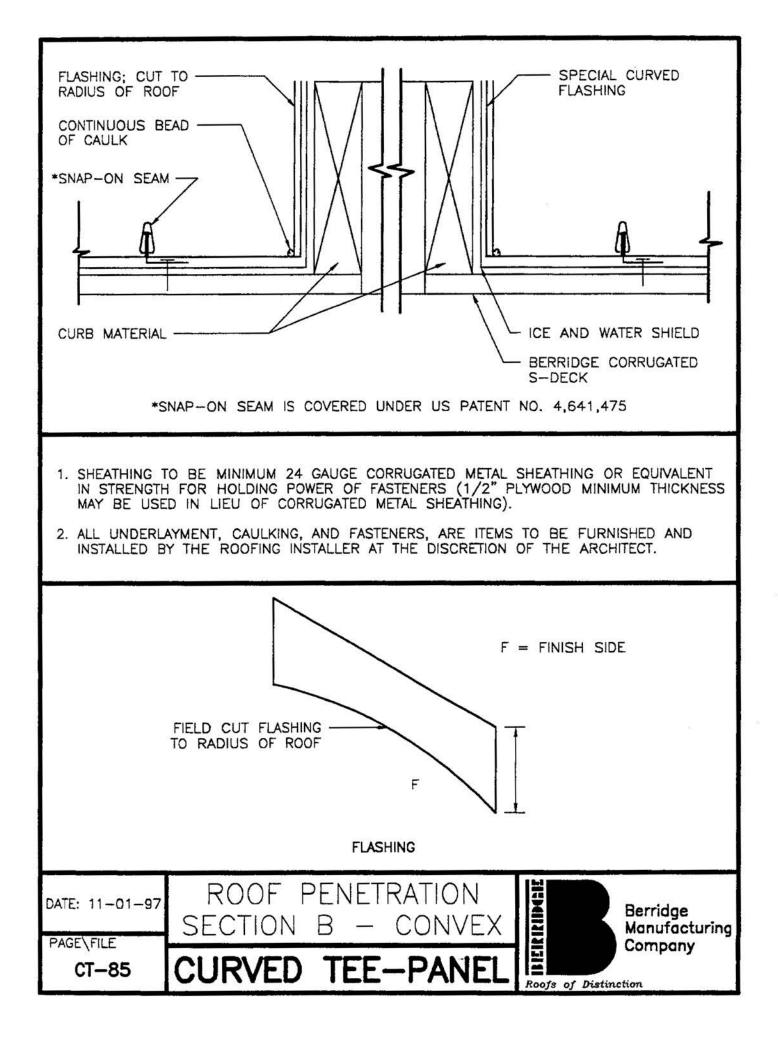


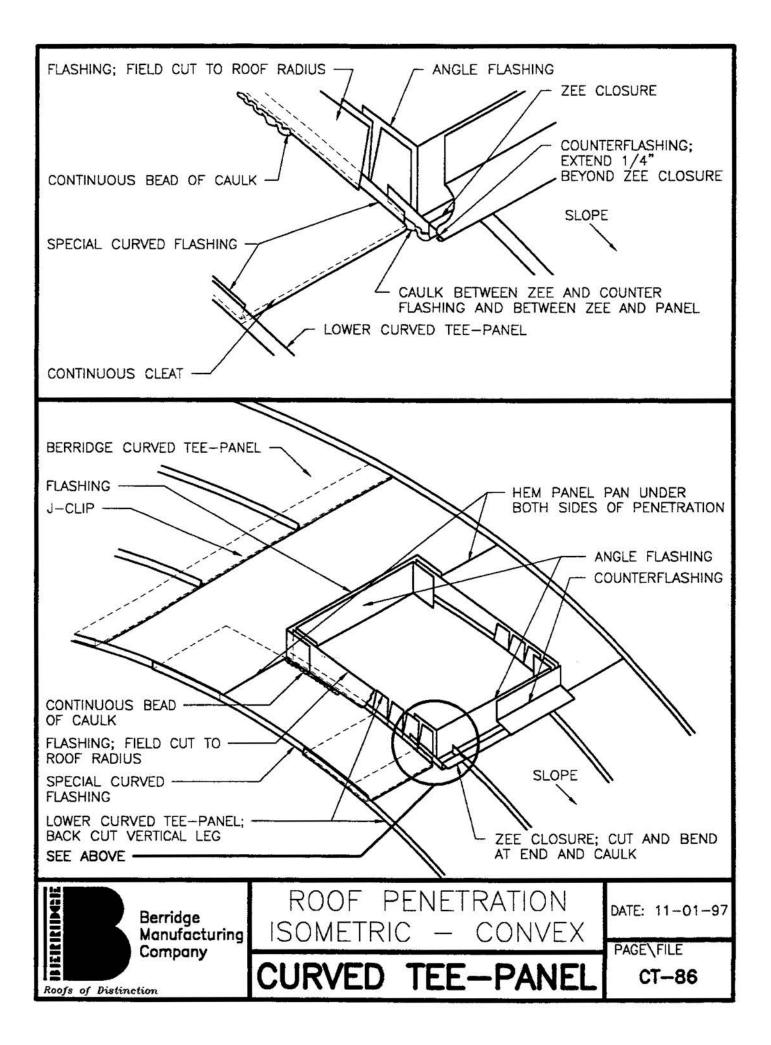


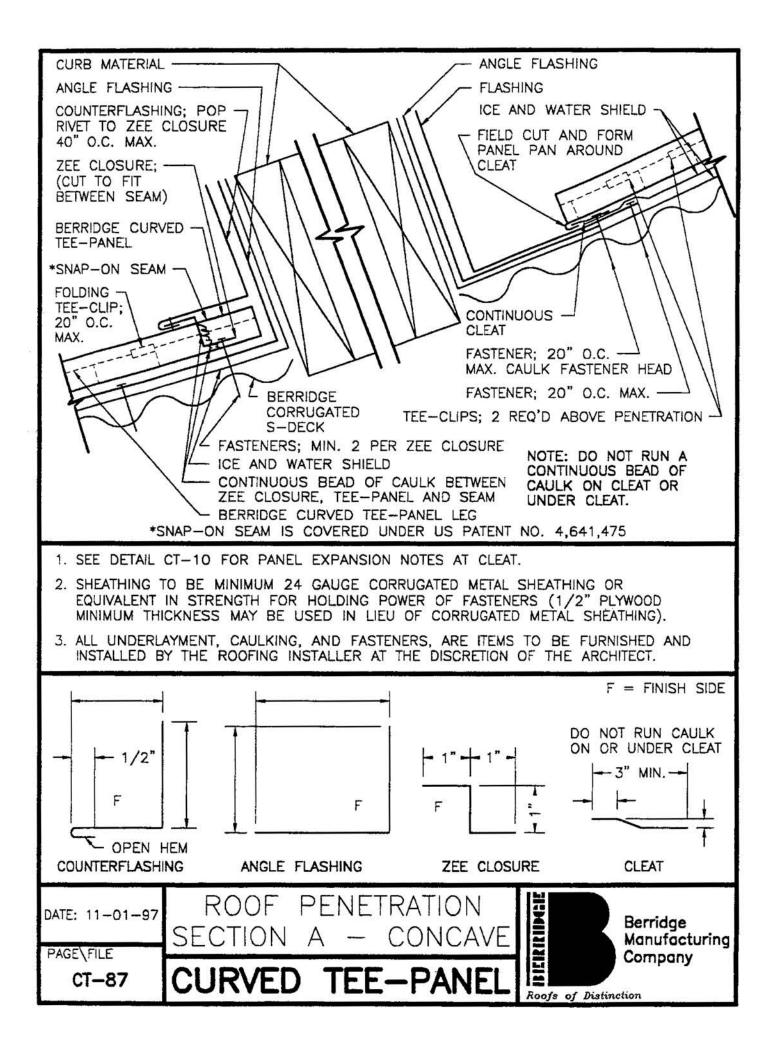


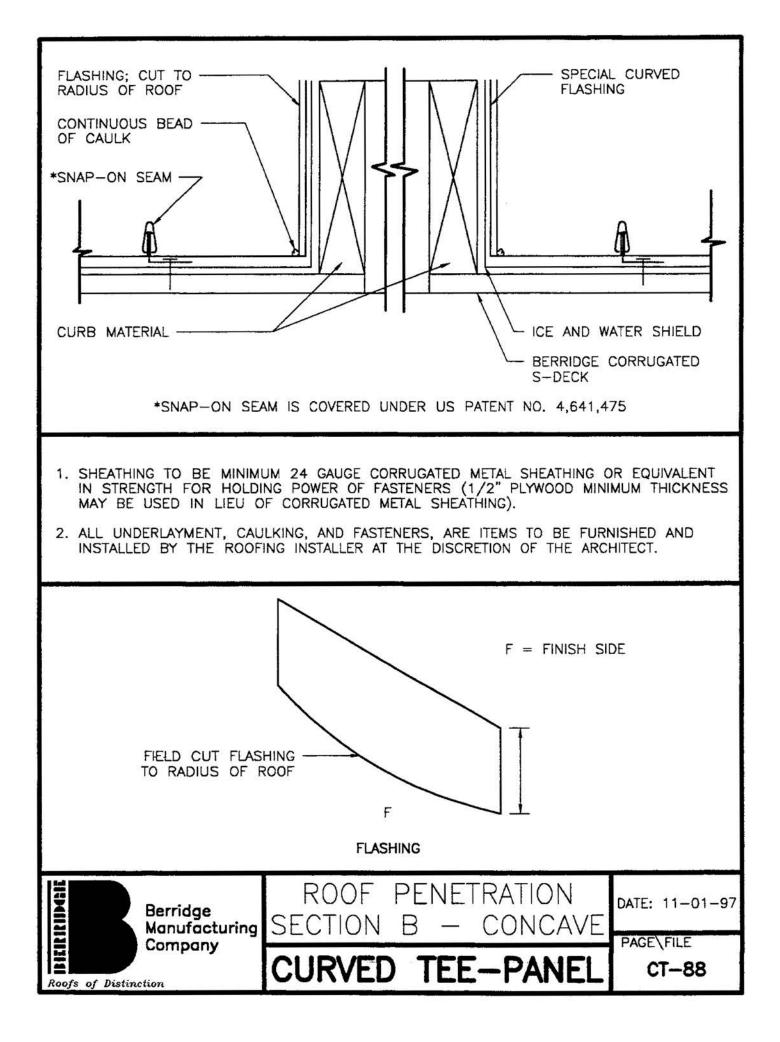


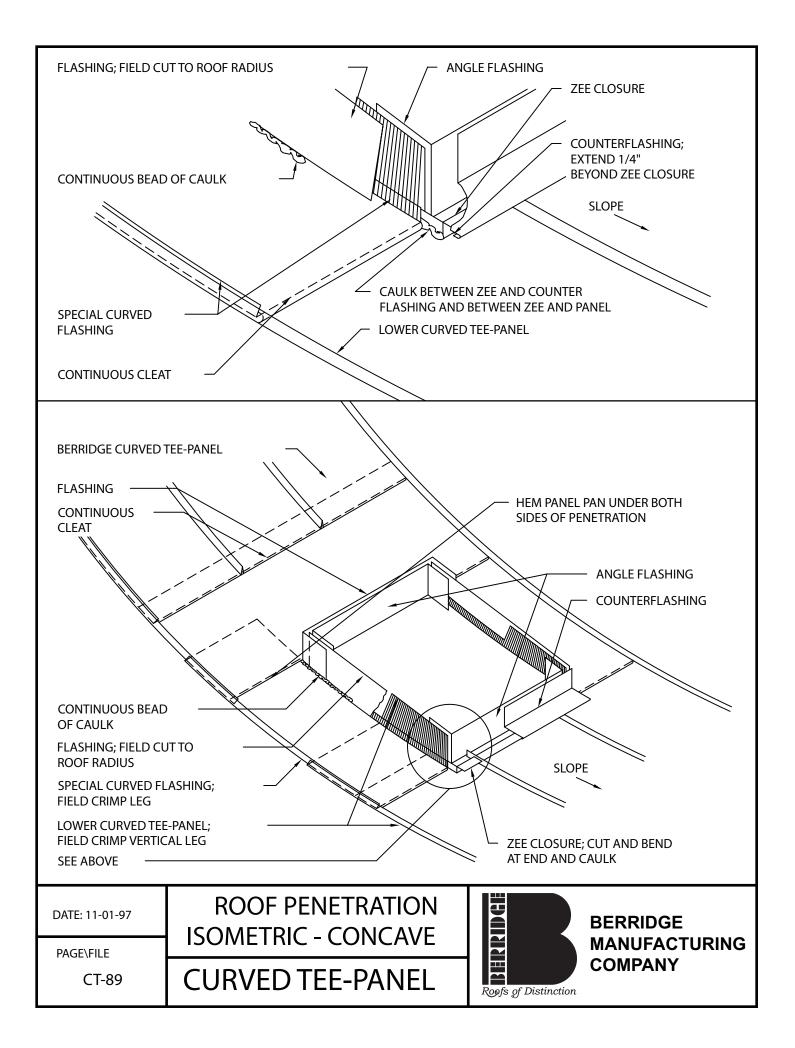


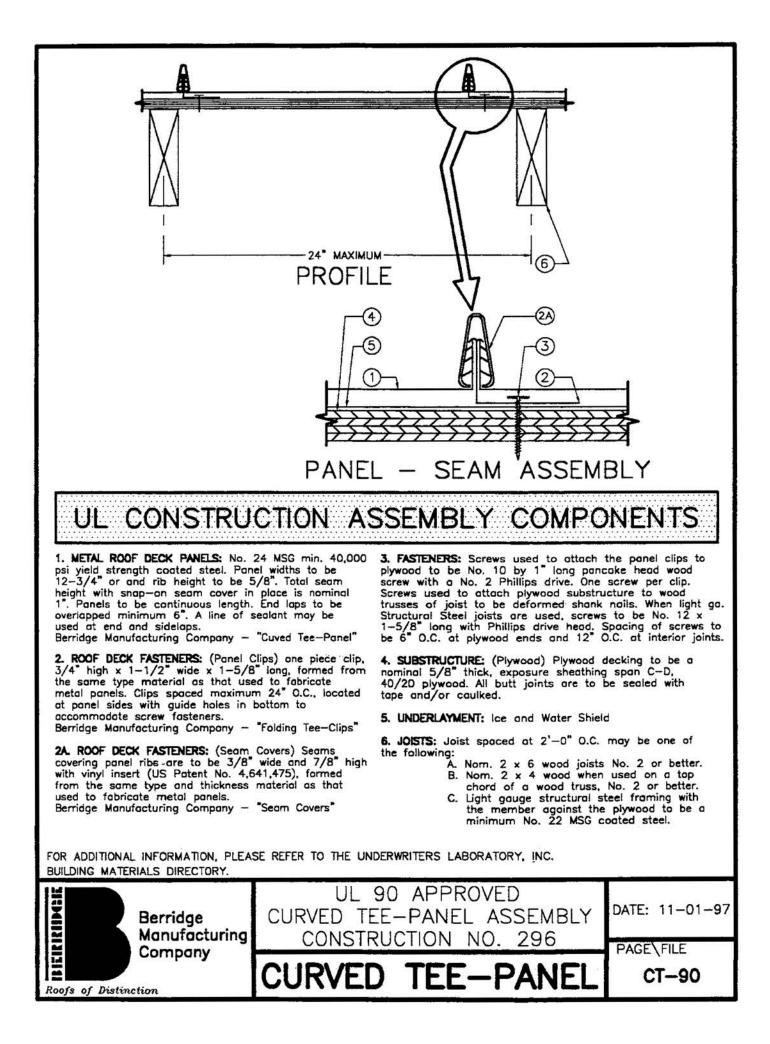


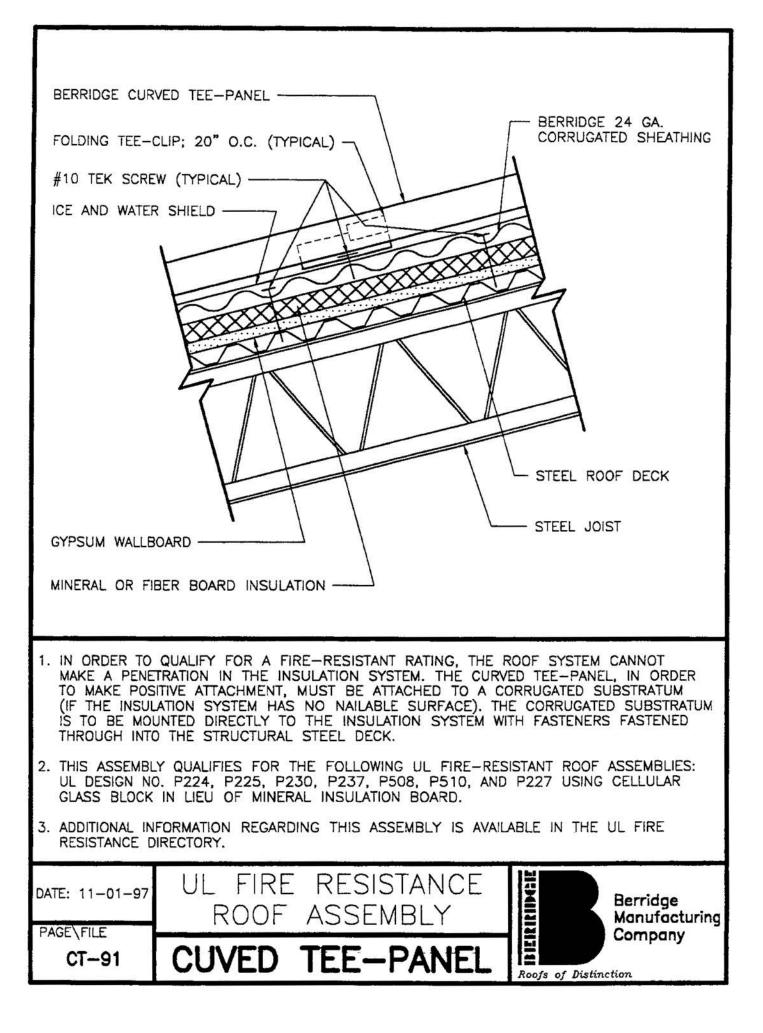


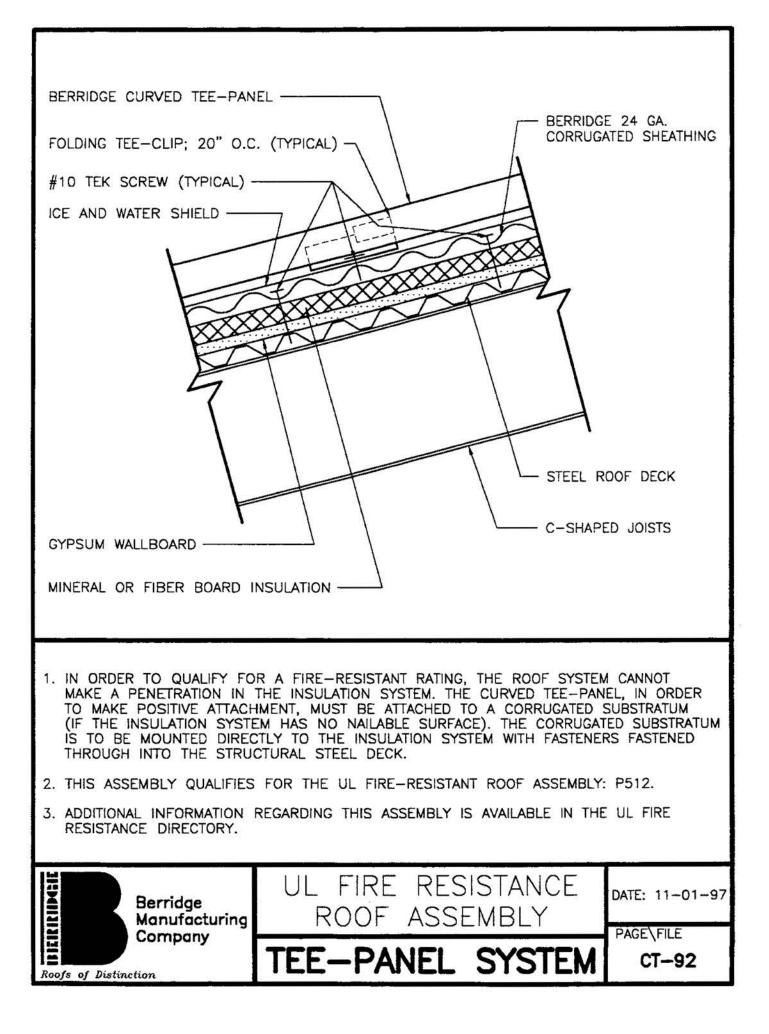


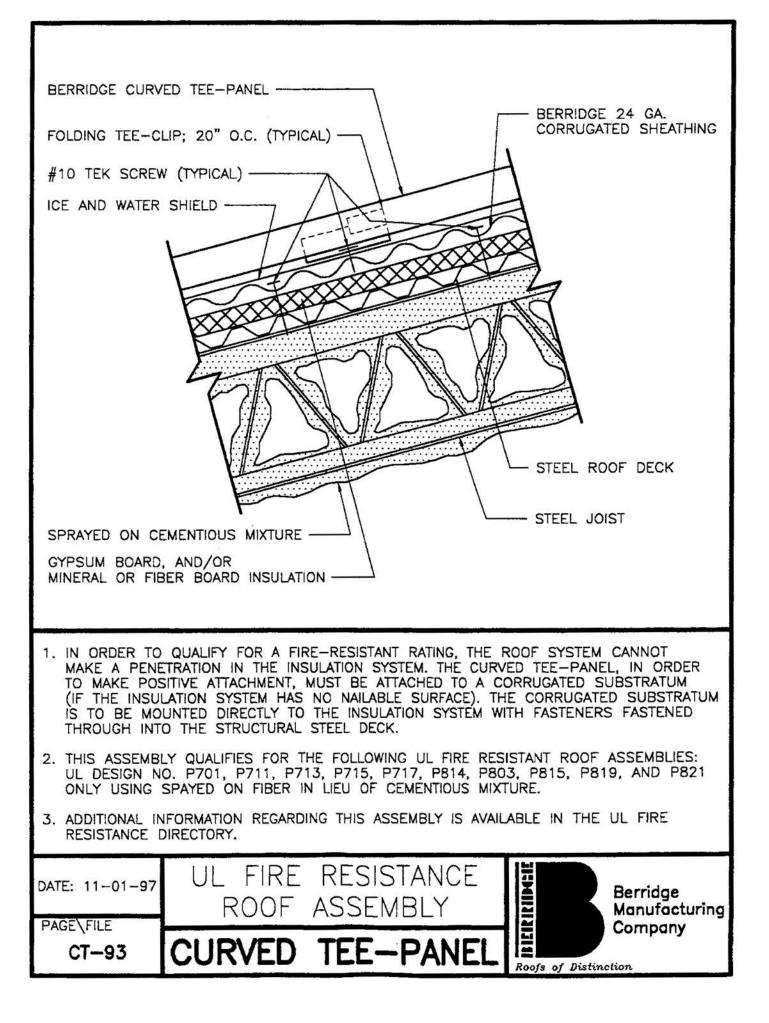












INDEX		U-0
INSTALLATION INSTRUCTION INSTALLATION INSTRUCTION INSTALLATION INSTRUCTION	UI-1 UI-2 UI-3	
INTRODUCTION TO TYPICAL	U—1	
STANDARD APPLICATION P	U-5	
EAVE WITH GUTTER; EAVE EAVE WITH SHAKES; EAVE EAVE	U-10 U-11 U-12	
HIP; RIDGE SHED RIDGE WITH WALL F	U-20 U-21	
GABLE GABLE WITH WALL PANEL;	U-30 U-31	
PARAPET; HEAD WALL HEAD WALL WITH REGLET	U-40 U-41	
RAKE WALL WITH REGLET; RAKE WALL	U-50 U-51	
SLOPE TRANSITION WITH F	U-60	
VALLEY	U-70	
ROOF PENETRATION; ROOF	JACK	U-80
		2
Berridge Manufacturing Company	INDEX	DATE: 12-01-97
Roofs of Distinction	UNDERLAYMENT	PAGE\FILE U-O

### A. WARNING

1. DO NOT USE ANY TYPE OF ROSIN PAPER UNDER ANY BERRIDGE METAL PRODUCT.

# B. ROOF SURFACE PREPARATION

- 1. CLEAN ROOF SURFACE OF ALL OBJECTS WHICH MAY PUNCTURE OF TEAR UNDERLAYMENT.
- 2. DAILY INSPECT AND CLEAN ROOF SURFACE DURING INSTALLATION OF UNDERLAYMENTS AND OR BERRIDGE METAL PRODUCTS.

# C. # 30 FELT UNDERLAYMENT

- 1. USE A MINIMUM # 30 FELT UNDERLAYMENT AND COVER THE ENTIRE ROOF DECK. ADDITIONAL # 30 FELT UNDERLAYMENT WILL BE REQUIRED AT FLASHING CONDITIONS AS SHOWN IN THE FOLLOWING DETAILS.
- 2. A DOUBLE LAYER OF # 30 FELT IS RECOMMENDED TO COVER THE ENTIRE ROOF DECK WHEN ROOF SLOPES ARE 3:12 OR LESS.

# D. ICE AND WATERSHIELD

- 1. GRACE ICE AND WATERSHIELD OR EQUAL MAY BE USED AS A SUBSTITUTE FOR # 30 FELT UNDERLAYMENT.
- 2. GRACE ICE AND WATERSHIELD OR EQUAL IS RECOMMENDED AS UNDERLAYMENT FOR ALL CURVED SURFACES WHICH BERRIDGE PRODUCTS ARE TO BE APPLIED TO.
- 3. DUE TO # 30 FELT UNDERLAYMENTS 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.

# E. INSTALLATION

- 1. INSTALL UNDERLAYMENT PARALLEL TO EAVE LINE STARTING AT EAVE.
- CERTAIN FLASHING CONDITIONS WILL REQUIRE UNDERLAYMENT INSTALLATION PRIOR TO COVERING ENTIRE ROOF, SUCH AS VALLEY. REVIEW DETAILS TO VERIFY FOR YOUR PROJECT.
- 3. INSULATE BETWEEN BERRIDGE MANUFACTURING PRODUCTS AND WOOD, WOOD BLOCKING AND DISSIMILAR MATERIALS WITH UNDERLAYMENT.
- 4. UNDERLAYMENT MUST BE SMOOTH AND FREE FROM WRINKLES.
- 5. TEARS AND PUNCTURES MUST BE REPAIRED WITH ADDITIONAL UNDERLAYMENT.
- 6. UNDERLAYMENT MUST NOT BE ALLOWED TO DRY OUT DUE TO EXTENDED EXPOSURE TO THE ELEMENTS. DRIED OUT UNDERLAYMENT MUST BE REPLACED.
- 7. DO NOT INSTALL BERRIDGE PRODUCTS OVER INADEQUATE OR IMPROPER UNDERLAYMENT.



8. VERIFY CORRECT METHOD OF INSTALLING ICE AND WATERSHIELD WITH ICE AND WATERSHIELD MANUFACTURE.

## F. FASTENERS

- 1. USE A GALVANIZED OR COATED FASTENER.
- 2. USE BERRIDGE COATED FELT CAPS.
- 3. DO NOT USE CARBON OR COMMON STEEL FASTENERS.
- 4. DO NOT USE "TIN CAPS" OR ONE-PIECE NAIL CAPS.
- 5. USE OF IMPROPER FASTENERS AND OR FELT CAPS WILL CAUSE READ-THROUGH AND OR CORROSION OF BERRIDGE PRODUCTS.

#### G. LAPS

- 1. LAP # 30 FELT UNDERLAYMENT 6" AT HEAD AND 36" AT END TO END.
- 2. LAP ICE AND WATERSHIELD AS PER MANUFACTURERS SPECIFICATIONS.
- 3. ALWAYS LAP UNDERLAYMENT WITH SLOPE OF ROOF.
- 4. INSTALL UNDERLAYMENT PARALLEL WITH EAVE LINE. START INSTALLATION AT EAVE AND CONTINUE UP ROOF SLOPE.

ALL ARCHITECTURAL PRODUCTS REQUIRE CARE IN HANDLING AND INSTALLATION TO AVOID DAMAGING.

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 PANEL SYSTEMS.

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

DATE: 12-01-97 PAGE\FILE		Berridge Manufacturing Company
PAGE\FILE	UNDERLAYMENT	Company

# USE OF ROSIN PAPER WITH BUILDING UNDERLAYMENTS AND BERRIDGE METAL ROOF PANELS

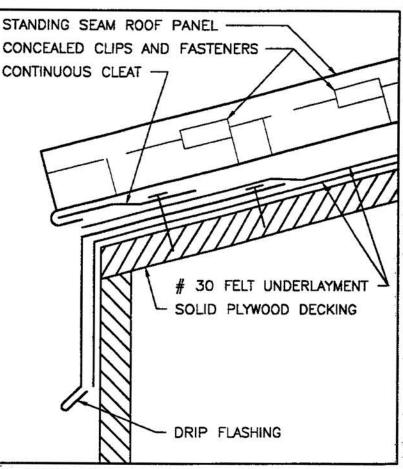
BERRIDGE RECOMMENDS THAT ROSIN PAPER NOT BE USED AS AN UNDERLAYMENT SEPARATION SHEET BETWEEN ROOFING UNDERLAYMENT AND BERRIDGE METAL ROOFING PANELS.

THE ORIGINAL PURPOSE FOR USING ROSIN PAPER AS A SEPARATION SHEET WAS TO PREVENT ROOFING FELT PAPER FROM BONDING TO METAL PANELS. IT HAS BEEN OUR EXPERIENCE, HOWEVER, THAT TODAY'S LIGHTER WEIGHT ASPHALT-IMPREGNATED ROOFING FELT PAPER DOES NOT BOND TO THE UNDERSIDE OF OUR METAL ROOF PANELS.

ANOTHER IMPORTANT FACTOR WHICH MAKES ROSIN PAPER UNNECESSARY IS THE FACT THAT ALL BERRIDGE PRODUCTS HAVE A WASH COAT OR CLEAR COAT ON THE UNDERSIDE OF THE METAL COIL, FLAT SHEET OR PANEL PRODUCT WHICH PREVENTS BONDING TO UNDERLAYMENT. THIS COATING IS FACTORY APPLIED ON THE BERRIDGE CONTINUOUS COIL COATING LINES.

MORE IMPORTANTLY, WE HAVE SEEN A NUMBER OF EXAMPLES OF PANEL FAILURE STEMMING FROM RUST-THROUGH FROM THE UNDERSIDE, CAUSED BY MOISTURE RETENTION OF ROSIN PAPER UNDERLAYMENT.

ALTHOUGH THE-ROSIN PAPER MAY NOT BE THE ORIGINAL CAUSE OF MOISTURE CONDENSATION, IT IS A POROUS MATERIAL WHICH WILL RETAIN MOISTURE AND THUS SHOULD NOT BE USED BENEATH METAL PANELS.



SECTION VIEW OF TYPICAL STANDING SEAM PANEL APPLICATION OVER SOLID DECKING WITH NUMBER 30 ROOFING FELT UNDERLAYMENT.

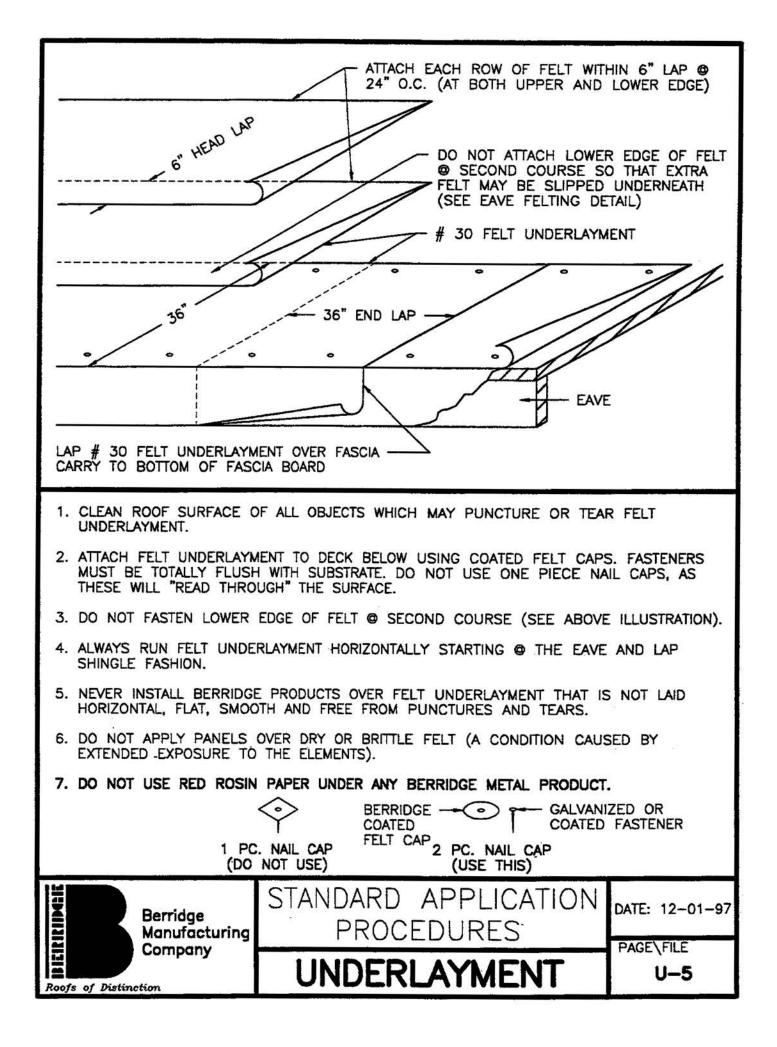


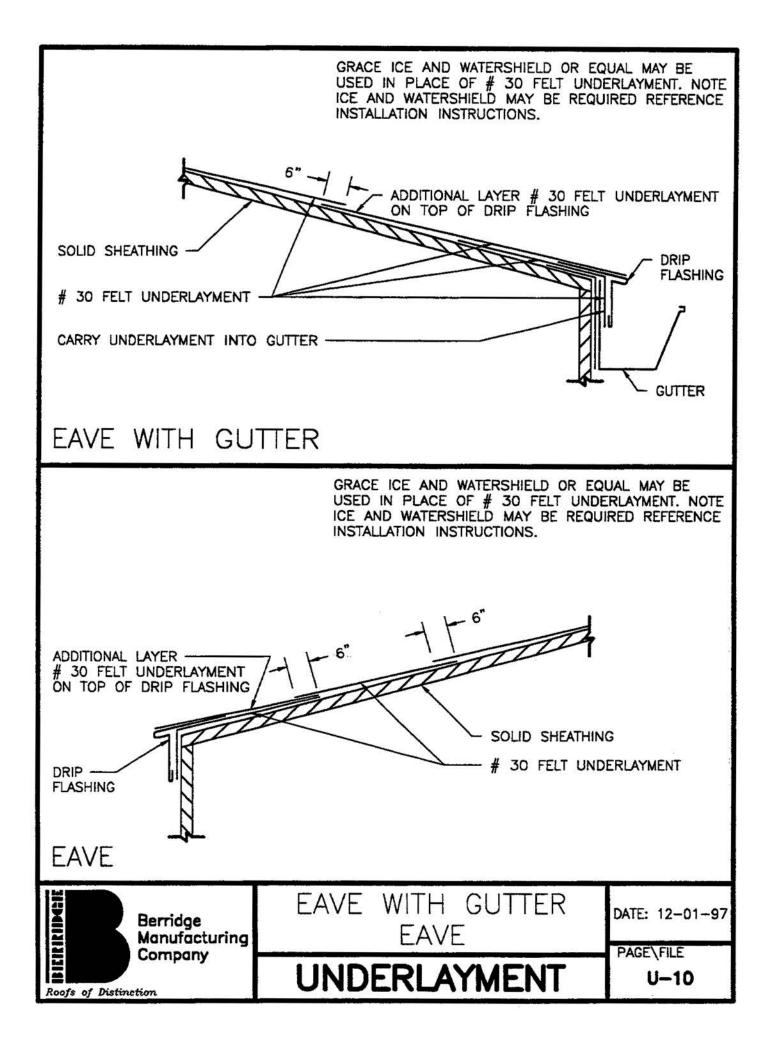
THE DETAILS CONTAINED IN THE FOLLOWING PAGES ARE MERELY RECOMMENDATIONS AS TO HOW BERRIDGE MANUFACTURING MATERIALS SHOULD BE INSTALLED. THEY MAY REQUIRE ADAPTATIONS OR MODIFICATIONS FOR A SPECIFIC PROJECT AS CONDITIONS VARY IN BOTH BUILDING DESIGN AND LOCAL WEATHER PECULIARITIES.

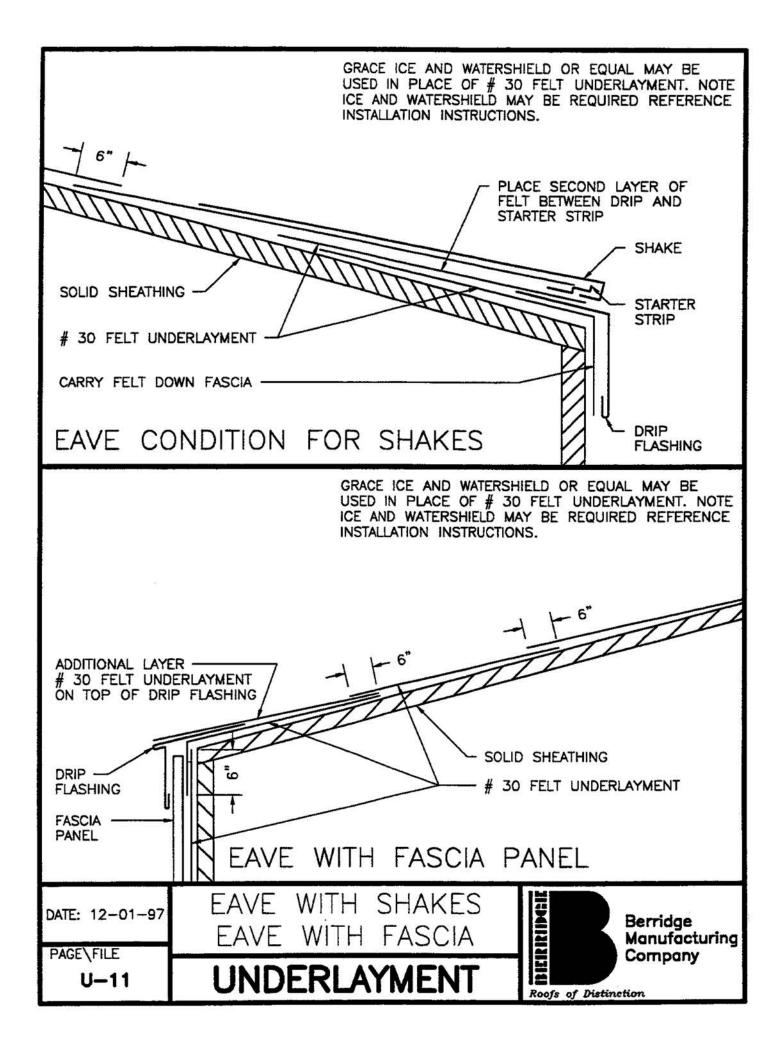
BERRIDGE MANUFACTURING COMPANY SHALL BE HELD HARMLESS FROM ANY AND ALL CLAIMS ARISING FROM LACK OF WATERTIGHTNESS AS A RESULT OF FOLLOWING THESE RECOMMENDED DETAILS. ENSURING WATERTIGHTNESS ON ANY GIVEN PROJECT IS THE FUNCTION OF THE INSTALLER. THE ARCHITECT/GENERAL CONTRACTOR/INSTALLER MUST ACCEPT THE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

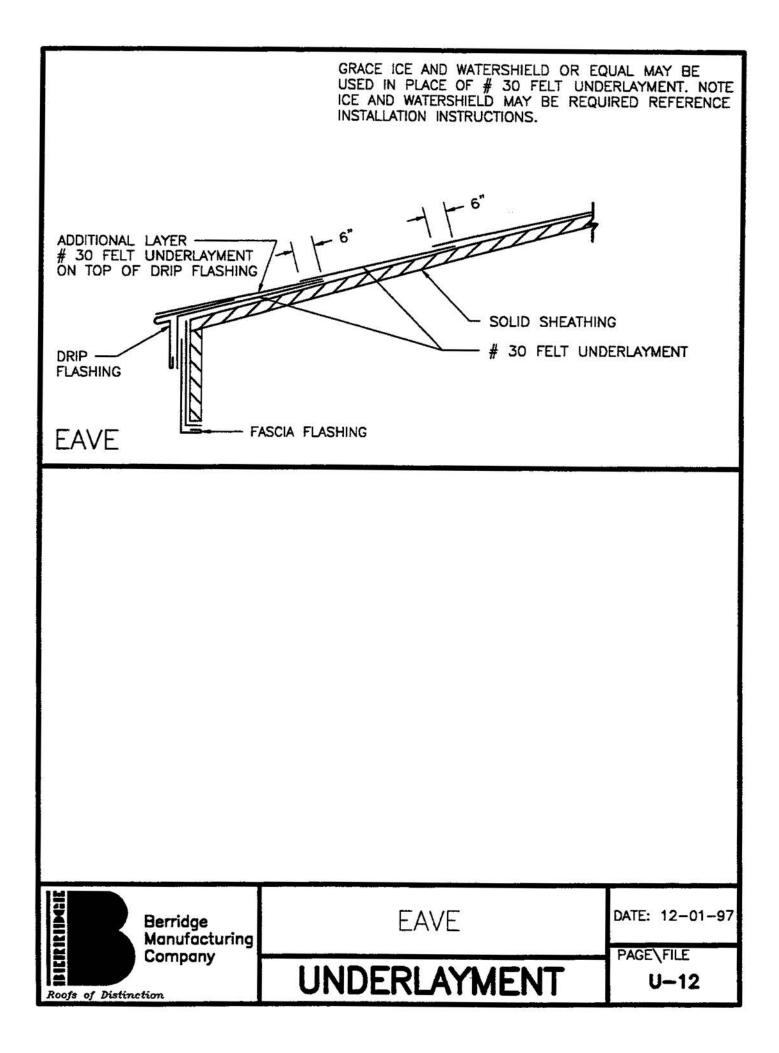
THE INSTALLER CAN VIRTUALLY ASSURE WATERTIGHTNESS IF THESE FLASHING DETAILS HAVE BEEN PROPERLY ADAPTED, ADEQUATE LAPS HAVE BEEN PROVIDED, CORRECT TYPE OF SEALANT USED, ALL JOINTS ADEQUATELY CAULKED AND PROFESSIONAL WORKMANSHIP EMPLOYED.

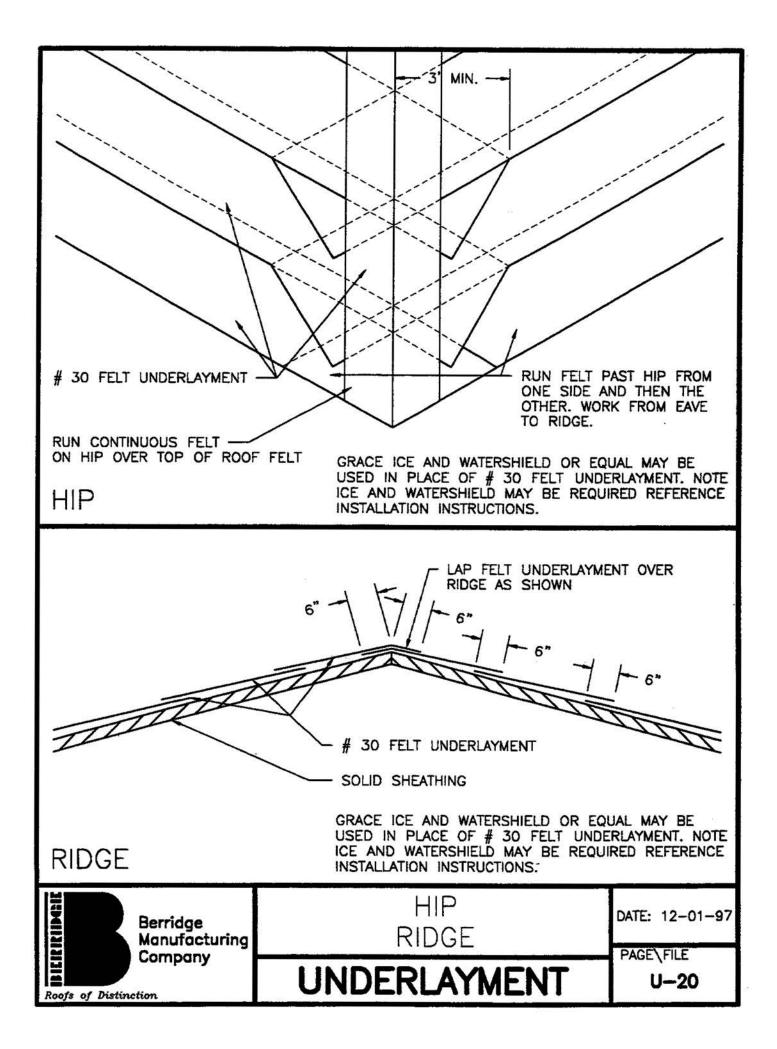
Berridge Manufacturing Company	INTRODUCTION TO TYPICAL DETAILS	DATE: 12-01-97
Roofs of Distinction	UNDERLAYMENT	PAGE\FILE U—1

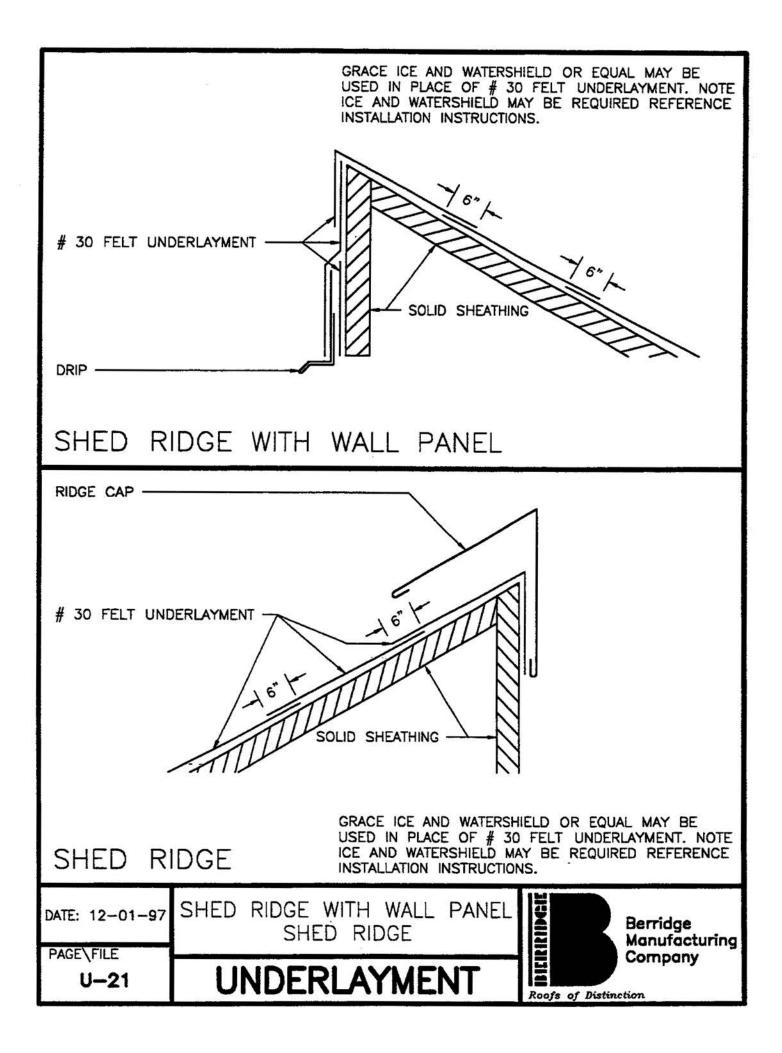








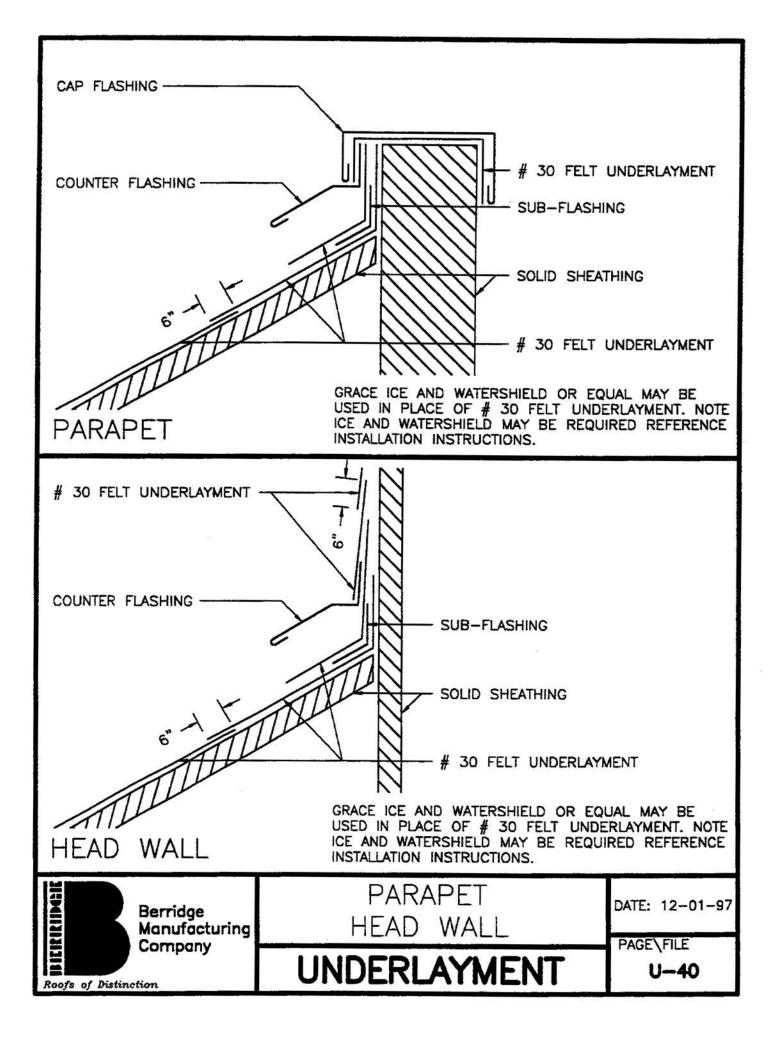


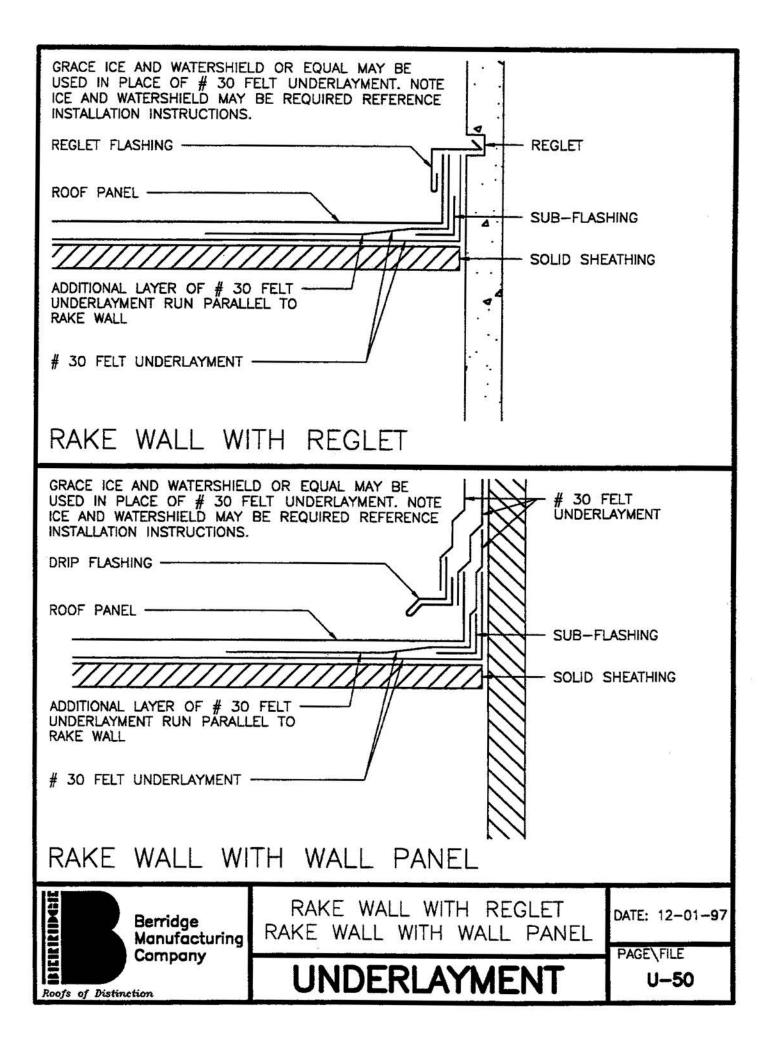


# 30 FELT UNDERLAYMENT RUN (1) LAYER OF FELT ON TOP OF DRIP FLASHING PARALLEL TO GABLE				
# 30 FELT UNDERLAYMENT; DOUBLE LAYER OF FELT RE REGARDLESS OF FLASHING SOLID SHEATHING	COMMENDED /	- DRIP FLASHING		
GABLE	GRACE ICE AND WATERSHIELD OR EQUSED IN PLACE OF # 30 FELT UNDINCE AND WATERSHIELD MAY BE REQUINSTALLATION INSTRUCTIONS.	ERLAYMENT. NOTE		
# 30 FELT UNDERLAYMENT RUN (1) LAYER OF FELT BETWEEN CHANNEL AND DRI FLASHING PARALLEL TO GAB		- CHANNEL FLASHING OR J-CLIP DRIP FLASHING		
REGARDLESS OF FLASHING TYPE SOLID SHEATHING				
GABLE	GRACE ICE AND WATERSHIELD OR EQ USED IN PLACE OF # 30 FELT UNDE ICE AND WATERSHIELD MAY BE REQU INSTALLATION INSTRUCTIONS:	ERLAYMENT. NOTE		
Berridge Manufacturing Company	GABLE	DATE: 12-01-97		
Roofs of Distinction	UNDERLAYMENT	PAGE\FILE <b>U30</b>		

I

# 30 FELT UN RUN (1) LAYER ON TOP OF DR PARALLEL TO G	R OF FELT	GRACE ICE AND WATE USED IN PLACE OF # ICE AND WATERSHIELD INSTALLATION INSTRUC	30 FELT UNE MAY BE REQ	DERLAYMENT. NOTE
	OF FELT RÉCOMMENT F FLASHING TYPE	DED		DRIP FLASHING
GABLE V	WITH WALL	PANEL		DRIP FLASHING
	OF FELT IP FLASHING ABLE	DED		DRIP FLASHING
GABLE		GRACE ICE AND WATER USED IN PLACE OF # ICE AND WATERSHIELD INSTALLATION INSTRUC	30 FELT UND MAY BE REQU	ERLAYMENT. NOTE
DATE: 12-01-97	1 28 29 12 12 12 12 12 12 12 12 12 12 12 12 12	H WALL PANE ABLE		Berridge Manufacturing
PAGE\FILE U-31	UNDER	LAYMENT	Roofs of Dis	Company





USED IN PLACE		LAYMENT. NOTE	# 30 F UNDERL	ELT AYMENT
CHANNEL FLASH	ER OF # 30 FELT RUN PARALLEL TO		SUB-FL	ASHING SHEATHING
RAKE W	ALL		N	
DATE: 12-01-97 PAGE\FILE	RAKE	WALL		Berridge Manufacturing Company
U-51	UNDERL	AYMEN	Roofs of Distir	

