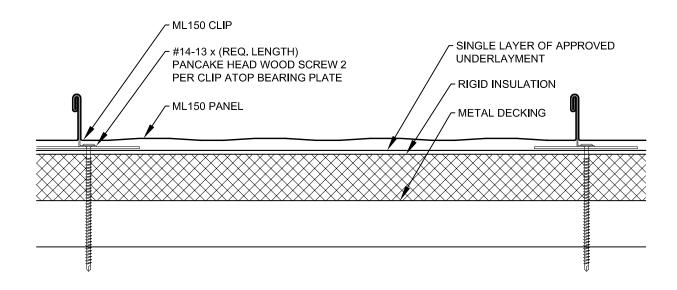


ML150 Standing Seam Rigid Insulation Over Metal Deck Master Details

Architectural / Solid Substrate / Steep Slope

The following details are commonly used over steep sloped applications including those over solid substrates such as plywood or steel decking with rigid insulation. Such details are largely based on hydrokinetic (water shedding) design principles and architectural detailing.



Index



ML150 Standing Seam -Rigid Insulation Over Metal Deck-

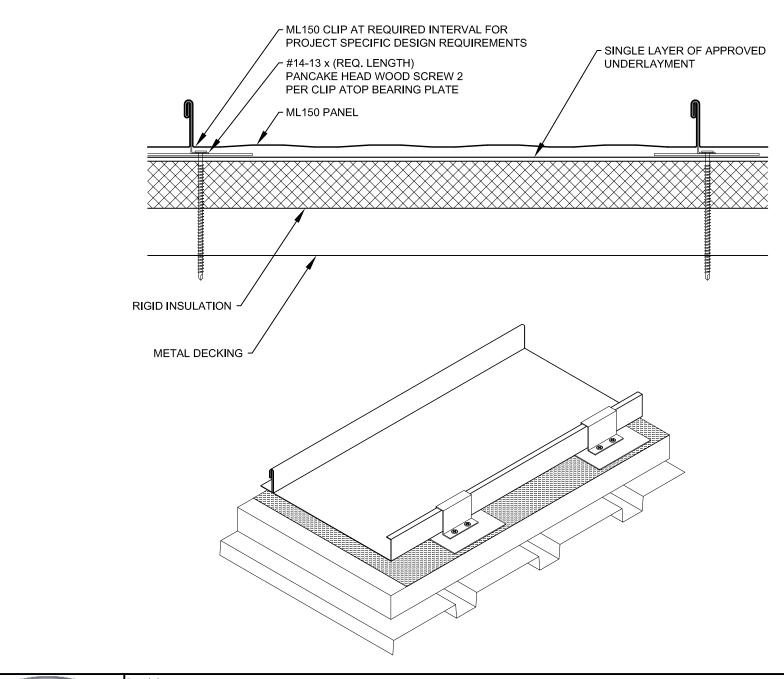
Panel Information	Detail No.				
Panal Application	0.10				
Panel Application System Overview - Panel Profiles					
System Overview - Clips					
Thermal Gap Installation Chart - Steel	0.21				
Thermal Gap Installation Chart - Aluminum	0.31				
Eave Details	Detail No.				
Extended Eave	1 10				
Extended Eave - Steep Slope					
Extended Eave with Gutter					
Extended Eave with Gutter - Steep Slope					
Extended Eave with Soffit					
Extended Eave with Soffit & Gutter					
Extended Eave with Vertical Flush Panel					
Extended Eave with Vertical Standing Seam Panel					
Extended Eave Lap Detail	1.90				
Gable Details	Detail No.				
0.11 5 (1.15)	0.40				
Gable - Extended Drip					
Gable - Box					
Gable - Box with Zee Closure					
Box Gable Lap Detail	2.90				
Valley Details	Detail No.				
Valley - Integral Cleat					
Valley - Offset Cleat					
Valley Lap Detail	3.90				
Ridge & Hip Details	Detail No.				
Standard Ridge & Hip					
Ridge Termination at Valley					
Ridge & Hip Lap Detail					
Ridge Cap Expansion Detail	4.91				
Peak Details	Detail No.				
Poak Dotail	5.10				
Peak DetailPeak Detail with Vertical Flush Panel					
r Gan Delali Willi Verillai Flusii Fallel	J. 4U				





ML150 Standing Seam -Rigid Insulation Over Metal Deck-

High Wall & Low Wall Details	Detail No.
High Wall - Reglet	6.10
High Wall - Surface Mount	
High Wall - Vertical Panel with Sill	
High Wall - Parapet	
Valley Wall Detail	
High Wall Lap Detail	
Sidewall Details	Detail No.
Sidewall - Reglet with Subflashing Angle	7.11
Sidewall - Surface Mount with Subflashing Angle	7.12
Sidewall - Wood Framing & Siding with Subflashing Angle	7.13
Sidewall - Reglet with J-Channel Subflashing	7.21
Sidewall - Surface Mount with J-Channel Subflashing	7.22
Sidewall - Wood Framing & Siding with J-Channel Subflashing	7.23
Sidewall - Reglet with Zee Closure	7.31
Sidewall - Surface Mount with Zee Closure	7.32
Sidewall - Wood Framing & Siding with Zee Closure	7.33
Sidewall Expansion Joint	7.40
Expansion Joint Mid-Roof	7.50
Sidewall Lap Detail	7.90
Slope Transition Details	Detail No.
Slope Transition	
Transition at Membrane Roofing	8.20
General Information Details	Detail No.
Panel Hemming	
End Lap Detail - Low Slope	
End Lap Detail - Steep Slope	
Zee Closure Installation	
Pipe Penetration	
Pipe Penetration Through Panel Rib	
Curb at High Wall & Low Wall	
Curb at Sidewall	10.41 CDD 1.6
Curh Installation Detail	1.55 1-6



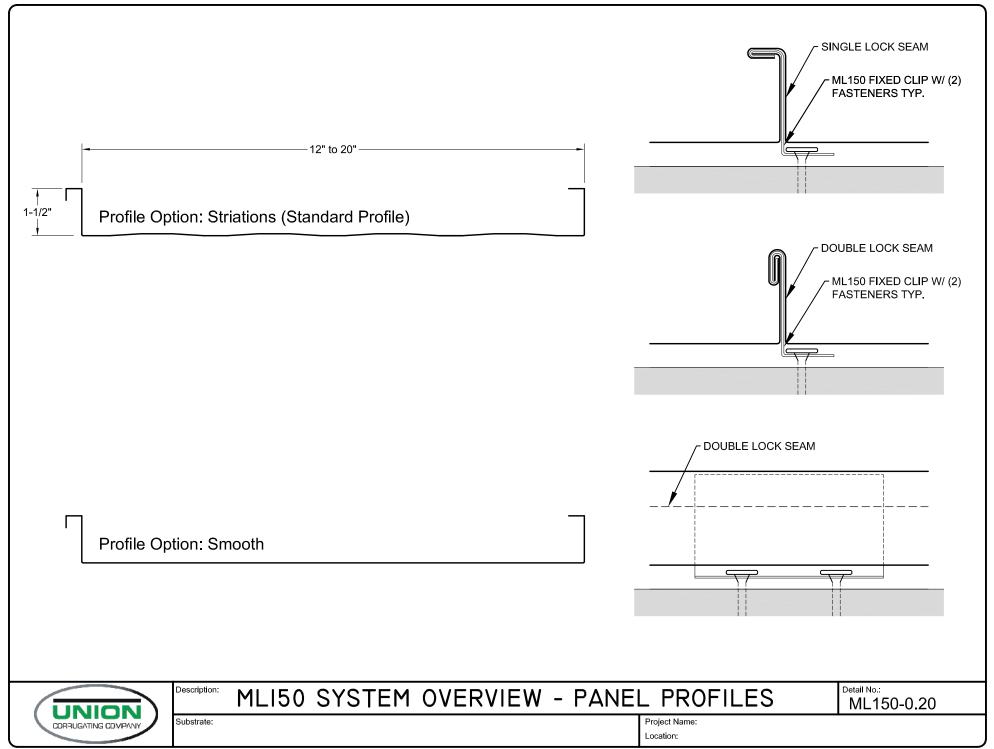
UNION CORRUGATING COMPANY Description: MLI50 APPLICATION

Detail No.: ML150-MD-0.10

RIGID INSULATION OVER METAL DECK

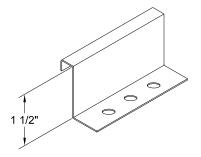
Project Name: Location:

Substrate:

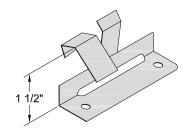


IMPORTANT INSTALLATION NOTE

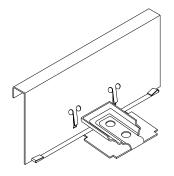
EXPANSION CLIPS ARE RECOMMENDED FOR PANEL LENGTHS GREATER THAN 30'-0".

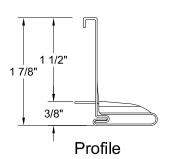


Clip 30 Fixed 26 Ga. Galvanized 1.5" x 3"

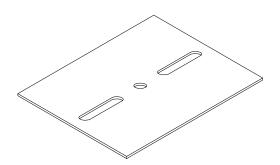


Clip 31 Butterfly Expansion
28 Ga. Stainless Steel
1.5" x 3"
Recommended for use with aluminum panels





Clip 32 Expansion 22 Ga. Galvanized 1.875" x 4.25" (0.375" Standoff)



4" X 5" Bearing Plate
16 Ga. Galvanized
Required for use when clips are applied
directly over rigid board insulation

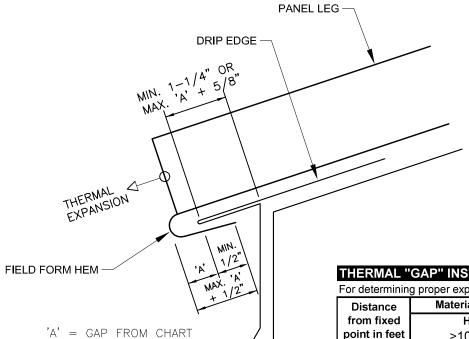


Description: MLI50 SYSTEM OVERVIEW - CLIPS

Detail No.:

ML150-0.21

Substrate:



THERMAL "GAP" INSTALLATION CHART (In inches) - STEEL

For determining proper expansion/contraction gap at panel ends during installation

Distance	Material Temperature (Surface Temperature) During Installation							
from fixed	Hot			Warm		Cold		
point in feet	>100° F			100° t	o 50° F	<50° F		
10	0.145		1/8	0.072	1/16	0.000	0	
20	0.289		5/16	0.145	1/8	0.000	0	
30	0.434		7/16	0.217	3/16	0.125		1/8
40	0.579		9/16	0.289	5/16	0.125		1/8
50	0.724		3/4	0.362	3/8	0.188		3/16
60	0.868		7/8	0.434	7/16	0.188		3/16
70	1.013	1		0.507	1/2	0.250		1/4
80	1.158	1	3/16	0.579	9/16	0.250		1/4
90	1.302	1	5/16	0.651	5/8	0.375		3/8
100	1.447	1	7/16	0.724	3/4	0.375		3/8

^{*} Chart based on temperature differential of:

180 degrees F

0.0000067



Description: THERMAL GAP INSTALLATION CHART - STEEL Detail No.:

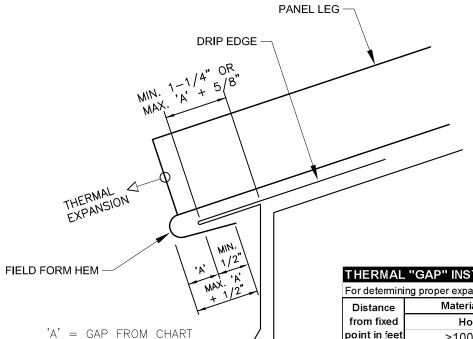
ML150-0.30

Substrate:

Project Name: Location:

DURING TIME OF INSTALLATION

^{*} Coefficient of thermal expansion for steel:



THERMAL "GAP" INSTALLATION CHART (In inches) - ALUMINUM

For determining proper expansion/contraction gap at panel ends during installation

Distance	Material Temperature (Surface Temperature) During Installation							
from fixed	H	ot	Warm		Cold <50° F			
point in feet	>100° F		100° t	o 50° F				
10	0.279	1/4	0.139	1/8	0.000	0		
20	0.557	9/16	0.279	1/4	0.000	0		
30	0.836	13/16	0.418	7/16	0.125	1/8		
40	1.115	1 1/8	0.557	9/16	0.125	1/8		
50	1.393	1 3/8	0.697	11/16	0.188	3/16		
60	1.672	1 11/16	0.836	13/16	0.188	3/16		
70	1.950	1 15/16	0.975	1	0.250	1/4		
80	2.229	2 1/4	1.115	1 1/8	0.250	1/4		
90	2.508	2 1/2	1.254	1 1/4	0.375	3/8		
100	2.786	2 13/16	1.393	1 3/8	0.375	3/8		

* Chart based on temperature differential of: 180 degrees F
* Coefficient of thermal expansion for alum.: 0.0000129



Description: THERMAL GAP INSTALLATION CHART - ALUMINUM

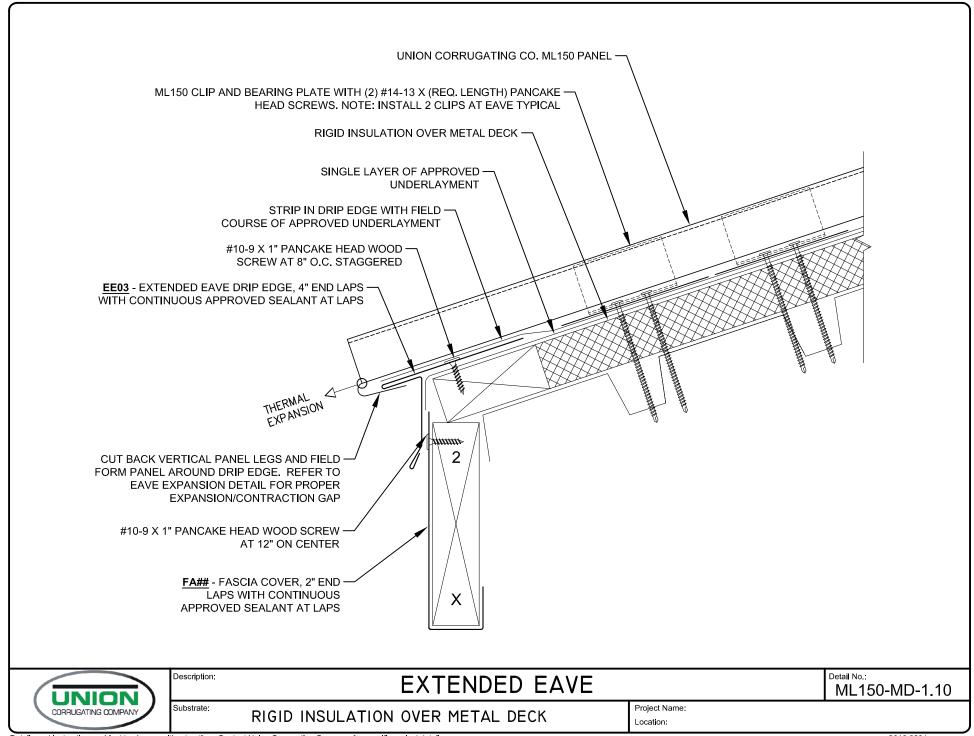
Substrate:

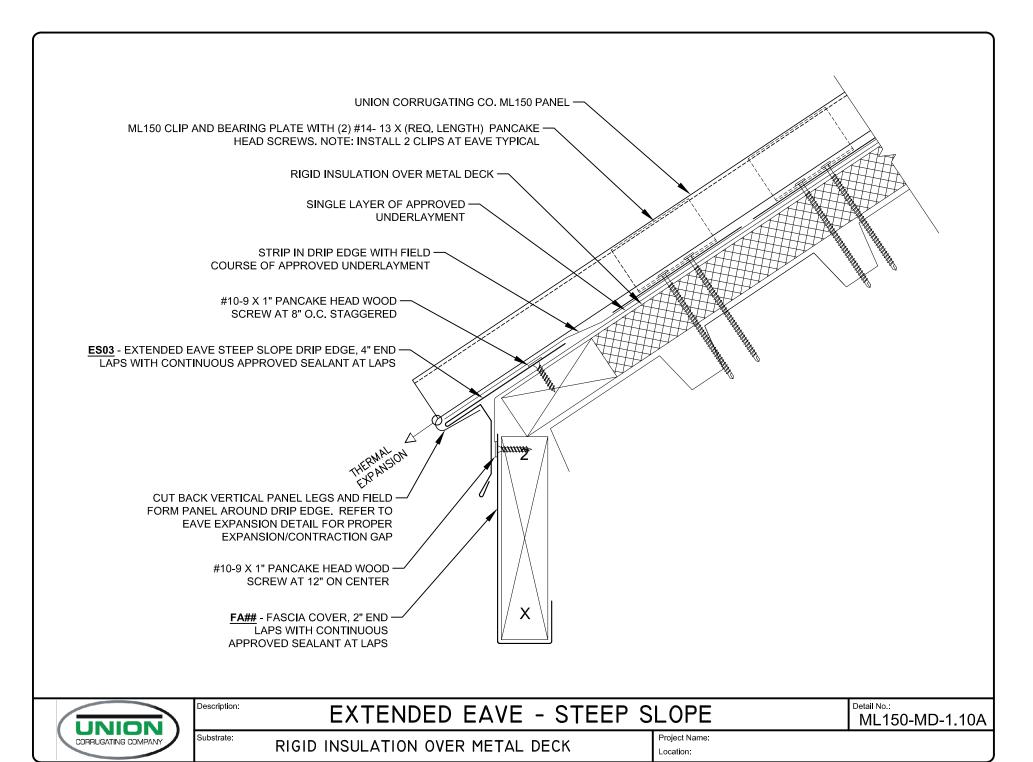
Project Name: Location:

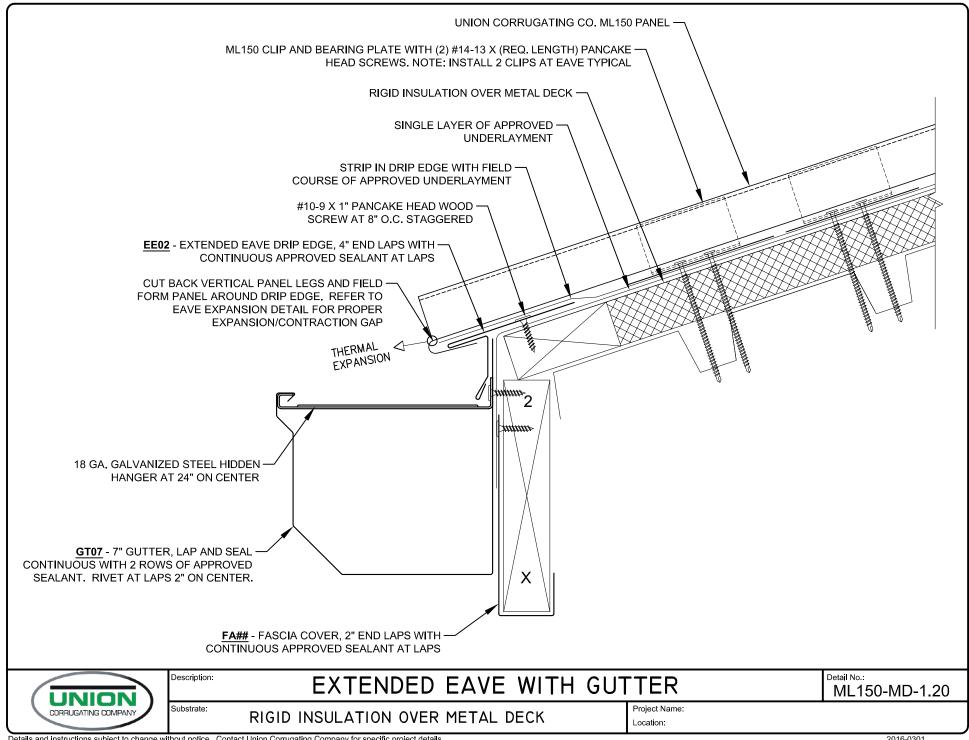
DURING TIME OF INSTALLATION

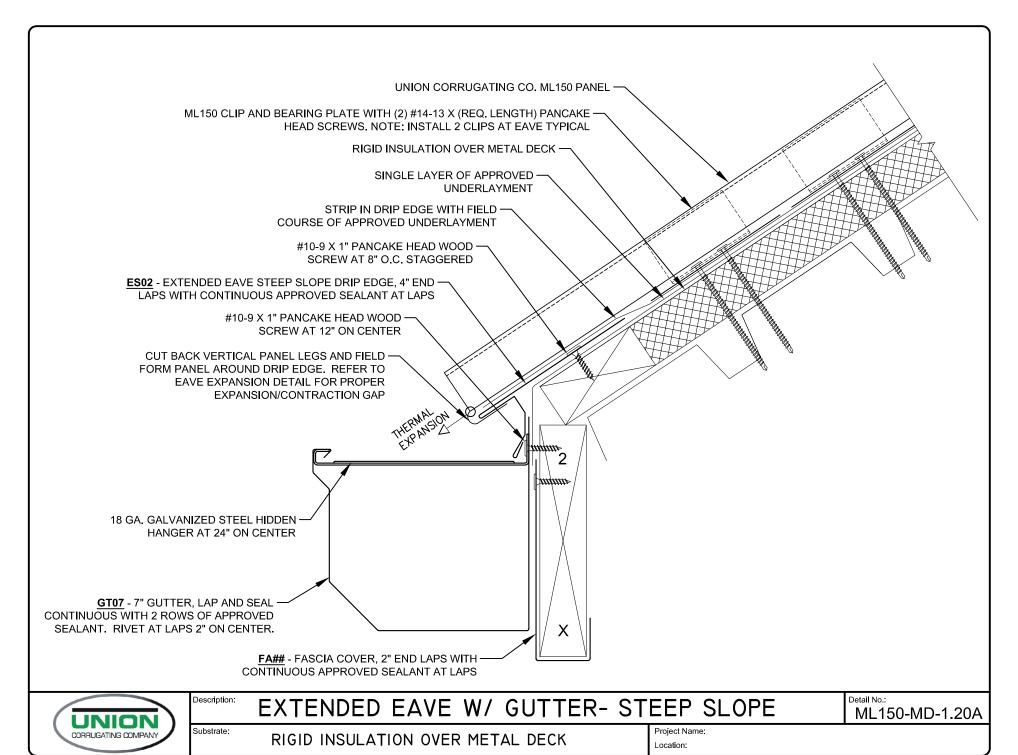
Detail No.:

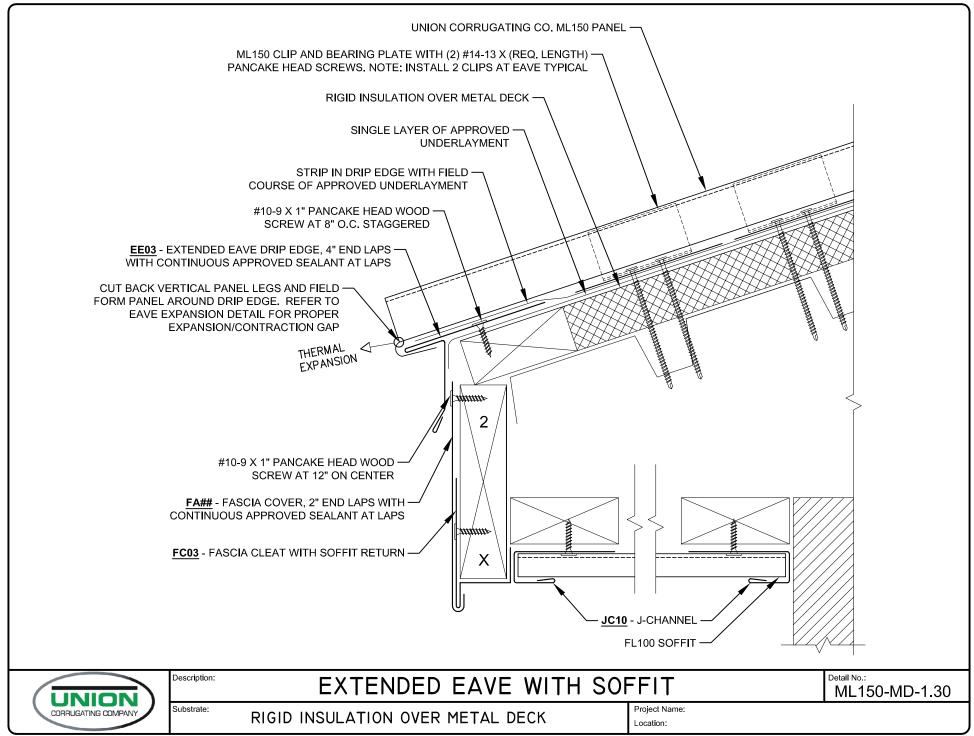
ML150-0.31

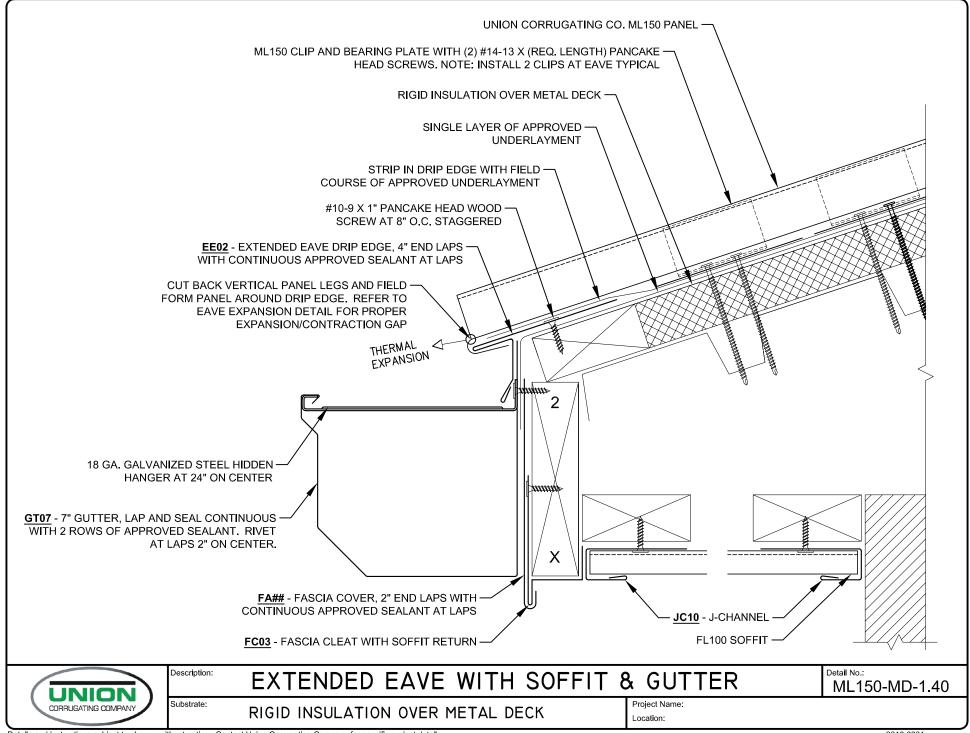


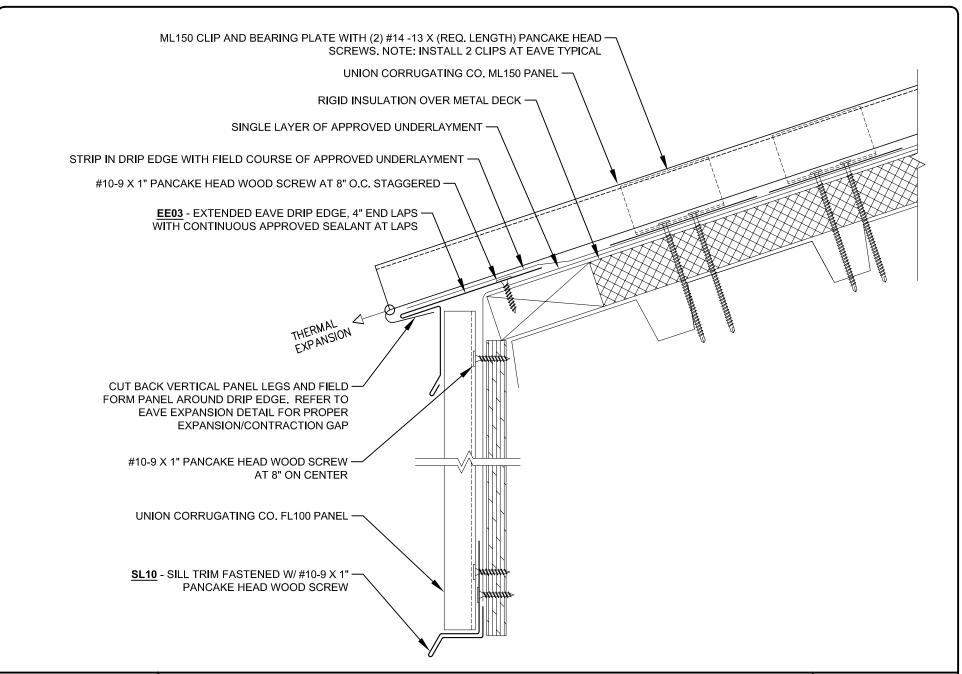














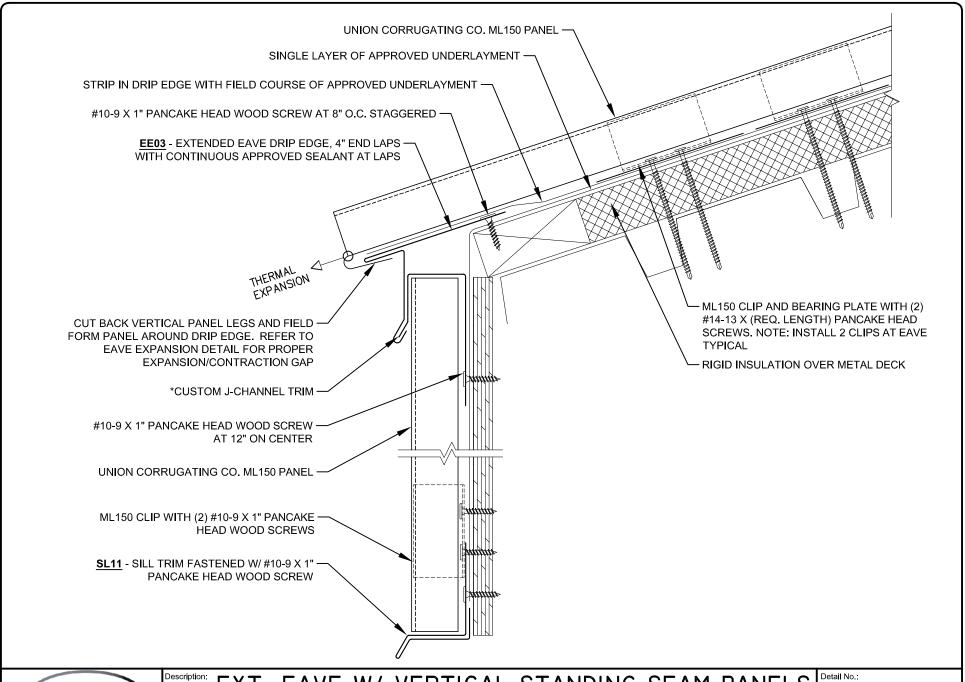
EXTENDED EAVE W/ VERTICAL FLUSH PANEL

Detail No.:

ML150-MD-1.50

Substrate:

RIGID INSULATION OVER METAL DECK



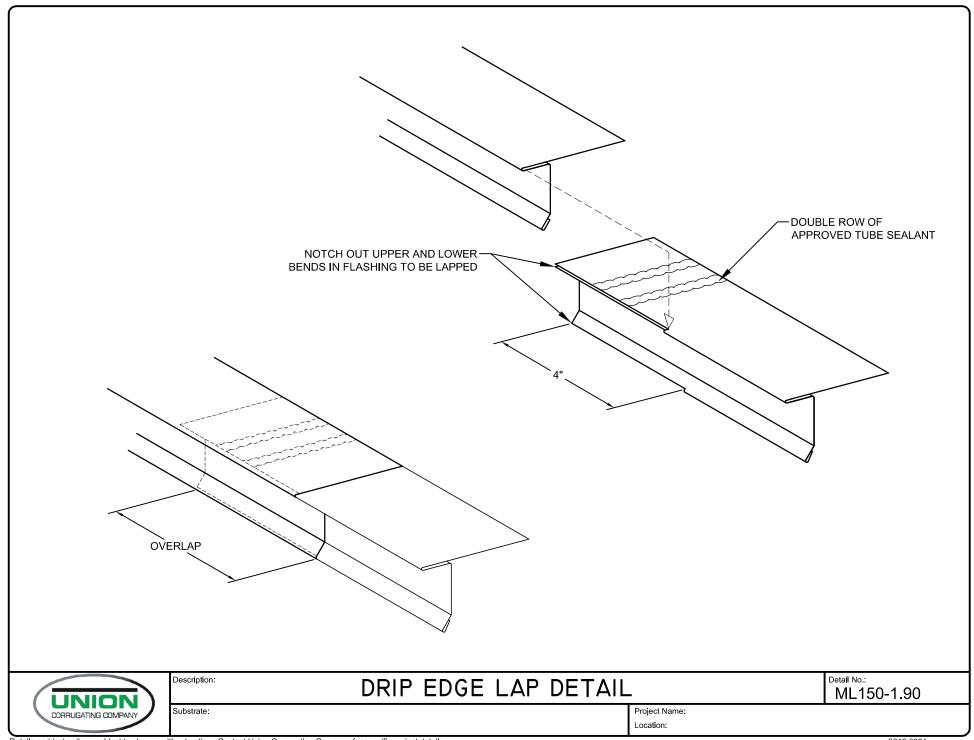
UNION CORRUGATING COMPANY

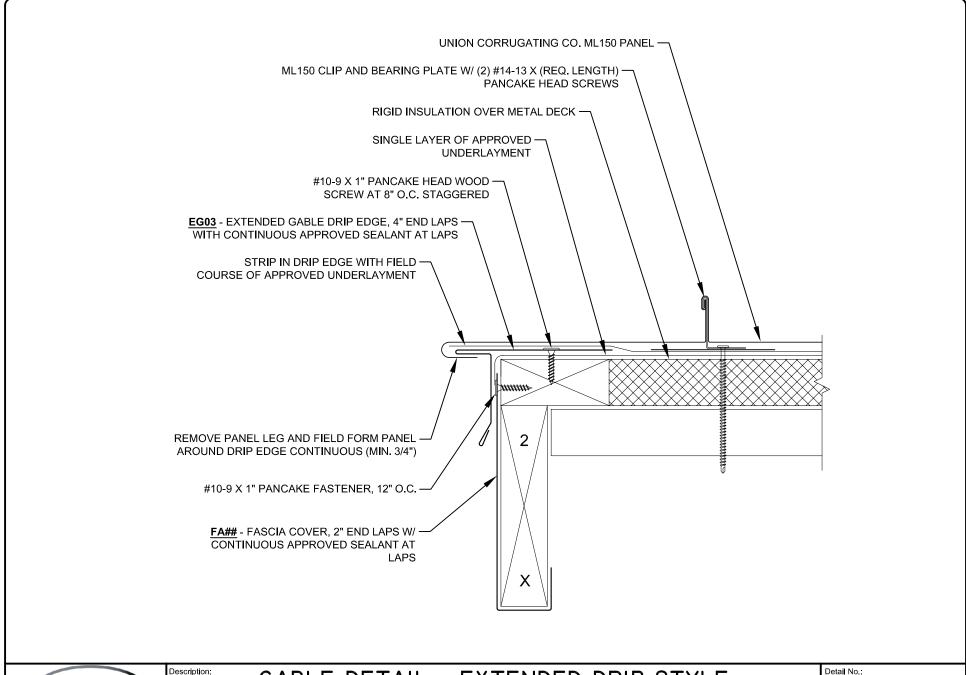
Pescription: EXT. EAVE W/ VERTICAL STANDING SEAM PANELS

ML150-MD-1.60

Substrate:

RIGID INSULATION OVER METAL DECK





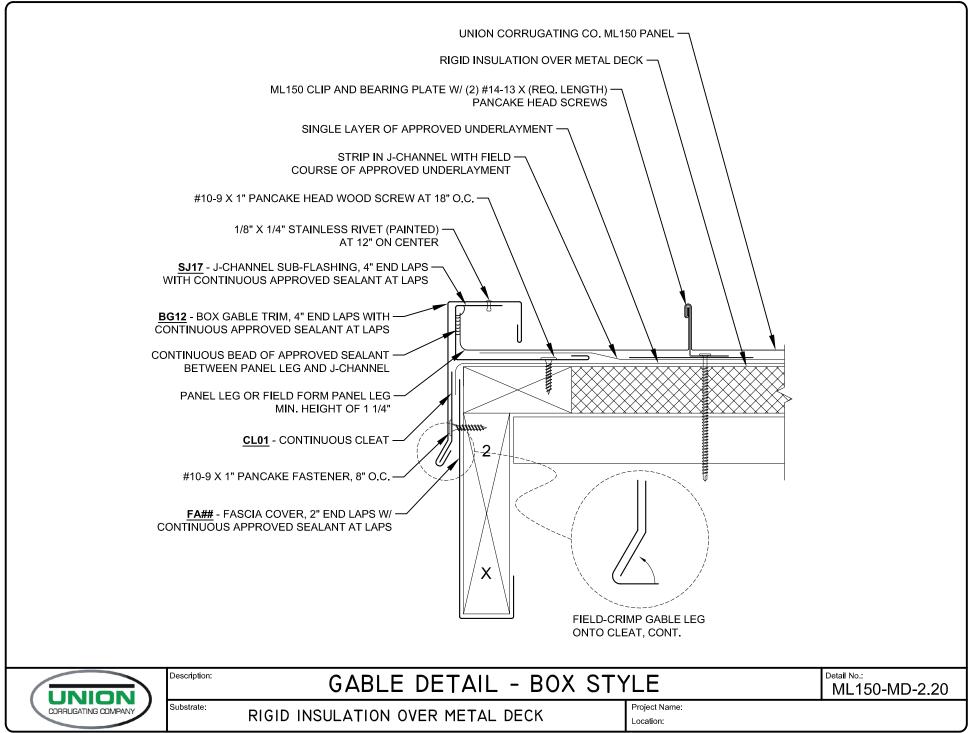


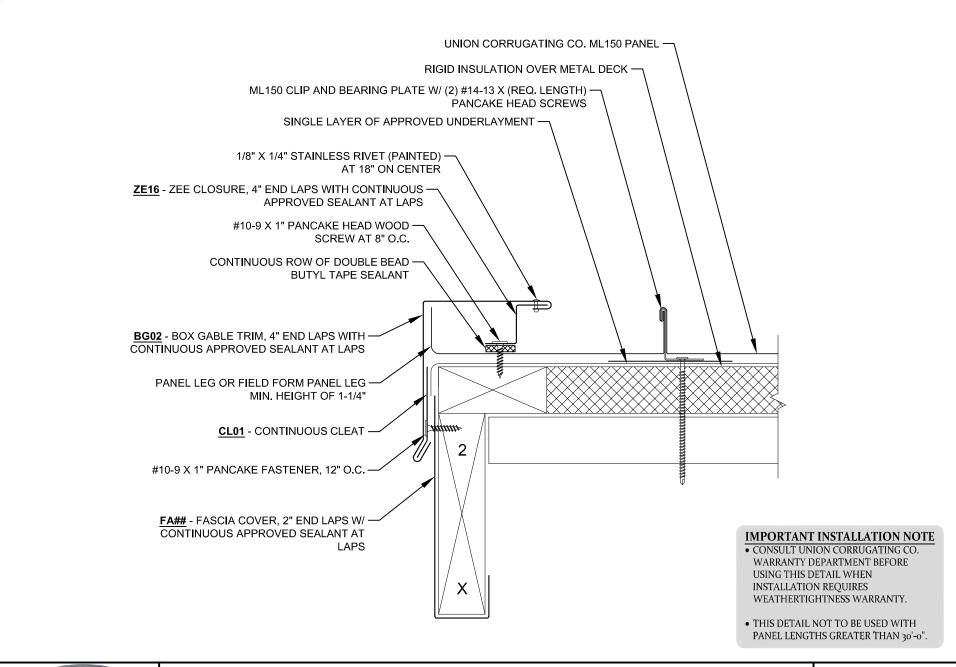
GABLE DETAIL - EXTENDED DRIP STYLE

ML150-MD-2.10

Substrate:

RIGID INSULATION OVER METAL DECK







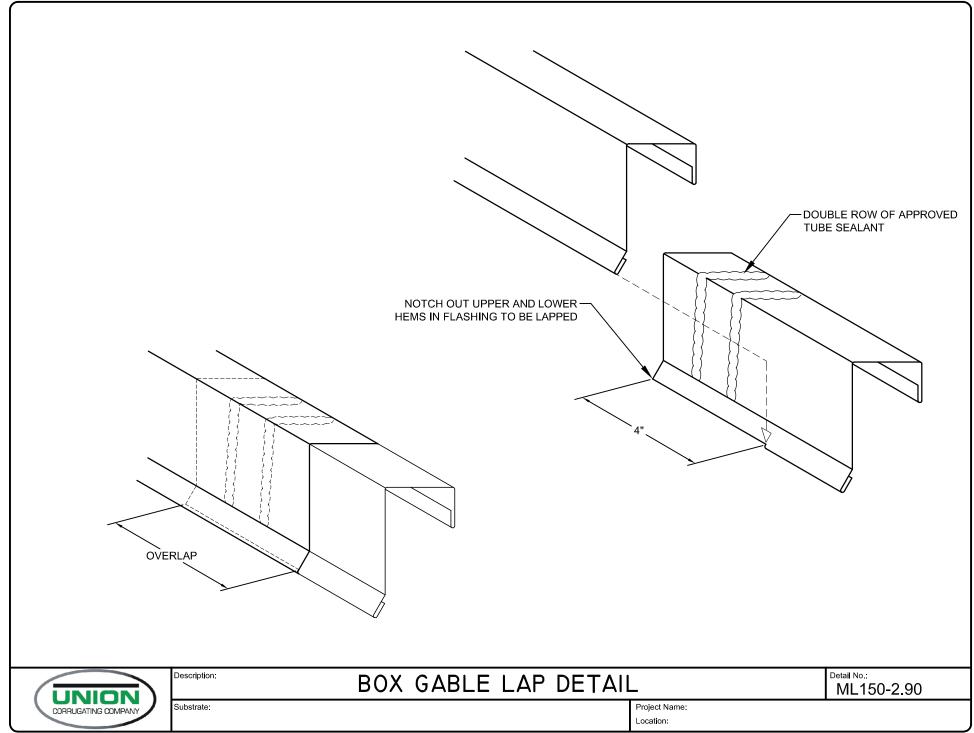
GABLE DETAIL - BOX STYLE w/ Z-CLOSURE

Detail No.:

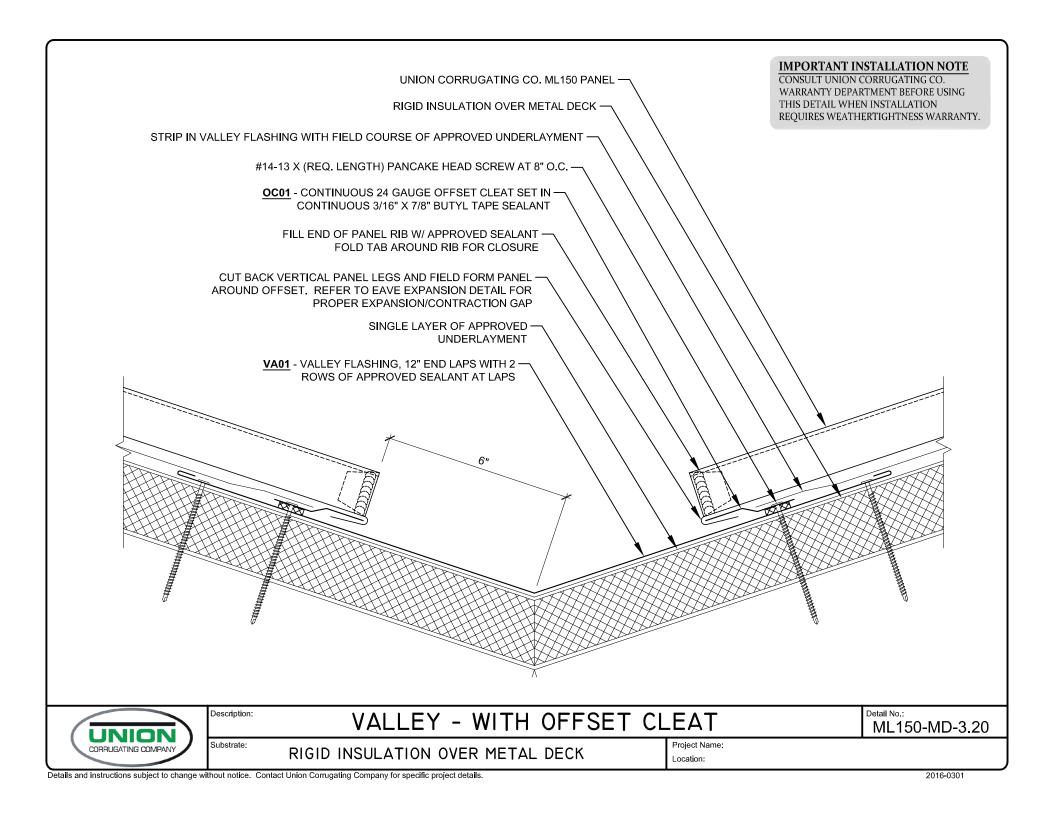
ML150-MD-2.30

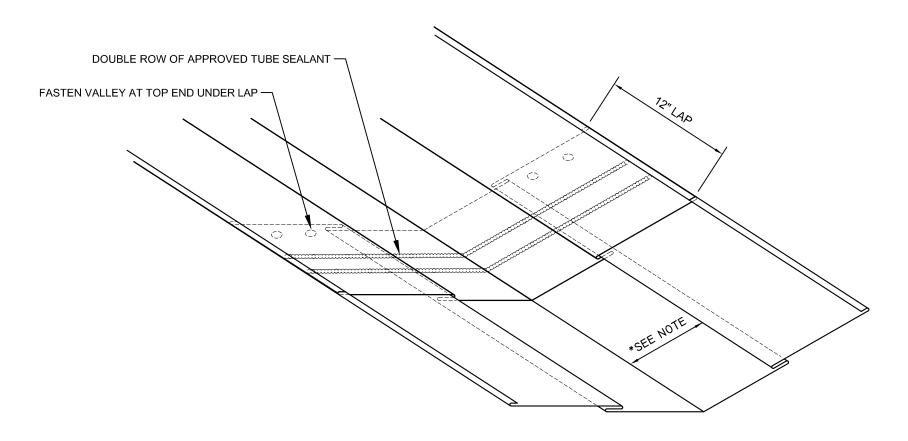
Substrate:

RIGID INSULATION OVER METAL DECK



IMPORTANT INSTALLATION NOTE EACH VALLEY SECTION IS MADE PROGRESSIVELY SMALLER TO ALLOW UPPER SECTION TO INSERT INTO LOWER SECTION. NO FIELD NOTCHING AT LAP. RIGID INSULATION OVER METAL DECK UNION CORRUGATING CO. ML150 PANEL -#14-13 X (REQ. LENGTH) PANCAKE HEAD SCREW AT 12" O.C.-STRIP IN VALLEY FLASHING -WITH FIELD COURSE OF APPROVED UNDERLAYMENT FILL END OF PANEL RIB W/ APPROVED SEALANT -FOLD TAB AROUND RIB FOR CLOSURE CUT BACK VERTICAL PANEL LEGS AND FIELD FORM PANEL -AROUND OFFSET. REFER TO EAVE EXPANSION DETAIL FOR PROPER EXPANSION/CONTRACTION GAP SINGLE LAYER OF APPROVED -UNDERLAYMENT VB1A - INTEGRAL VALLEY FLASHING, 12" END LAPS -WITH 2 ROWS OF APPROVED SEALANT AT LAPS Detail No.: VALLEY DETAIL - INTEGRAL CLEAT Description: ML150-MD-3.10 Substrate: Project Name: RIGID INSULATION OVER METAL DECK Location:





TELESCOPING VALLEY FLASHING LAP

IMPORTANT INSTALLATION NOTE

EACH VALLEY SECTION IS MADE PROGRESSIVELY SMALLER TO ALLOW UPPER SECTION TO INSERT INTO LOWER SECTION. NO FIELD NOTCHING AT LAP.



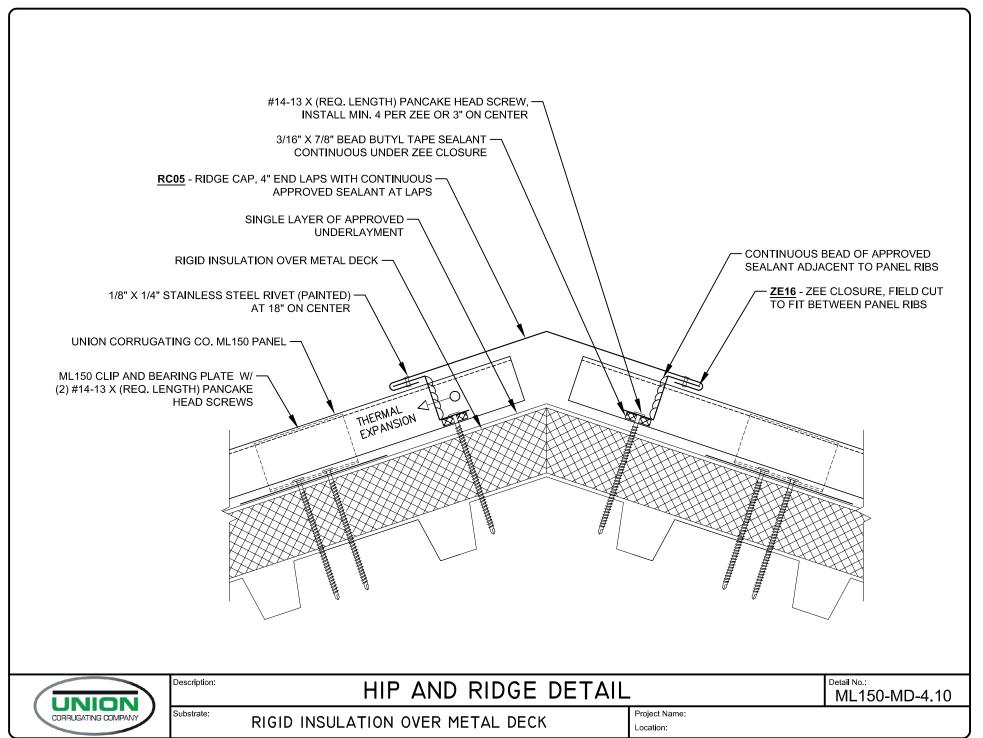
VALLEY LAP DETAIL

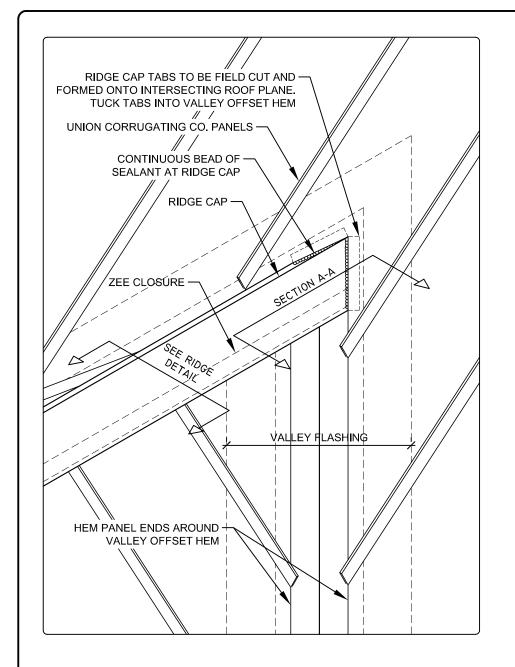
Detail No.:

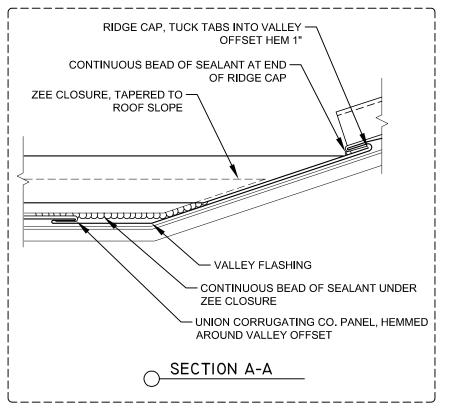
ML150-3.90

Substrate:

Description:









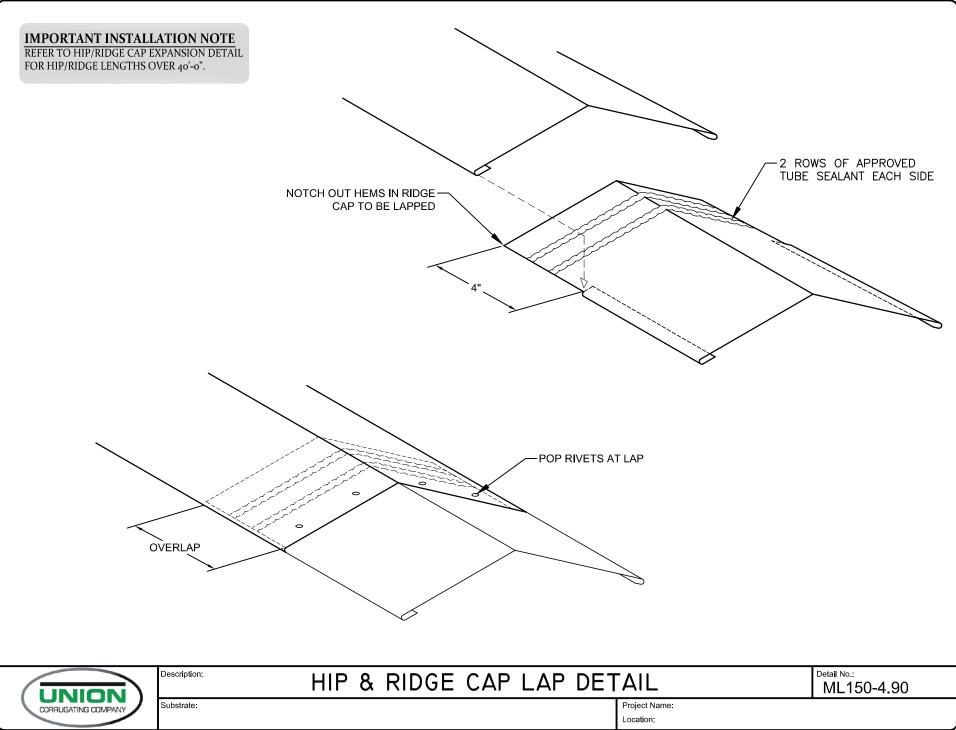
RIDGE TERMINATION @ VALLEY

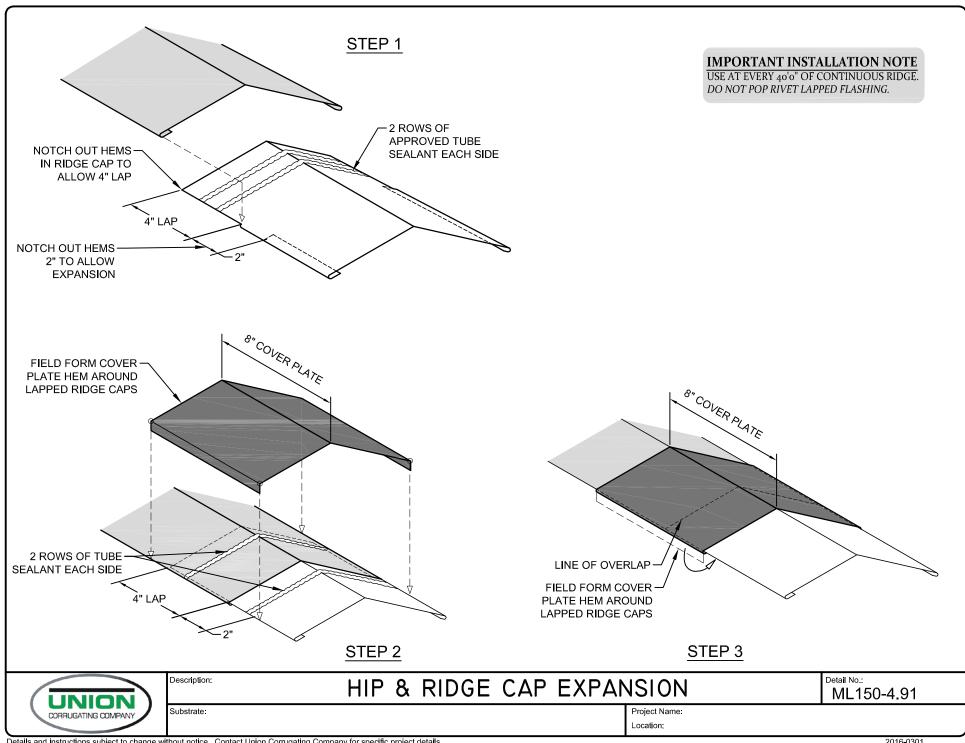
Detail No.:

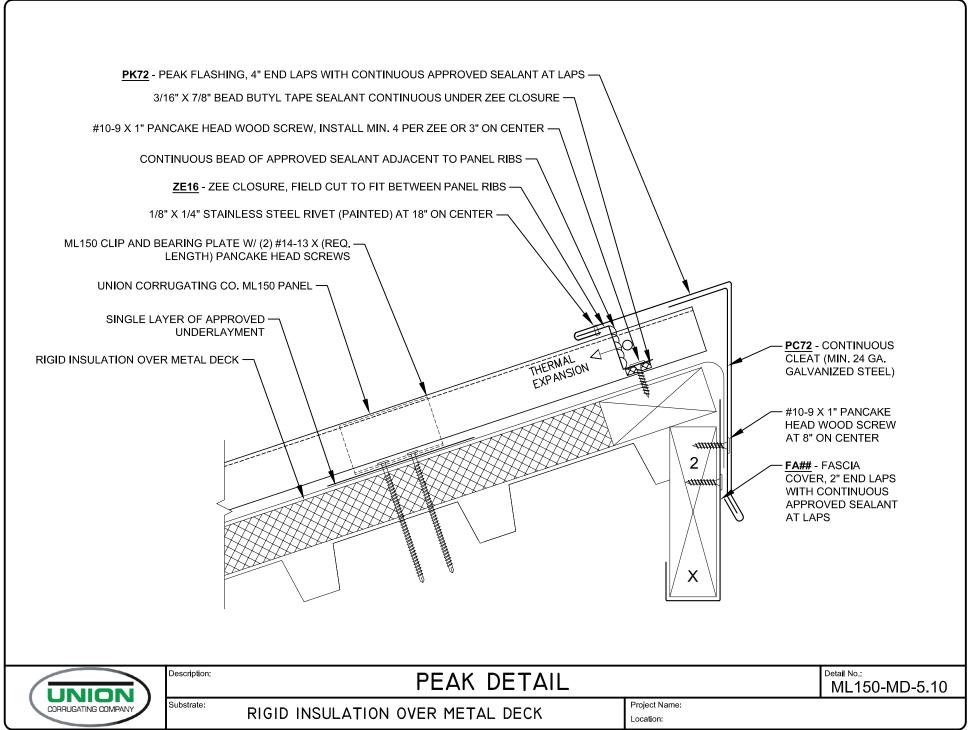
ML150-4.40

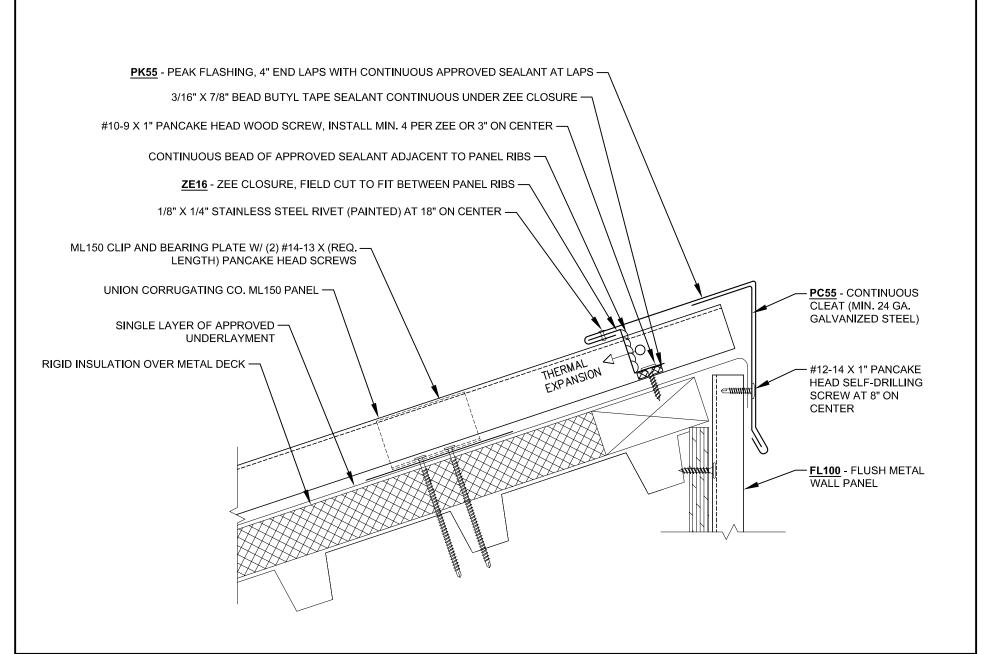
Substrate:

Description:







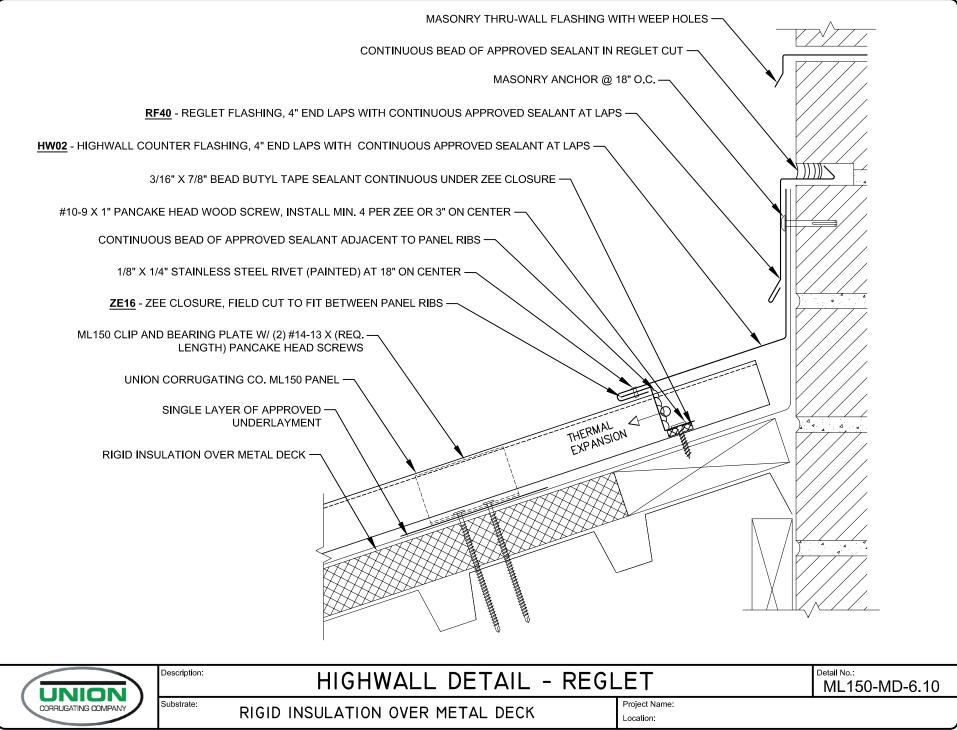


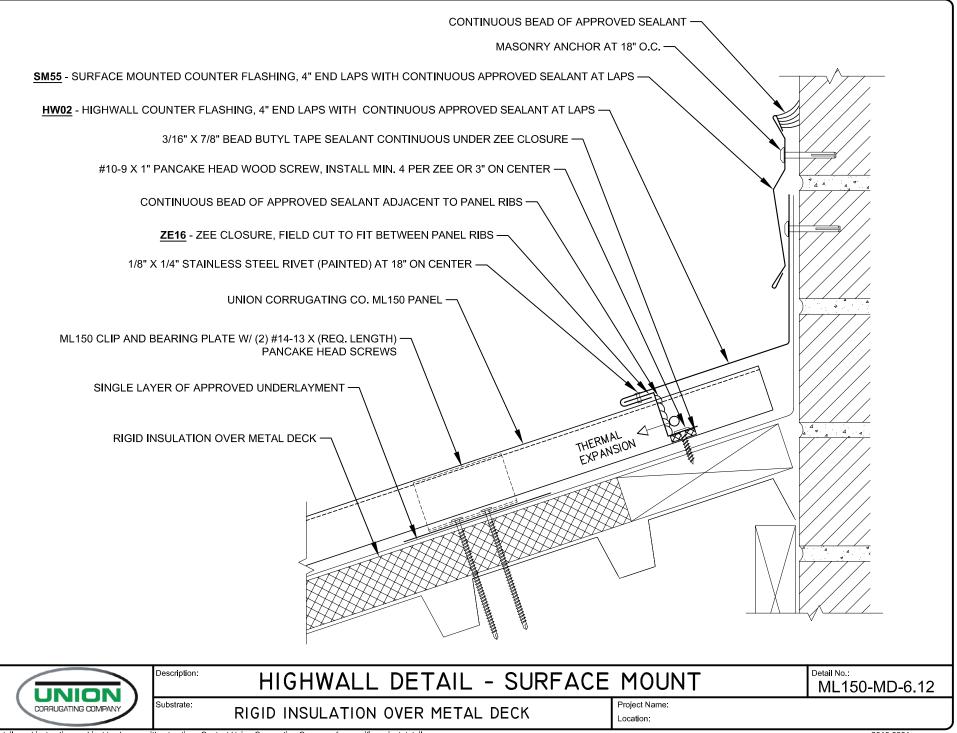


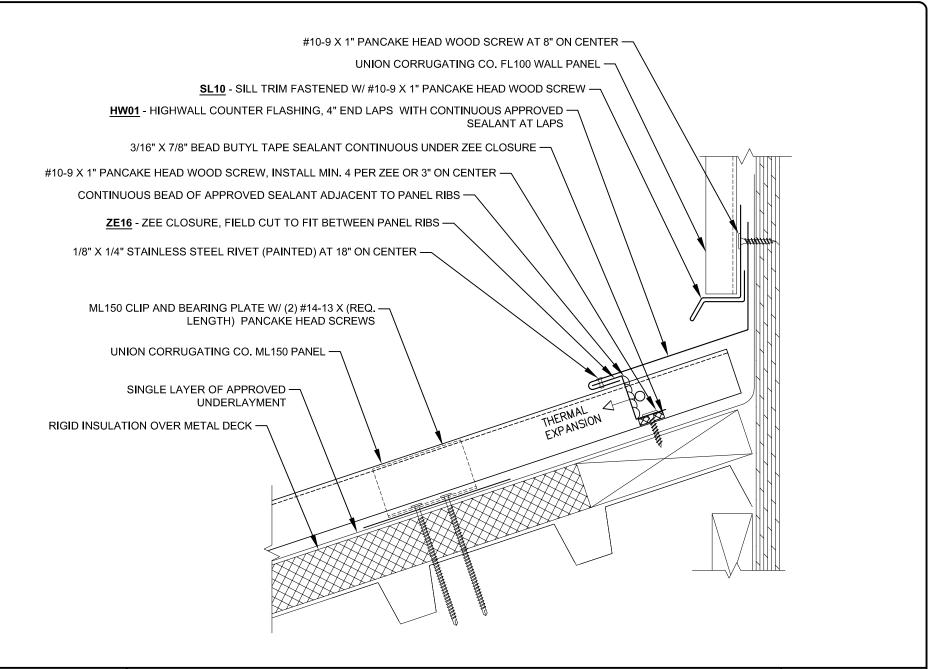
PEAK DETAIL - WITH WALL PANELS

Detail No.: ML150-MD-5.40

Substrate: RIGID INSULATION OVER METAL DECK









HIGHWALL DETAIL - WALL PANEL W/ SILL

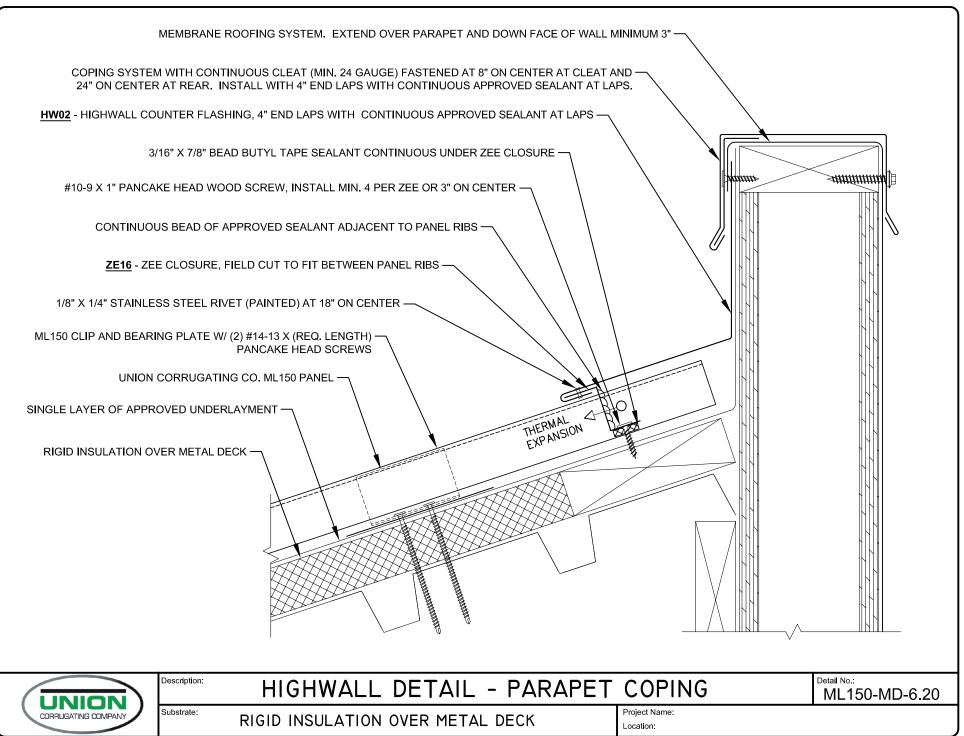
Detail No.:

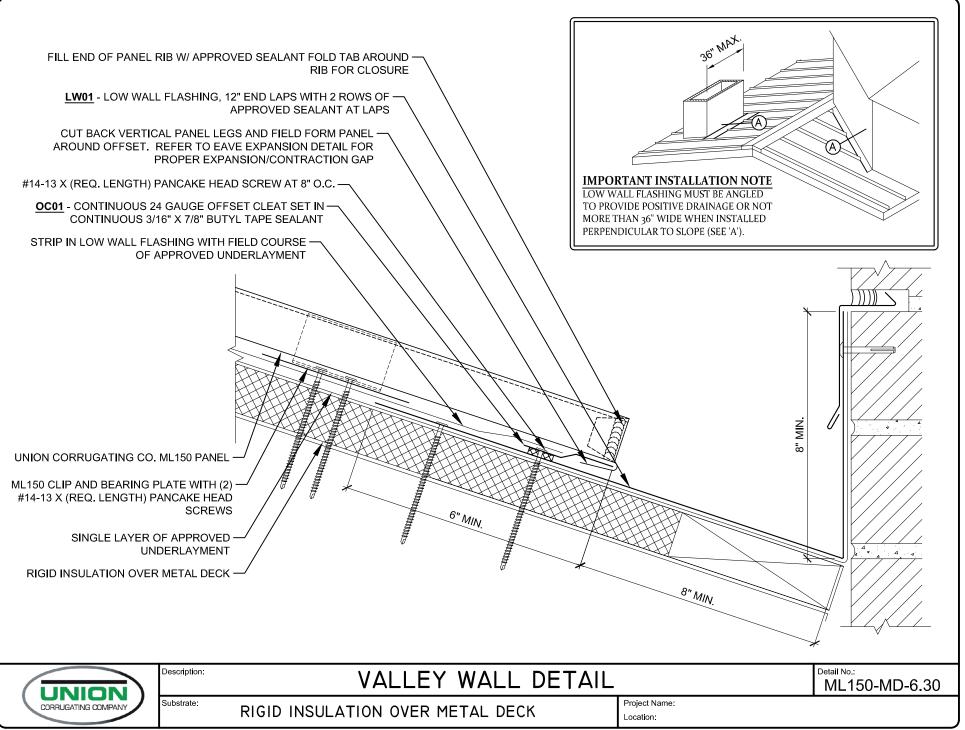
ML150-MD-6.14

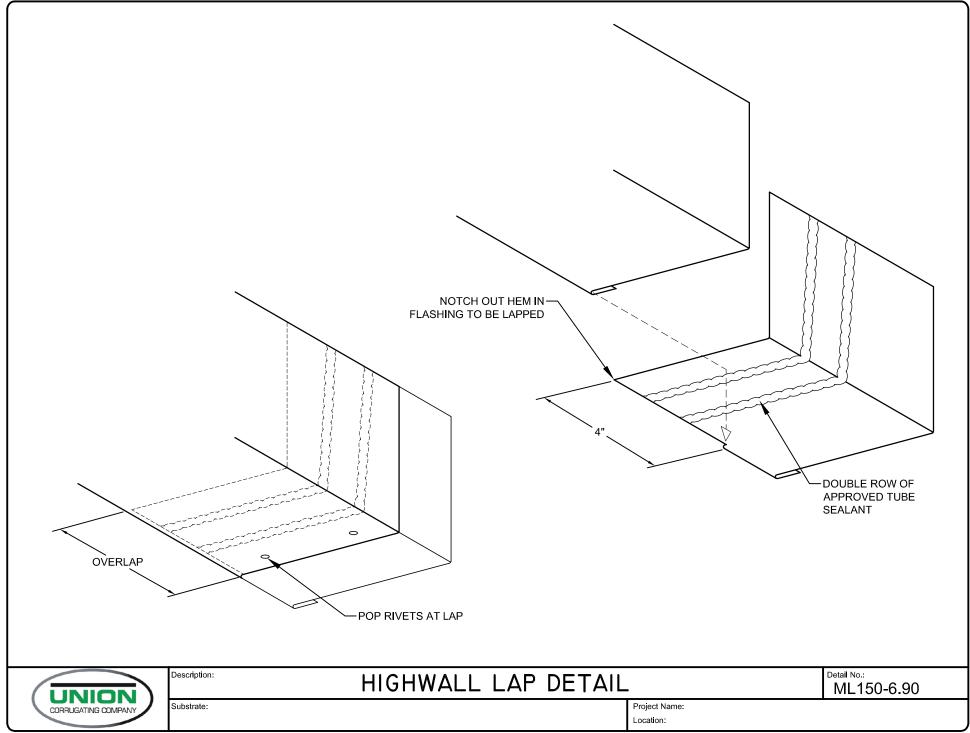
Substrate:

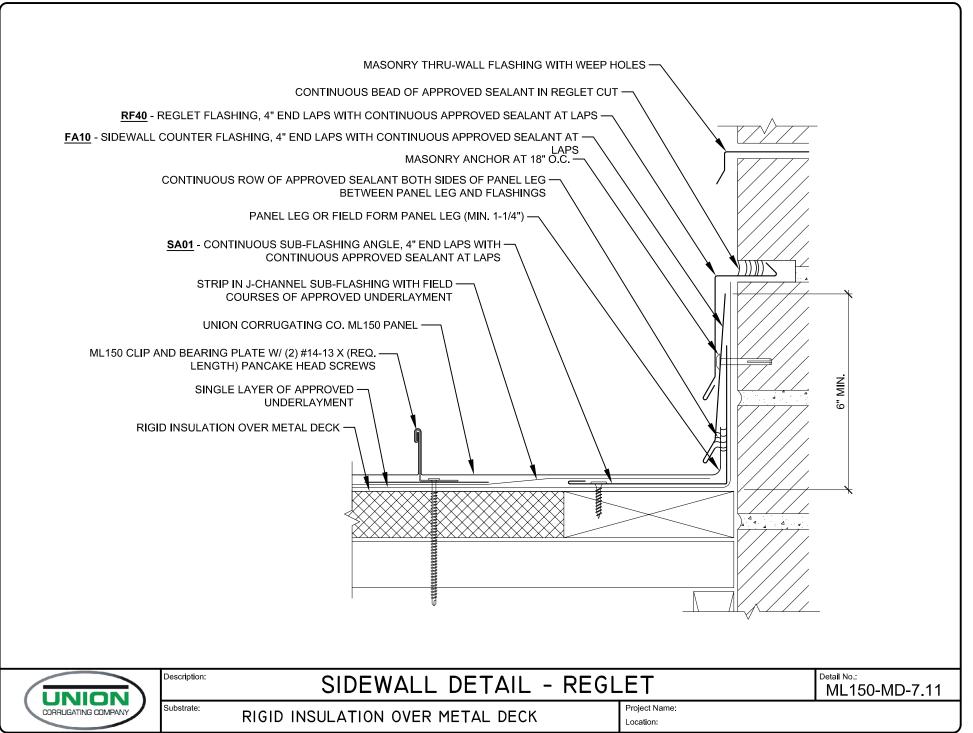
RIGID INSULATION OVER METAL DECK

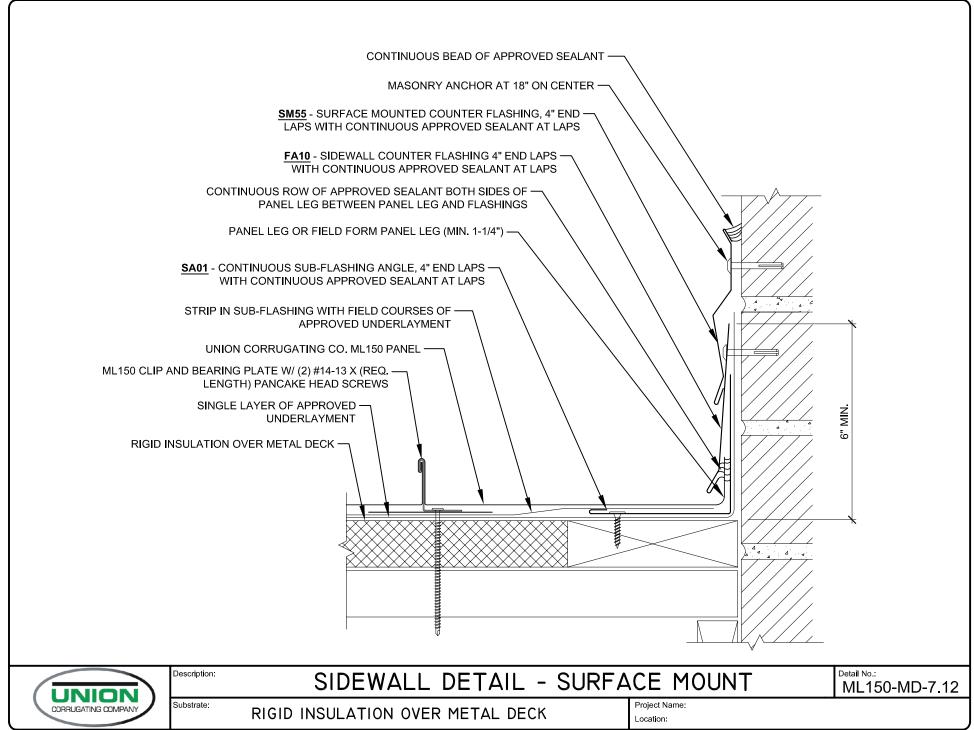
Location:

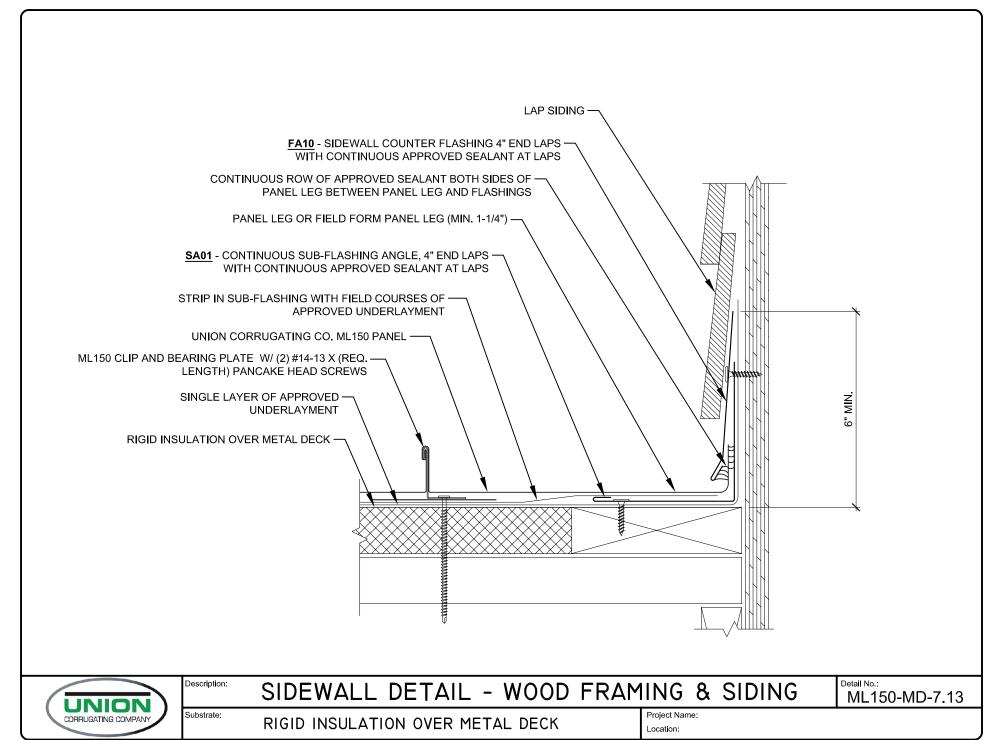


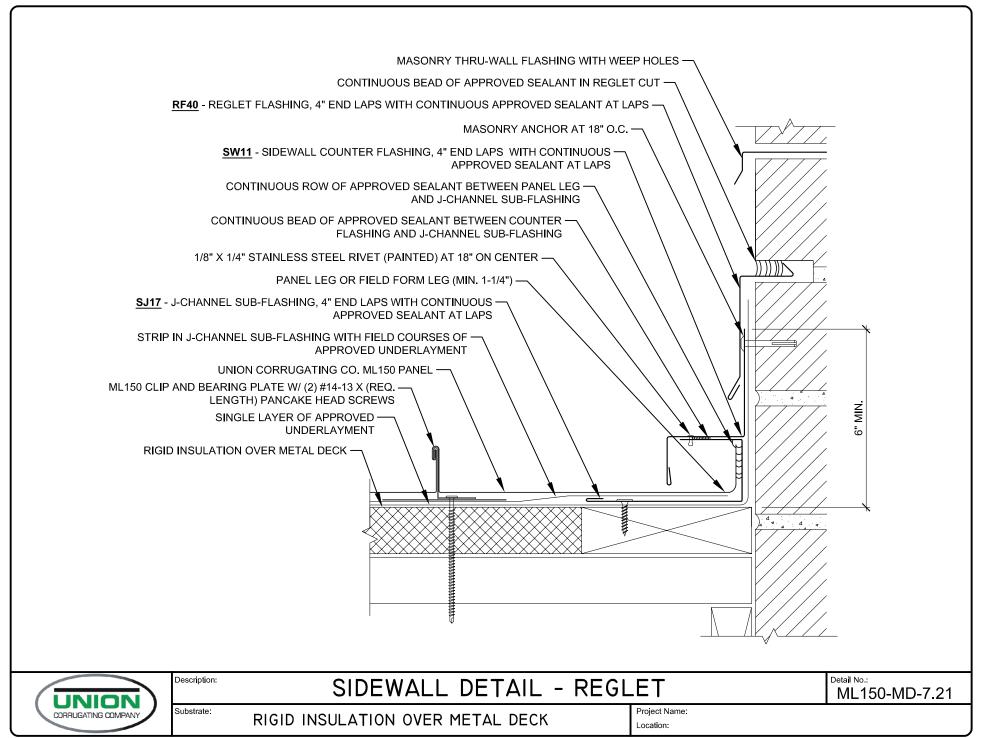


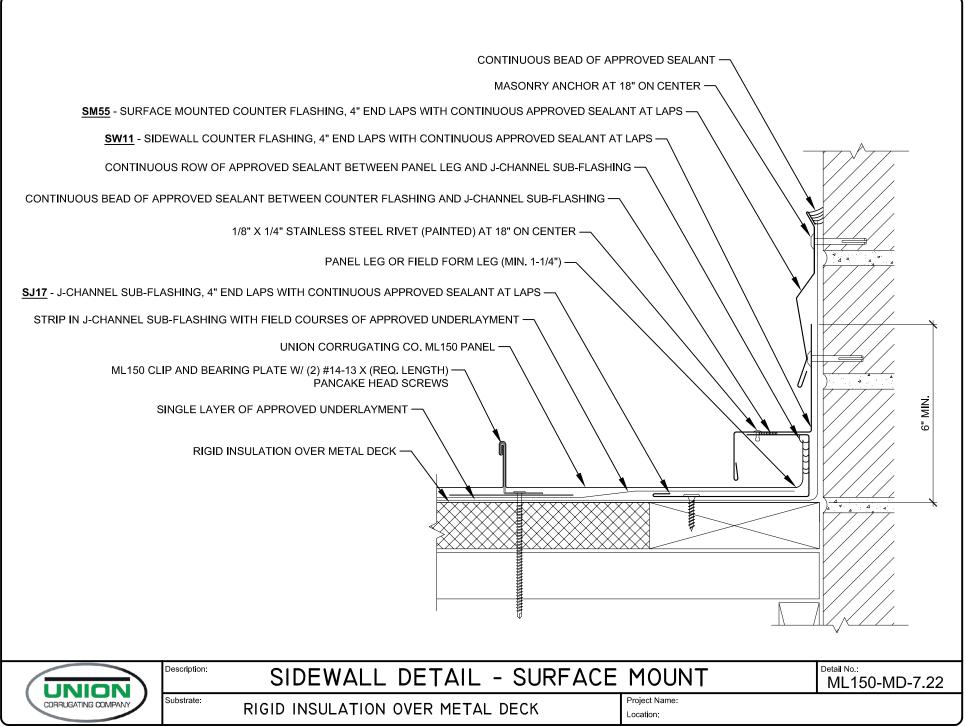


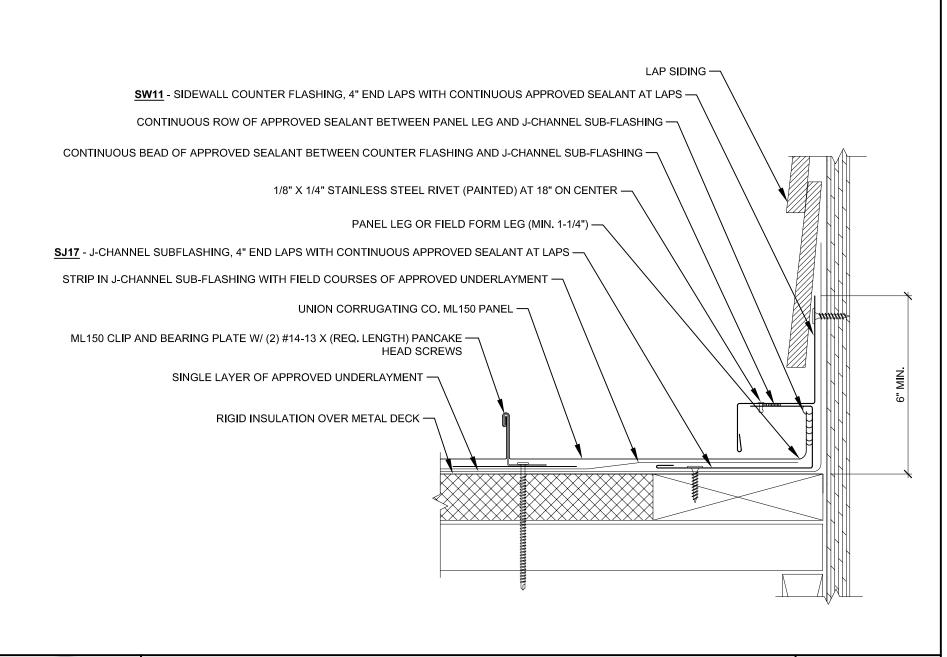












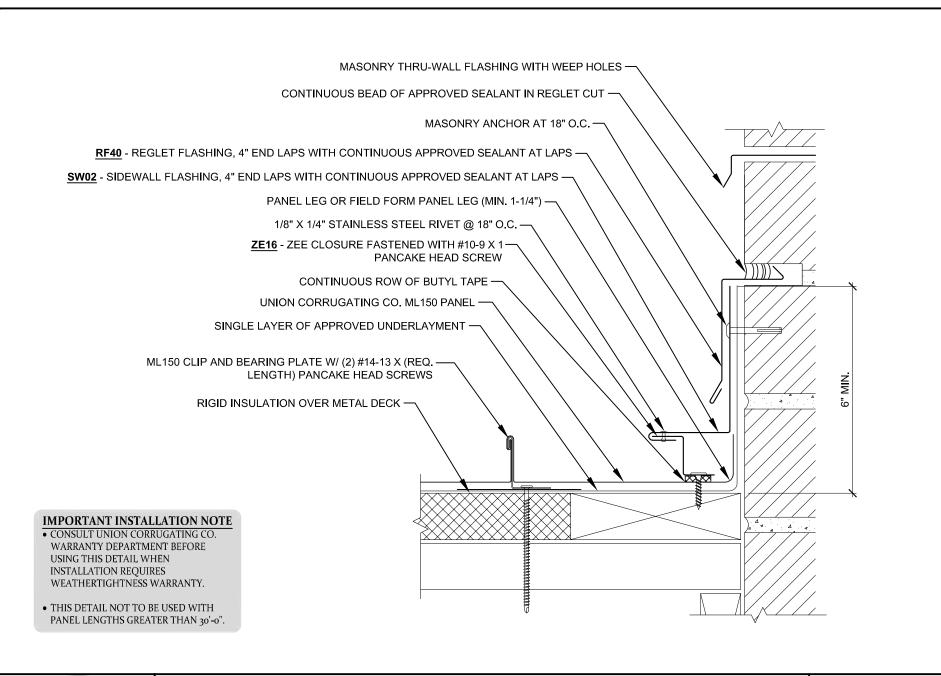


Description: SIDEWALL DETAIL - WOOD FRAMING & SIDING

Detail No.: ML150-MD-7.23

Substrate:

RIGID INSULATION OVER METAL DECK





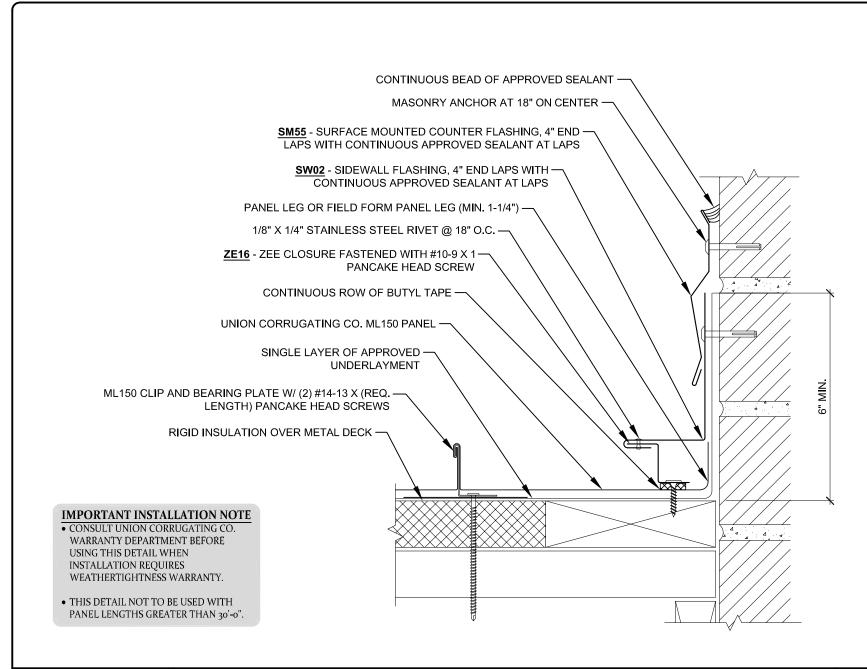
Substrate:

SIDEWALL W/ ZEE DETAIL - REGLET

Detail No.:

ML150-MD-7.31

RIGID INSULATION OVER METAL DECK



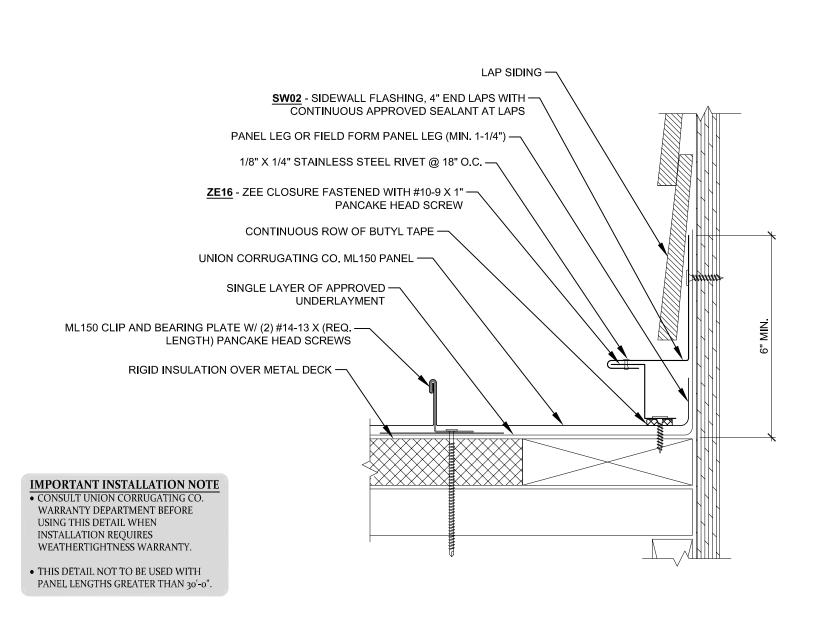


SIDEWALL W/ ZEE DETAIL - SURFACE MOUNT

Detail No.: ML150-MD-7.32

Substrate:

RIGID INSULATION OVER METAL DECK





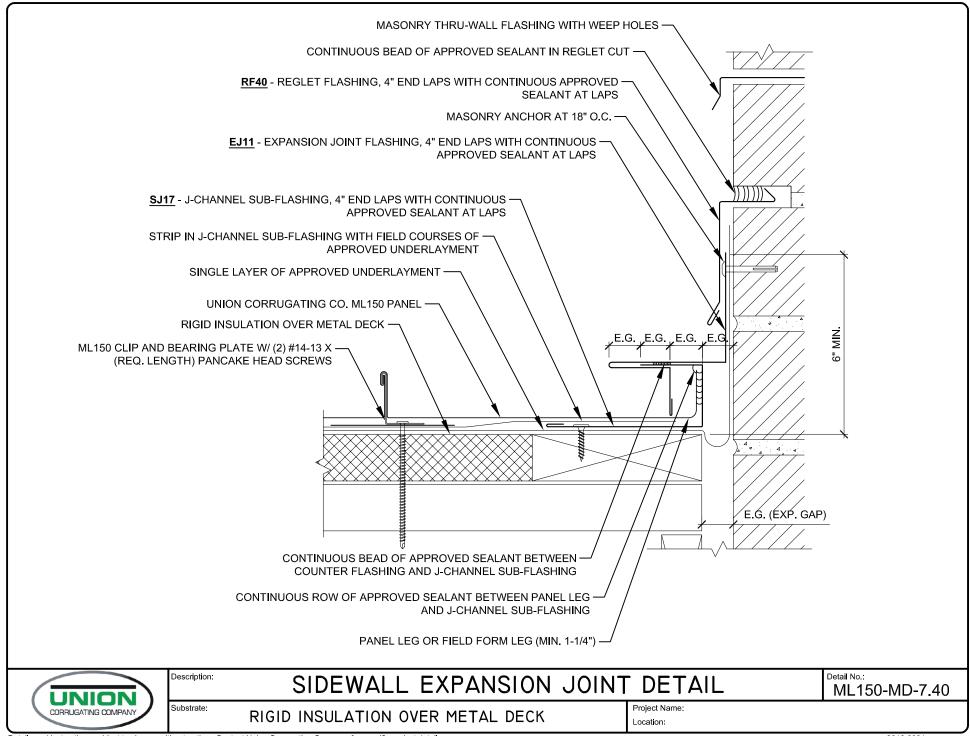
SIDEWALL W/ ZEE - WOOD FRAMING & SIDING

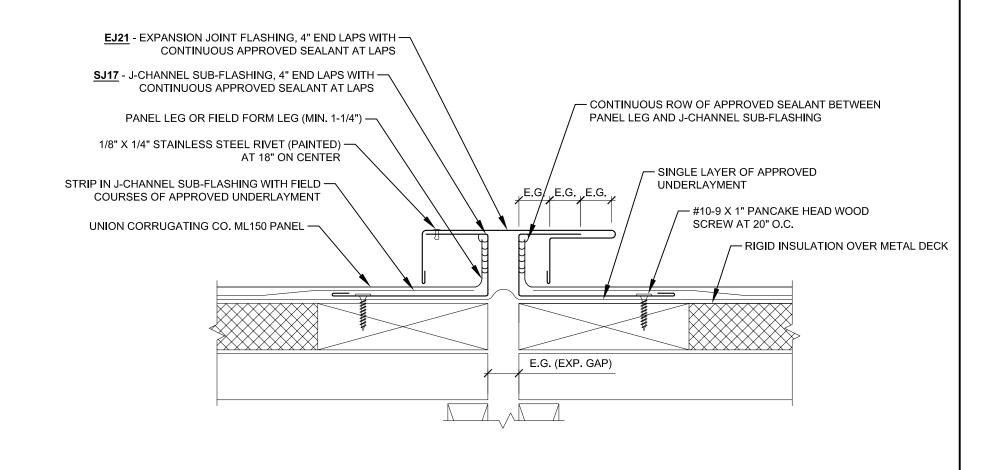
etail No.:

ML150-MD-7.33

Substrate:

RIGID INSULATION OVER METAL DECK







EXPANSION JOINT (MID-ROOF)

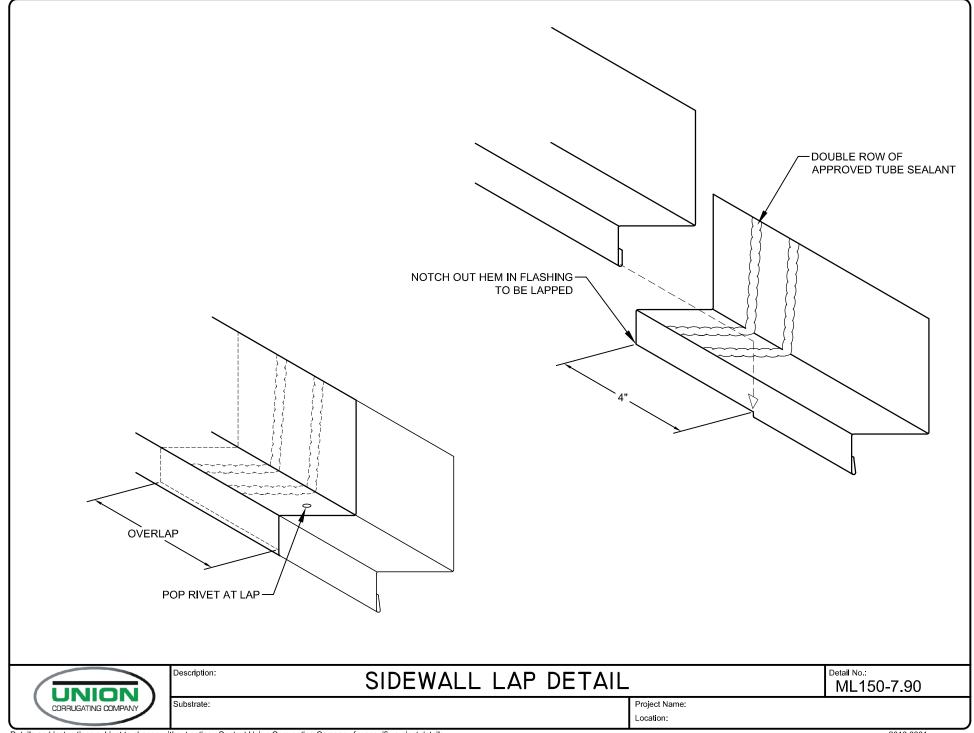
Detail No.: ML150-MD-7.50

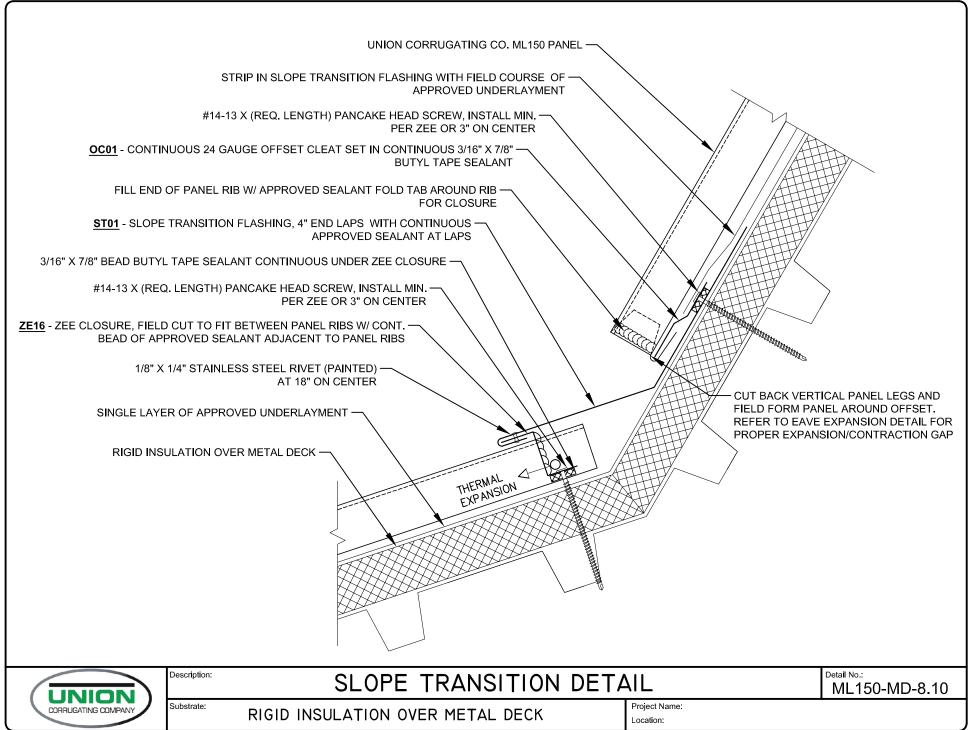
Substrate:

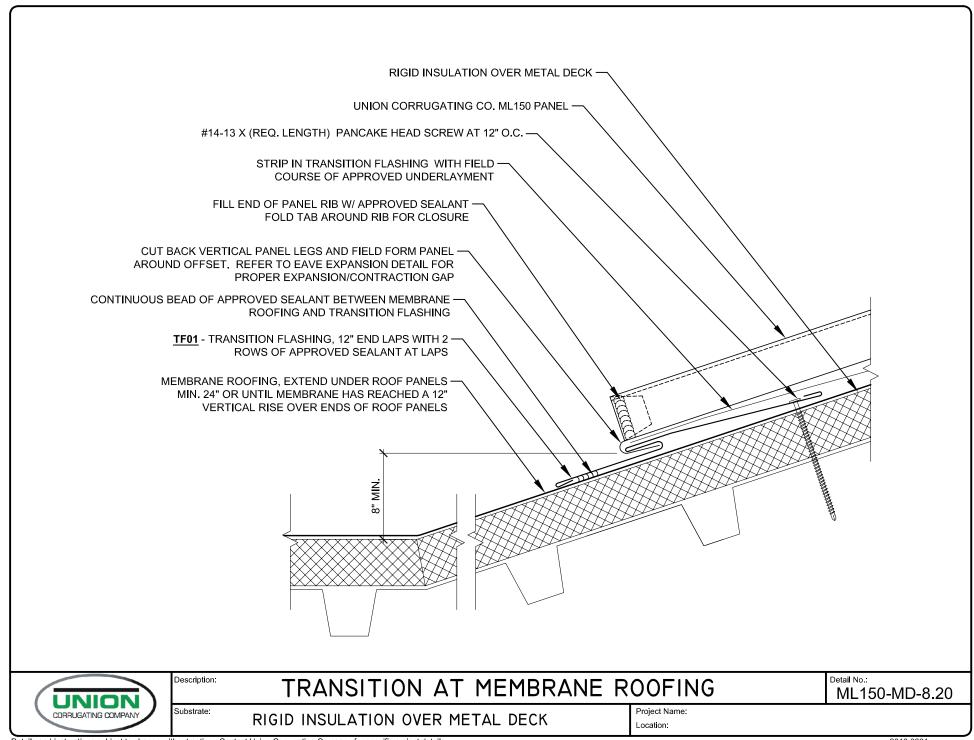
Project Name: Location:

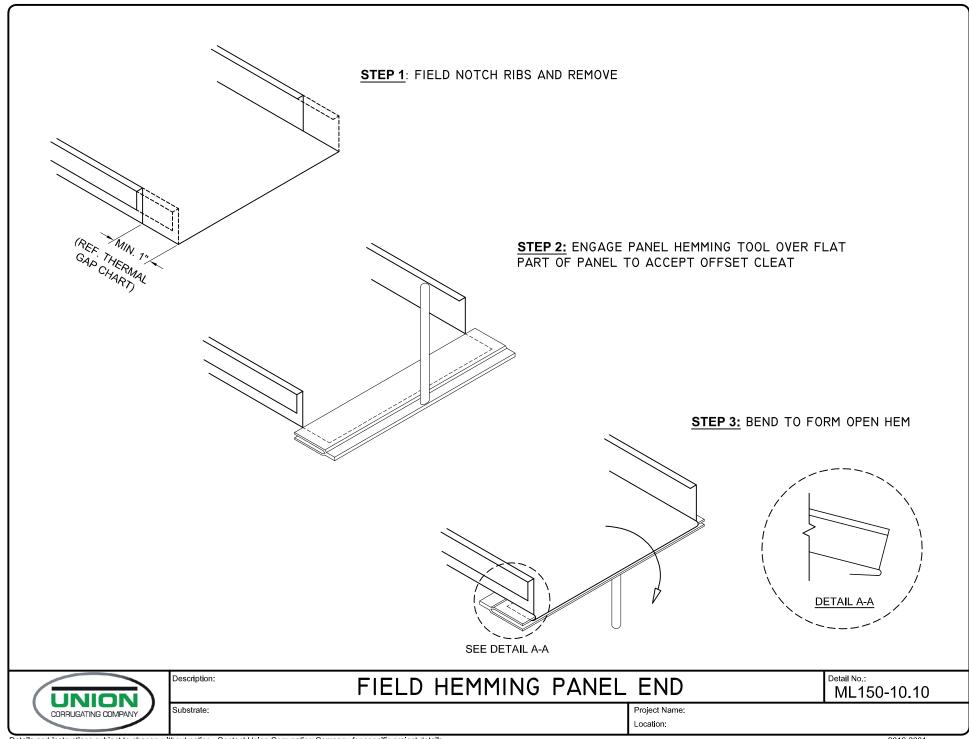
RIGID INSULATION OVER METAL DECK

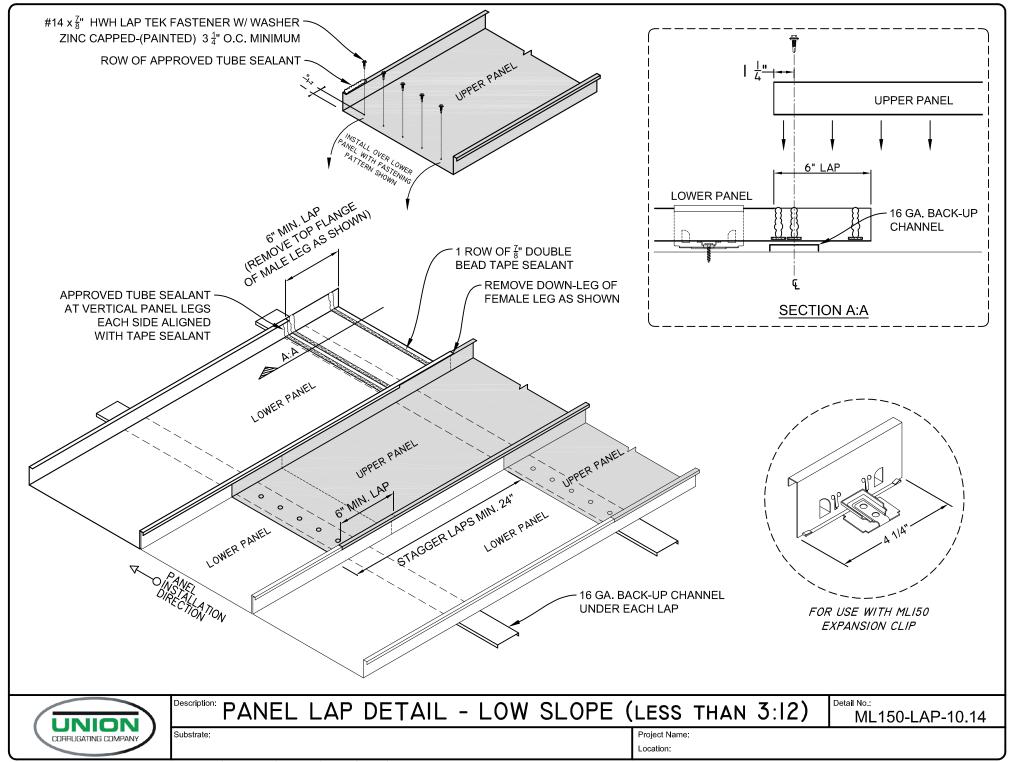
Description:

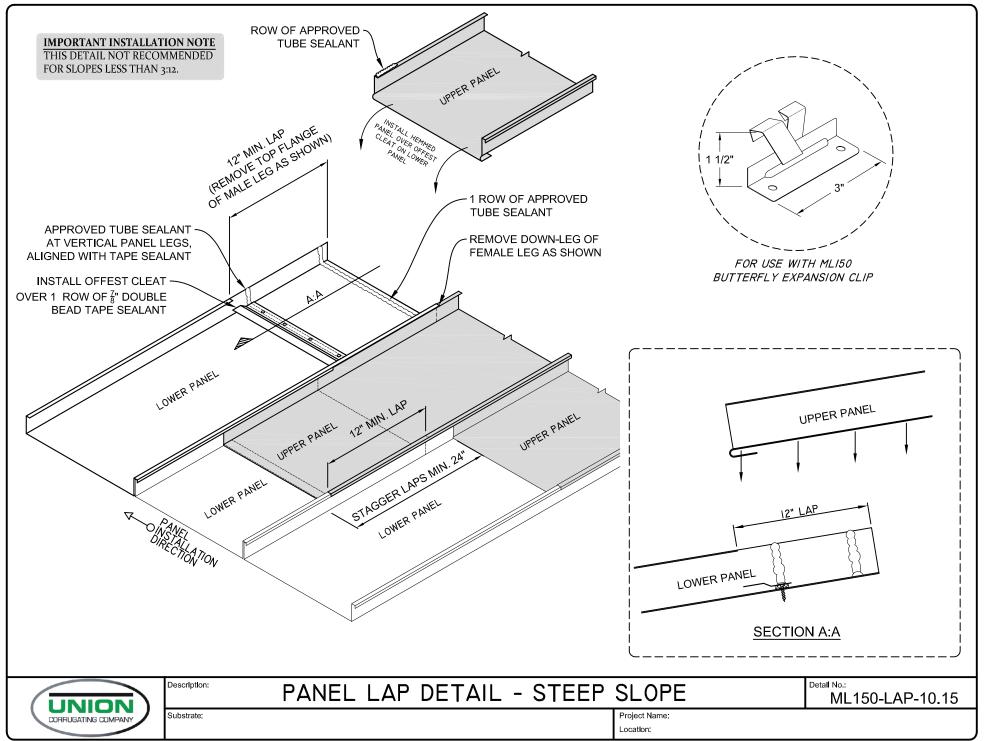


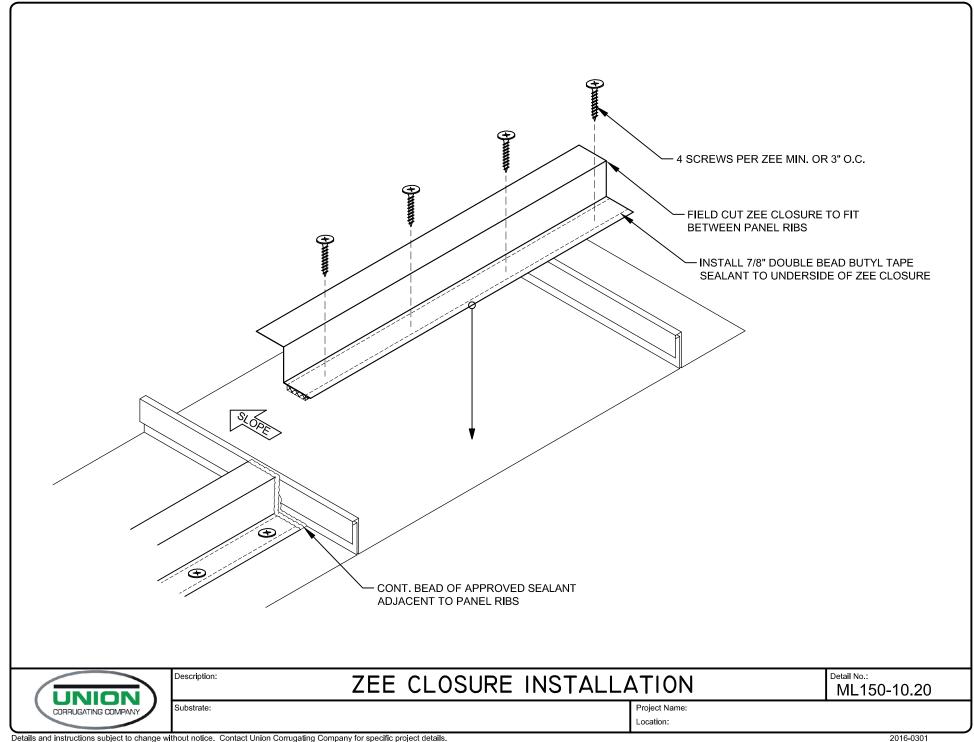


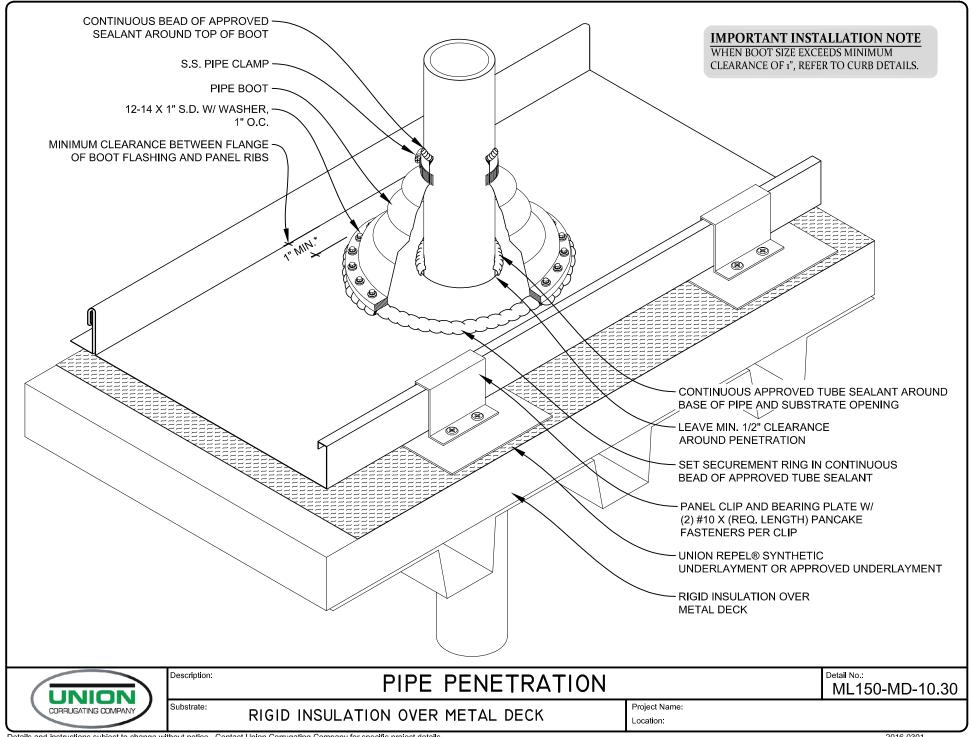


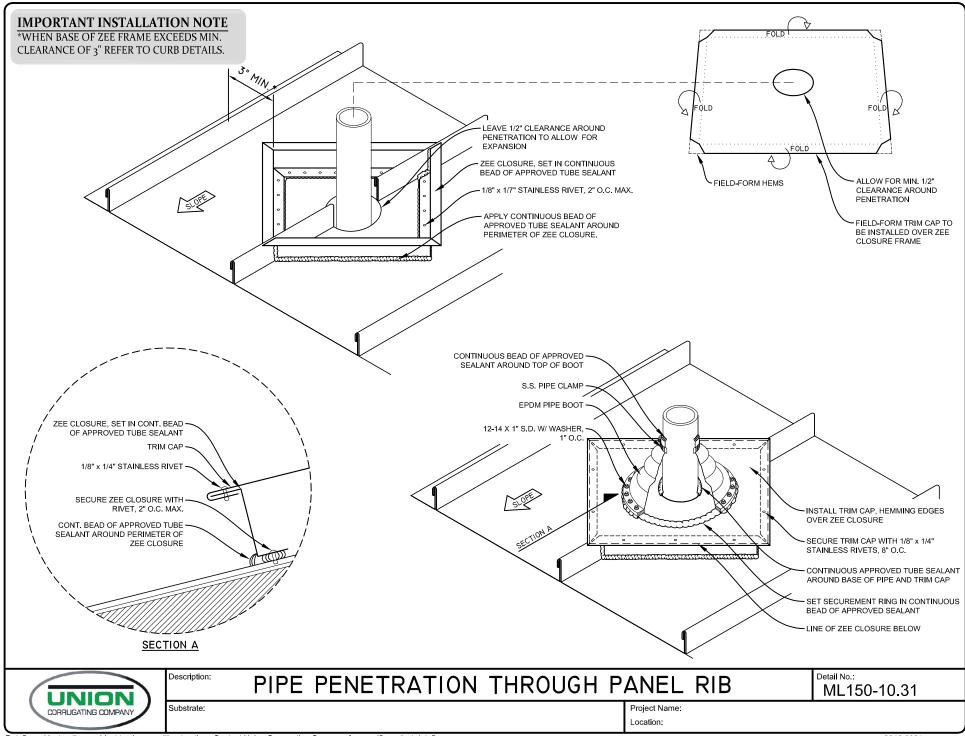


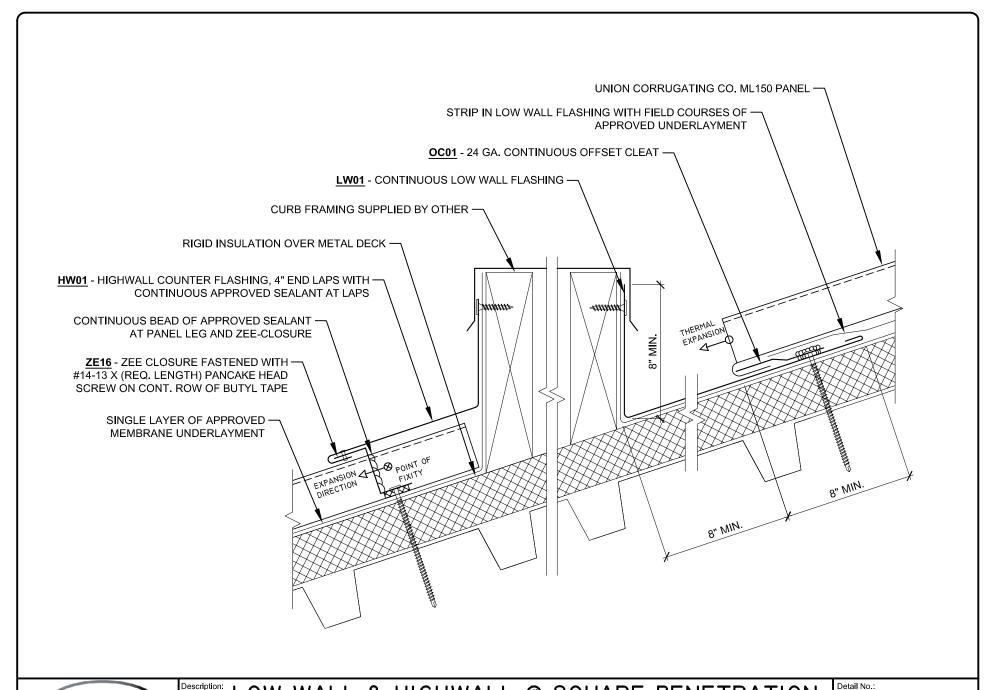














Description: LOW WALL & HIGHWALL @ SQUARE PENETRATION

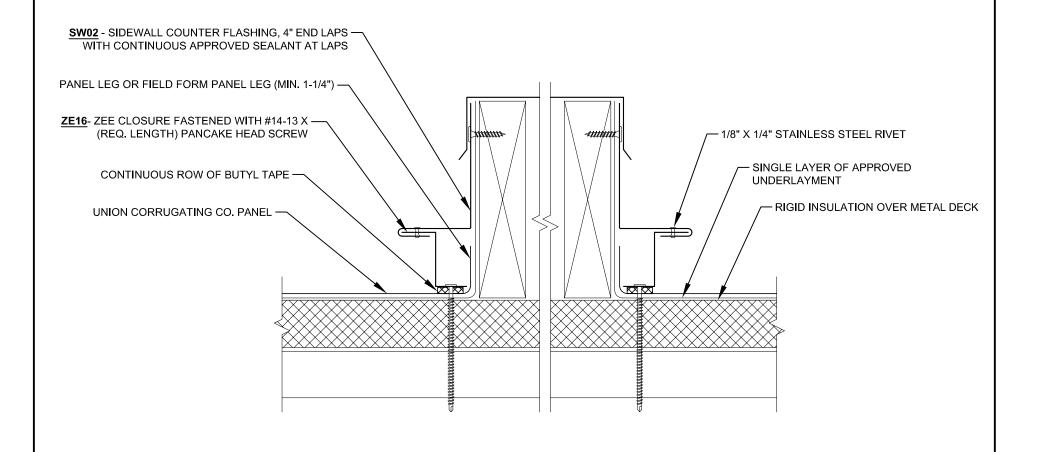
Project Name:

Location:

RIGID INSULATION OVER METAL DECK

Substrate:

ML150-MD-10.40



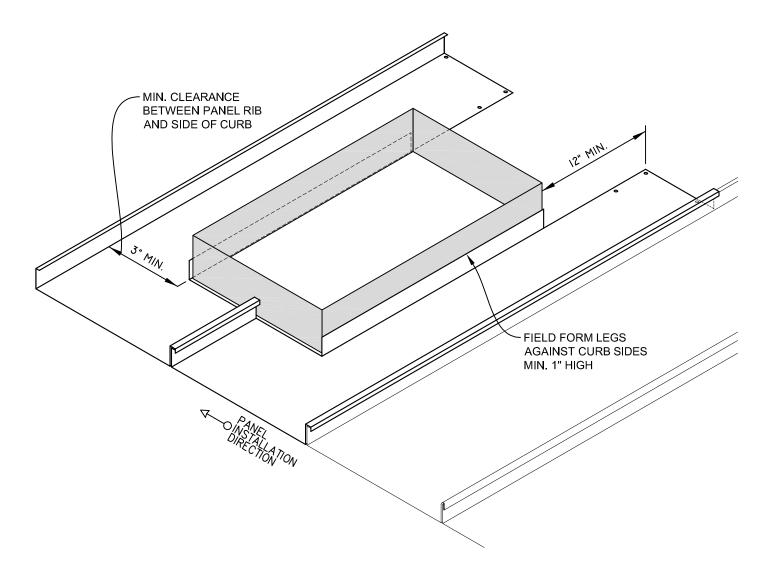
SIDEWALL @ SQUARE PENETRATION

Detail No.: ML150-MD-10.41

Substrate: RIGID INSULATION OVER METAL DECK

STEP I

INSTALL PANELS AROUND CURB





MLI50 CURB DETAILS - STEP I

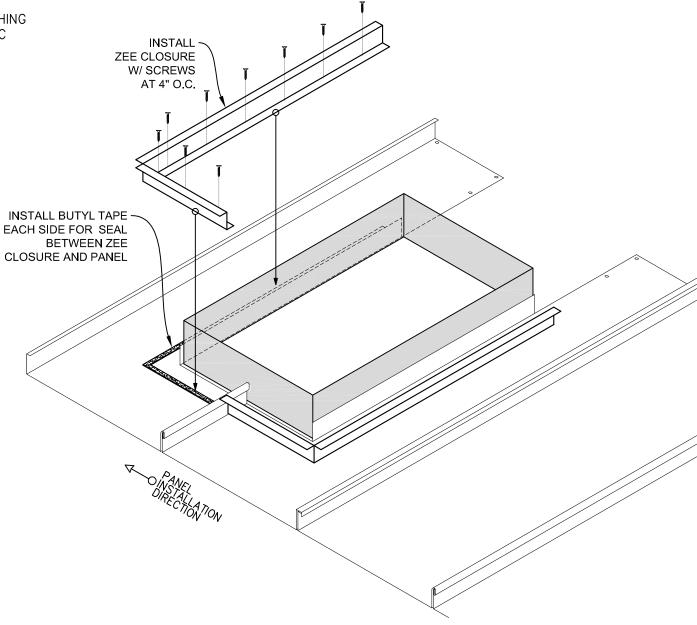
tail No.:

ML150-CRB: 1 of 6

e:

STEP 2

APPLY ZEE CLOSURE FLASHING OVER DOUBLE BEAD MASTIC

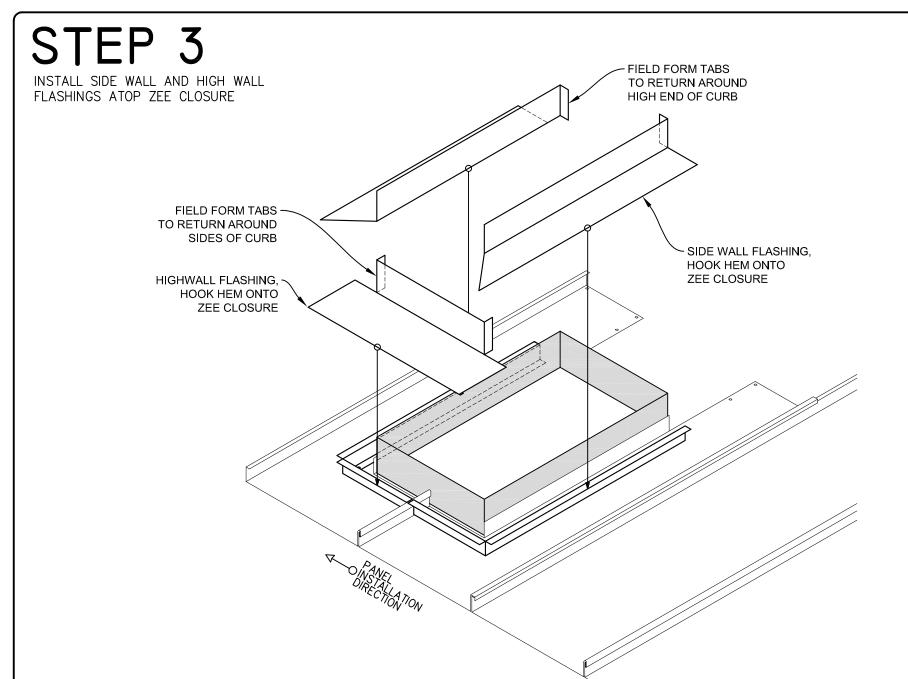




MLI50 CURB DETAILS - STEP 2

ML150-CRB: 2 of 6

Substrate:



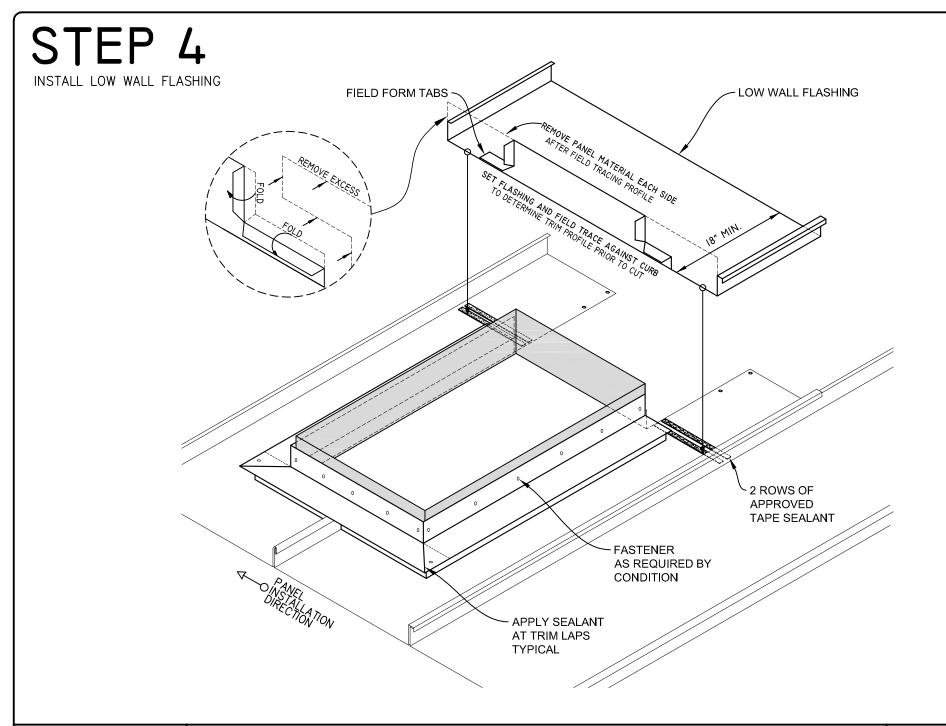


MLI50 CURB DETAILS - STEP 3

Detail No.:

ML150-CRB: 3 of 6

Substrate:





MLI50 CURB DETAILS - STEP 4

Detail No.:

ML150-CRB: 4 of 6

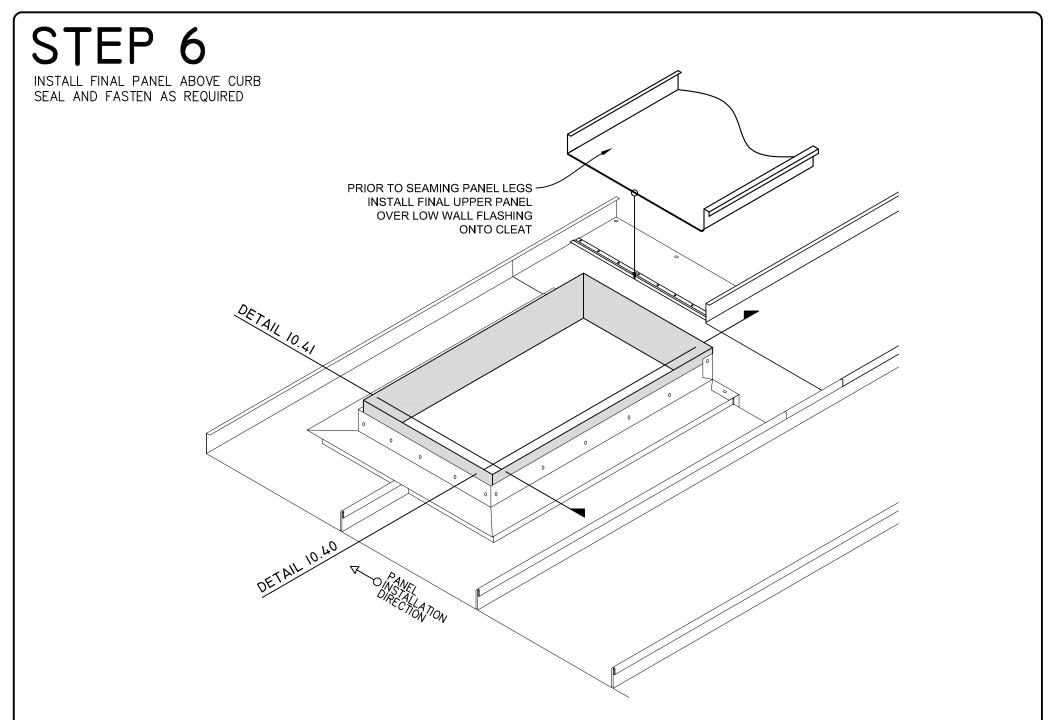
Substrate:

Project Name:

Location:

Description:

STEP 5 INSTALL CLEAT AND PREPARE FOR **NEST PANEL TABS PRIOR** UPPER PANEL INSTALLATION TO SEAMING AS SHOWN INSTALL FIELD HEMMED UPPER PANELS -OVER LOW WALL FLASHING AND ONTO CLEAT PRIOR TO MECHANICALLY SEAMING CONTINUOUS CLEAT SET IN SEALANT FASTEN AT 4" O.C. SEALANT AT ZEE & LOW WALL INTERSECTION **BOTH SIDES OF CURB** Detail No.: Description: MLI50 CURB DETAILS - STEP 5 ML150-CRB: 5 of 6 Substrate: Project Name: Location:





MLI50 CURB DETAILS - STEP 6

Detail No.:

ML150-CRB: 6 of 6

Substrate: Project Name: Location: