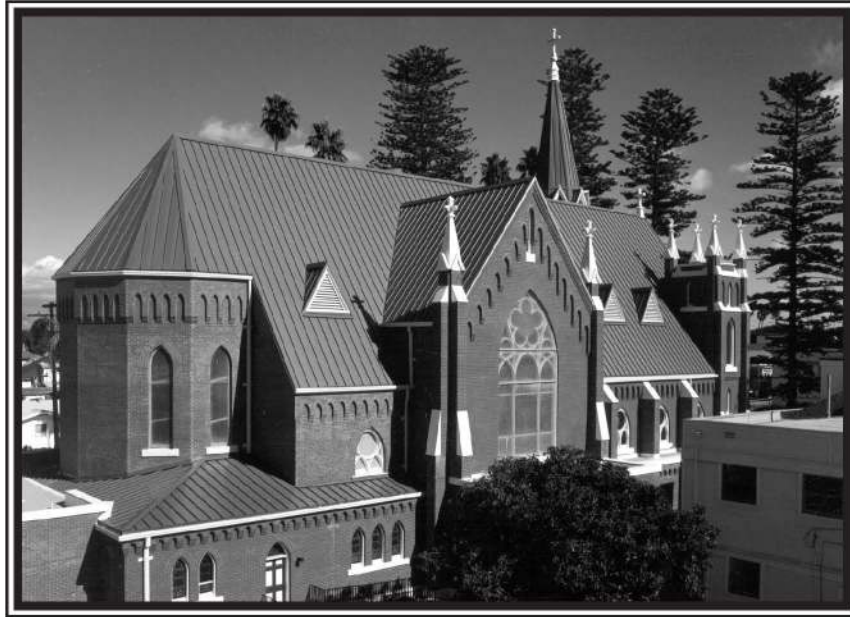


CUSTOM-BILT METALS

Brand Products



CB-2000

Details & Installation Guide

October 2013

All information, descriptions and dimensions in this manual are current at the time of printing. As always, Custom-Bilt Metals in an effort to improve our product line reserves the right to make changes with products, details or designs, as necessary without notice and incurring no obligation. Please contact your local Custom-Bilt Metals Sales Representative for the most current information or visit our website at www.custombiltmetals.com



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Designer/Installer Notes

GENERAL:

Custom-Bilt Metals (herein as CBM) is providing the following installation instructions and details as a guideline, and are CBM's recommended procedures. All local building codes and project specifications should be followed, however, in all cases, good roofing practices, and good workmanship should be employed when constructing a roofing system using CBM's products. These procedures and details are not intended to cover all instances, building requirements, designs, or codes. These details may require changes or revisions for each project, as conditions vary from project to project. The details provided are proven methods of construction. Work shall be performed by experienced craftsmen familiar with metal roofing products and current industry standards. Sheet Metal and Air Conditioning Contractors National Association (SMACNA) architectural sheet metal manual shall govern material and workmanship not shown. Prefinished metals should not be required to have soldered joints because of expense and possible warranty violations by removing the coating system at the joint. Other joint designs and high quality sealants, gaskets and tapes are available and are recommended for prefinished metals. Note; Zincalume material cannot be soldered.

METAL ROOF SYSTEM

CBM's roof systems are from Zincalume, G-90 galvanized steel, copper and aluminum. Various gauges are available; contact a CBM sales representative for details. Bare Zincalume (Zincalume Plus) is also available. The steel and aluminum panels are available prefinished in a full 70% PVDF (Polyvinylidene fluoride) or Kynar 500® or Hylar® 5000 or Fluoropon® paint system. The paint system consists of a baked-on epoxy primer (.2 mil.) and a baked-on PVDF finish coat (.8 mil.) totaling a nominal 1.0 mil. dry film thickness. All flashing and trim (unless requested otherwise) are of the same gauge and finish as the roof panels. Refer to your project specifications for actual requirements. Note; high build paint systems are available and may be required for salt water environments.

SEALANTS

Sealants not exposed to direct sunlight should consist of either an elastic butyl rubber tape or a non-skinning, non-drying gun-able butyl. Single part polyurethane's should be used when exposed to ultraviolet light. All sealants should be applied to clean, dry surfaces to ensure weather tightness. Sealants shall be installed as shown without voids.

SUBSTRATE:

CBM recommends a solid substrate (15/32" plywood, APA rated OSB, metal decking, etc.) for your metal roof system. The substrate must be on an even plane from eave to ridge to avoid panel distortion ("oil canning"). The plane of the substrate should not vary more than 1/4" in 20 feet. CBM offers profiles that are fit for purpose and can be installed over spaced structural members; contact a CBM sales representative for details.

UNDERLAYMENT

Minimum underlayment recommendations consist of ASTM Type 30 felt (or equal), a non-asphalt fiberglass-based underlayment, or a high temperature self-adhering rubberized membrane. The underlayment used may depend on specific project conditions. Installation procedures shall be as recommended by underlayment manufacturer. Items to consider in the choice of underlayment are roof slope, panel profile, elevation (snow conditions), fire rating requirements, etc.

OIL CANNING

Flat metal panel surfaces will display some degree of waviness. This waviness is commonly referred to as "oil-canning". Oil canning is caused by a variety of conditions; steel mill tolerances, underlayments, and variations in the substrate, and installation practices. Oil canning is a characteristic of metal roofing, and not a cause for rejection. CBM recommends using striations or stiffing ribs to help minimize or control the amount of oil canning.

SNOW DESIGN

The following details do not address certain snow conditions. Special consideration is needed when installing a metal roof system in heavy snow environments. Contact a CBM sales representative for details.

DELIVERY & STORAGE

Handle panels and bundles with care. Crated panels shall be lifted at blocked locations. Do not use ropes or wires for lifting. Long panels (25 ft. or more) may require two or more lift points to avoid bending or buckling of panels. Store panels in a dry, well ventilated area. Elevate one end of panels to allow for drainage of any moisture. Block panels off the ground. Do not store panels in direct contact with the ground. Do not allow strippable film to remain exposed to direct sunlight for an extended period of time. Remove strippable film prior to, or immediately after, installation of panels and flashing. Do not walk directly on standing seams. Wear shoes with non-marking soles.

Installation Note: CB-100, CB-150 and CB-2000—During installation panels must be hand crimped to 90° at all clip locations on female seam prior to installing clips on male seam.



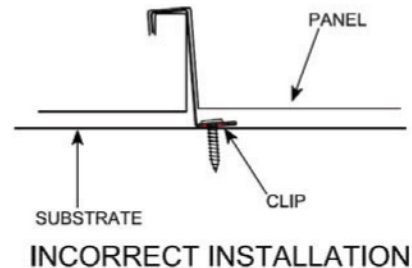
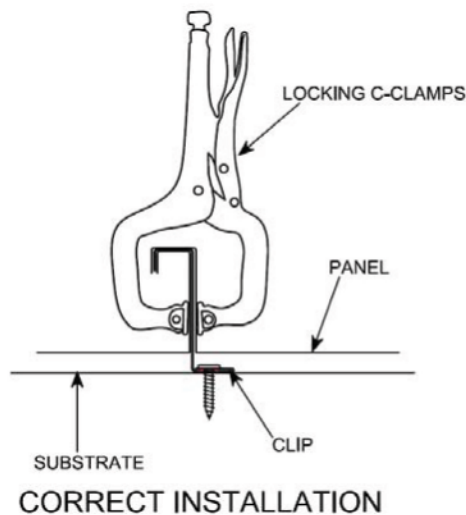
Designer/Installer Notes (cont.)

GENERAL INSTALLATION INFORMATION

1. CBM recommends the use of a clutch / torque adjustable screw gun to properly install all fasteners referenced in this manual. Do not spin / strip any clips fasteners. Do not over torque or over drive any fasteners with neoprene washers.
2. If cutting is required, the panels must be cut with snips, shears or nibblers to prevent edge rusting. Do not use saws, abrasive blades, grinders or torches. All metal shavings (swarf) must be removed from panels and flashings immediately.
3. It is the responsibility of the installer to use safe construction practices and compliance with any and all state and Federal OSHA regulations.

IMPORTANT INSTALLATION FOR Mechanically Seamed Profiles

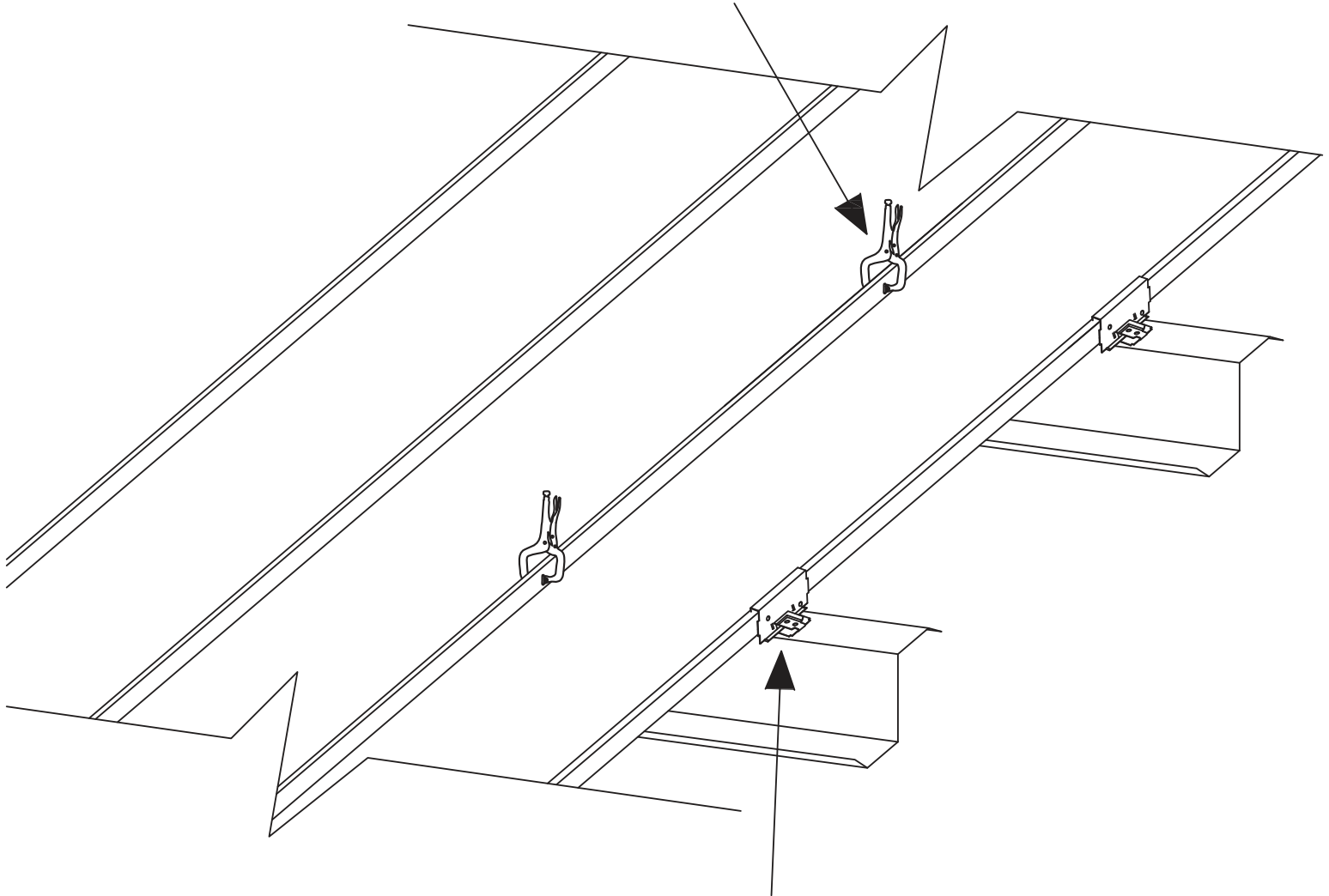
1. Before attaching clips to substrate, ensure the vertical legs of the clips are tight to the vertical leg of the panel. Failure to keep the legs vertical will affect panel module and may affect the seaming tool. See figures below.
2. For all subsequent panels, clamp panel seams together at both ends. For panels longer than 20 feet additional clamps will be needed throughout the panel. This will help maintain panel module.
3. CBM requires all panels be seamed 90° at all clip locations using a hand crimping tool. Panels should be fully seamed with electric seaming machine as soon as possible.
4. The use of any seaming machines not approved by CBM may damage the panels and void any warranties.





Special Instructions for Mechanical Seam Panels CB100 / CB150 / CB2000

1. Before installing clips, place locking clamps along standing seams at clip locations to draw legs together. This will help control panel module.



2. With locking clamps in place install clips and fasten.
Keep clips tight against panel leg. Substrate will vary per specific conditions

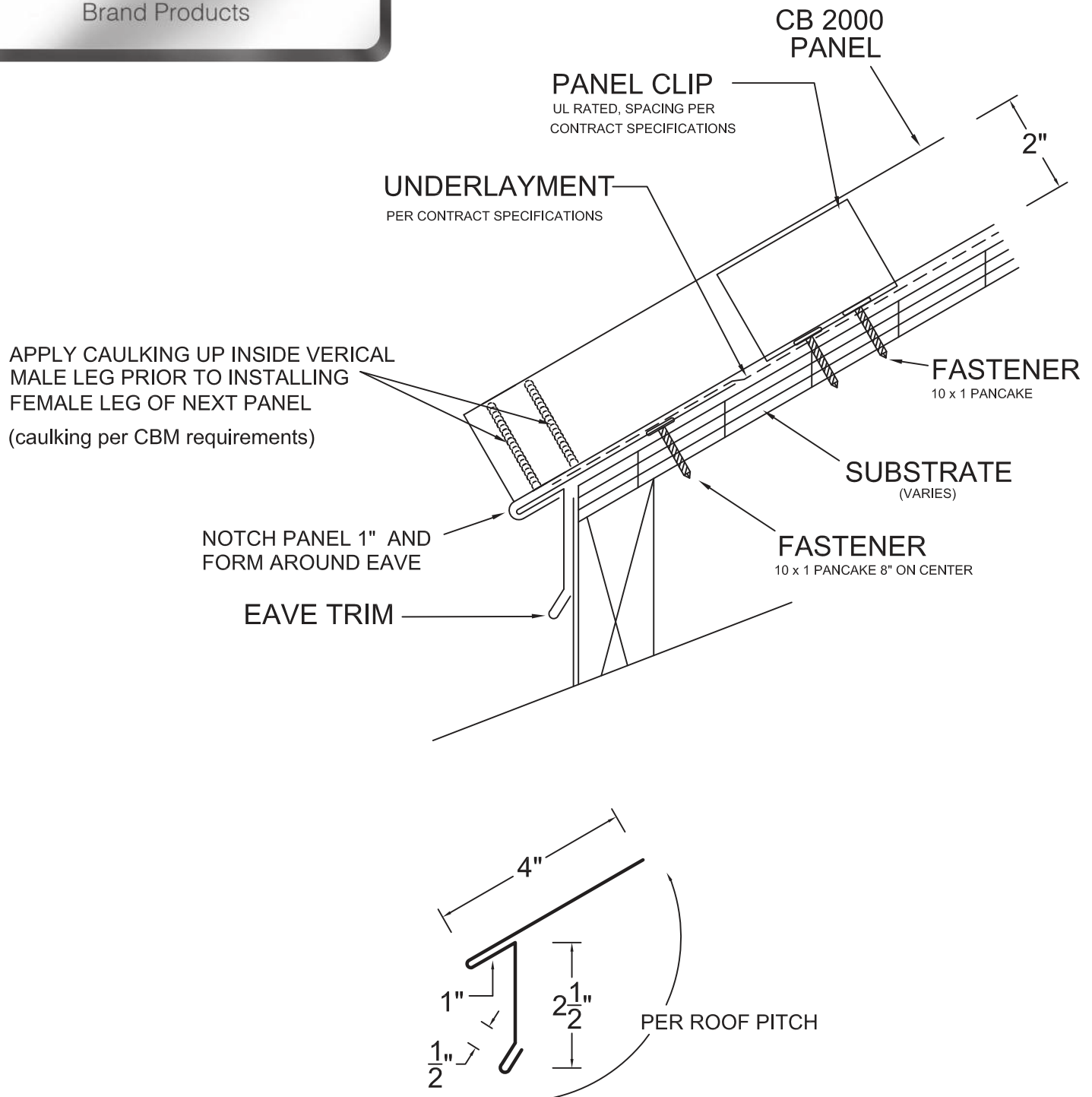
Gaps between panel will affect panel module
and may affect the electric seaming tool.

All Flashing and Trim available through CBM
SUBJECT TO CHANGE WITHOUT NOTICE

Note: GUIDELINES APPLY TO ALL SUBSTRATE CONDITIONS

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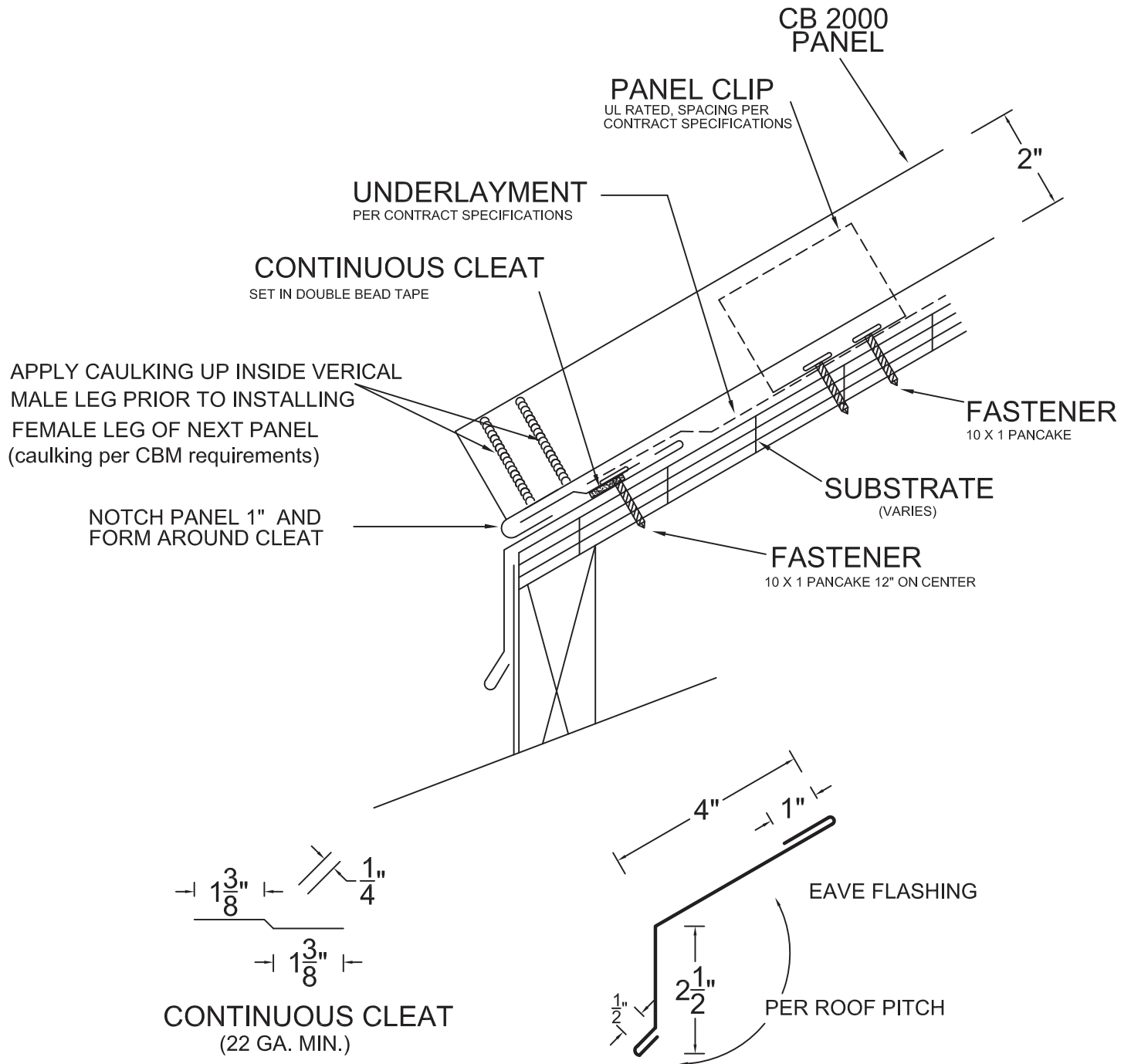


DRAWING: CB 1 EAVE

All Flashing and Trim available through CBM

SUBJECT TO CHANGE WITHOUT NOTICE

Note:



DRAWING: CB 2 EAVE / Alternate

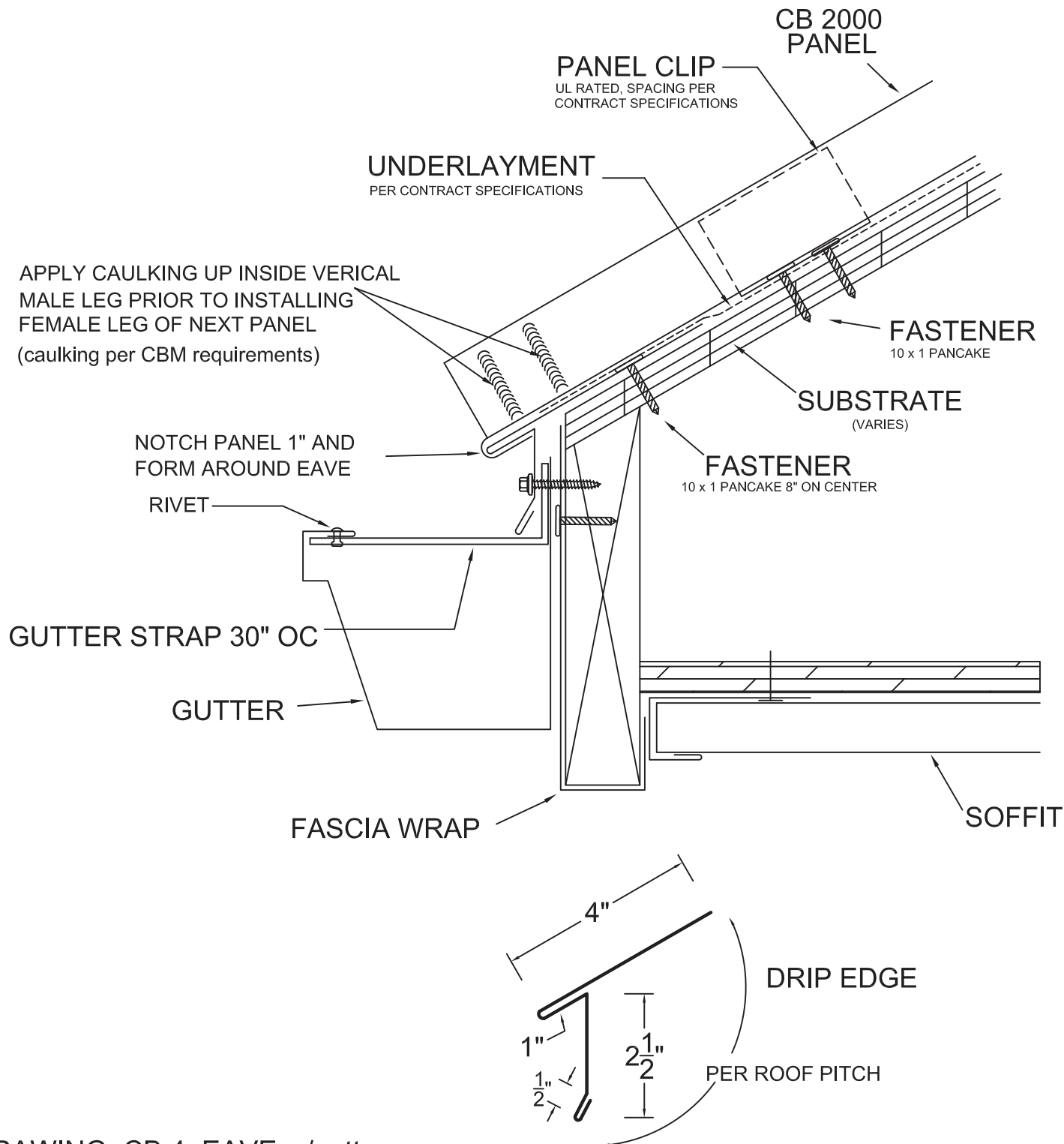
All Flashing and Trim available through CBM

Note:

SUBJECT TO CHANGE WITHOUT NOTICE

CUSTOM-BILT METALS

Brand Products

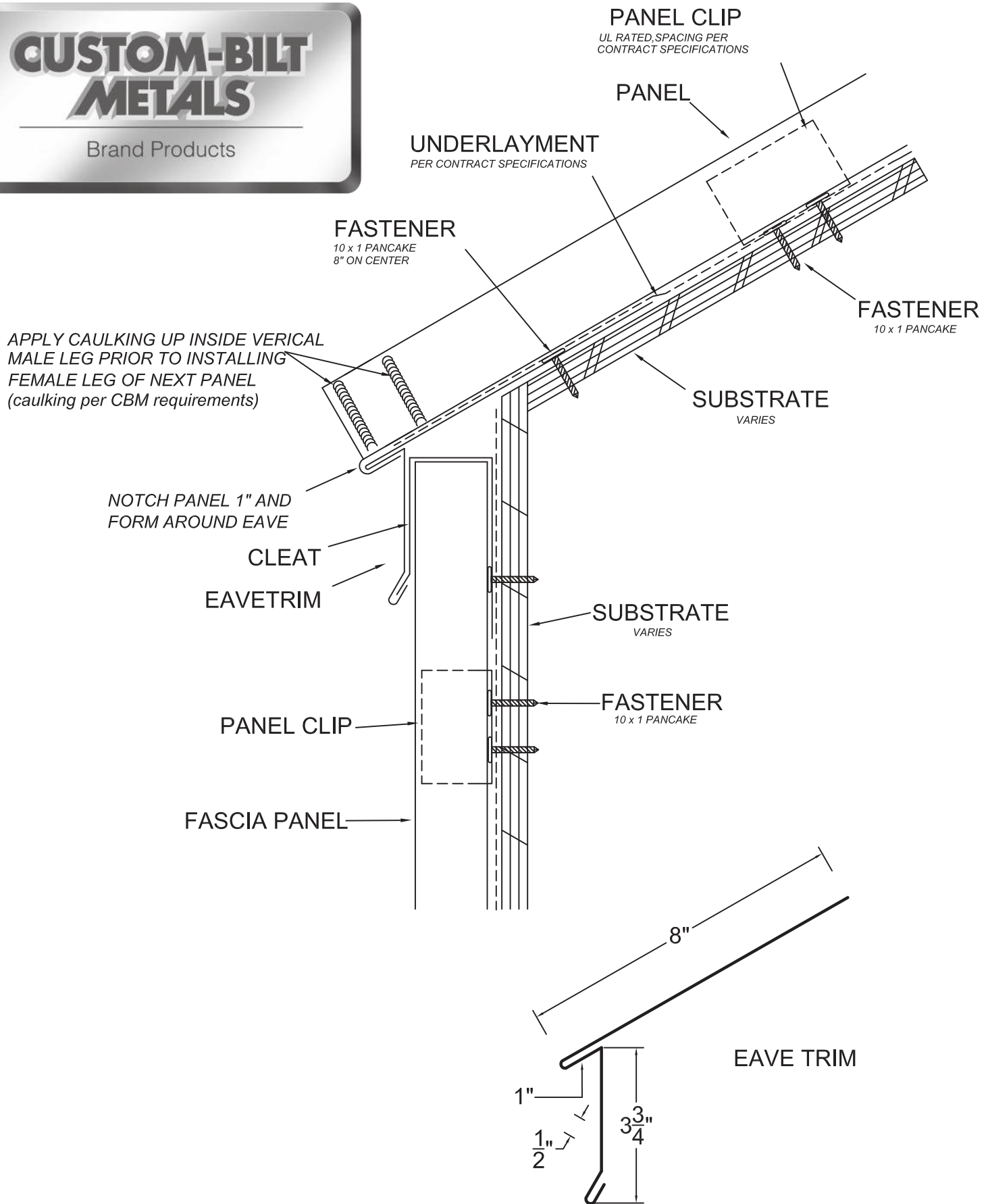


DRAWING: CB 4 EAVE w/gutter

All Flashing and Trim available through CBM

Note:

SUBJECT TO CHANGE WITHOUT NOTICE

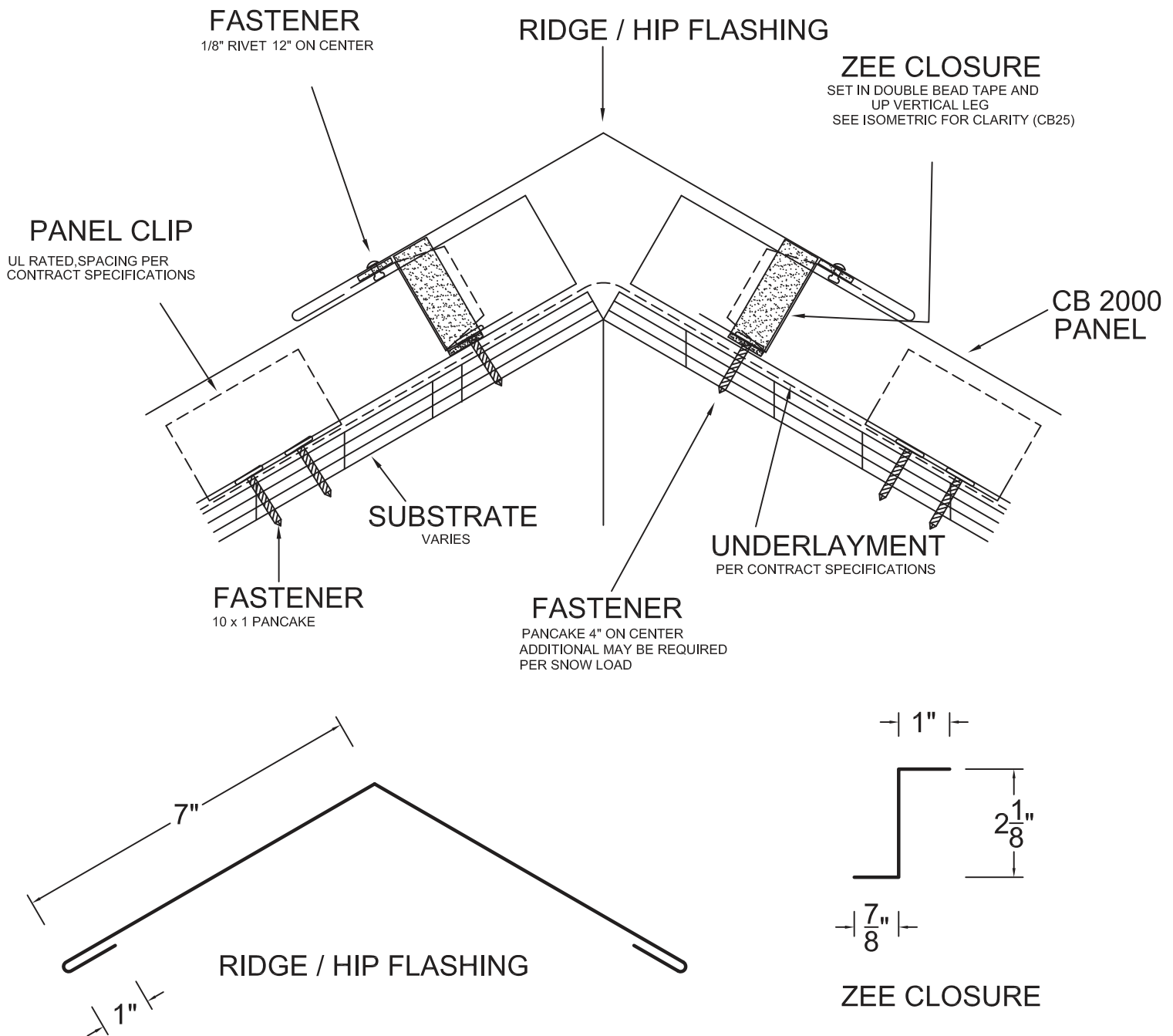


DRAWING: CB 5 EAVE w/ fascia panel

All Flashing and Trim available through CBM	Note:
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CUSTOM-BILT METALS

Brand Products



DRAWING: CB 6 RIDGE / HIP

All Flashing and Trim available through CBM

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Note:

CUSTOM-BILT METALS

Brand Products

VENTED RIDGE FLASHING

PERFORATED CLOSURE

BUTYL TAPE

FASTENER
6" ON CENTER

POP RIVET BETWEEN 12" OC MAX.

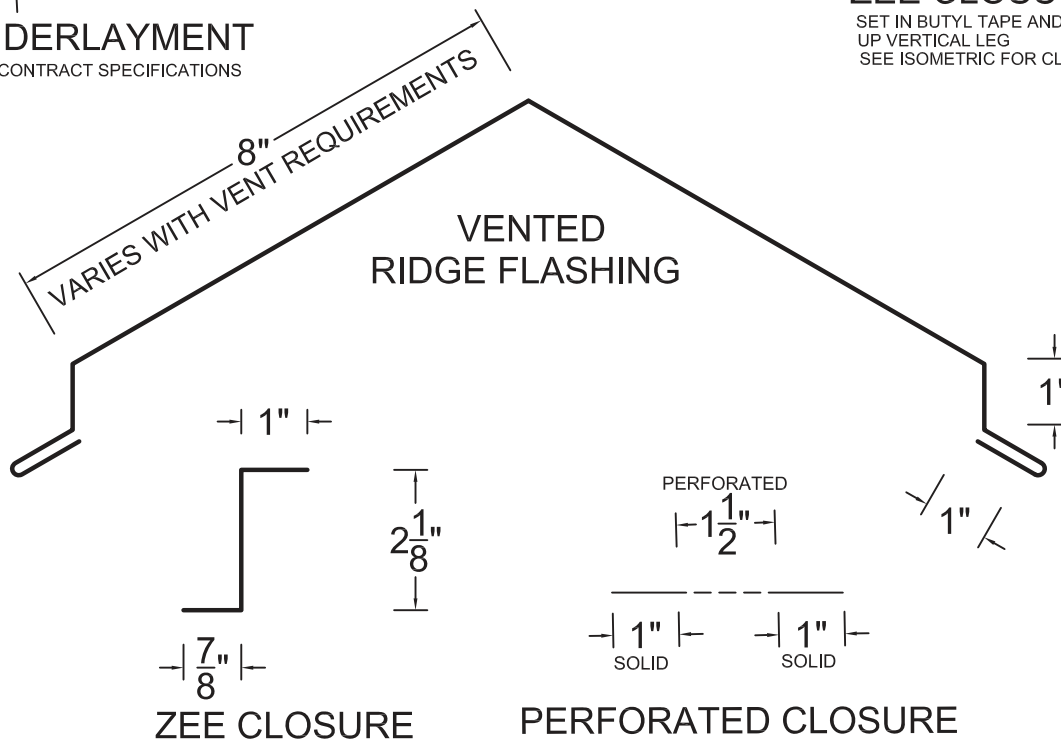
CB 2000
PANEL

FASTENER
10 x 1 PANCAKE 4" ON CENTER
ADDITIONAL MAY BE REQUIRED
PER SNOW LOAD

SUBSTRATE
VARIES

UNDERLAYMENT
PER CONTRACT SPECIFICATIONS

ZEE CLOSURE
SET IN BUTYL TAPE AND
UP VERTICAL LEG
SEE ISOMETRIC FOR CLARITY



DRAWING: CB 7 VENTED RIDGE

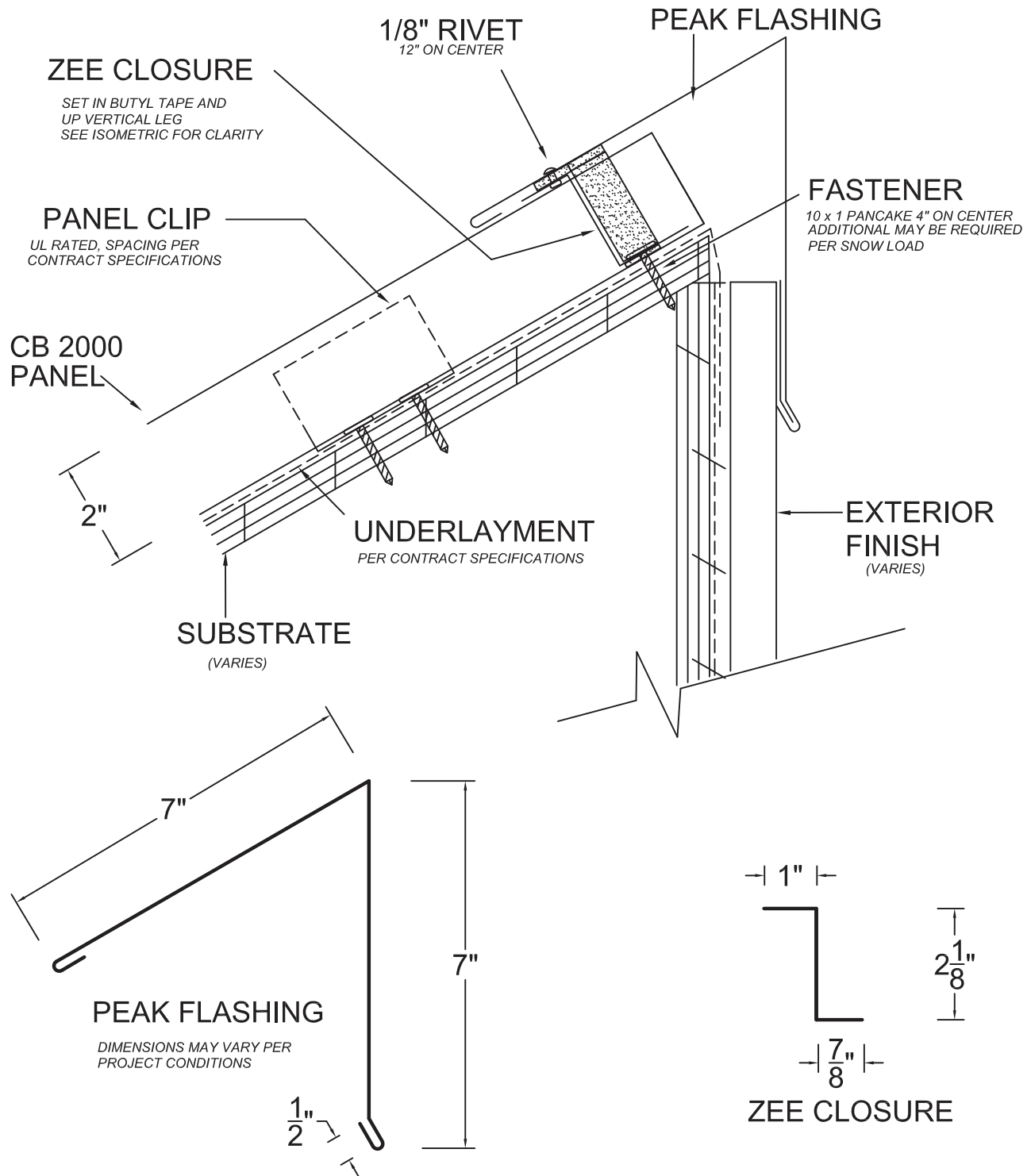
All Flashing and Trim available through CBM

SUBJECT TO CHANGE WITHOUT NOTICE

Note:

CUSTOM-BILT METALS

Brand Products



DRAWING: CB 8 PEAK

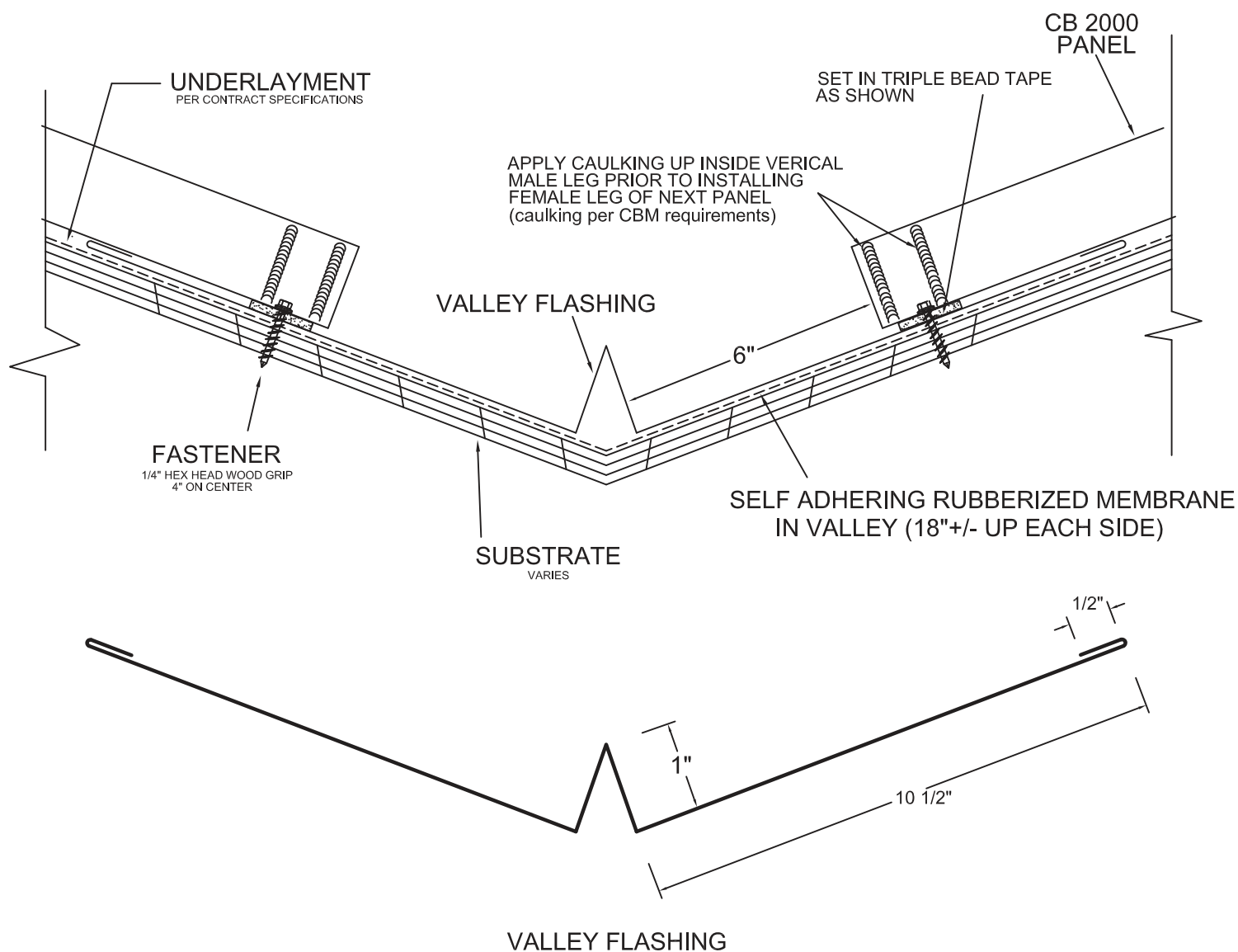
All Flashing and Trim available through CBM

SUBJECT TO CHANGE WITHOUT NOTICE

Note:

CUSTOM-BILT METALS

Brand Products



DRAWING: CB 9 VALLEY thru-fastened

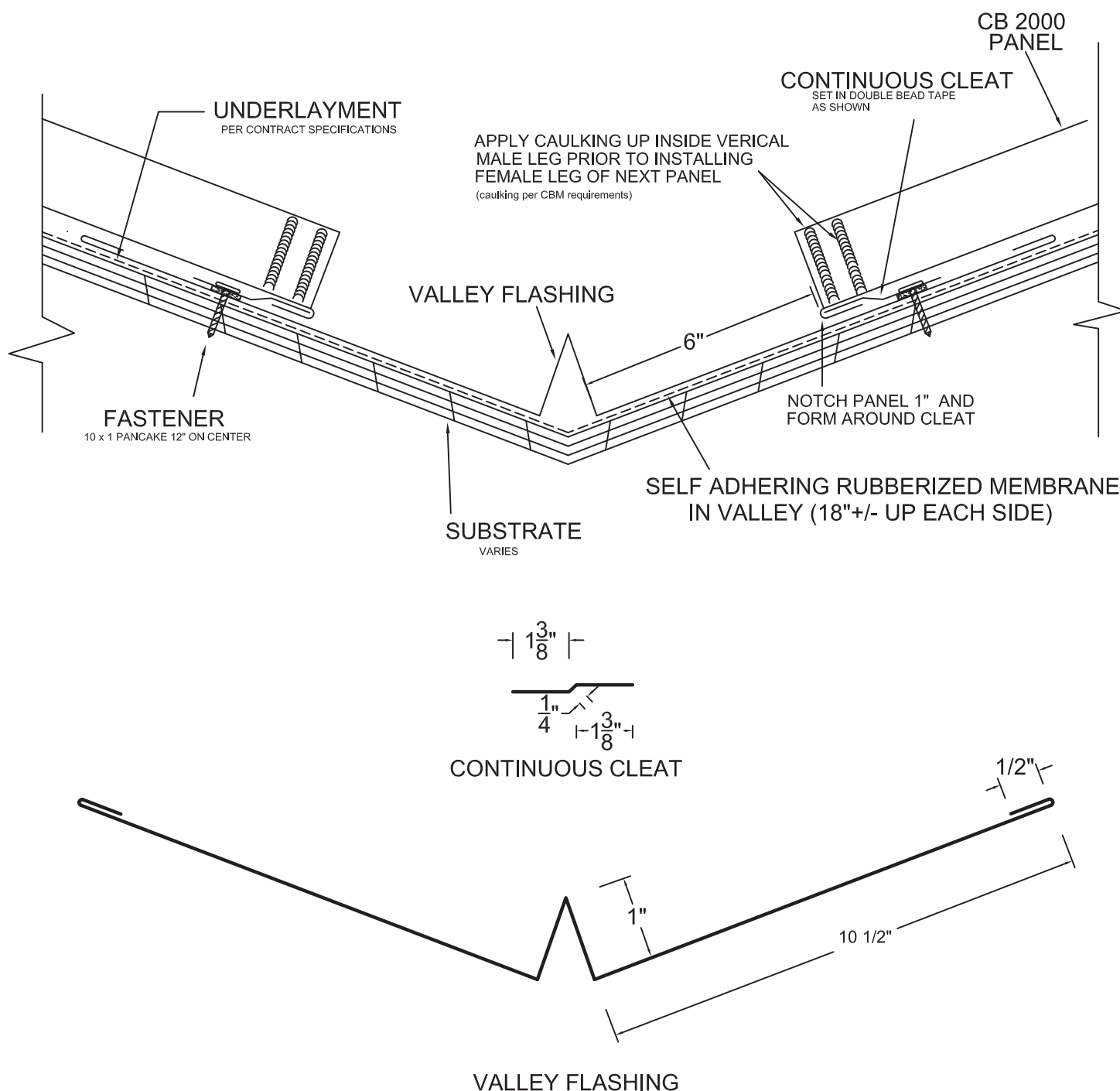
All Flashing and Trim available through CBM

Note: Use at roof pitch under 3" in 12"

SUBJECT TO CHANGE WITHOUT NOTICE

CUSTOM-BILT METALS

Brand Products

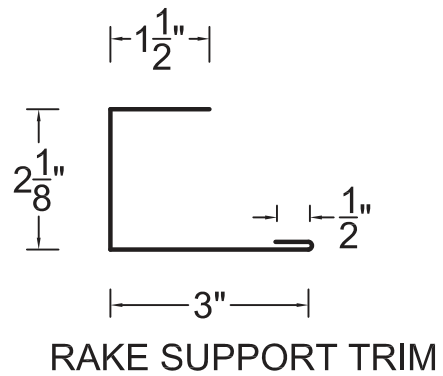
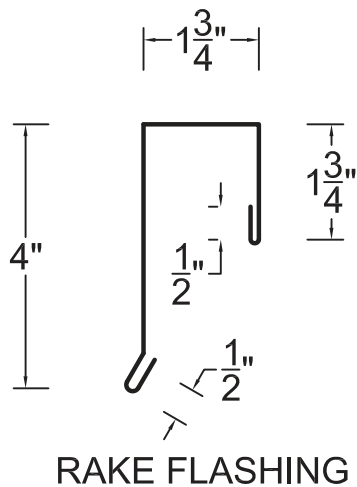
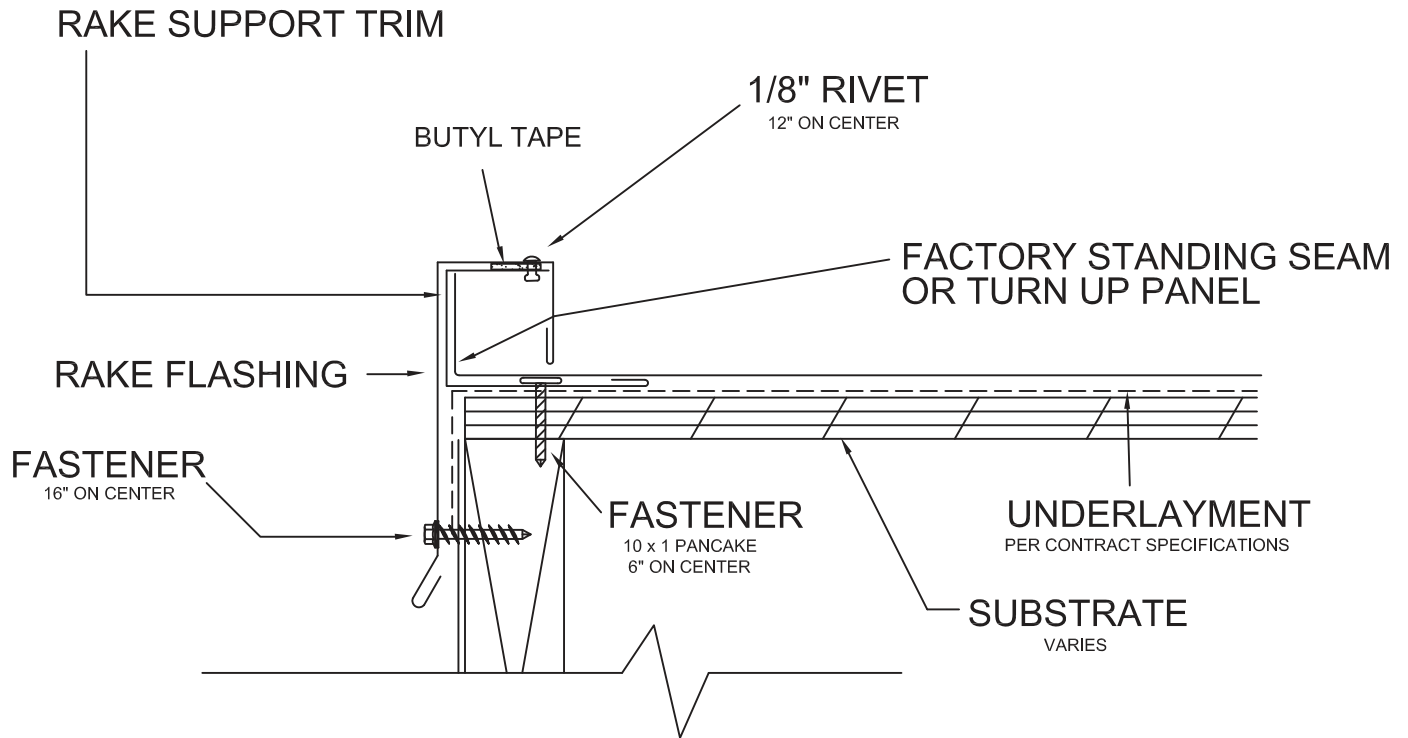


DRAWING: CB 10 VALLEY cleat

All Flashing and Trim available through CBM

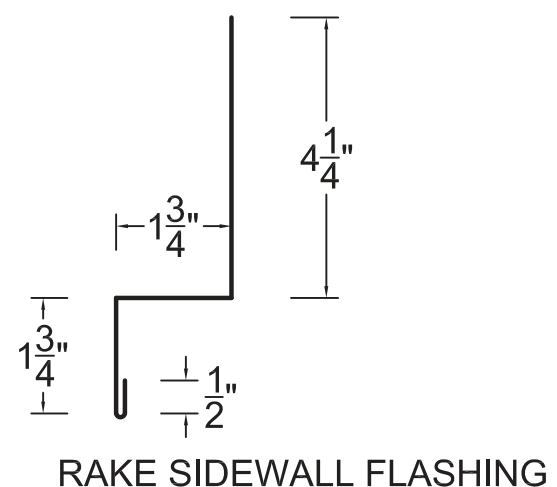
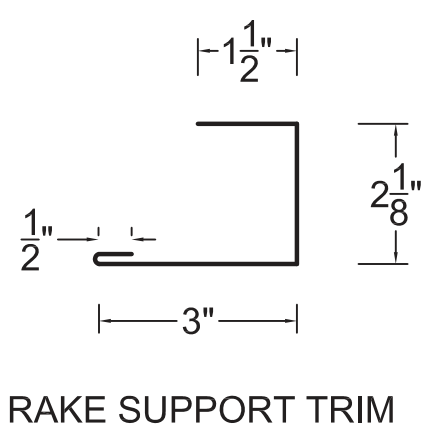
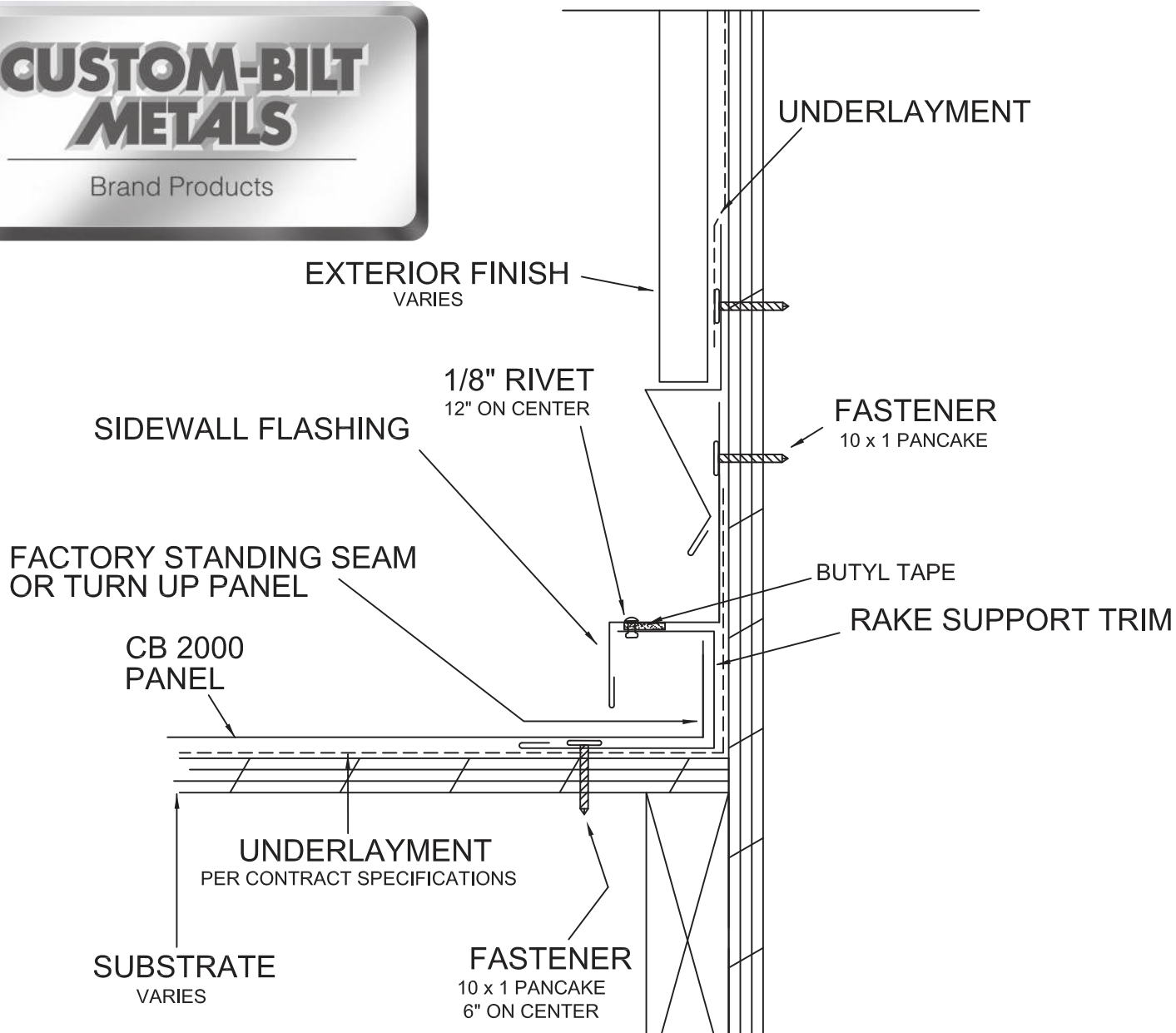
SUBJECT TO CHANGE WITHOUT NOTICE

Note: Use at roof pitch 3" in 12" or greater
Do not use at roof pitch under 3" in 12"



DRAWING: CB 11 RAKE

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

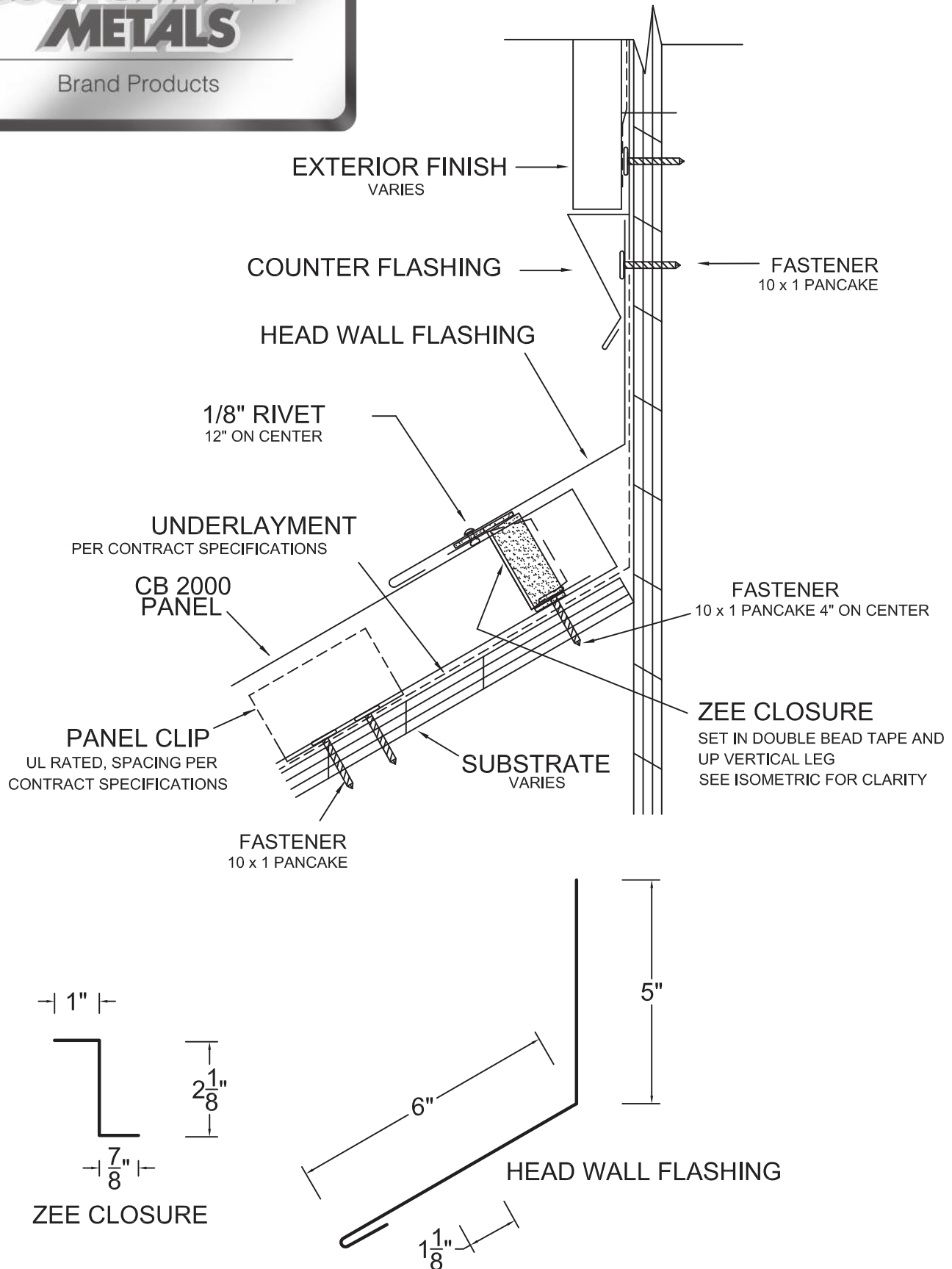


DRAWING: CB 12 SIDEWALL

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS

Brand Products

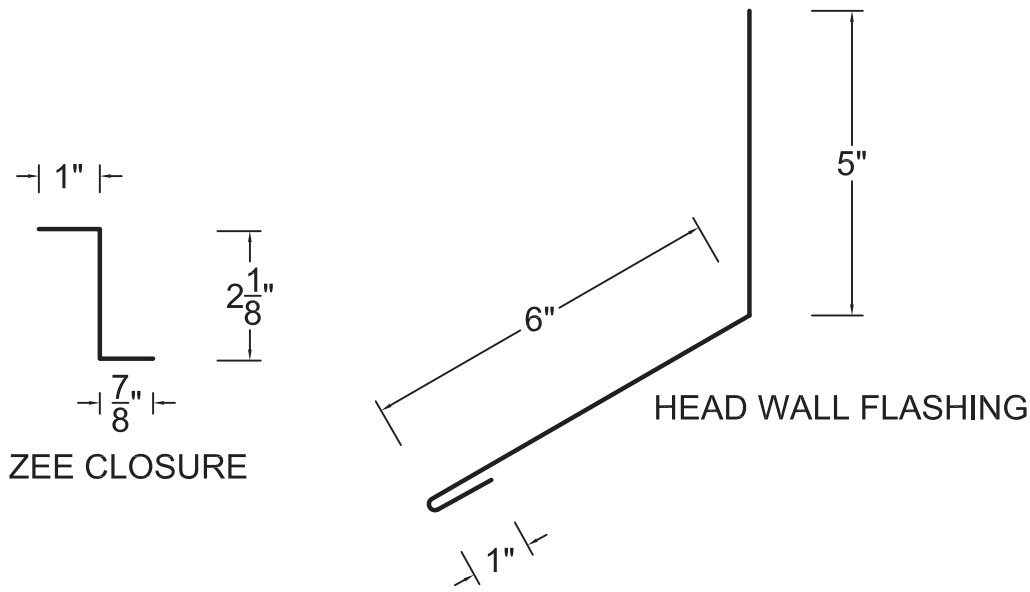
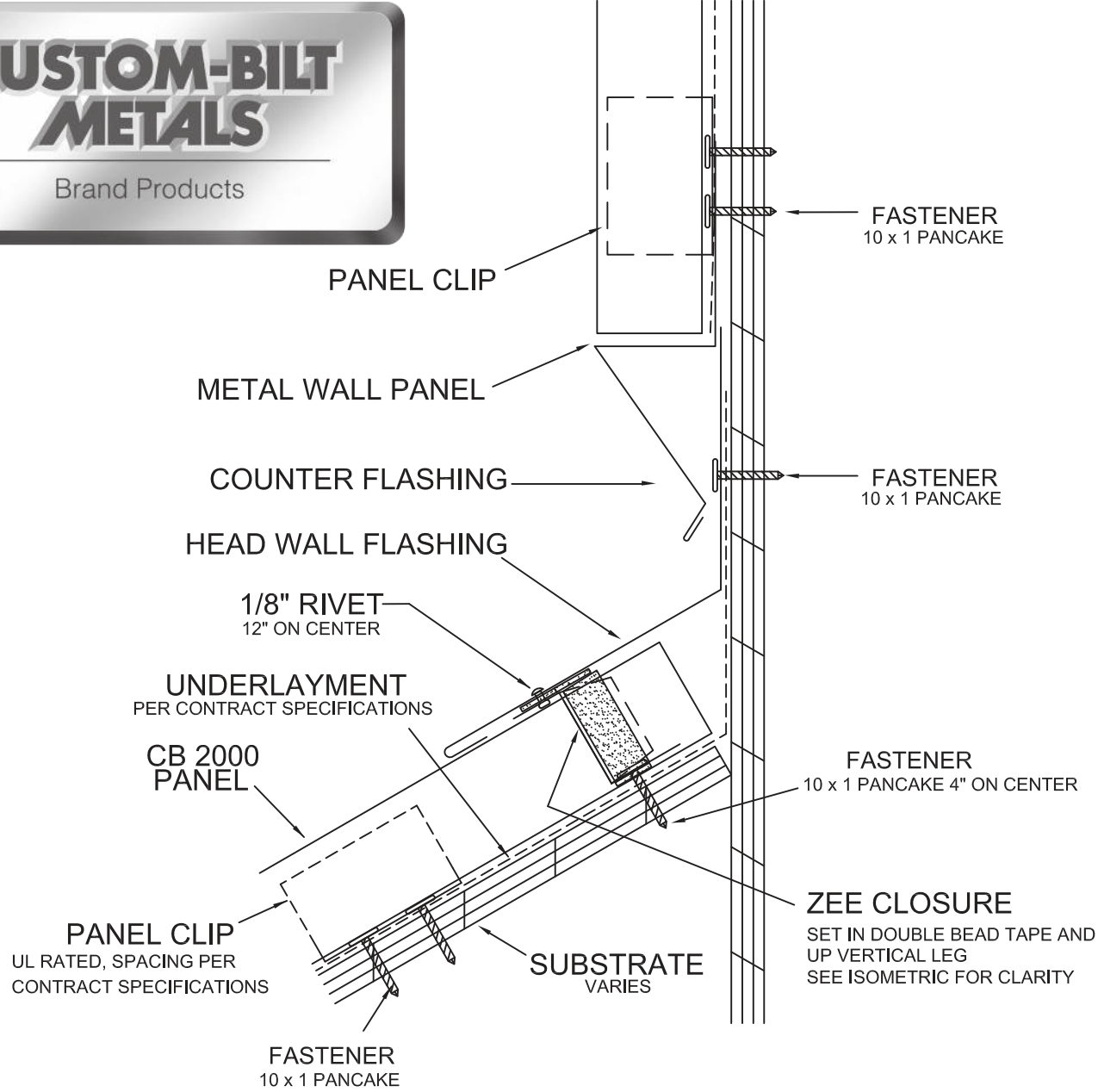


DRAWING: CB 13 HEADWALL

All Flashing and Trim available through CBM

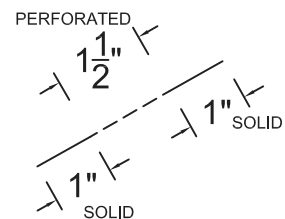
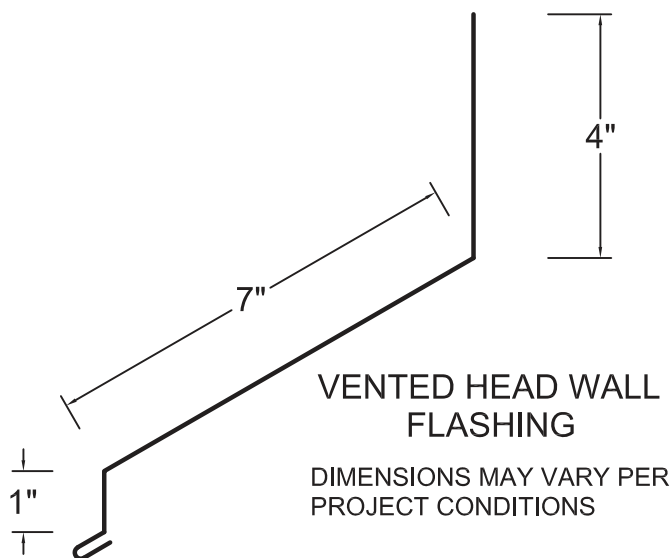
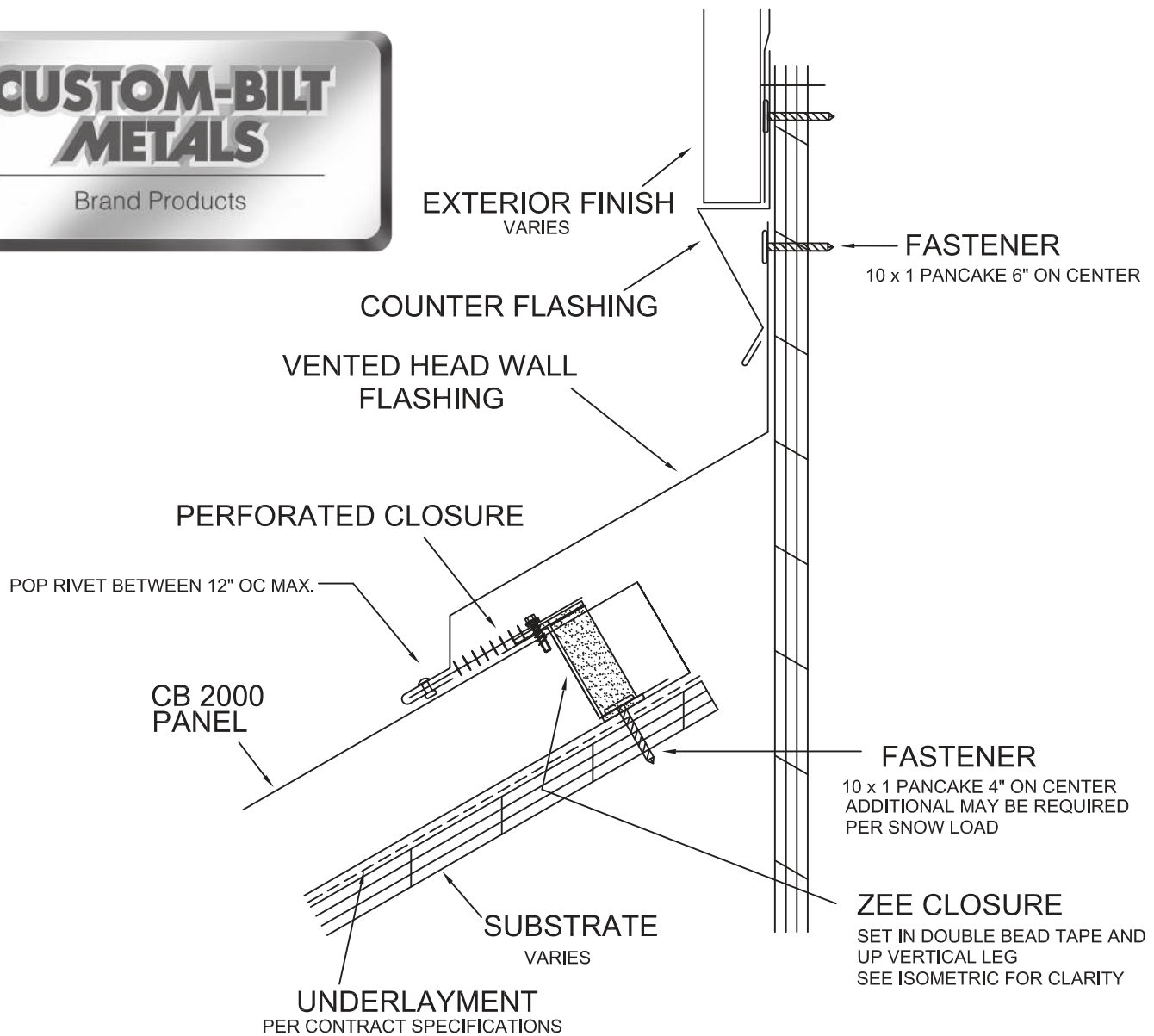
SUBJECT TO CHANGE WITHOUT NOTICE

Note:



DRAWING: CB 14 HEADWALL

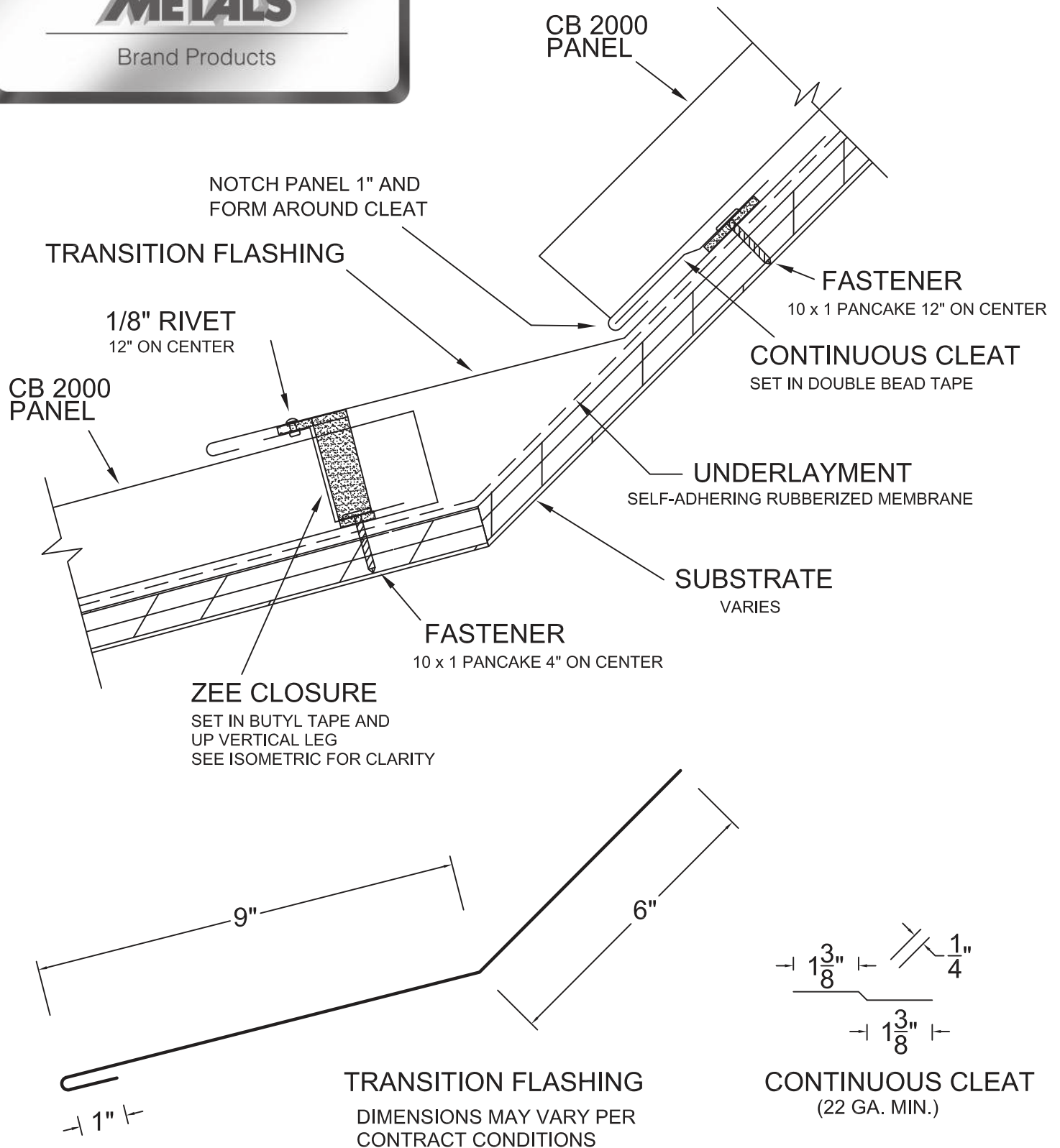
All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	



PERFORATED CLOSURE

DRAWING: CB 15 HEADWALL- VENTED

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

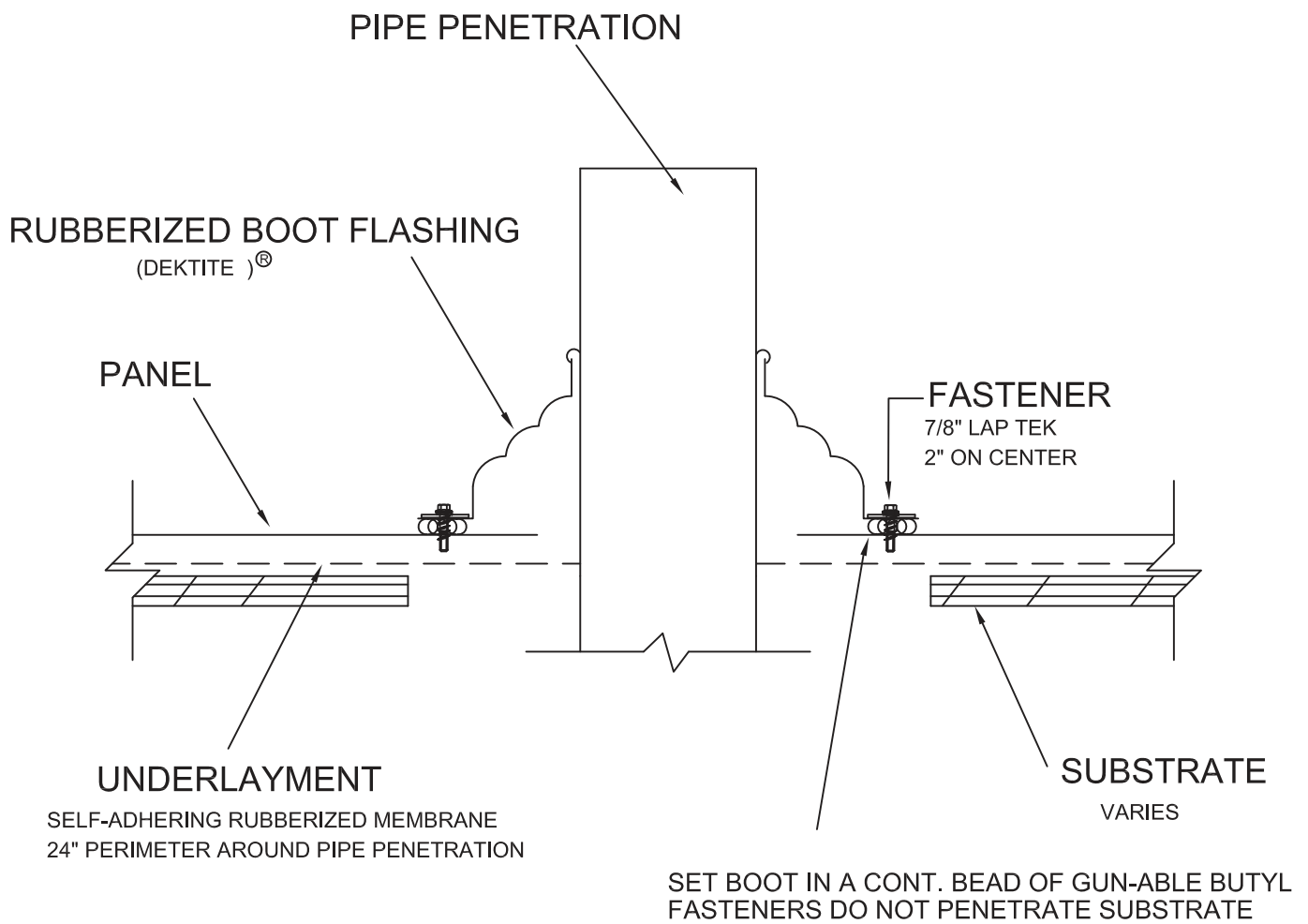


DRAWING: CB 16 TRANSITION

All Flashing and Trim available through CBM

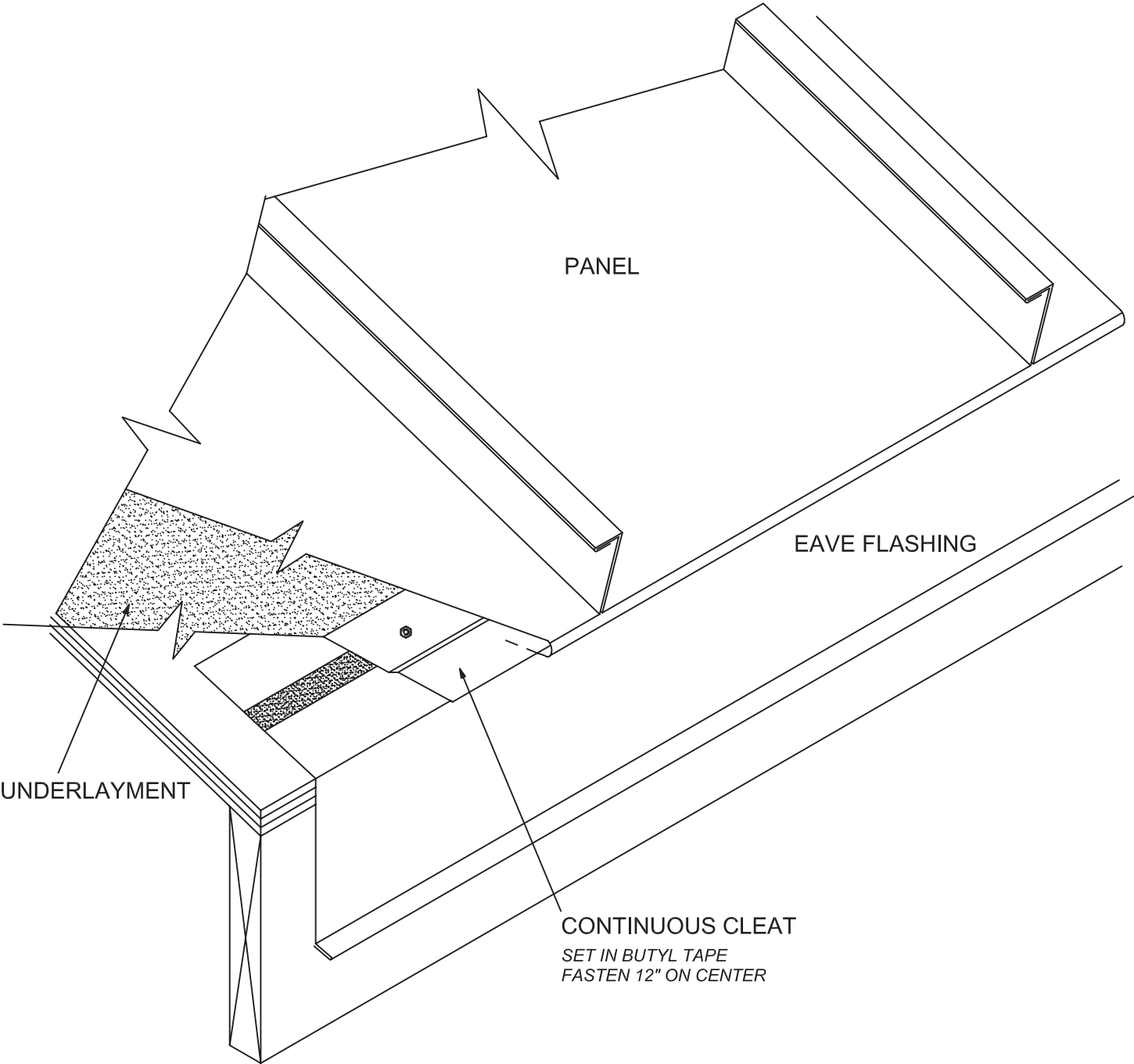
SUBJECT TO CHANGE WITHOUT NOTICE

Note:



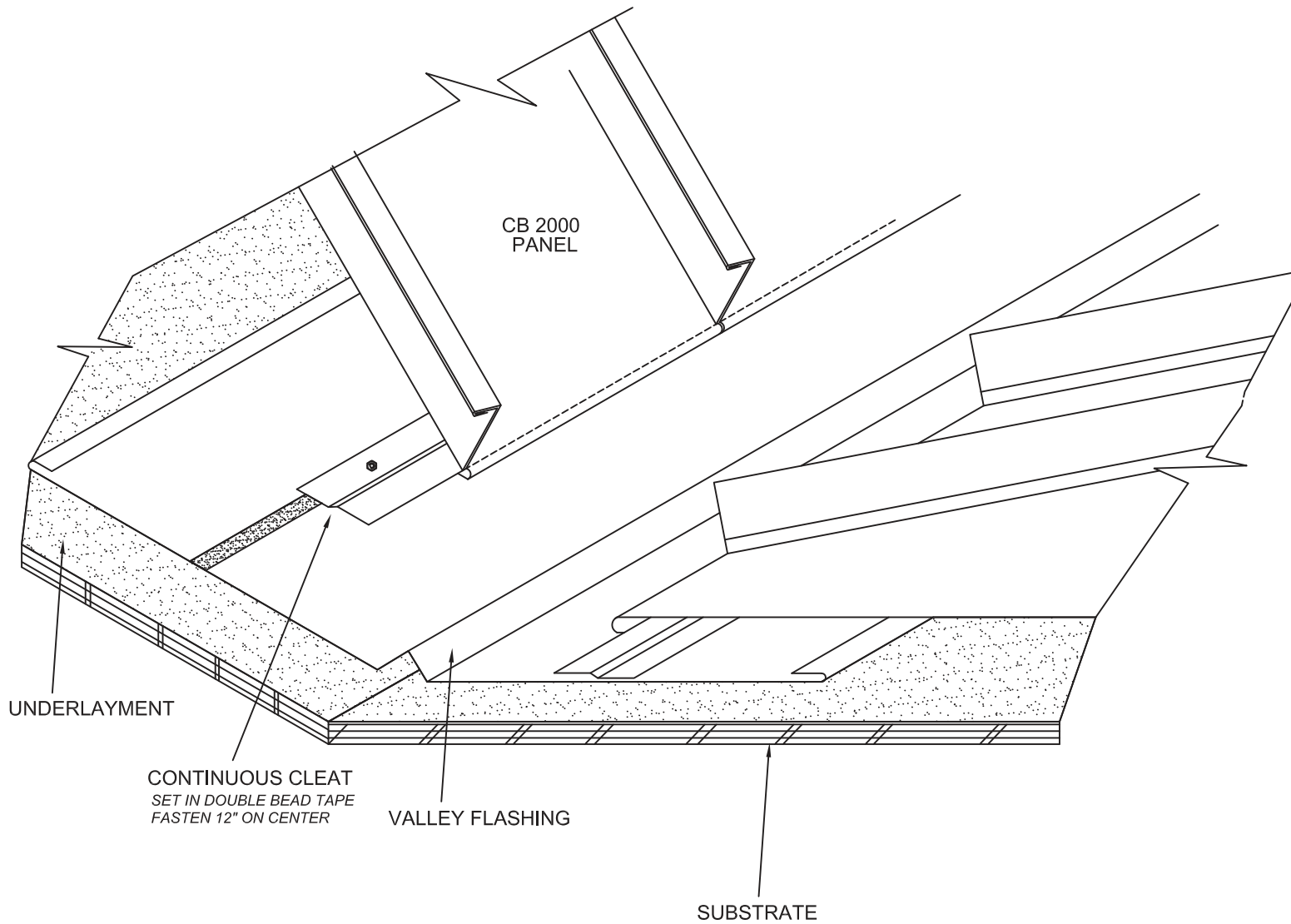
DRAWING: CB 20 PIPE PENETRATION

All Flashing and Trim available through CBM	Note: Not to be used if size restricts water flow around panel
SUBJECT TO CHANGE WITHOUT NOTICE	



DRAWING: CB 22 EAVE / ISOMETRIC

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

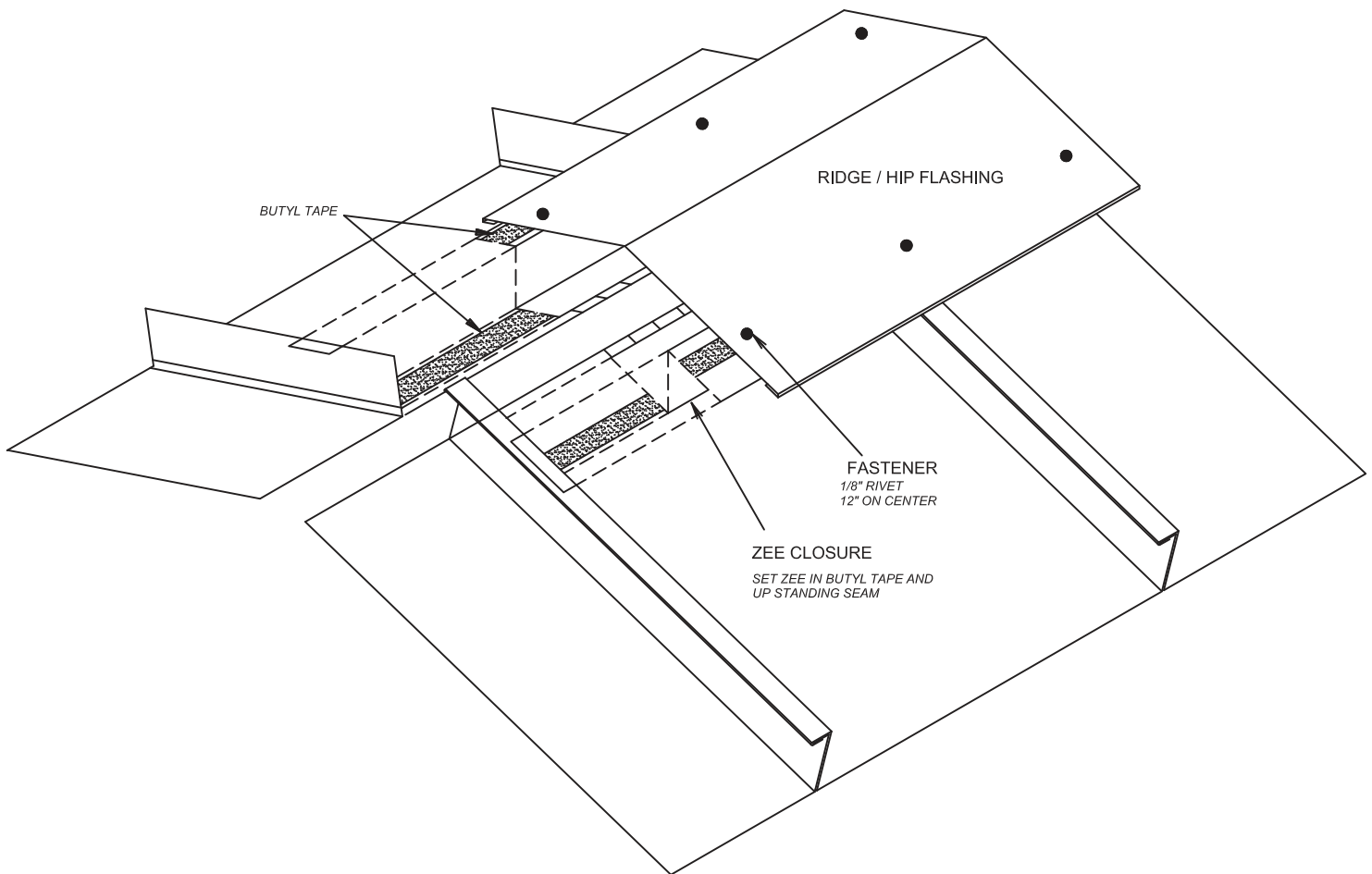


DRAWING: CB 23 VALLEY / ISOMETRIC

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

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DRAWING: CB 24 RIDGE/ HIP ISOMETRIC

All Flashing and Trim available through CBM

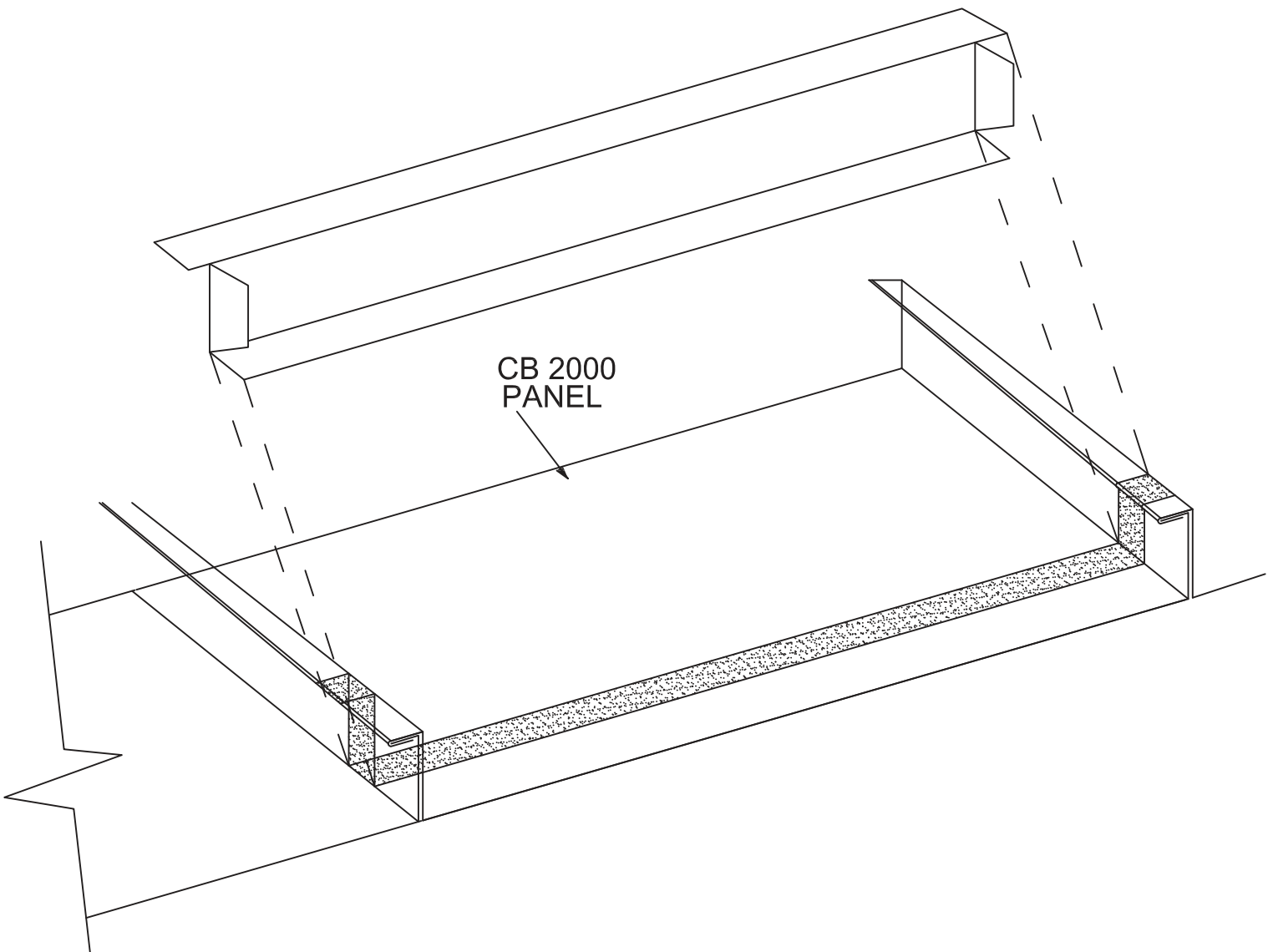
Note:

SUBJECT TO CHANGE WITHOUT NOTICE



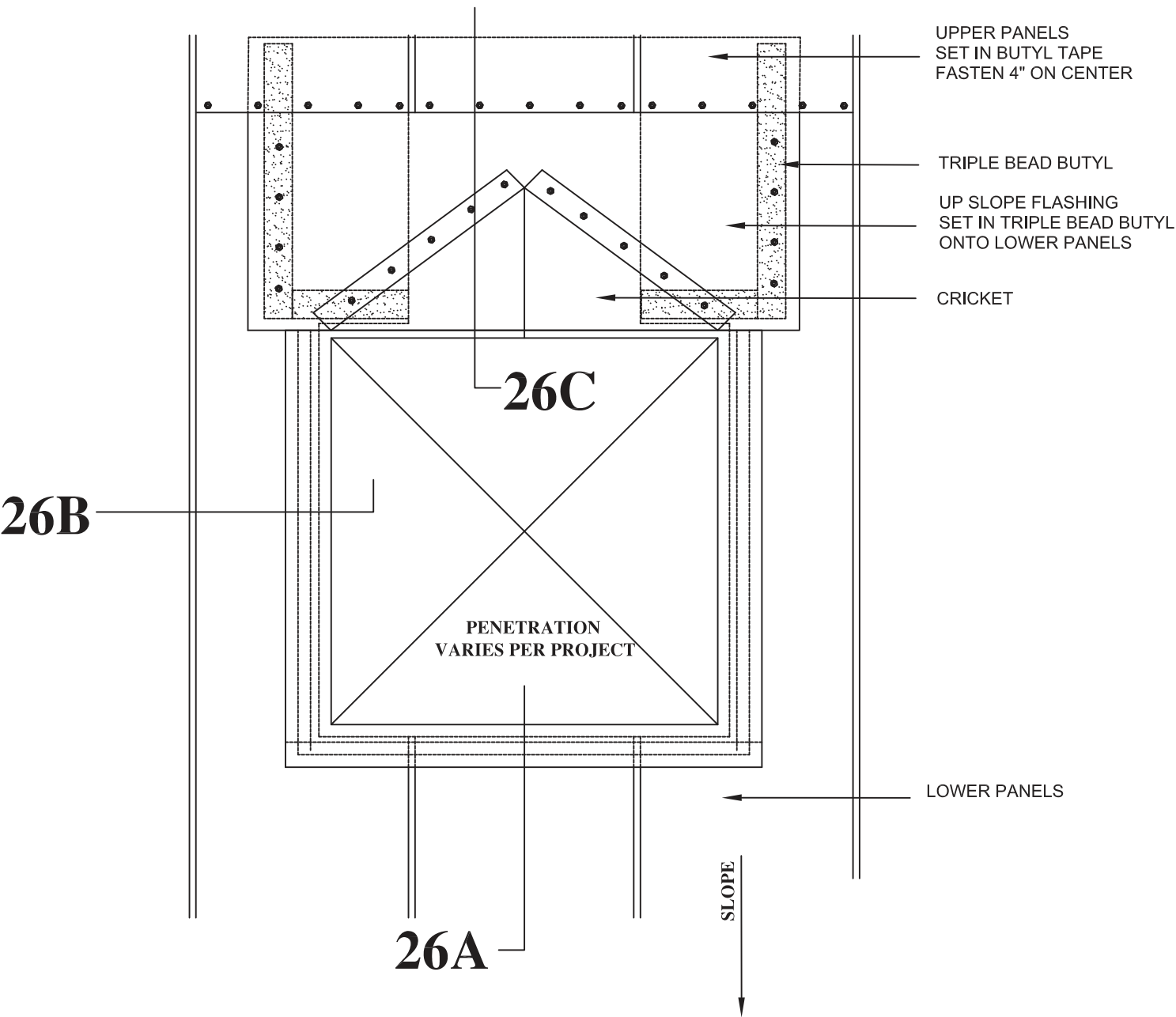
ZEE CLOSURE

*NOTCH ZEE AS SHOWN AND SET IN DOUBLE BEAD SEALANT TAPE
FASTEN THROUGH PANEL 1" IN FROM SIDES AND 4" ON CENTER*



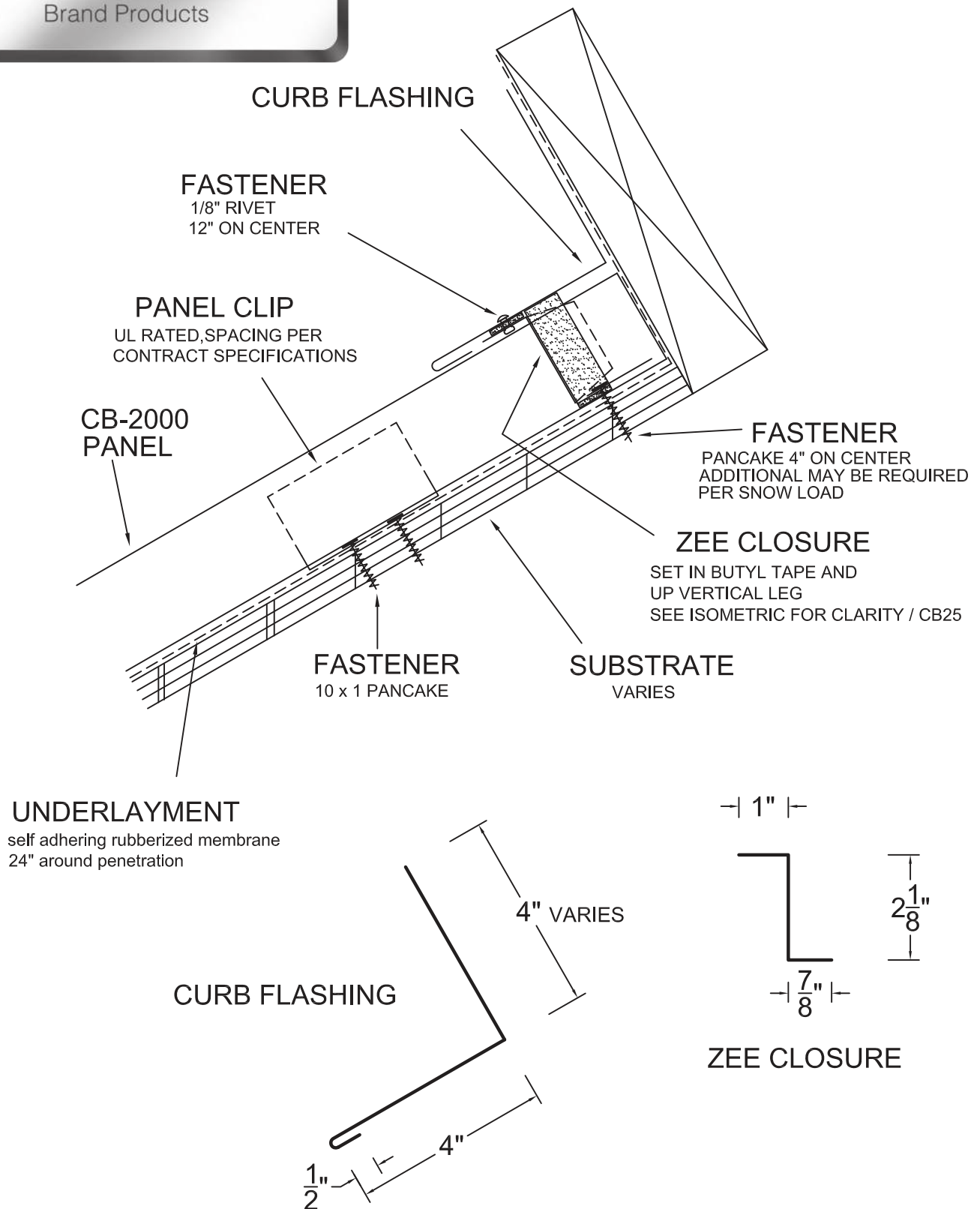
DRAWING: CB 25 ZEE CLOSURE

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	



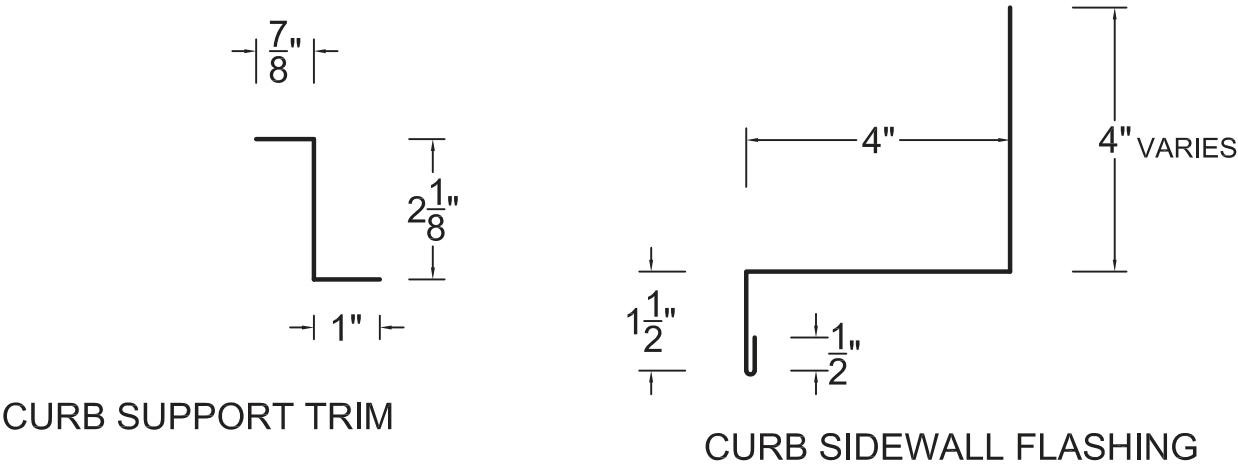
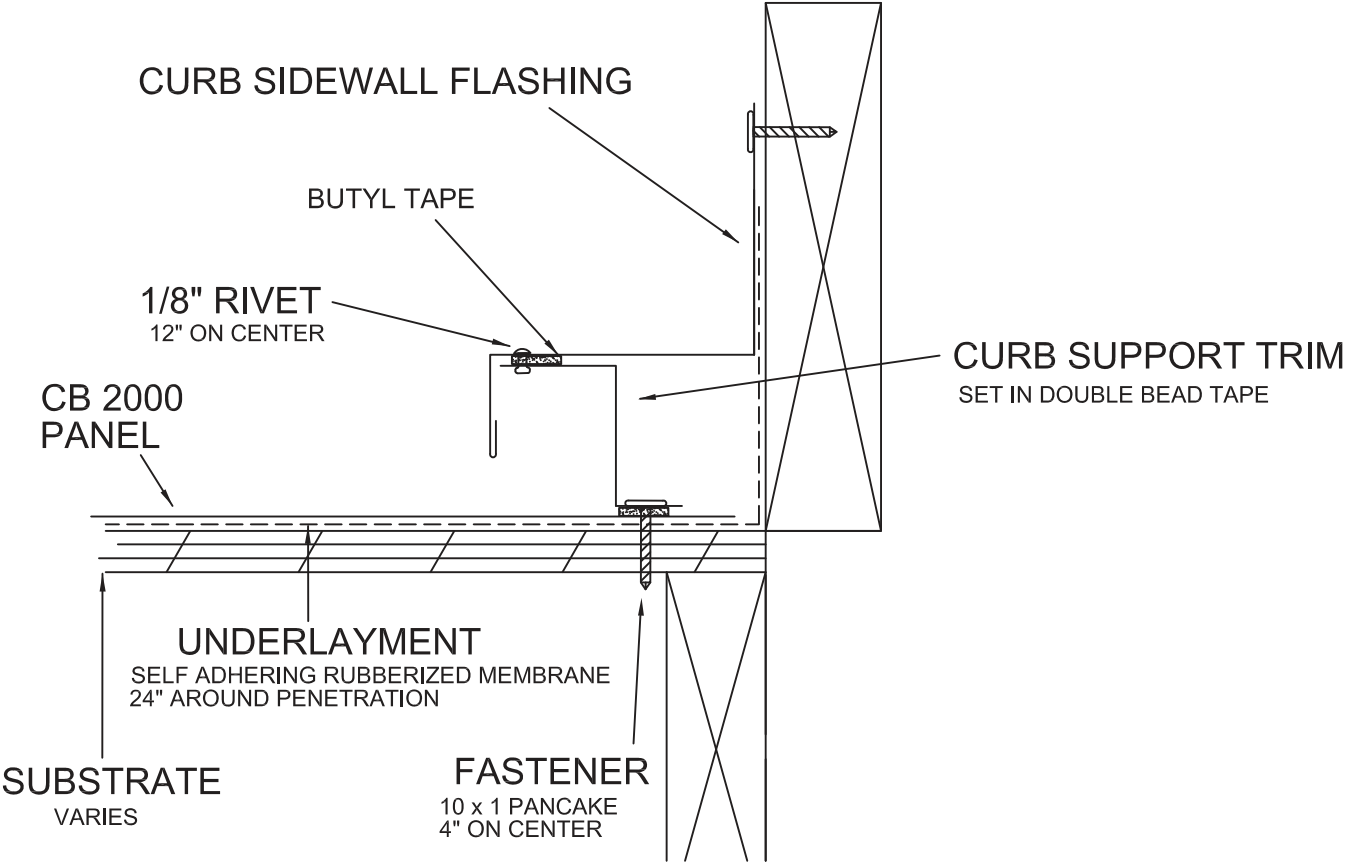
DRAWING: CB 26 CURB PENETRATION

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	



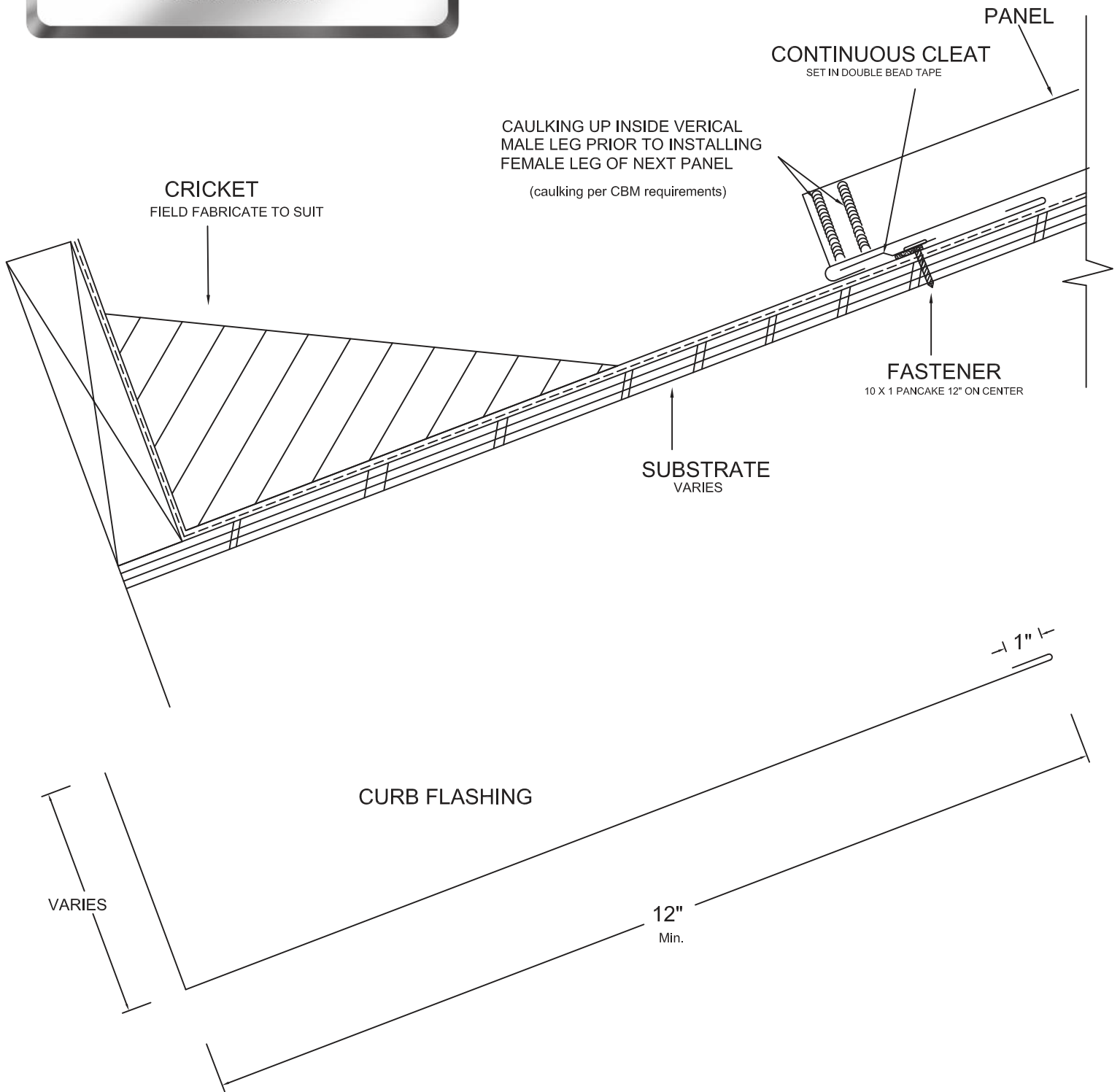
DRAWING: CB 26a CURB PENETRATION / section

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	



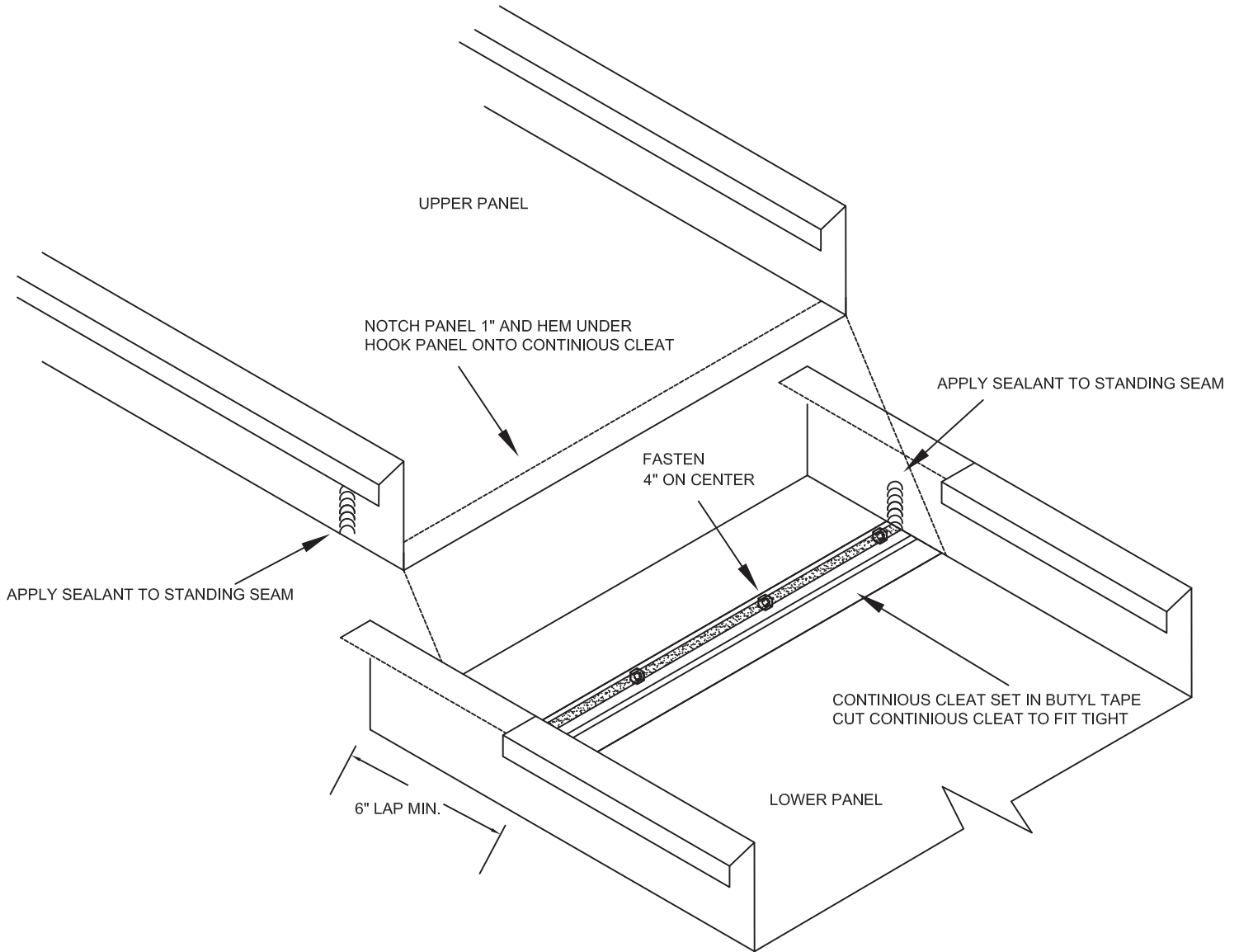
DRAWING: CB 26b CURB PENETRATION / section

All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	



DRAWING: CB 26c CURB PENETRATION / section

All Flashing and Trim available through CBM	Note: Alternate
SUBJECT TO CHANGE WITHOUT NOTICE	



DRAWING: CB27

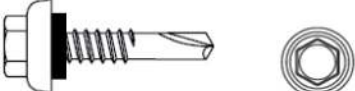
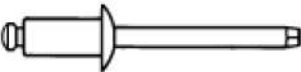
All Flashing and Trim available through CBM	Note: ALTERNATE - NOT TO BE USED ON SLOPE UNDER 3:12
SUBJECT TO CHANGE WITHOUT NOTICE	

Fastener Selection

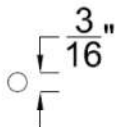
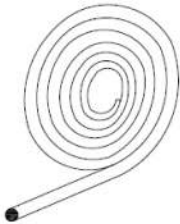
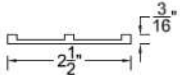
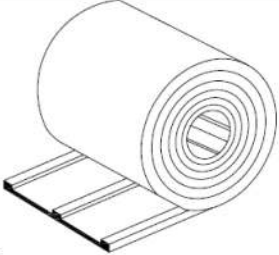
Fastener	Description	USE
	#10 Pancake Screw Type A Zinc Plated Quadrex Drive	Metal to wood Clip or Trim to wood substrate
	#10 Pancake Screw Self-drill Zinc Plated Quadrex Drive	Metal to metal Clip or Trim to Metal substrate Min projection: 3/8" below substrate
	#10 Pancake Screw Type A Stainless Steel Quadrex Drive	Metal to wood Clip or Trim to wood substrate
	#12 Pancake Screw Self-drill Zinc Plated Quadrex Drive	Metal to metal Clip or Trim to Metal substrate
	#12 Pancake Screw Self-drill Stainless Steel	Metal to metal Clip or Trim to Metal substrate
	1/4-14 #2 Point 5/16" AF Zinc	Metal to metal Clip to Metal substrate
	Woodgrip/Painted #9-15 HWH Zinc Plated Sharp A Point w/washer 1/4" Hex Washer Head	Flashing / Trim to wood substrate
	Evergrip / Painted #9-15 HWH Stainless Steel Sharp A Point w/washer 1/4" Hex Washer Head	Flashing / Trim to wood substrate
	#12-14 Impax 5/16" Hex Washer Head SD2	Metal to metal Trim to Metal substrate
	1/4-14 X 7/8 Impax Lap 5/16" Hex Washer Head	Trim to Panel attachment Trim to Trim attachment Light gauge to Light gauge
	1/4-14 ZAC Lap (5/16") 5/16" AF Zinc Aluminum Capped Hex Washer Head	Trim to Panel attachment Trim to Trim attachment Light gauge to Light gauge

CUSTOM-BILT METALS

Brand Products

	12-14 ZAC (5/16") 5/16" AF Zinc Aluminum Capped Hex Washer Head	Flashing / Trim to Metal substrate
	10-15 HiLo WoodZac 5/16" AF Zinc Aluminum Capped Hex Washer Head	Flashing / Trim to wood substrate
	#14 Dekfast #3 Philips Head	Metal to metal Clip to Metal substrate Typical usage to attach panel clips through rigid insulation
	#14 Type A Mill Point 5/16" Hex Washer Head	Metal to Metal and Metal to Wood Recommended for Contour 7/8 Roofing
	#12-14 Self-Drill STAINLESS Steel	Flashing / Trim to Metal substrate
	Blind Rivets Trim to Trim attachment	Stainless #43 1/8"Dia. Grip range .126 - .187 Stainless #44 1/8"Dia. Grip range .188 - .250 Aluminum #43 1/8"Dia. Grip range .126 - .187 Aluminum #44 1/8"Dia. Grip range .188 - .250 Available prefinished in standard colors

SEALANTS

SEALANT	Description	USE
 3/16" BEAD 	3/16" Bead Butyl Tape 25 foot rolls	Field applied seam sealant for concealed areas ONLY
 DOUBLE BEAD  	7/8" Double Bead Butyl Tape 40 foot rolls 3/4" Flat Butyl Tape 50 foot rolls	Per Recommended Details for concealed areas ONLY
 TRIPLE BEAD 	2 1/2" Triple Bead Butyl Tape 20 foot rolls	Per Recommended Details for concealed areas ONLY
	10.5 oz. Cartridge-Non-Skinning Butyl Caulk	Gunnable caulk for concealed areas ONLY
	10.5 oz. Cartridge 1-component, polyurethane sealant	Gunnable caulk may be used in exposed areas

PAINT

DESCRIPTION AND USE

	DURANAR ADS PENS (air dry system) Touch Up paint for small / minor scratches in roofing material
---	--

PIPE FLASHINGS



DEKTITE SIZE	FIT PIPE SIZES	Description
1	1/4" – 2"	Standard gray Temp range 212°
2	1 3/4" – 3 1/4"	Standard gray Temp range 212°
3	1/4" – 5"	Standard gray Temp range 212°
4	3" - 6 1/4"	Standard gray Temp range 212°
5	4 1/4" – 7 1/2"	Standard gray Temp range 212°
6	5" – 9"	Standard gray Temp range 212°
7	6" – 11"	Standard gray Temp range 212°
8	7" – 13"	Standard gray Temp range 212°
9	10" – 19"	Standard gray Temp range 212°

1	1/4" – 2"	High temp Red Temp range 437°
2	1 3/4" – 3 1/4"	High temp Red Temp range 437°
3	1/4" – 5"	High temp Red Temp range 437°
4	3" - 6 1/4"	High temp Red Temp range 437°
5	4 1/4" – 7 1/2"	High temp Red Temp range 437°
6	5" – 9"	High temp Red Temp range 437°
7	6" – 11"	High temp Red Temp range 437°
8	7" – 13"	High temp Red Temp range 437°
9	10" – 19"	High temp Red Temp range 437°



DEKTITE SIZE	FIT PIPE SIZES	Description
1	3/4" – 2 3/4"	Standard gray Temp range 212°
2	2" – 7 1/4"	Standard gray Temp range 212°
3	3 1/4" – 10"	Standard gray Temp range 212°



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