CUSTOM-BILT METALS

Brand Products

CB-100
CB-150
CS-100
SL-100
SL-150
SLZ-1000

Details and 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 may be fabricated using Zincalume, G-90 galvanized steel, copper or aluminum. Various gauges are available; contact a CBM sales representative for details. The steel and aluminum panels are available prefinished in a full 70% PVDF (Polyvinylidene fluoride) or Kynar 500® or Hylar® 5000 or Fluropon® paint system. Bare Zincalume (Zincalume Plus) is also available. 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. The plane of the substrate should not vary more than ¼" in 20 feet. SL1750 panel profile 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, 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

Check shipment against shipping list. Report any damaged material to CBM immediately. 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.

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 clip 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.

Designer/Installer Notes (cont.)

GENERAL INSTALLATION INFORMATION

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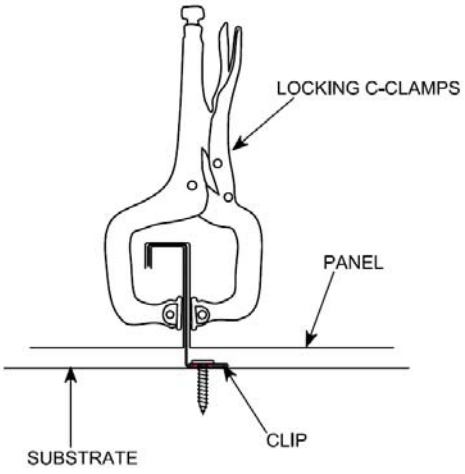
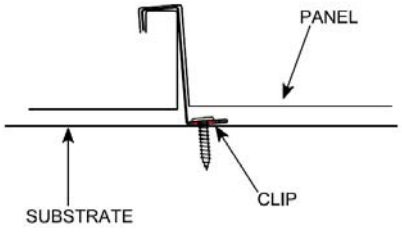
IMPORTANT INSTALLATION FOR Mechanically Seamed Profiles

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.



CORRECT INSTALLATION



INCORRECT INSTALLATION

CUSTOM-BILT METALS
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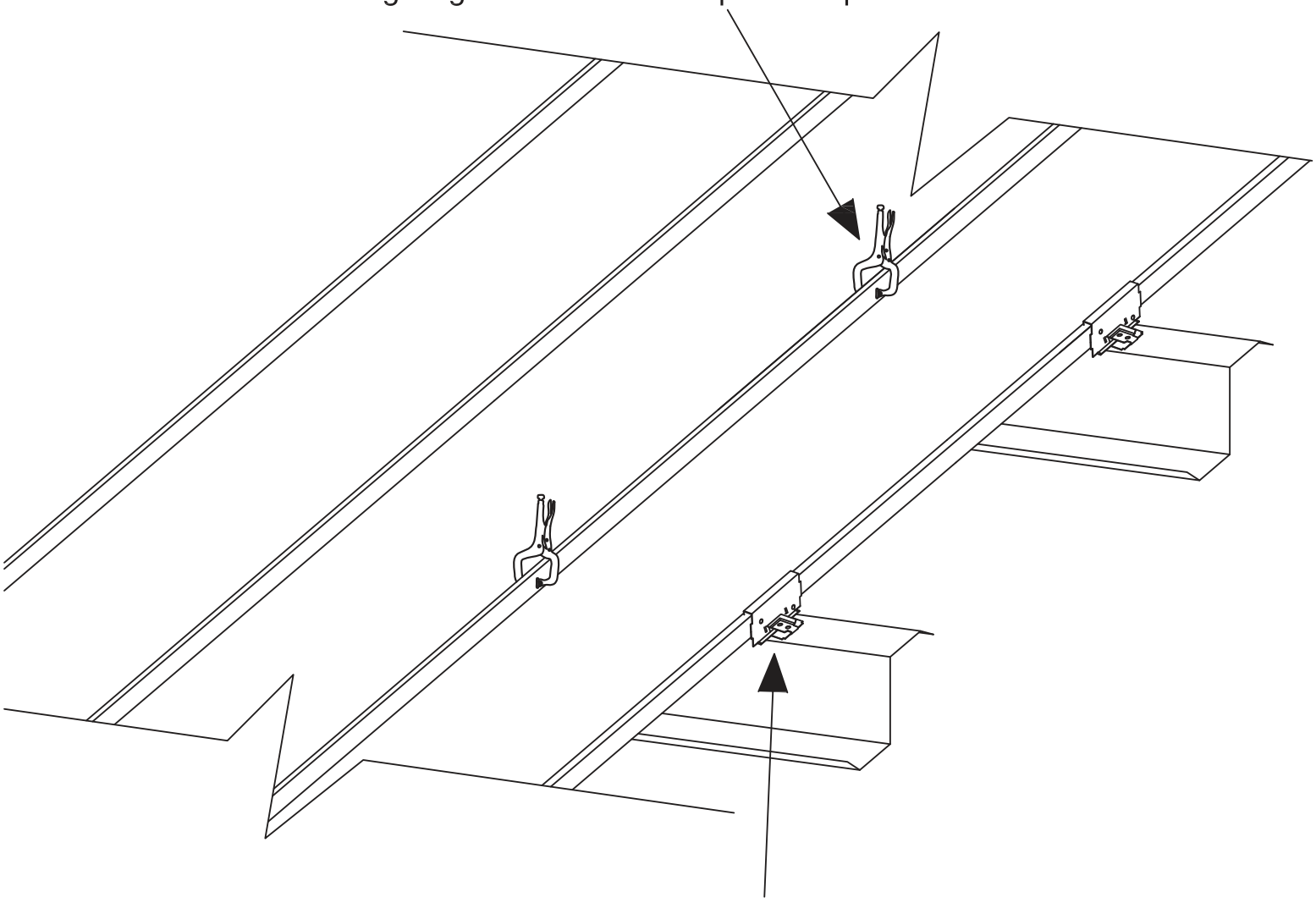
Special Instructions for Mechanical Seam Panels
CB100 / CB150 / CB2000

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

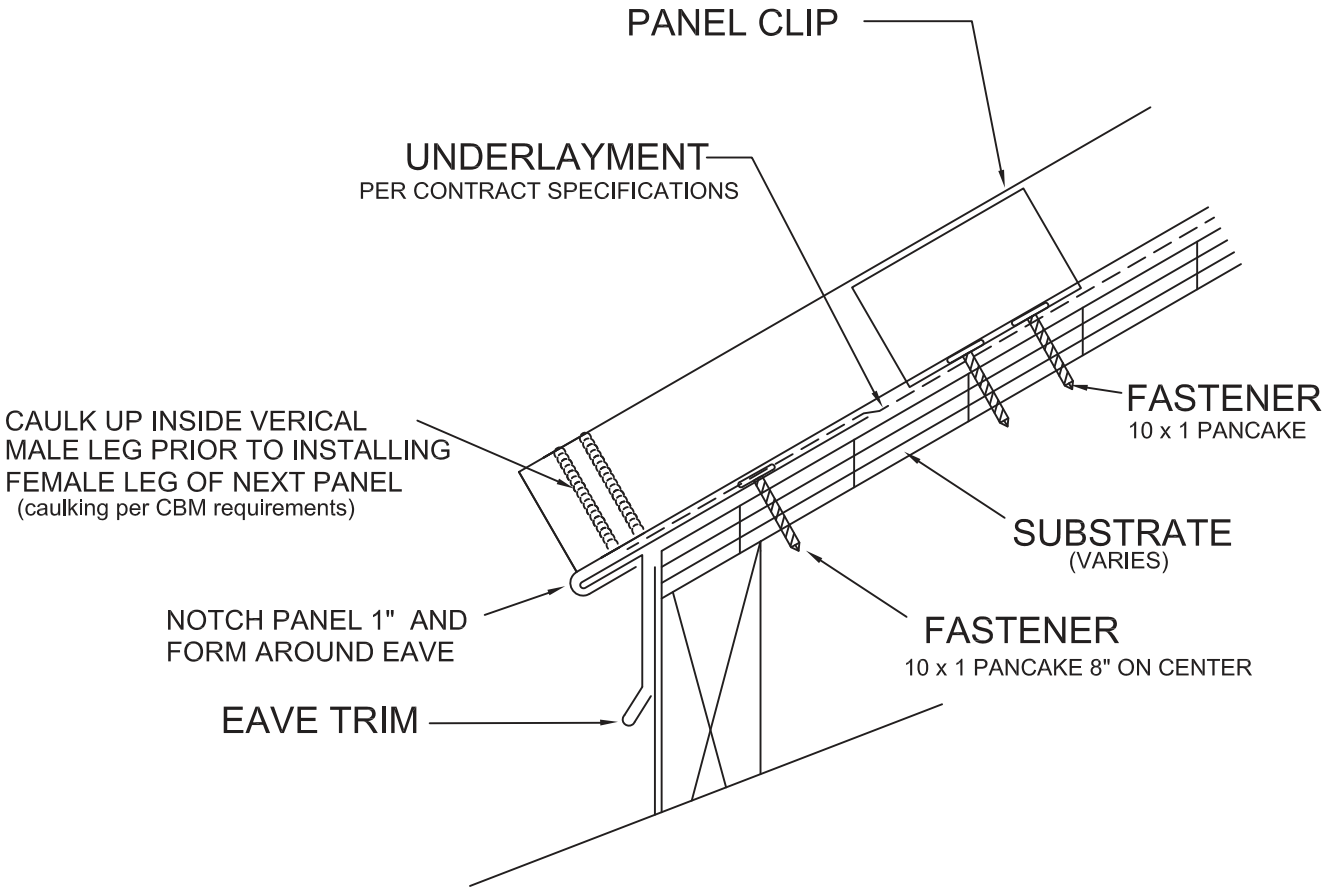


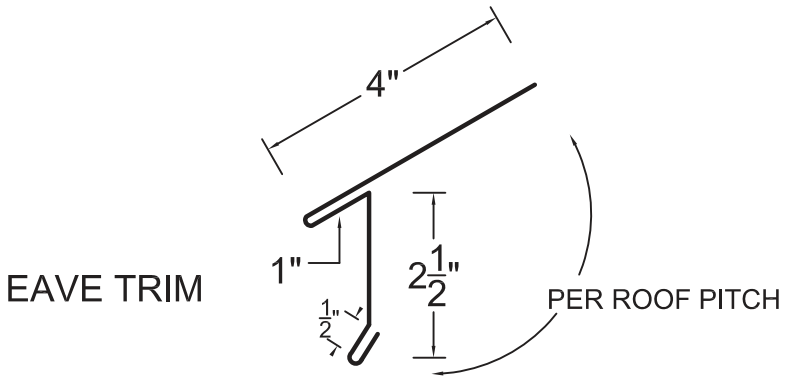
2.With locking clamps in place install clips and fasten.
Keep clips tight against panel leg. Substrate will very per specific conditions

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

All Flashing and Trim available through CBM	Note: GUIDELINES APPLY TO ALL SUBSTRATE CONDITIONS
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products

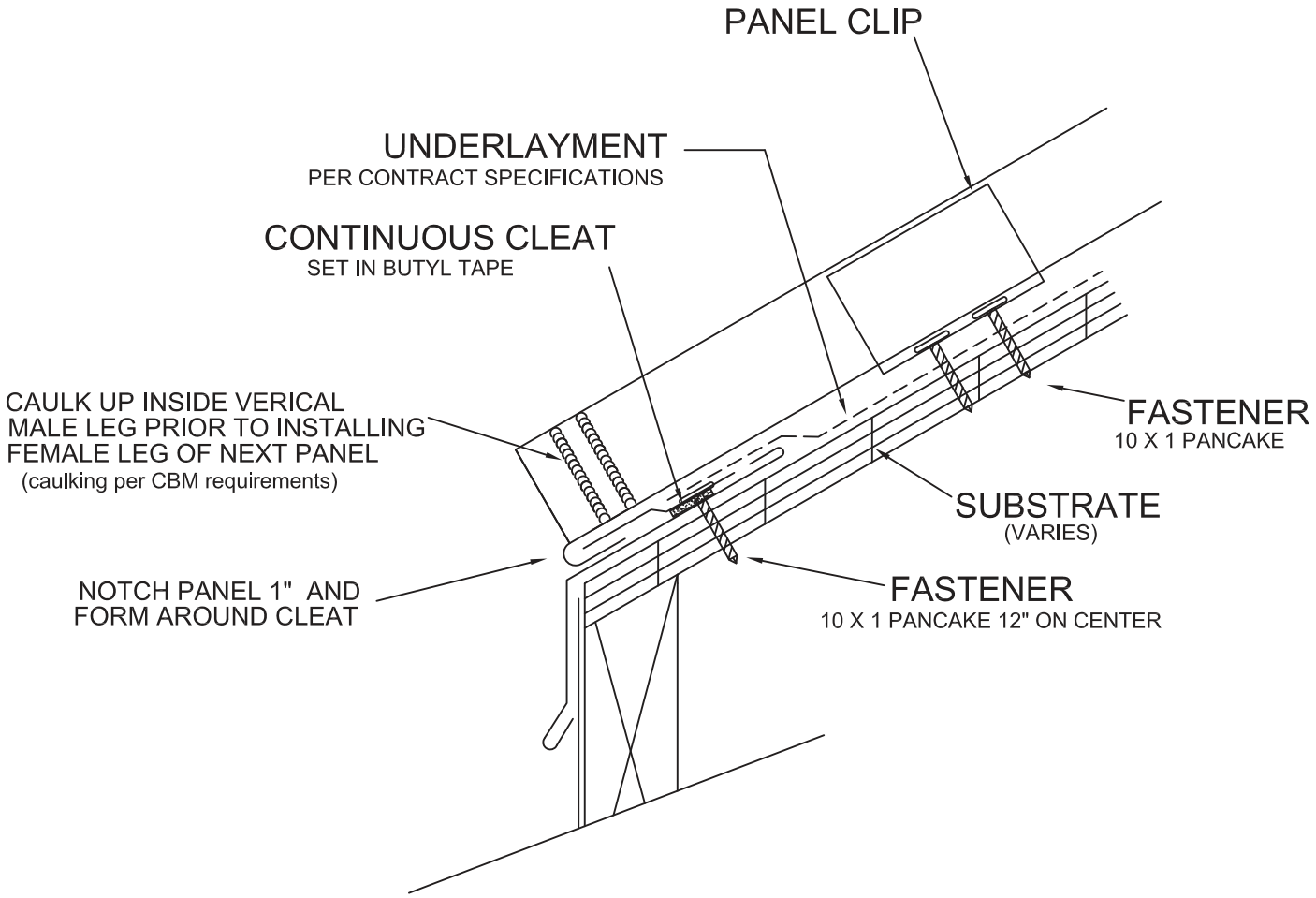


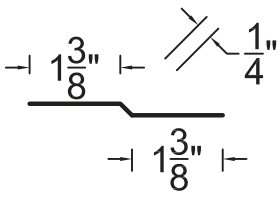


DRAWING: R1 EAVE

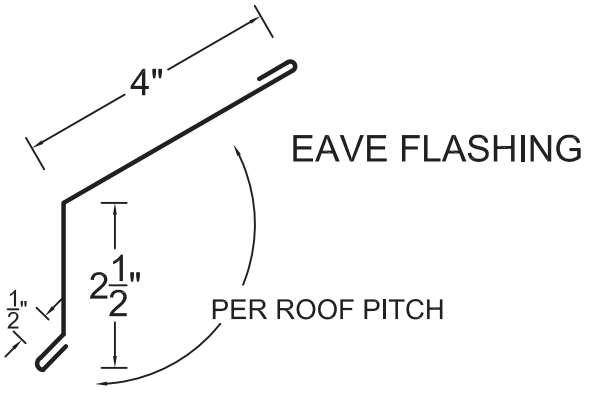
All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products





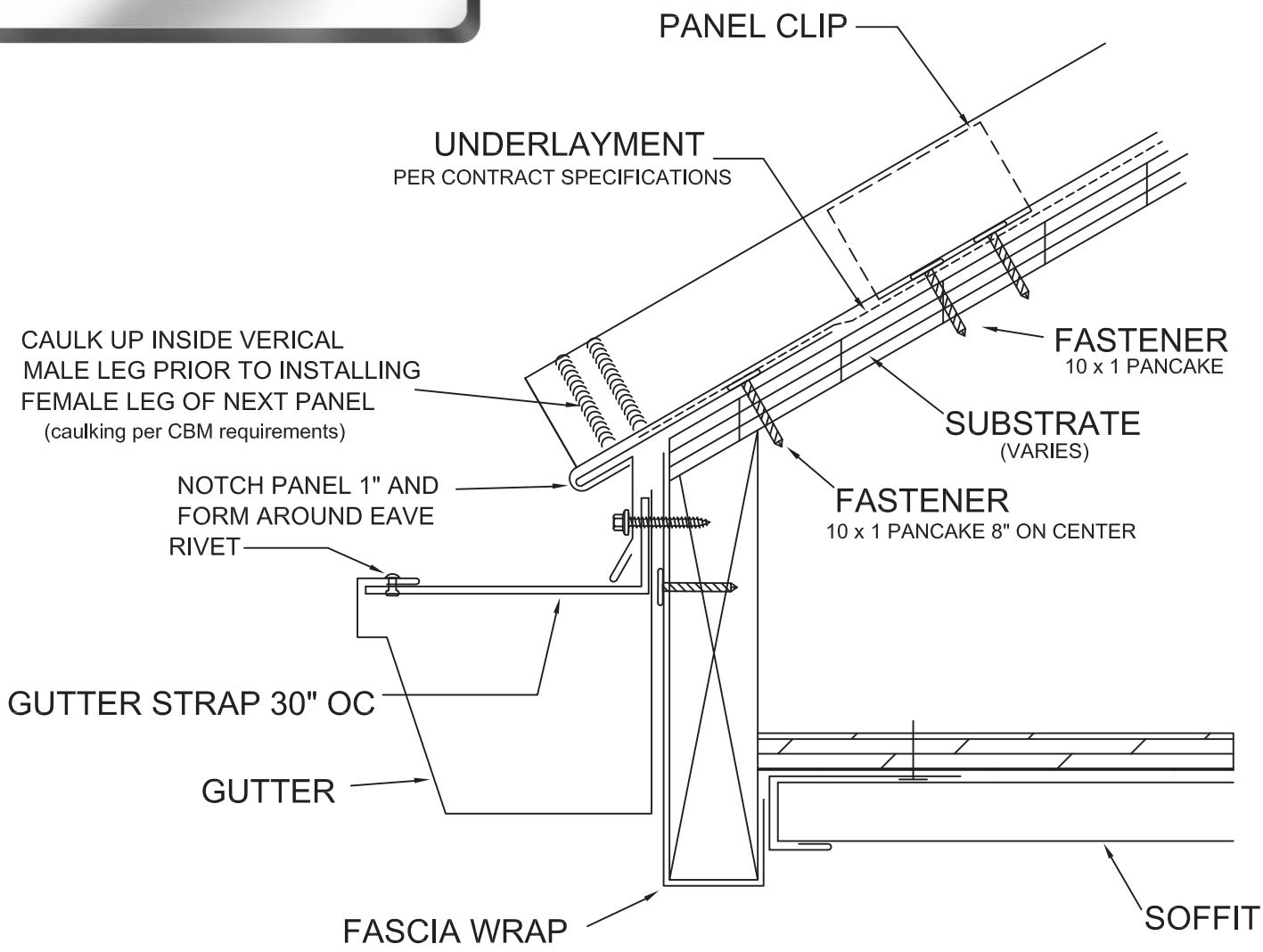
CONTINUOUS CLEAT
(22 GA. MIN.)

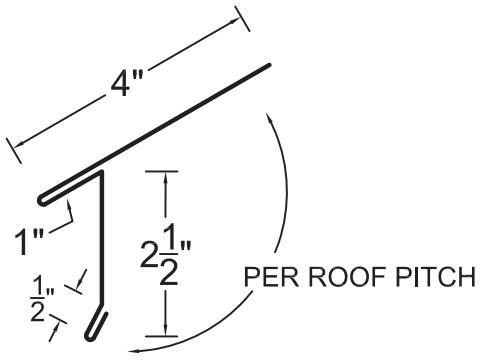


DRAWING: R2 EAVE / alternate

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

CUSTOM-BILT METALS
Brand Products

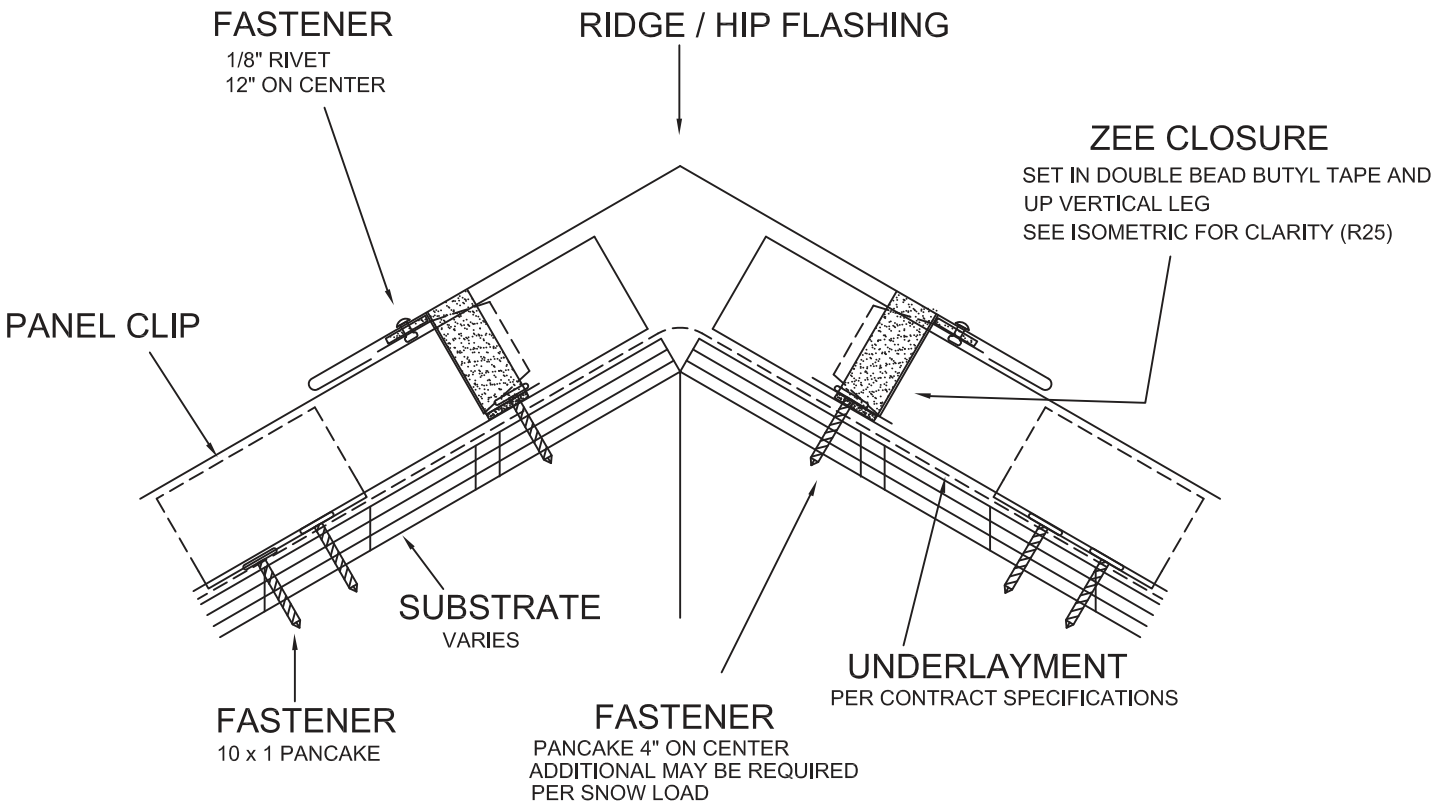


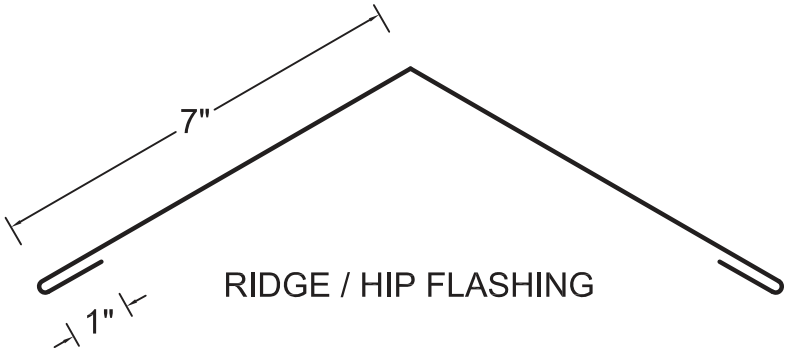


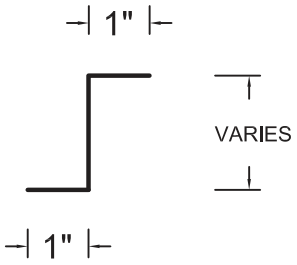
DRAWING: R4 EAVE w/ gutter

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

CUSTOM-BILT METALS
Brand Products





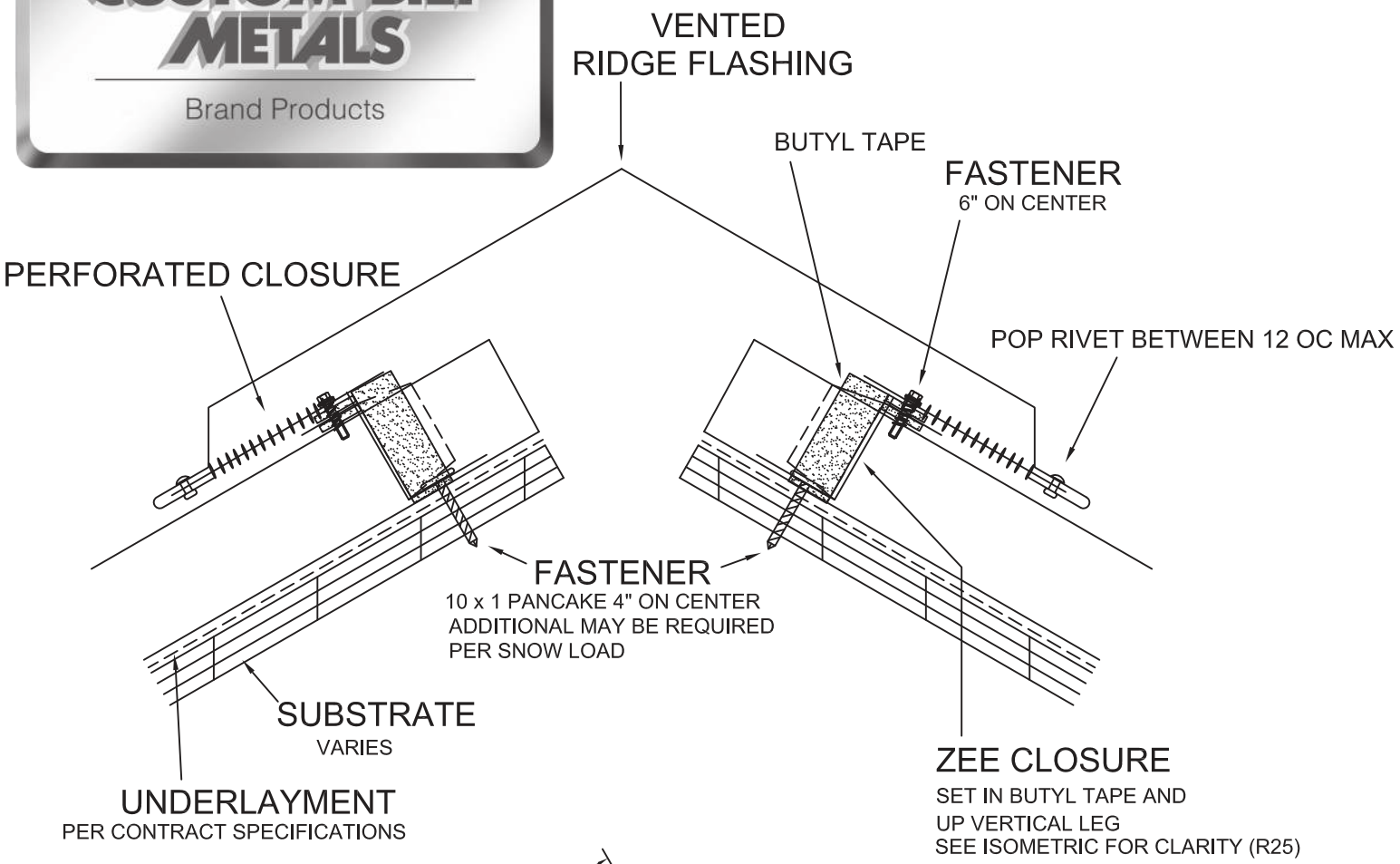


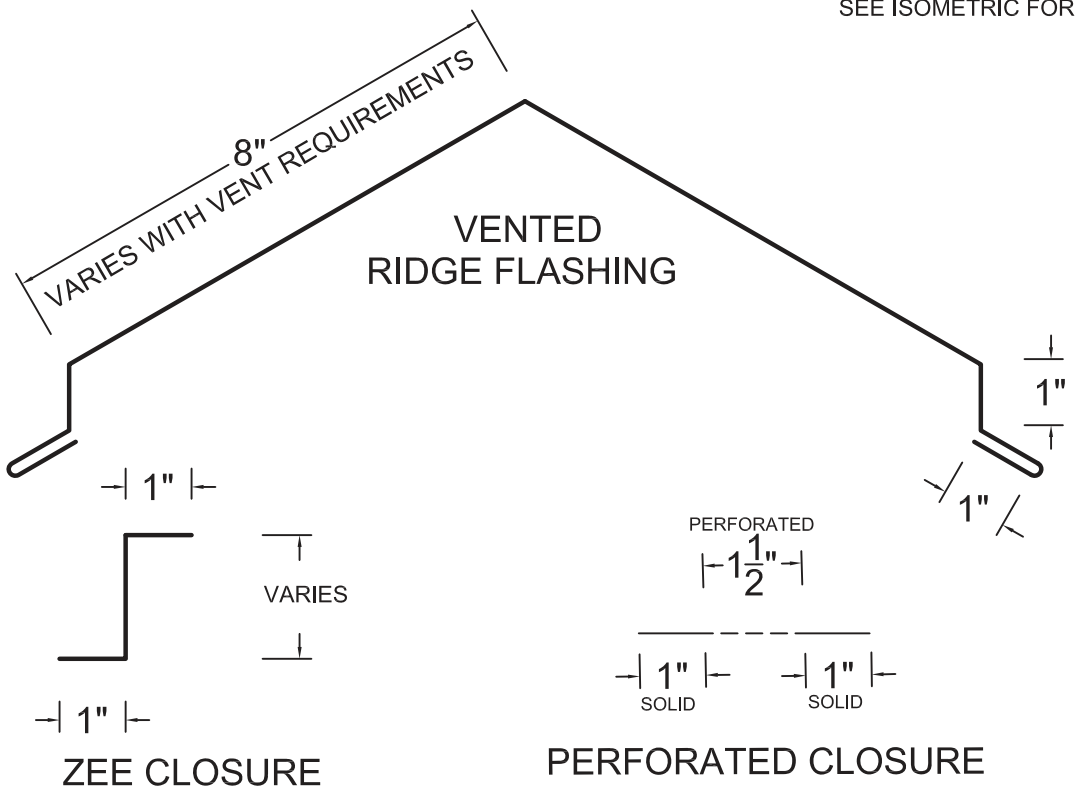
ZEE CLOSURE

DRAWING: R6 RIDGE / HIP

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

CUSTOM-BILT METALS
Brand Products

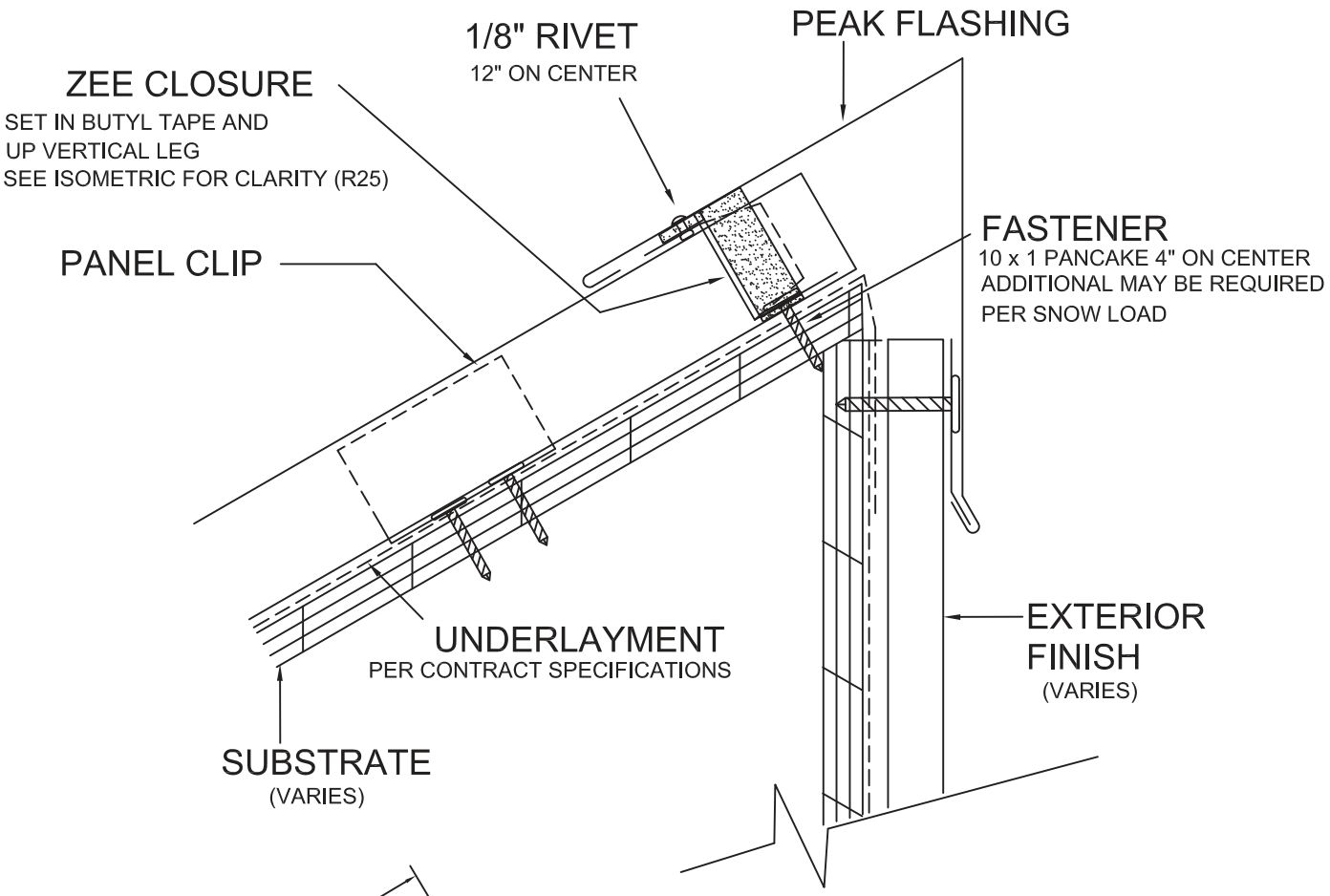


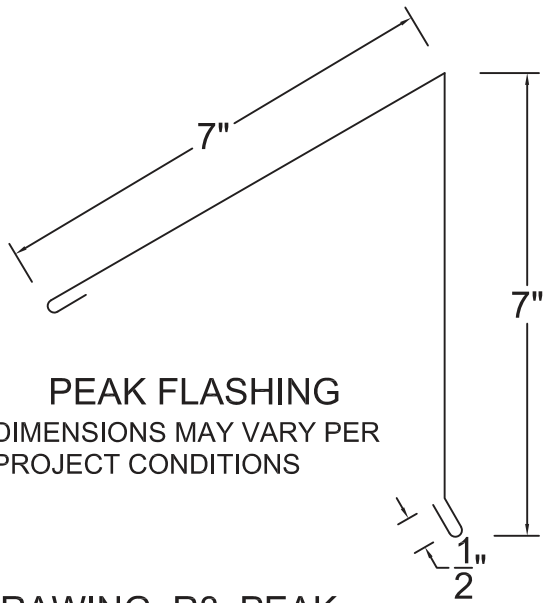


DRAWING: R7 VENTED RIDGE

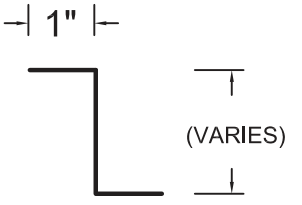
All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products





PEAK FLASHING
DIMENSIONS MAY VARY PER
PROJECT CONDITIONS

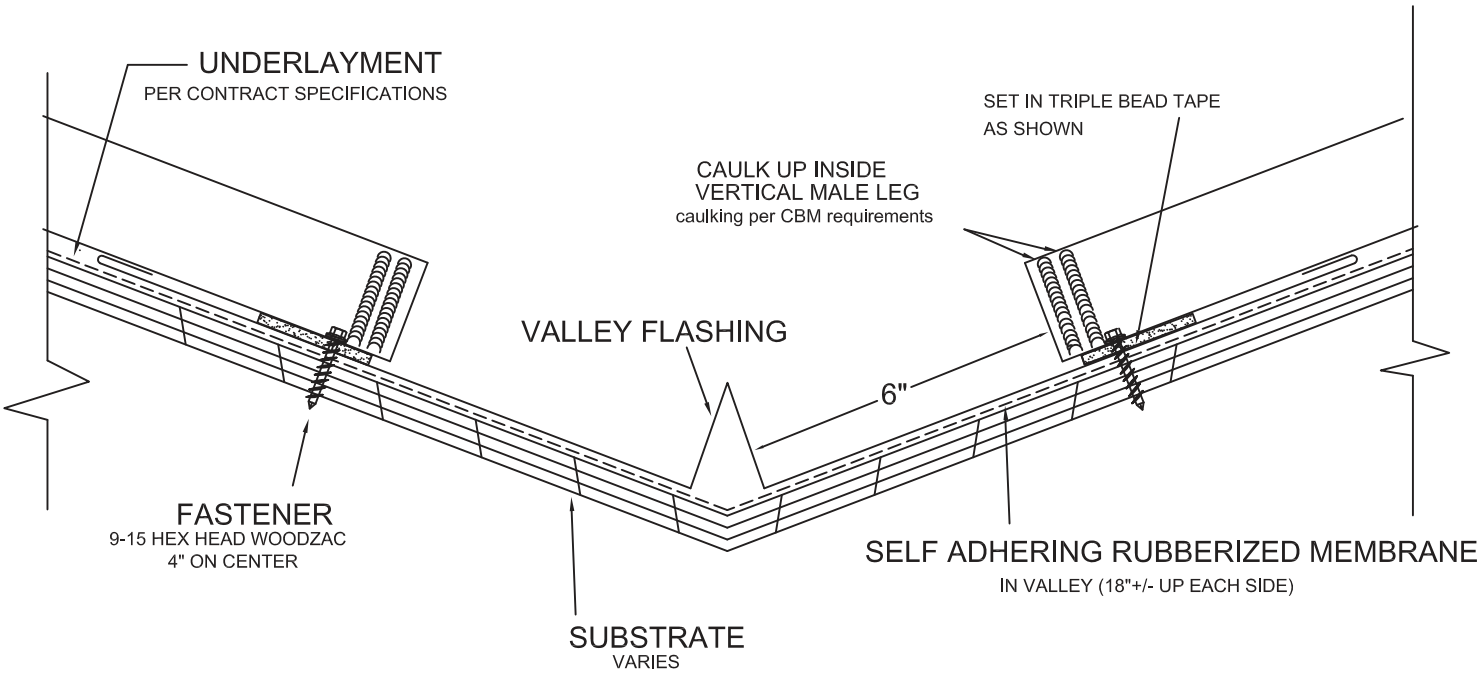


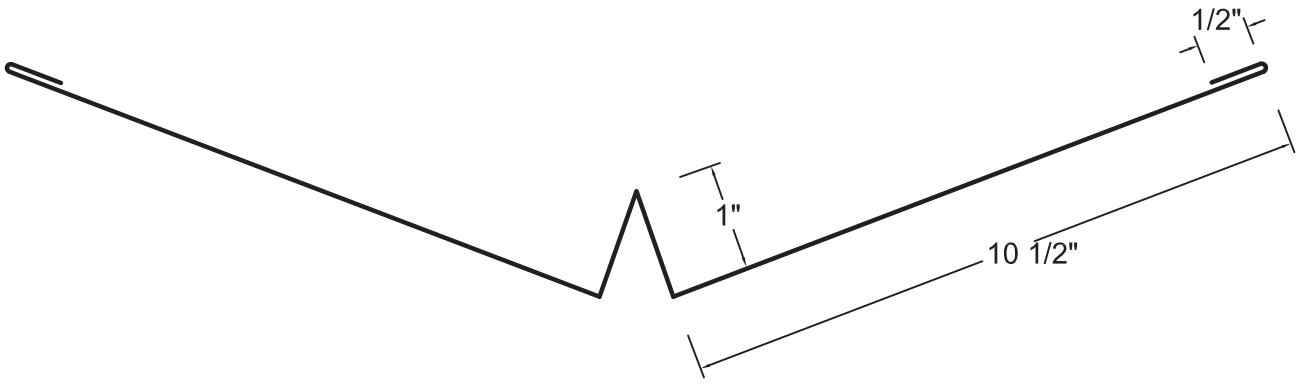
ZEE CLOSURE

DRAWING: R8 PEAK

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

CUSTOM-BILT METALS
Brand Products



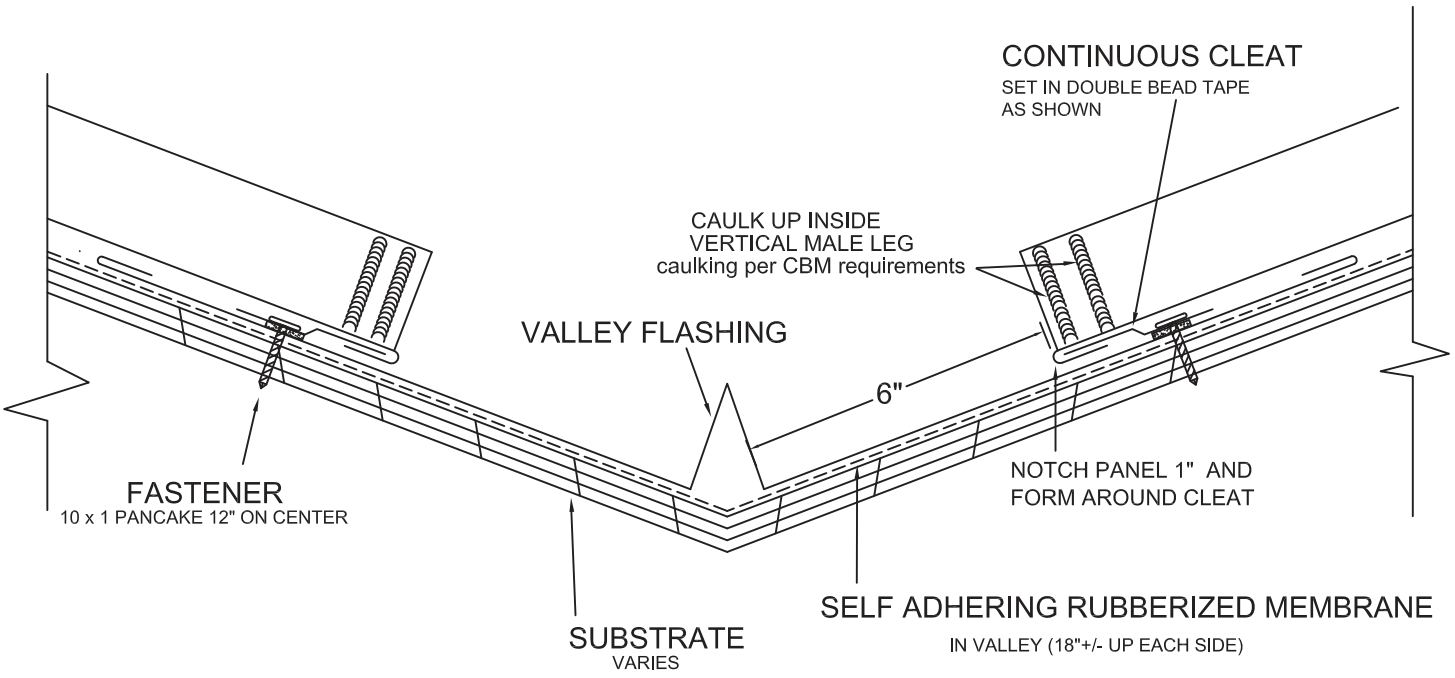


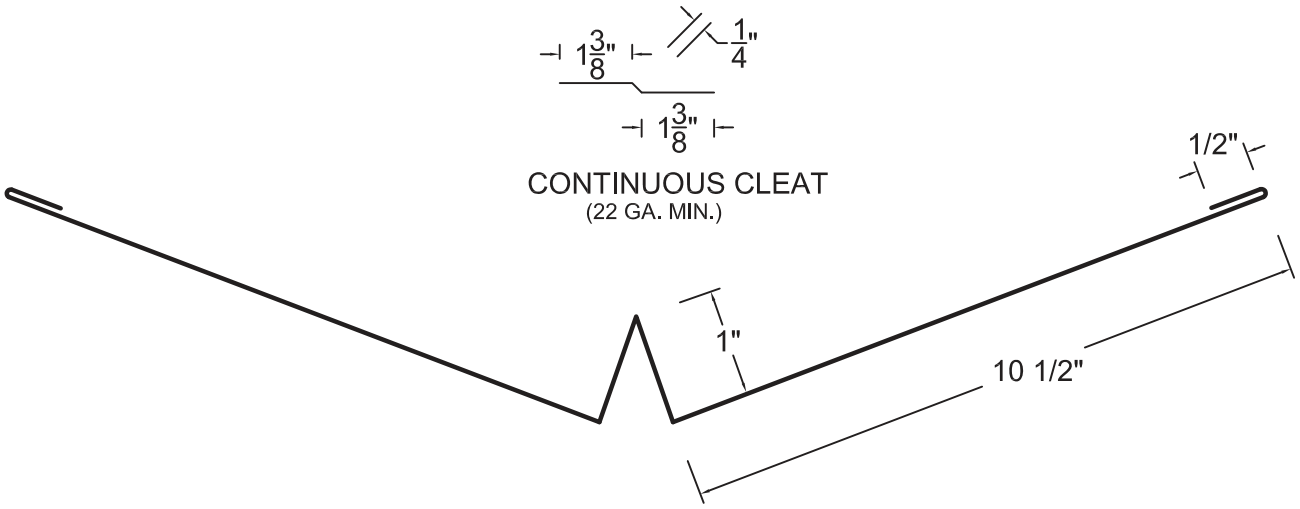
VALLEY FLASHING

DRAWING: R9 VALLEY thru-fastened

All Flashing and Trim available through CBM	Note: Use at roof pitch under 3" in 12" CB100 / CB150 / CB2000
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products



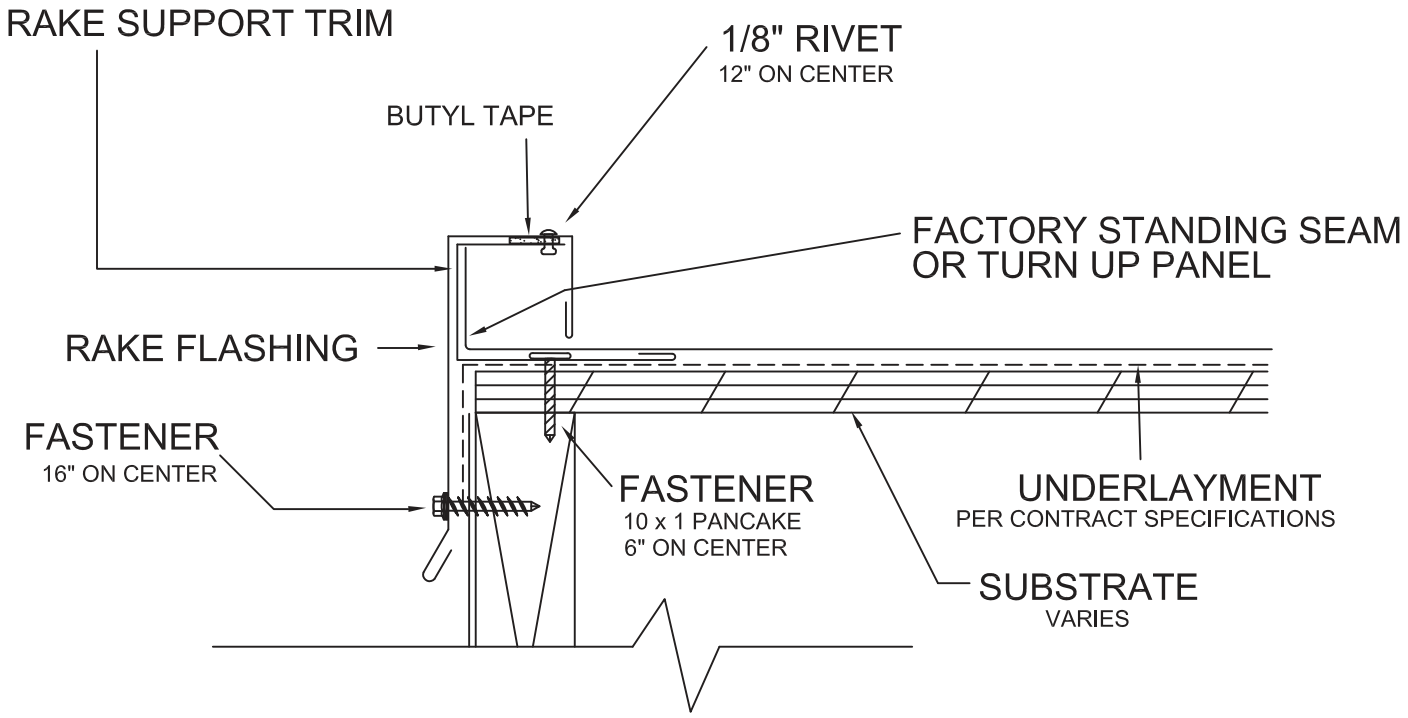


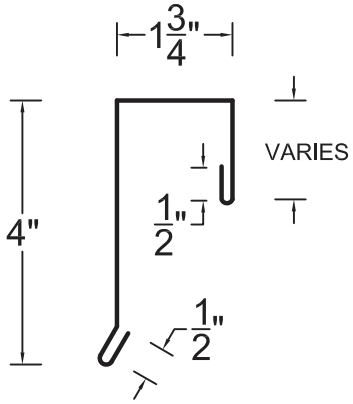
VALLEY FLASHING

DRAWING: R10 VALLEY cleat

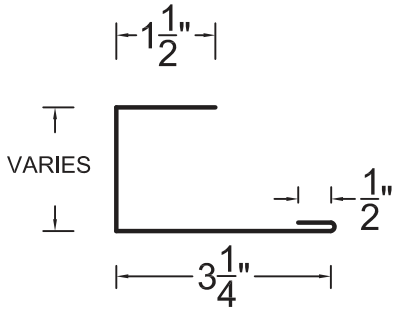
All Flashing and Trim available through CBM	Note: Use at roof pitch 3" in 12" or greater Do not use at roof pitch under 3" in 12"
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products





RAKE FLASHING

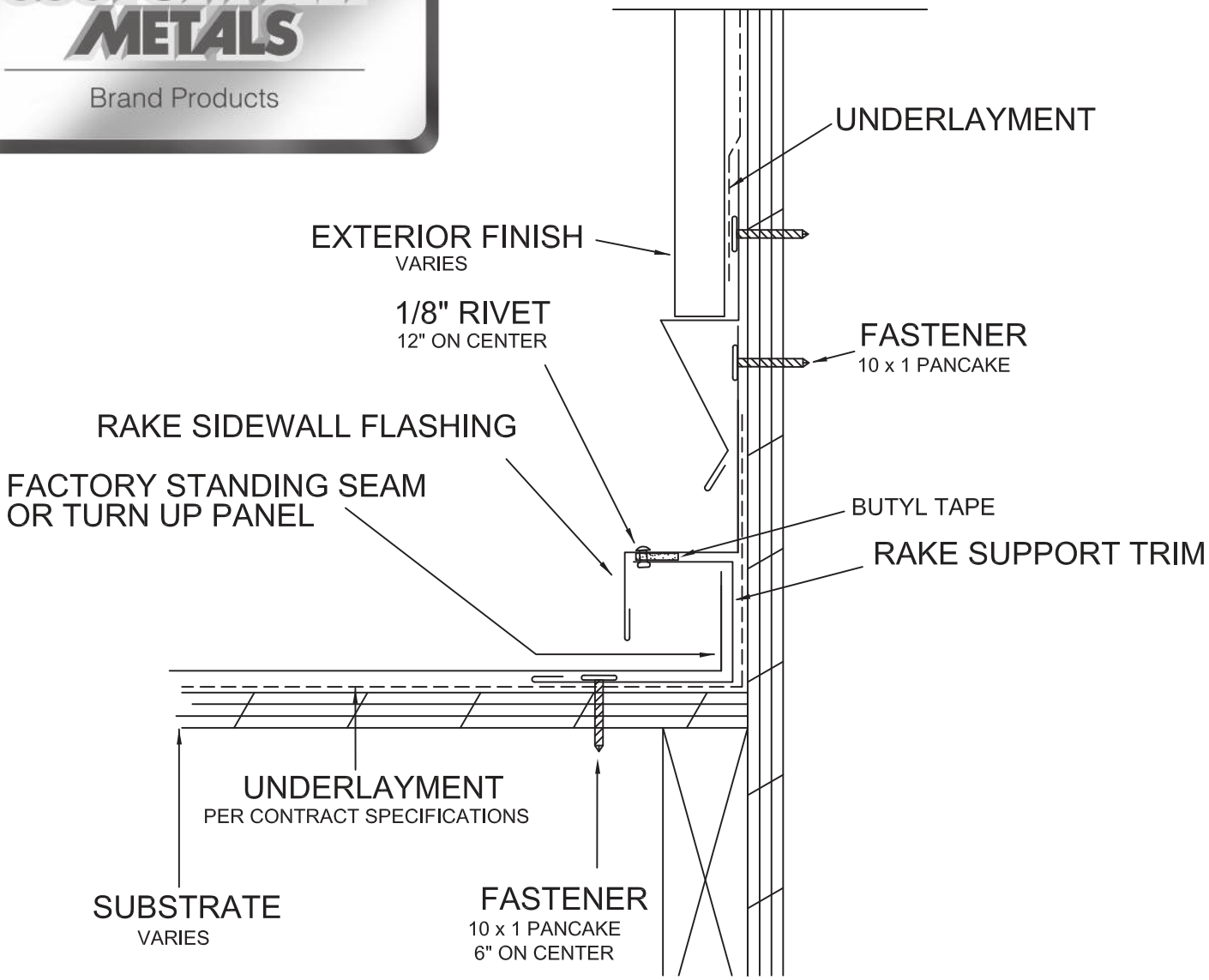


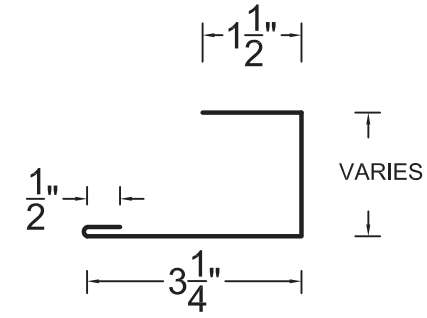
RAKE SUPPORT TRIM

DRAWING: R11 RAKE

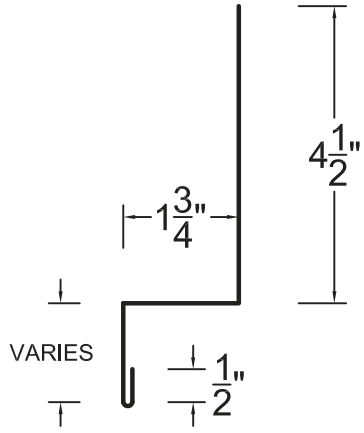
All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products





RAKE SUPPORT TRIM

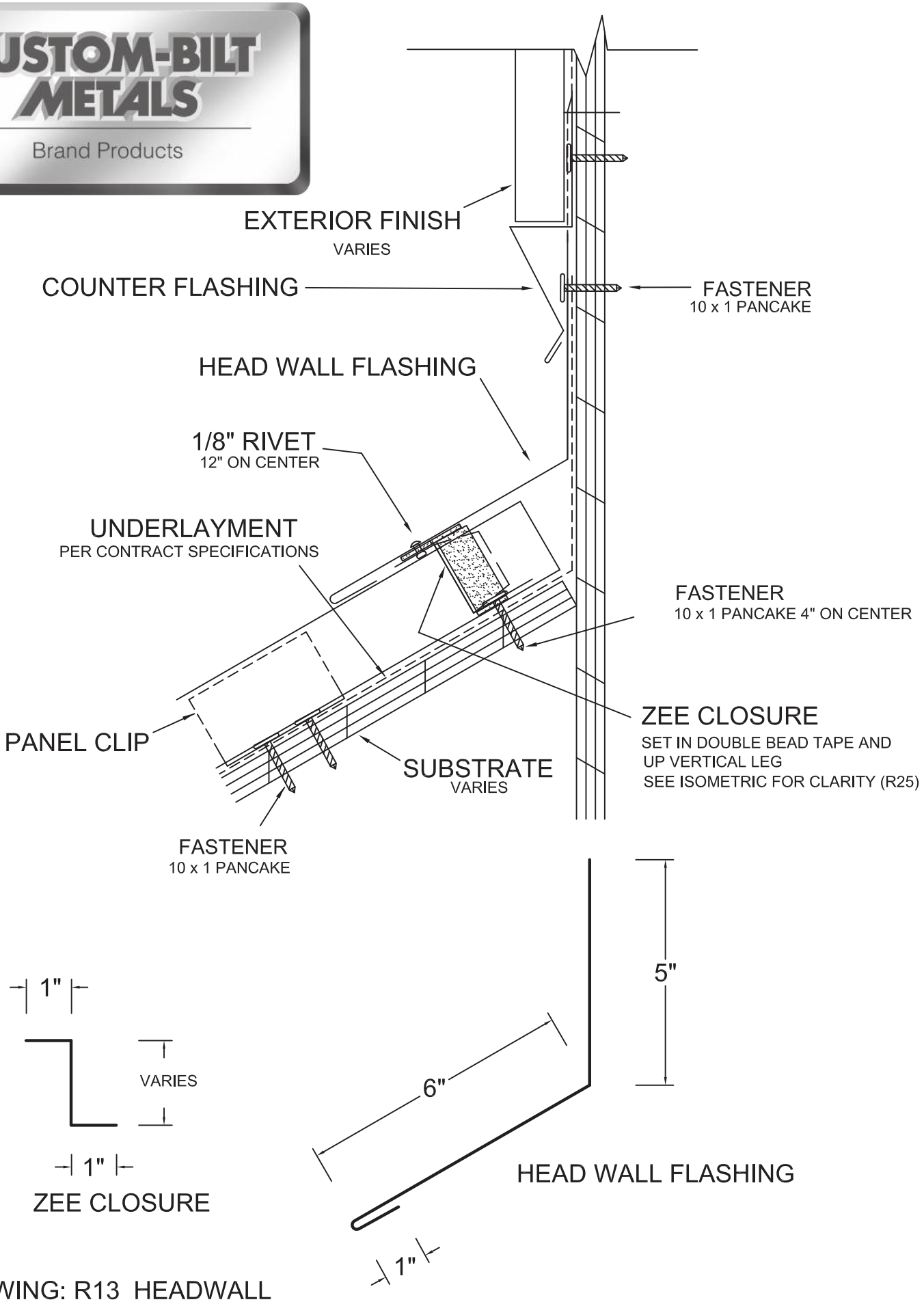


RAKE SIDEWALL FLASHING

DRAWING: R12 SIDEWALL

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

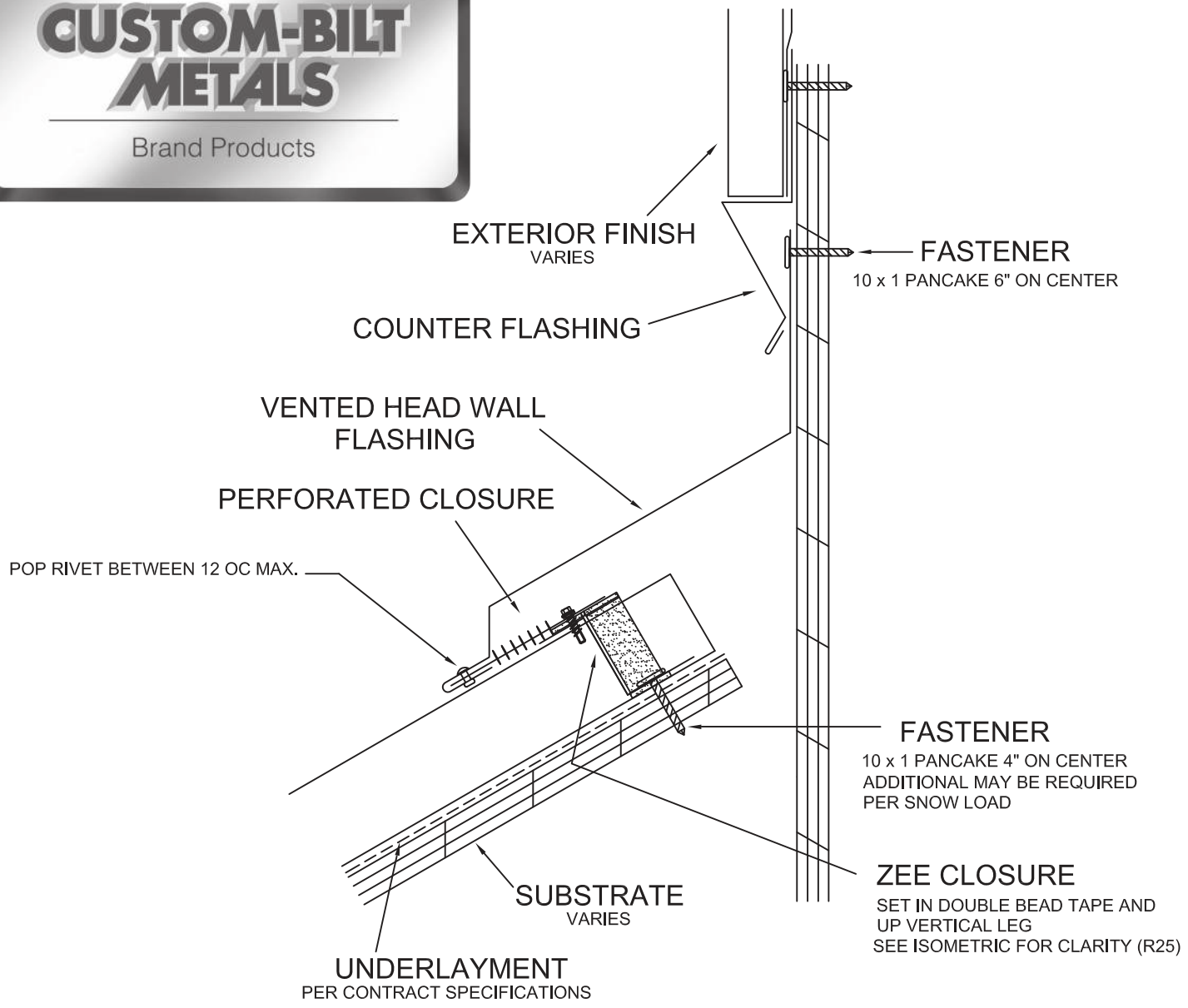
CUSTOM-BILT METALS
Brand Products

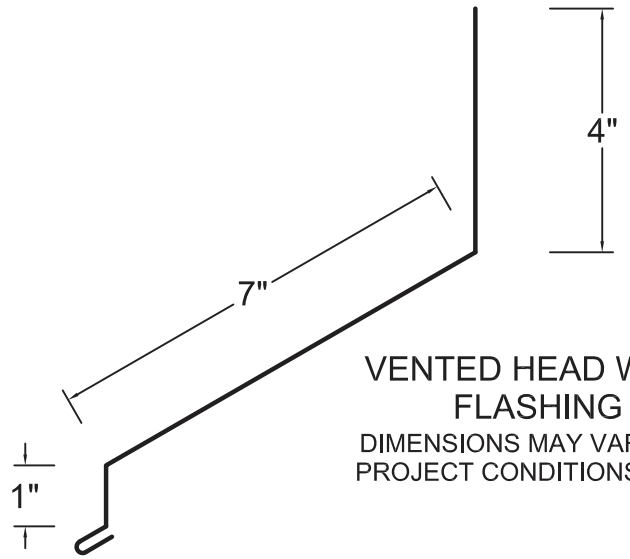


DRAWING: R13 HEADWALL

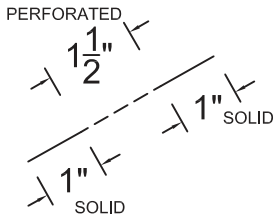
All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products





VENTED HEAD WALL
FLASHING
DIMENSIONS MAY VARY PER
PROJECT CONDITIONS

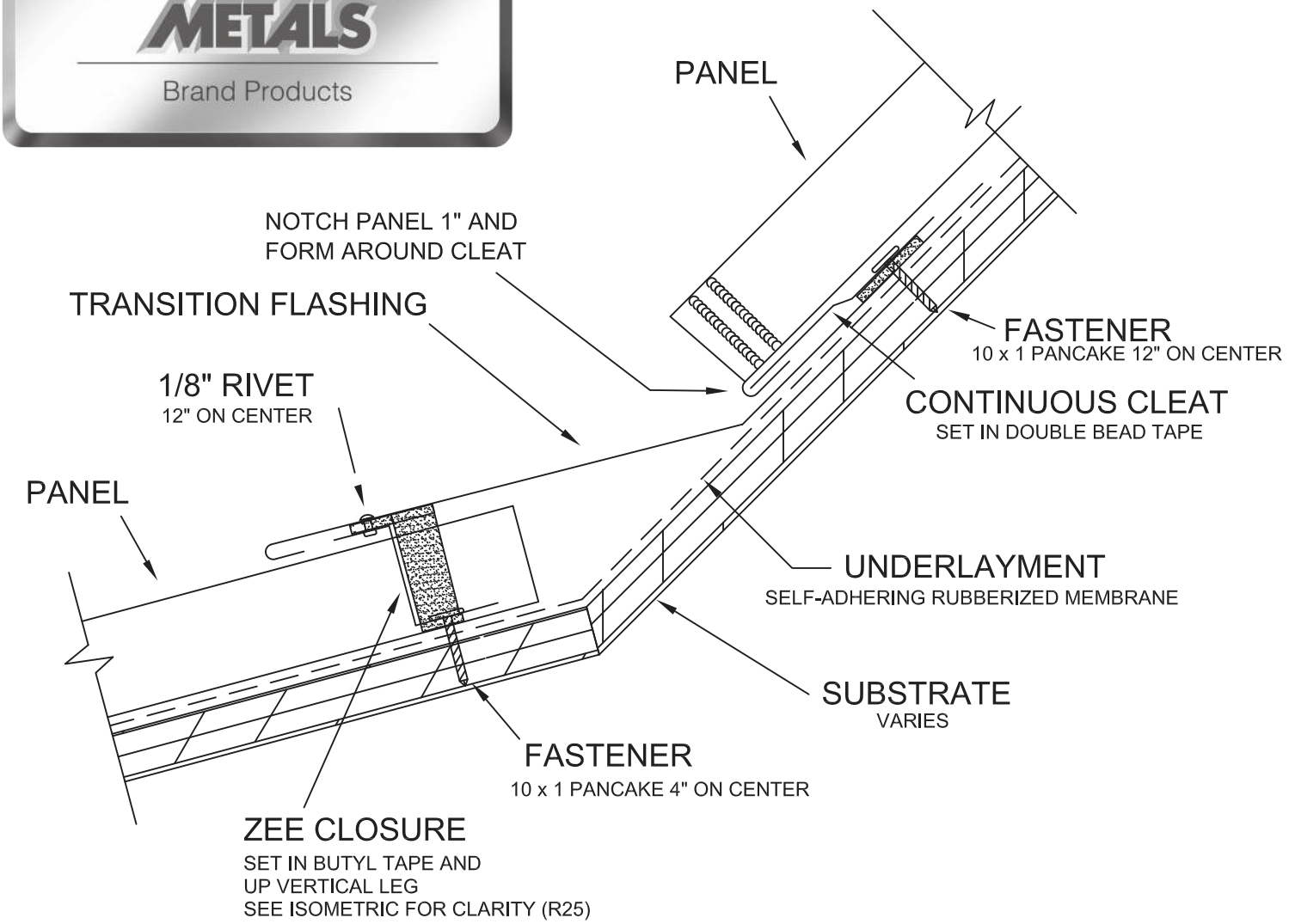


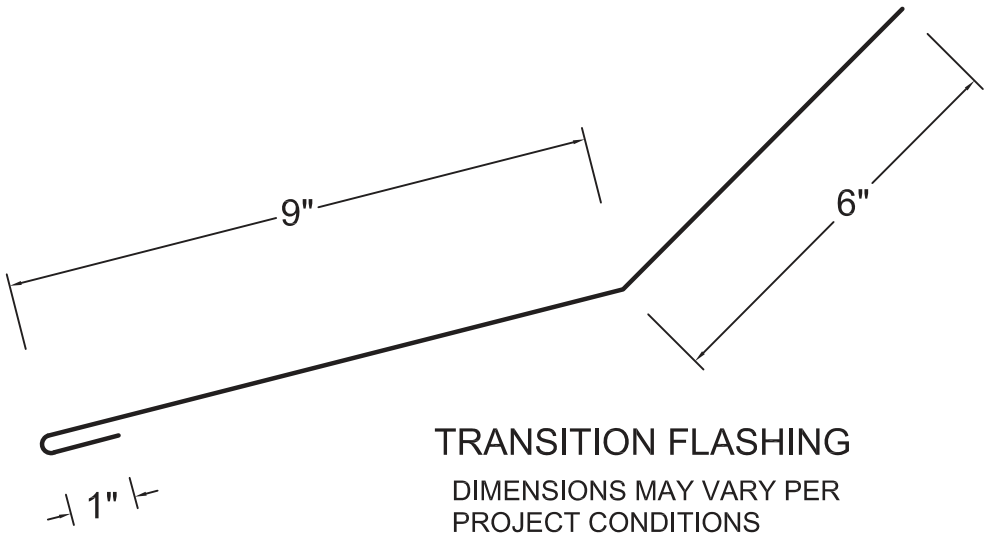
PERFORATED CLOSURE

DRAWING: R15 HEADWALL- VENTED

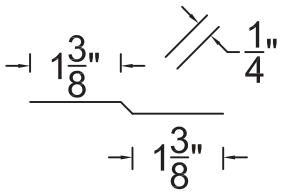
All Flashing and Trim available through CBM	Note:
SUBJECT TO CHANGE WITHOUT NOTICE	

CUSTOM-BILT METALS
Brand Products





TRANSITION FLASHING
DIMENSIONS MAY VARY PER
PROJECT CONDITIONS

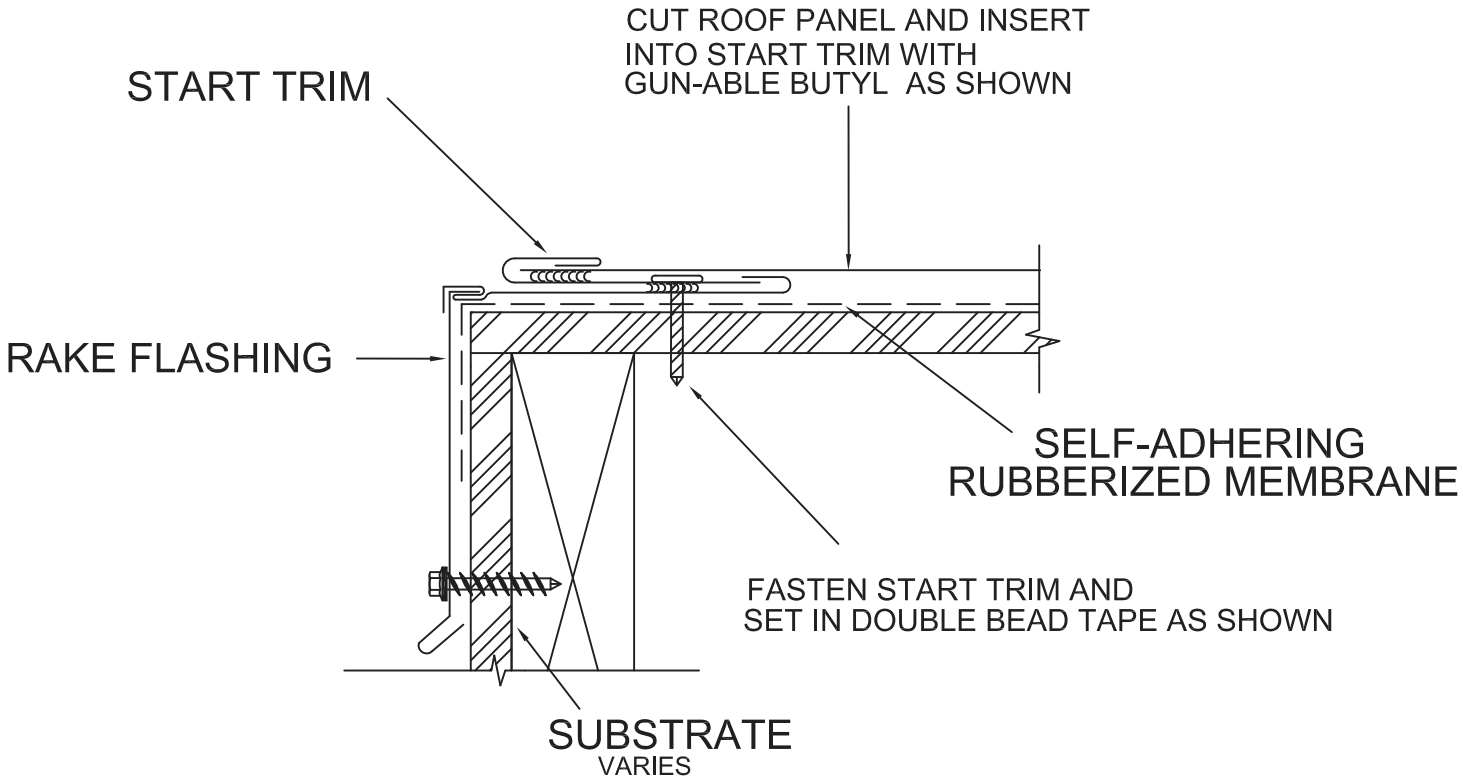


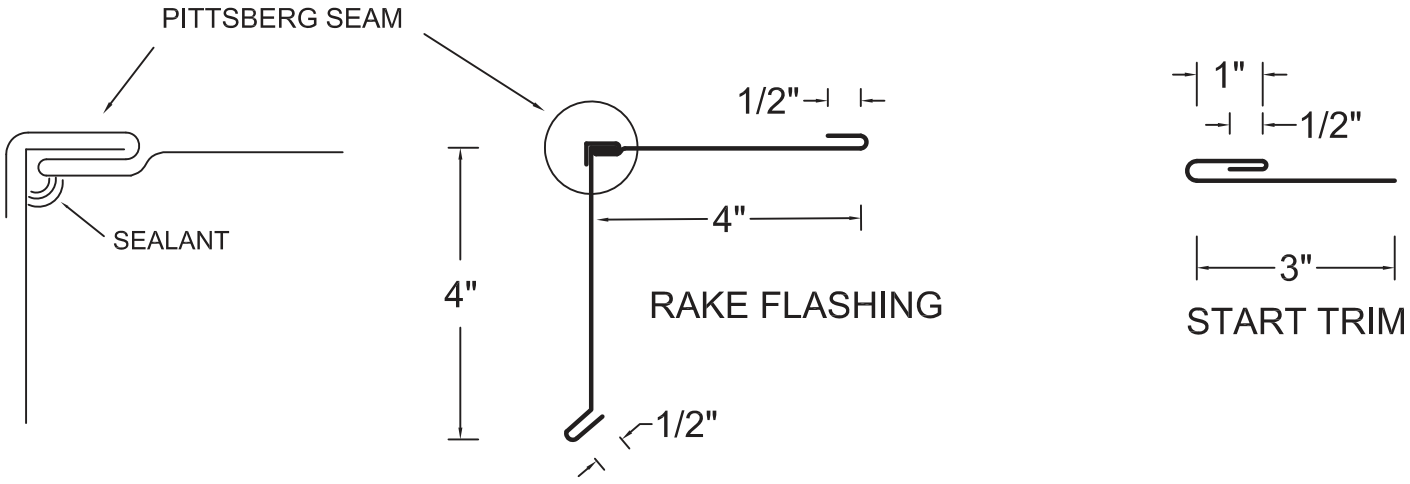
CONTINUOUS CLEAT
(22 GA. MIN.)

DRAWING: R16 TRANSITION

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

CUSTOM-BILT METALS
Brand Products



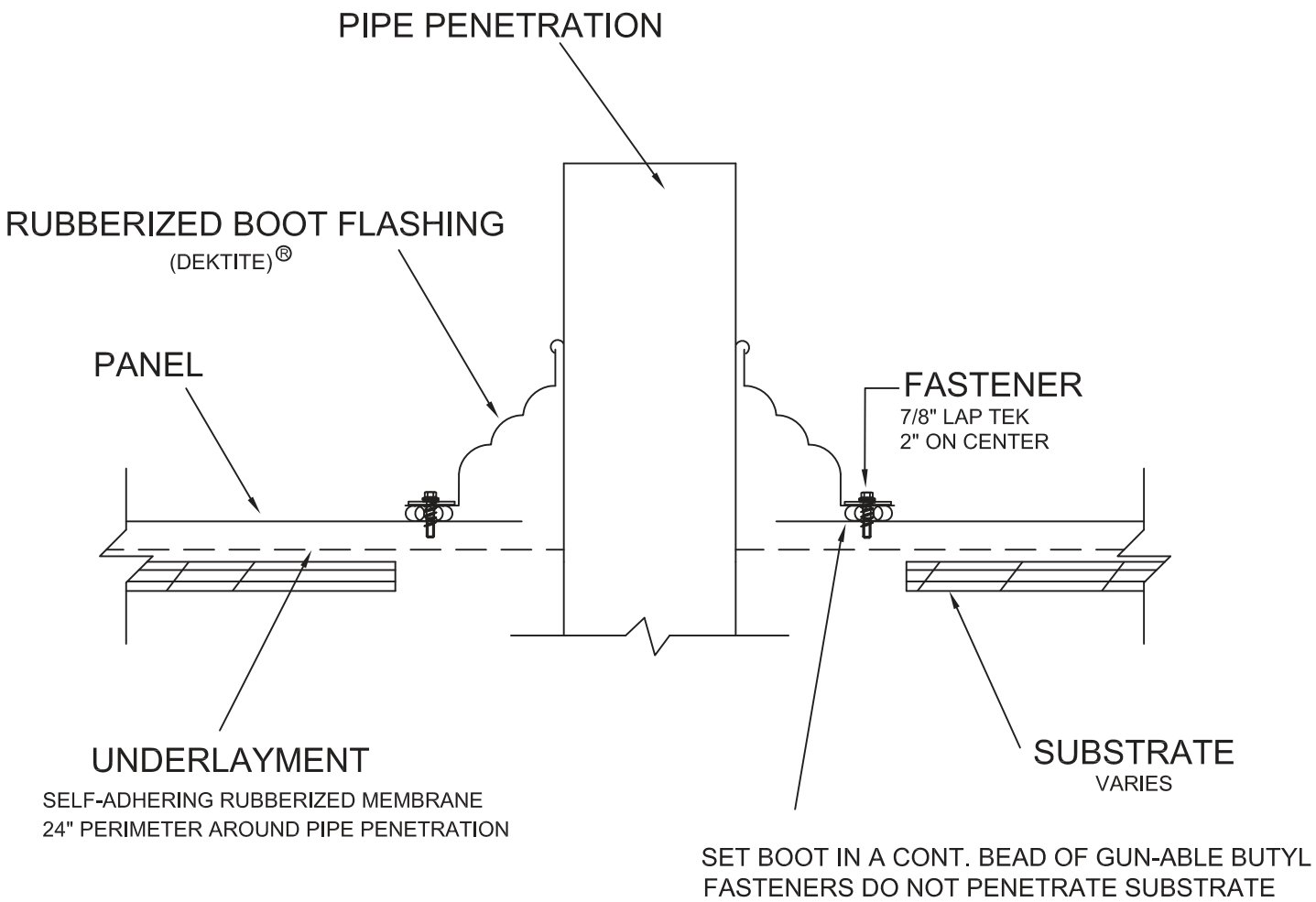


RADIUS RAKE ONLY

DRAWING: R18 RADIUS RAKE

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

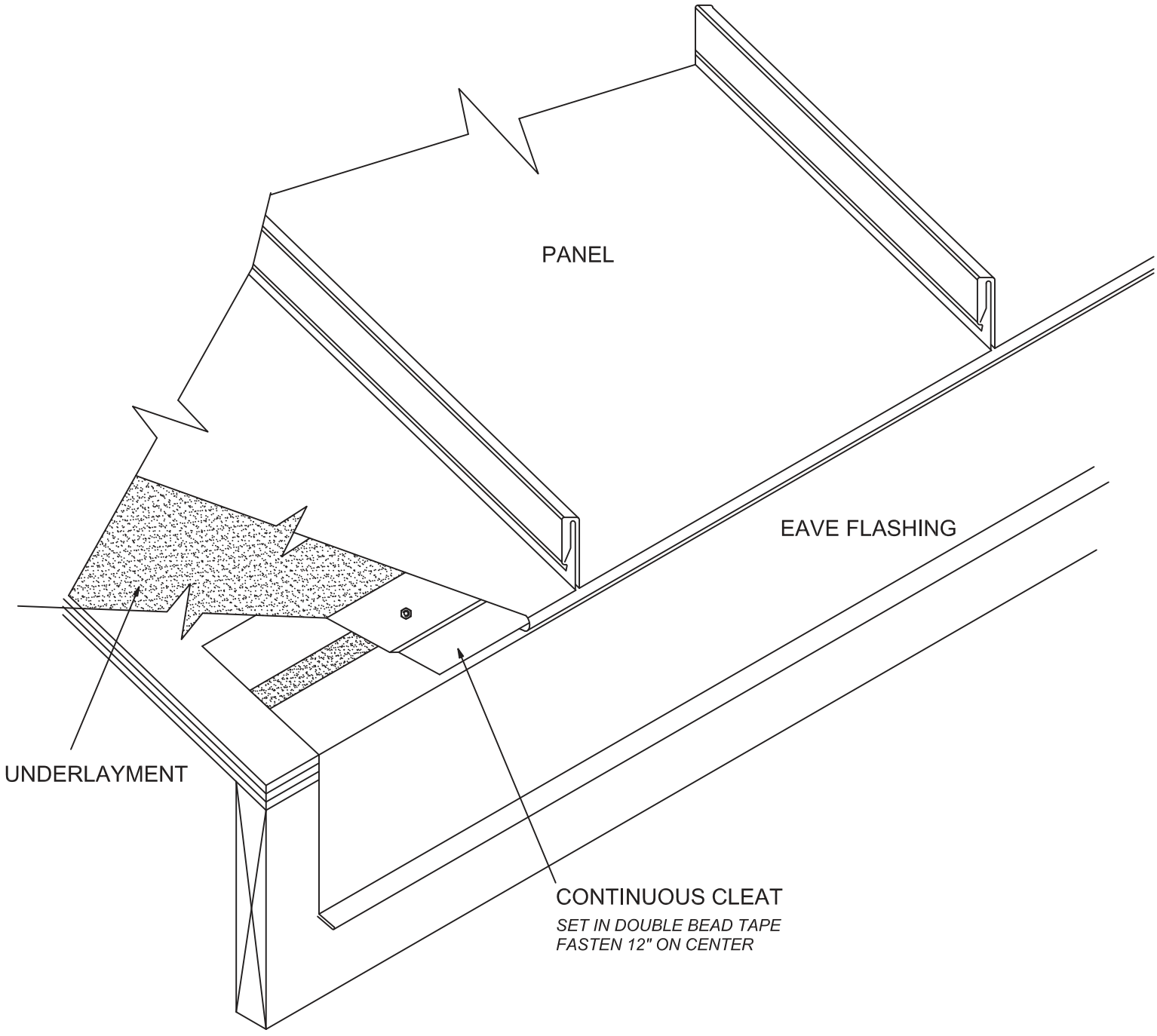
CUSTOM-BILT METALS
Brand Products



DRAWING: R20 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	

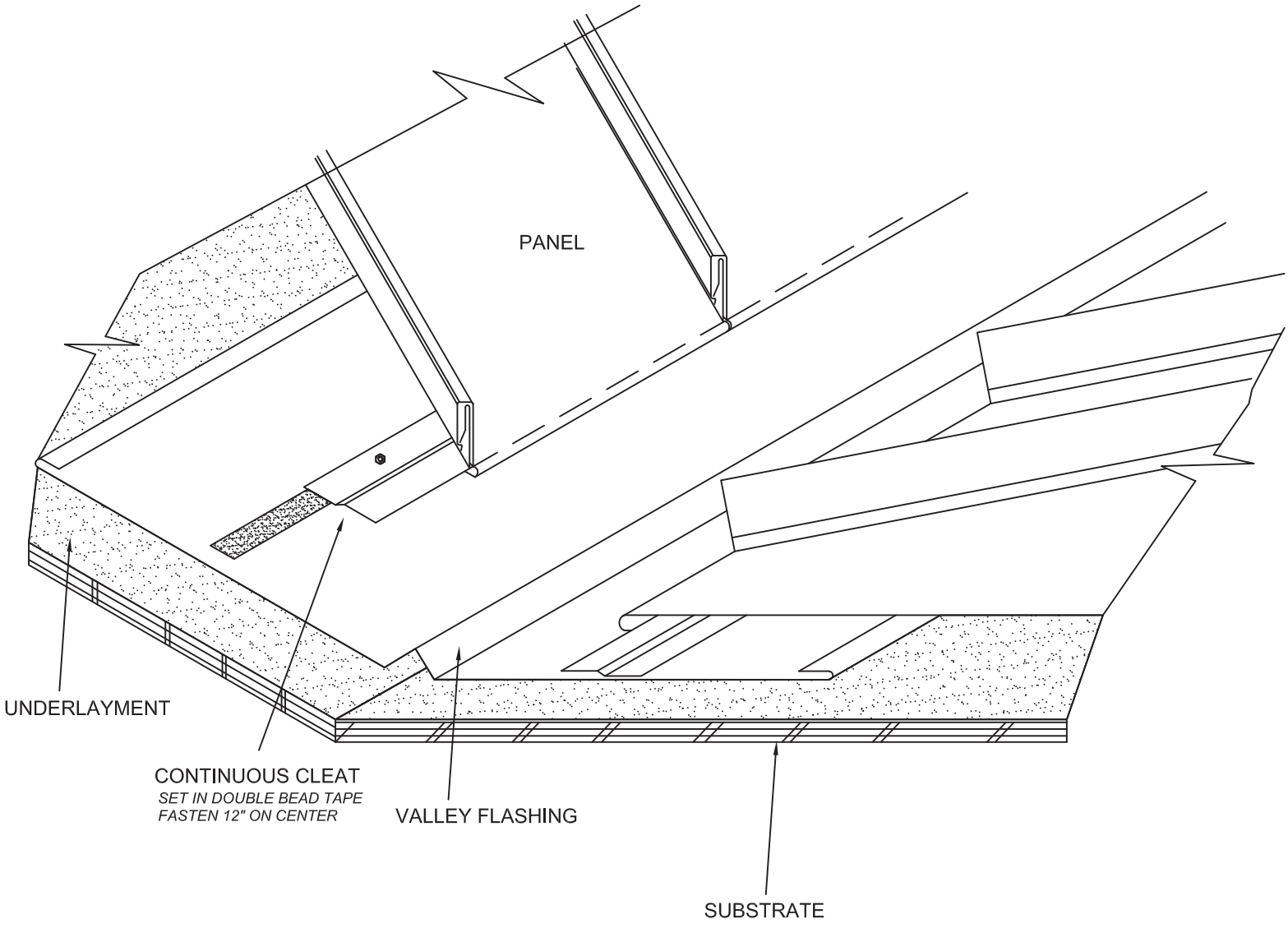
CUSTOM-BILT METALS
Brand Products



DRAWING: R22 EAVE / ISOMETRIC

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

CUSTOM-BILT METALS
Brand Products

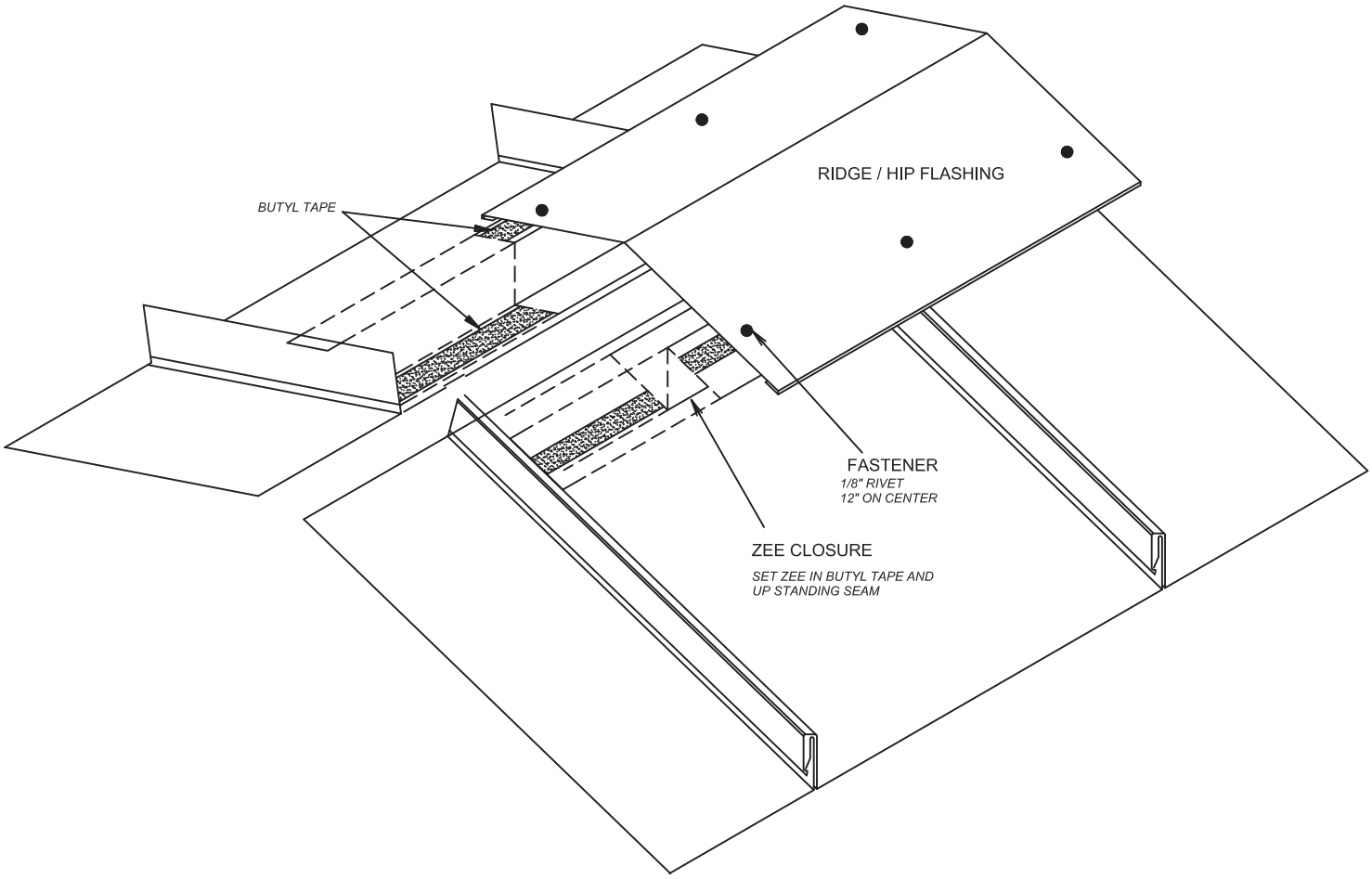


DRAWING: R 23 VALLEY / ISOMETRIC

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

CUSTOM-BILT METALS

Brand Products



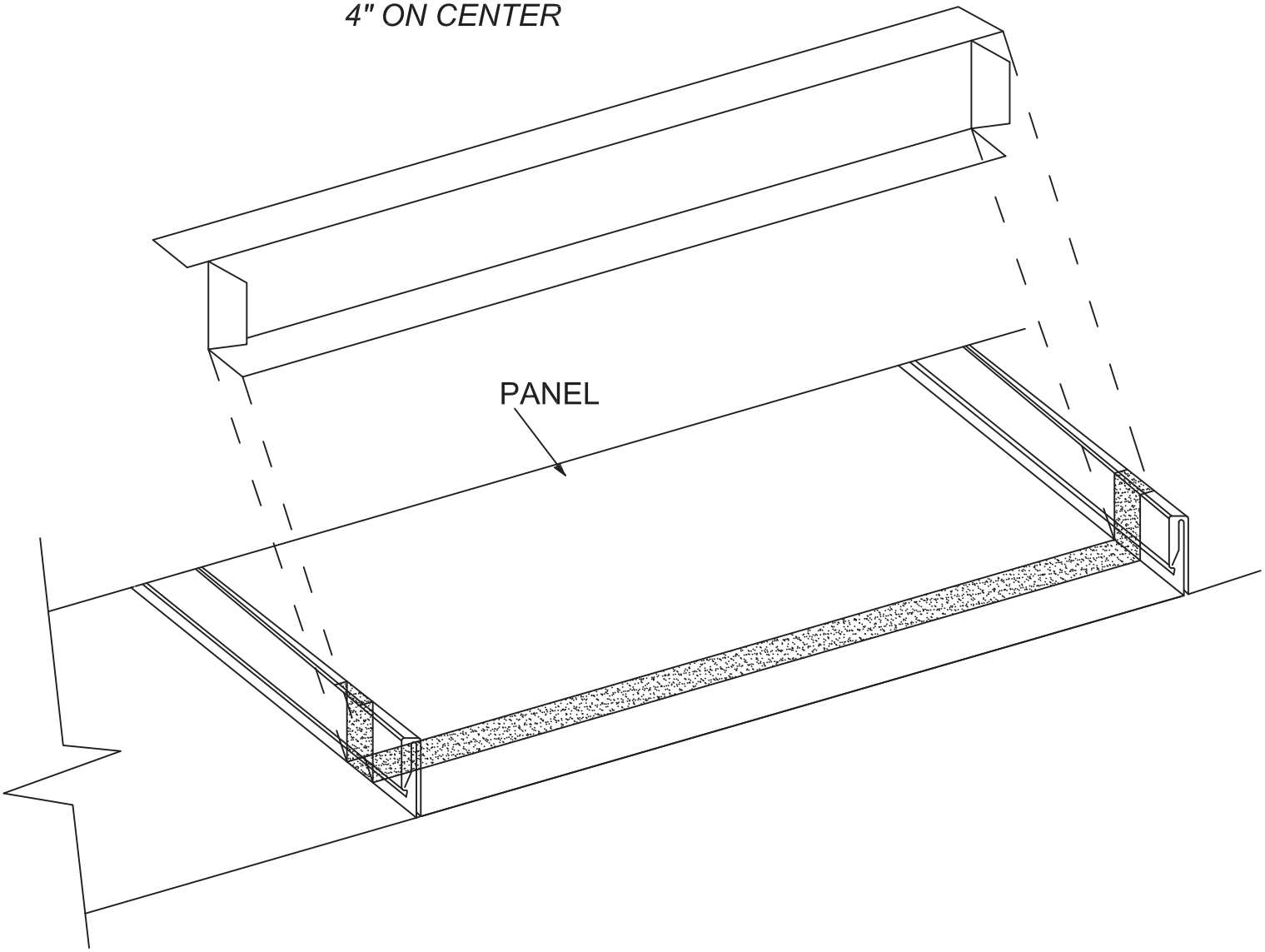
DRAWING: R24 RIDGE / HIP ISOMETRIC

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

CUSTOM-BILT METALS
Brand Products

ZEE CLOSURE

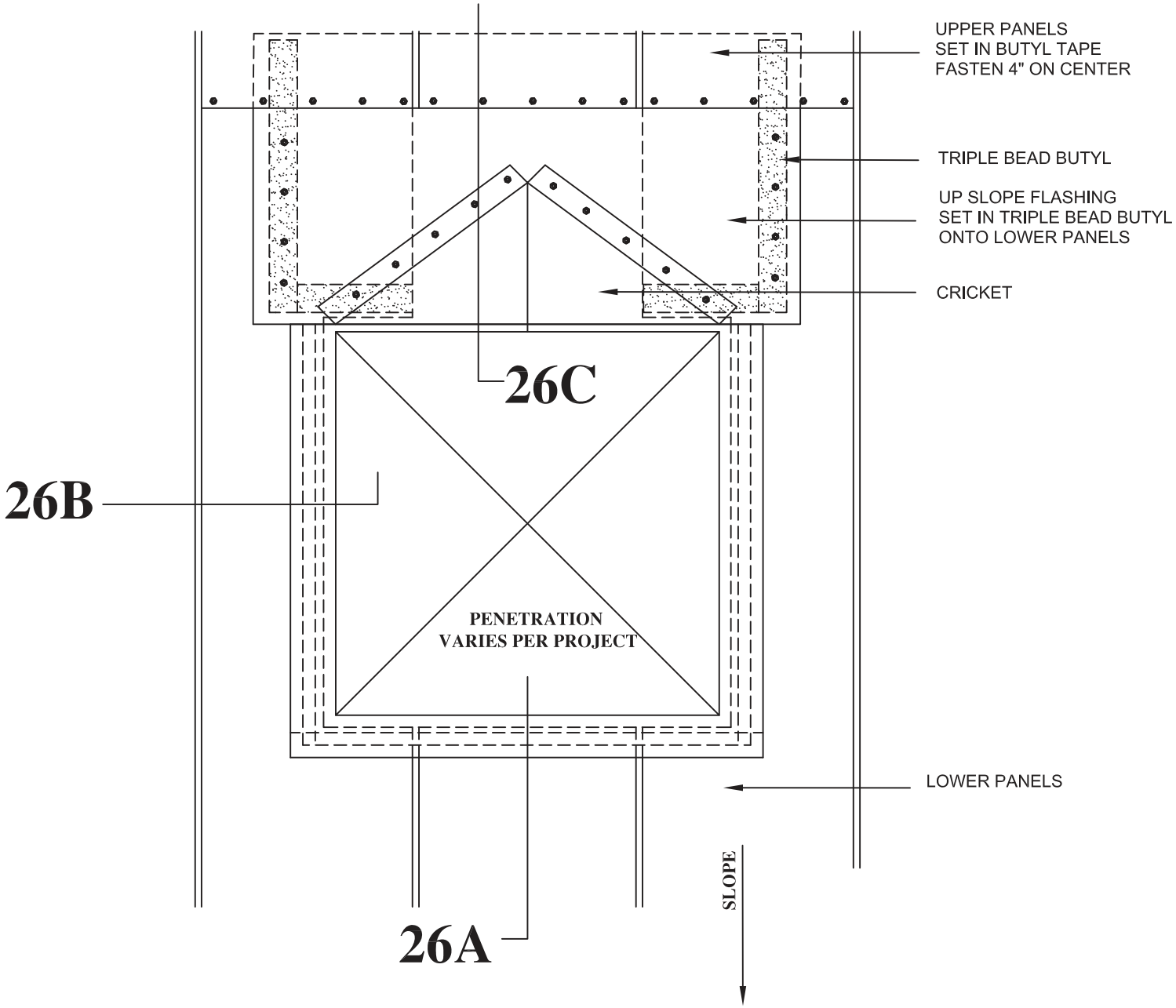
NOTCH ZEE AS SHOWN AND SET IN DOUBLE BEAD TAPE
FASTEN THROUGH PANEL 1" IN FROM SIDES AND
4" ON CENTER



DRAWING: R25 ZEE CLOSURE / ISOMETRIC

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

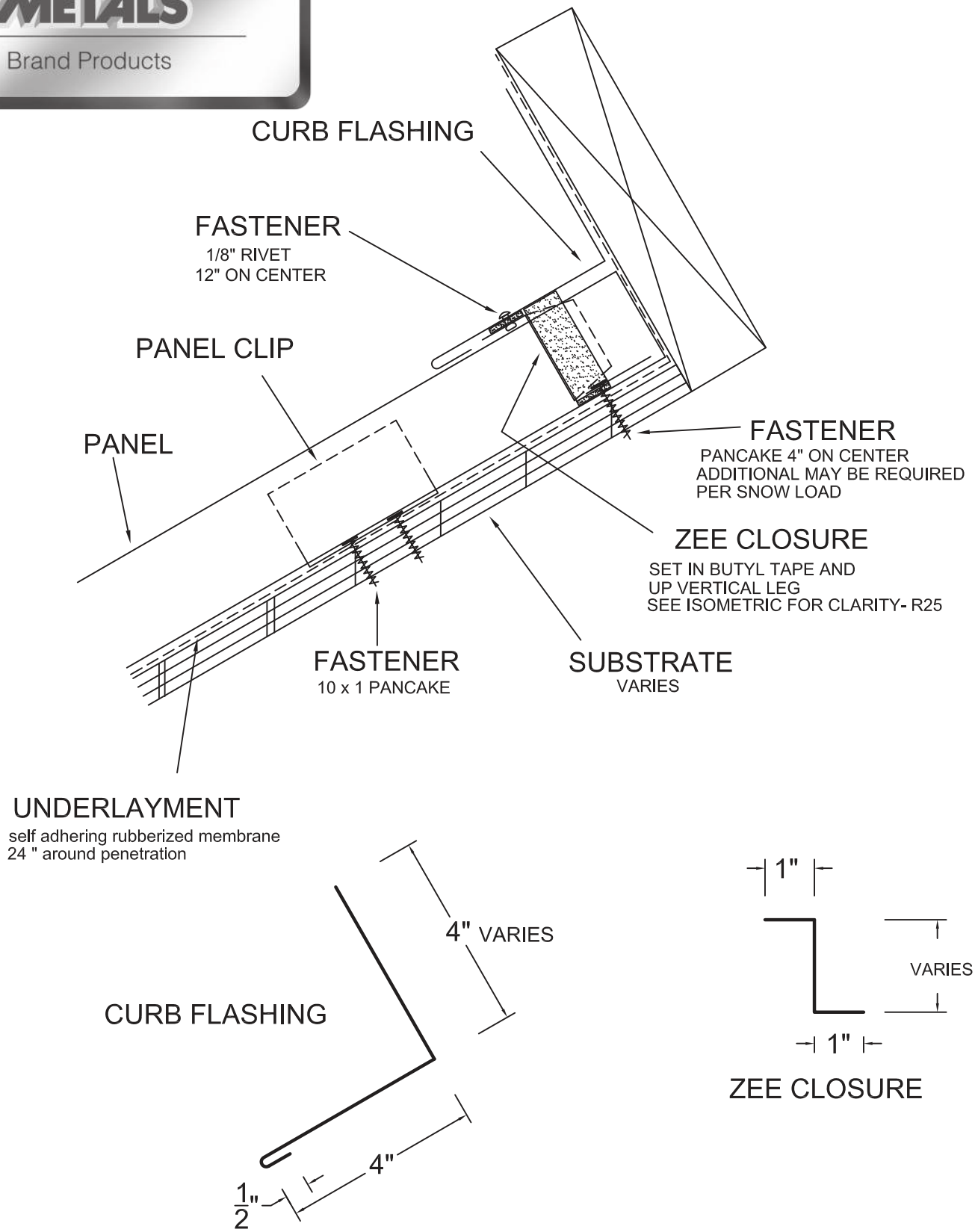
CUSTOM-BILT METALS
Brand Products



DRAWING: R26 CURB PENETRATION

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

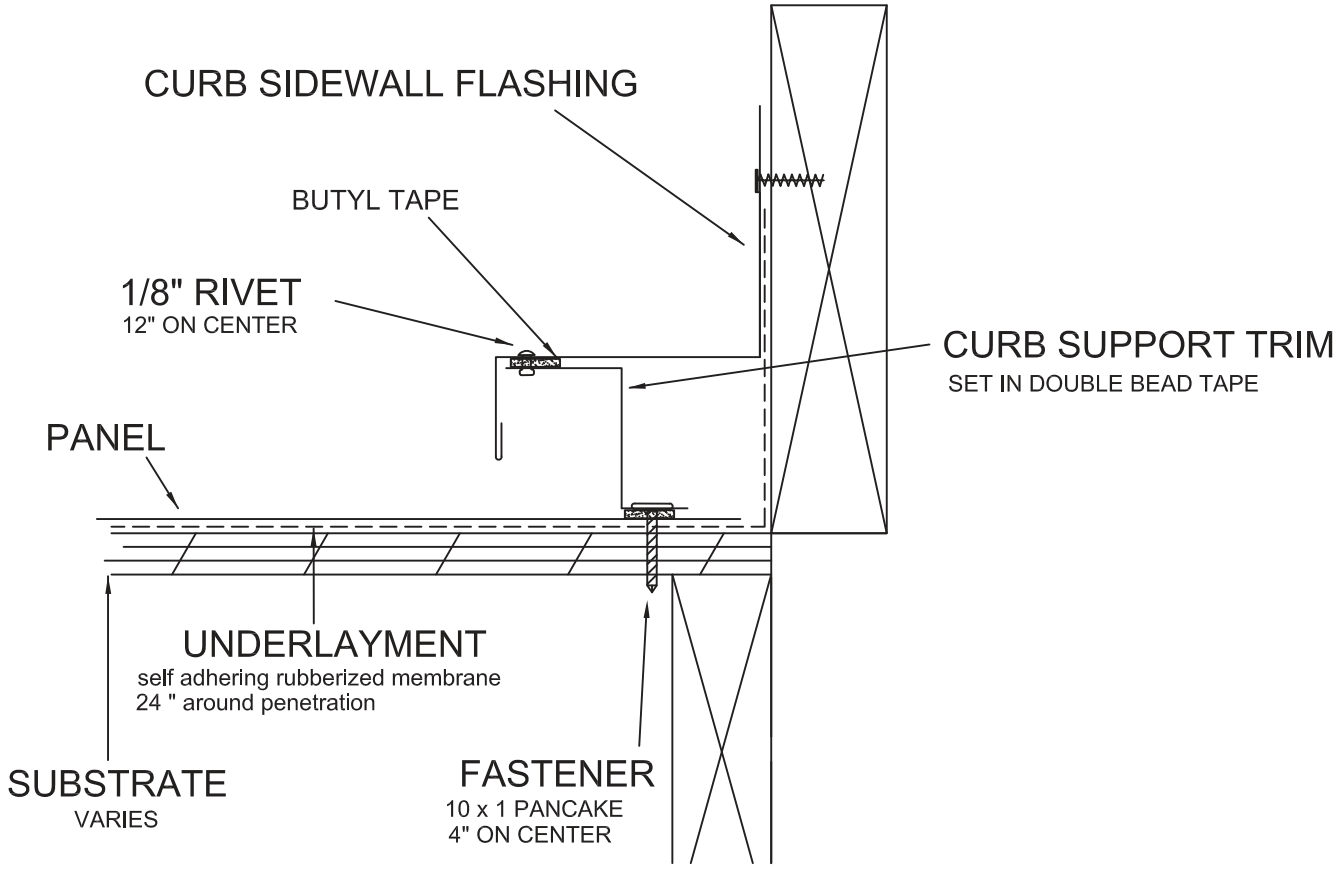
CUSTOM-BILT METALS
Brand Products

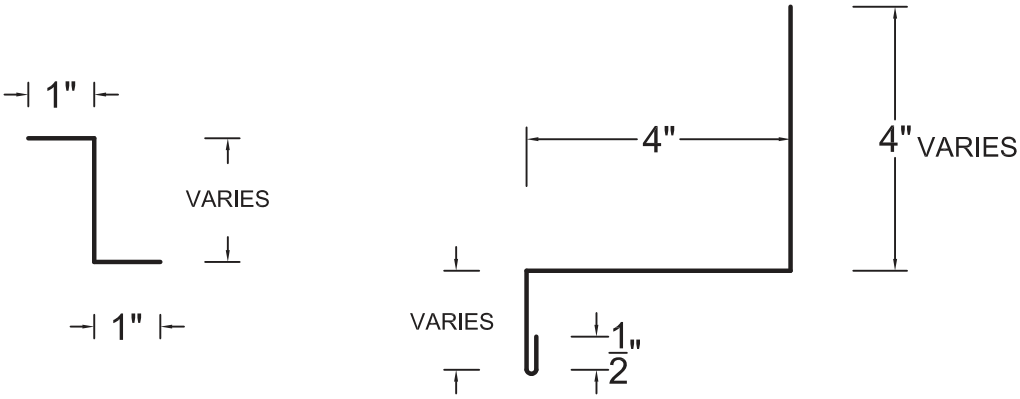


DRAWING: R26a CURB PENETRATION / section

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

CUSTOM-BILT METALS
Brand Products

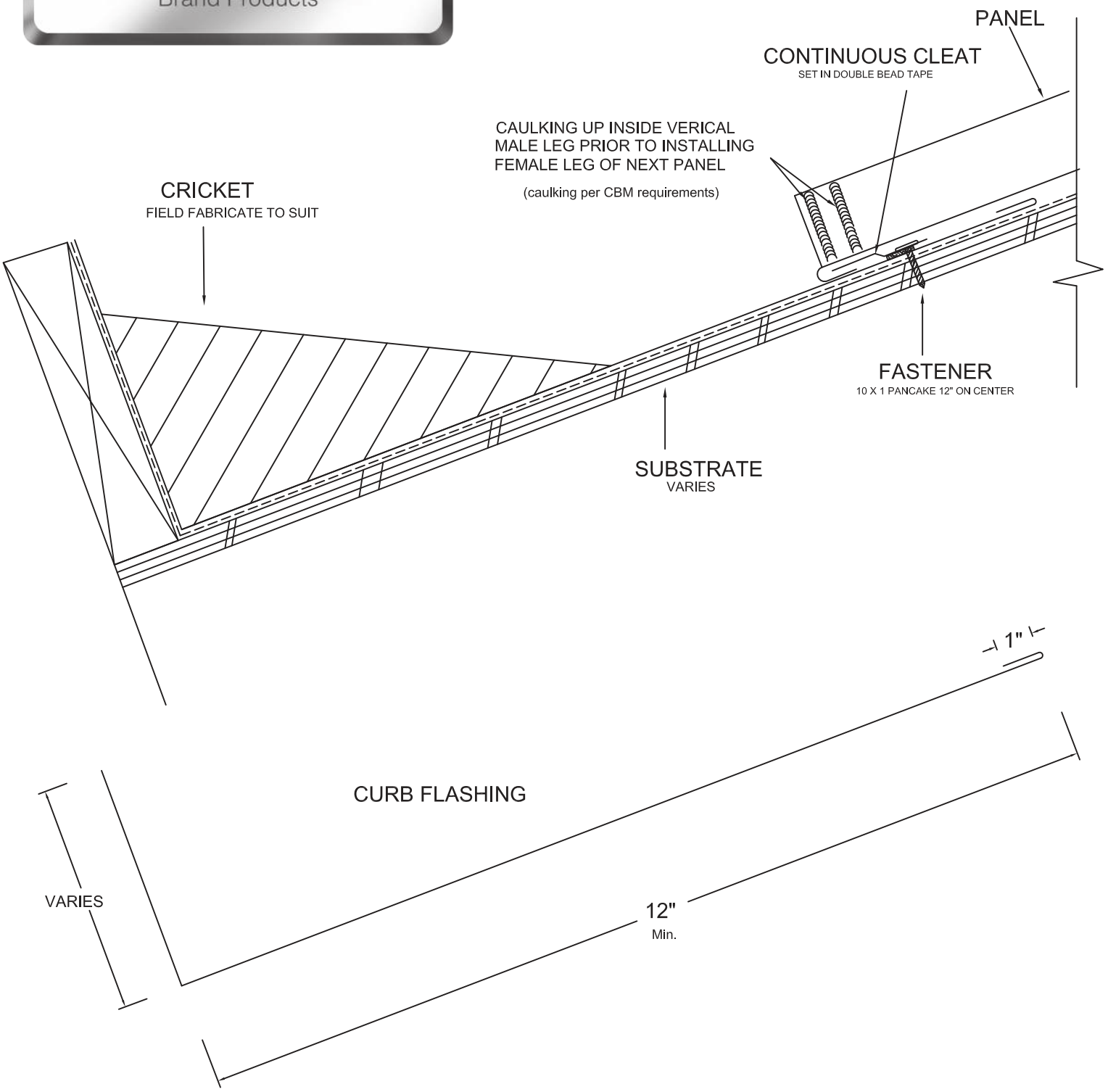




DRAWING: R26b CURB PENETRATION / section

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

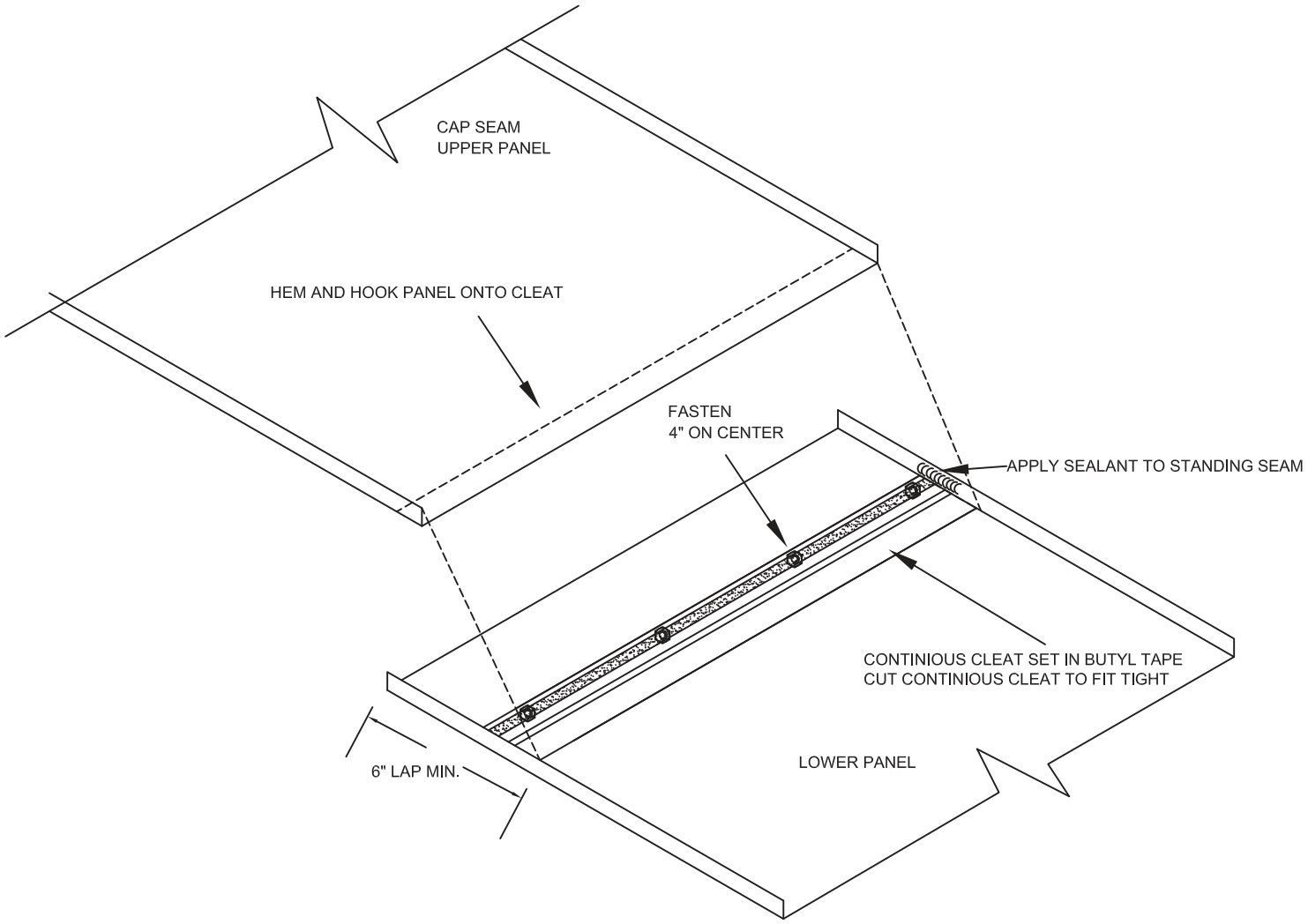
CUSTOM-BILT METALS
Brand Products



DRAWING: R26c CURB PENETRATION / section

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

CUSTOM-BILT METALS
Brand Products

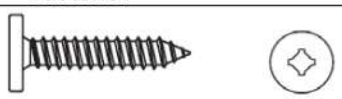
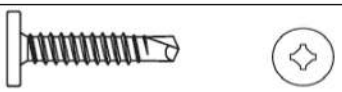


DRAWING: R27A PANEL LAP

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

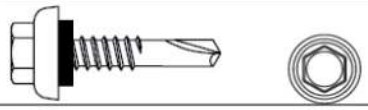
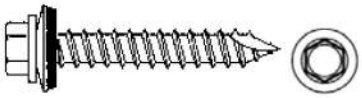
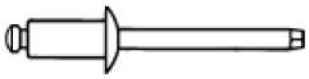
CUSTOM-BILT METALS
Brand Products

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**
	¼-14 #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** ¼" Hex Washer Head	**Flashing / Trim to wood substrate**
	Evergrip / Painted **#9-15 HWH** **Stainless Steel** **Sharp A Point w/washer** ¼" Hex Washer Head	**Flashing / Trim to wood substrate**
	#12-14 Impax 5/16" Hex Washer Head SD2	**Metal to metal** **Trim to Metal substrate**
	¼-14 X 7/8 **Impax Lap** 5/16" Hex Washer Head	**Trim to Panel attachment** **Trim to Trim attachment** Light gauge to Light gauge
	¼-14 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

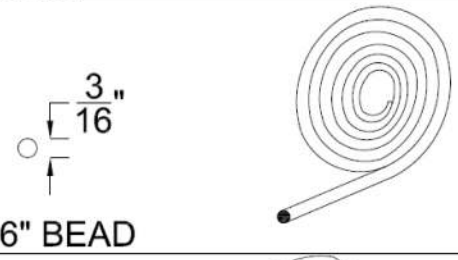
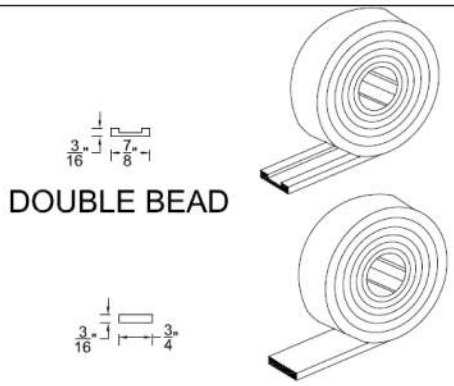
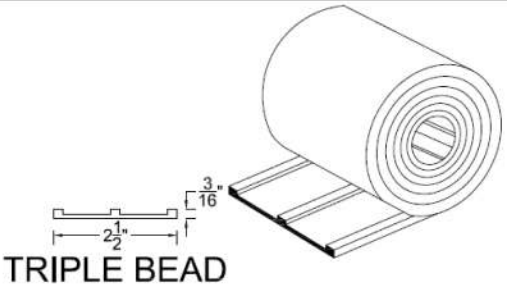
CUSTOM-BILT METALS

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

CUSTOM-BILT METALS
Brand Products

SEALANTS

SEALANT	Description	USE
	**3/16" Bead Butyl Tape 25 foot rolls**	**Field applied seam sealant** for concealed areas ONLY
	**7/8" Double Bead Butyl Tape 40 foot rolls** **3/4" Flat Butyl Tape 50 foot rolls**	**Per Recommended Details** for concealed areas ONLY
	**2 ½" 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

CUSTOM-BILT METALS
Brand Products

PIPE FLASHINGS

DEKTITE SIZE	FIT PIPE SIZES	Description
1	1/4" – 2"	Standard gray Temp range 212°
2	1 ¾" – 3 ¼"	Standard gray Temp range 212°
3	1/4" – 5"	Standard gray Temp range 212°
4	3" - 6 ¼"	Standard gray Temp range 212°
5	4 ¼" – 7 ½"	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 ¾" – 3 ¼"	High temp Red Temp range 437°
3	1/4" – 5"	High temp Red Temp range 437°
4	3" - 6 ¼"	High temp Red Temp range 437°
5	4 ¼" – 7 ½"	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°

CUSTOM-BILT METALS
Brand Products

NOTES:

Corporate Headquarters
1333 Corporate Drive, Suite 103
Irving, TX 75038
(800) 826-7813
(972) 753-1111 Fax

Kent, WA
825 Central Ave. South
Kent, WA 98032
(253) 872-7330
(253) 395-7782 Fax
(800) 225-4682

Spokane, WA
812 North Madelia
Spokane, WA 99202
(509) 533-1703
(509) 533-1182 Fax
(800) 249-7372

Chino, CA
13950 Magnolia Ave.
Chino, CA 91710
(909) 664-1587
(909) 664-1577 Fax
(800) 886-2458

Sacramento, CA
4522 Parker Ave. Suite 400
McClellan, CA 95652
(916) 333-5680
(916) 640-1825 Fax
(800) 675-5111

San Jose, CA
121 Component Drive
San Jose, CA 95131
(408) 433-0823

Portland, OR
3250 NW Yeon Ave. Suite E-1
Portland, OR 97210
(503) 256-3328
(503) 256-4572 Fax
(800) 228-3143

Phoenix, AZ
115 Pioneer Street
Phoenix, AZ 85040
(602) 484-7015
(602) 484-0844 Fax
(800) 737-9030

New Orleans, LA
300 Jefferson Hwy.
Bldg. 11, Suite 1101
New Orleans, LA 70121
(504) 838-9344
(504) 838-9346 Fax
(800) 627-8040

Honolulu, HI
2312 Kamehameha Highway
Honolulu, HI 96819
(808) 845-1806
(808) 845-2702 Fax