



Craftsman™

Design/Installation Information

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7-07/10M

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For complete performance specifications, product limitations and disclaimers, please consult MBCI's Paint and Galvalume® Plus warranties. Upon receipt of payment in full, these warranties are available upon request for all painted or Galvalume® Plus, prime products. Sample copies can be found at www.mbc.com or contact your local MBCI Sales Representative.

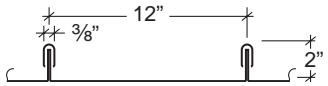
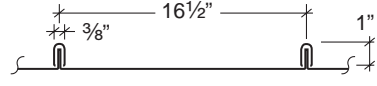
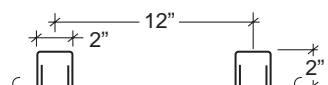
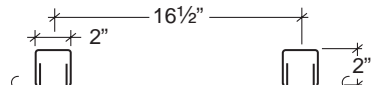
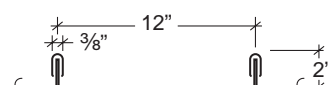
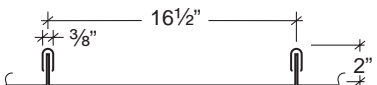
CRAFTSMAN™

PRODUCT INFORMATION

ARCHITECT/ENGINEER INFORMATION

1. Use a properly aligned and uniform substructure to avoid panel distortion. Typical substructures - plywood ($\frac{5}{8}$ " minimum), light weight concrete, metal decking or OSB. All substructures must be properly engineered to meet specified design loads. For illustration purposes, details are shown over plywood decking. For other substructures, please inquire.
2. Craftsman™ panels are water shedding panels and therefore must be installed on a minimum 3:12 roof slope. The panels must be installed over a completely waterproofed substructure. If the waterproof membrane is mechanically attached with metal fasteners of any type, fasteners should be covered to protect the back side of the roof panels. Any mechanical attachment device that does not lay flat on the deck will telegraph through the panels.
3. Narrower widths, heavier gauges, and embossing minimize oil canning. Industry standard - 12" wide, 24 gauge. Oil canning is not a cause for rejection.
4. For continuous roof panels over 40', please inquire. Panels may be endlapped.
5. Craftsman™ panels can be used on roofs with transitions or slope changes.
6. All panels are subject to surface distortion due to improperly applied fasteners. Overdriven fasteners will cause stress and induce oil canning across the face of the panel at or near the point of attachment. Standard MBCI fasteners are recommended for attachment to metal and wood for all architectural panels, including Craftsman™ panels. Use maximum caution when fastening to a wood substructure.
7. All panels require sealant at eave or valley conditions.
8. Avoid restricting the thermal expansion and contraction of the Craftsman™ panels. (i.e. Do not attach panel to the substructure at both the eave and ridge.)

The Craftsman™ Series is a snap-on batten roof system, available in a small, large or high batten. The pan and batten are manufactured separately to maximize design flexibility and for ease of installation at difficult hip, valley and slope change conditions.

12" COVERAGE	16½" COVERAGE	
 <p>SB12</p>	 <p>SB16.5</p>	Small Batten Information begins on page CS-4
 <p>LB12</p>	 <p>LB16.5</p>	Large Batten Information begins on page CS-26
 <p>HB12</p>	 <p>HB16.5</p>	High Batten Information begins on page CS-48
Specifications begin on page CS-70		



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PRODUCT INFORMATION CRAFTSMAN™

SMALL BATTEN

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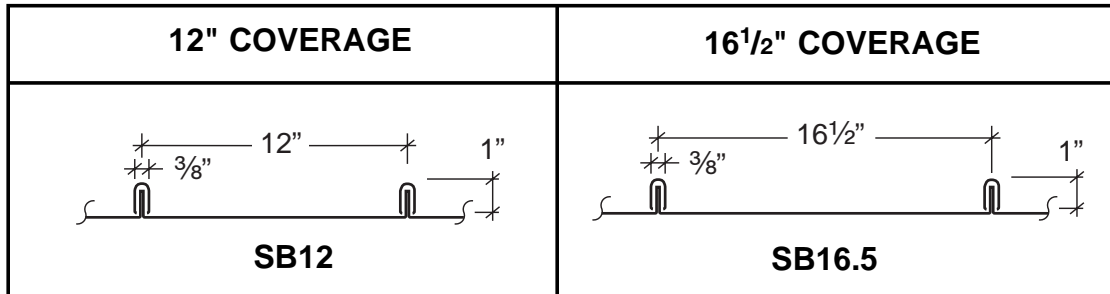
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CRAFTSMAN™ PRODUCT INFORMATION

GENERAL DESCRIPTION

CRAFTSMAN™ SMALL BATTEN PROFILES



Coverage Widths - 12" and 16 1/2"

Minimum Slope - 3:12

Panel Attachment - SB Clip (concealed fastening system)

Panel Substrate - Galvalume® (standard)

Gauge - Standard: 24 Optional: 22 and 26 gauge

Coatings - Signature® 200, Signature® 300 and Signature® 300 Metallic

PRODUCT SELECTION CHART

PRODUCT	Signature® 300 Metallic			Signature® 300			Signature® 200			Galvalume Plus®		
	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.
Craftsman™ 12" Wide 16 1/2" Wide	■	●	■	■	●	■	●	●	■	●	●	■

- - Available in any quantity.
- - Minimum quantity may be required.

Other colors, finishes, gauges and materials available; please inquire.

Signature is a registered trademark of MBCI. Galvalume and Galvalume Plus are registered and protected trademarks of BIEC International, Inc.

PRODUCT INFORMATION

CRAFTSMAN™

UL 90 REQUIREMENTS

Construction #280 SB Over Plywood Deck

1. Metal Panels - 24 gauge or heavier - 12" or 16 ½" wide, continuous over two or more spans.
2. Panel Clips - SB clip - spaced 2'-0" o.c. max.
3. Fasteners - #10 x 1" pancake head. 1 per clip.

Construction #310 SB Over Metal Deck

1. Metal Panels - 24 gauge or heavier - 12" or 16 ½" wide, continuous over two or more spans.
2. Panel Clips - SB clip - spaced 2'-0" o.c. max.
3. Fasteners - 1 per clip.

FIRE RESISTANCE RATING

MBCI, HOUSTON TX 77238

R8116 (R)

1. Mechanically Attached Metal Roof Panels - Type Craftsman™ SB 12" or 16 ½" (24 MSG). Secured by steel anchor clips. Anchor clips are attached to a hat-shaped member * (Minimum depth 1") or a bearing plate**.

For use in Design Nos. P224, P225, P227, P230, P237, P508, P510, P512, P701, P711, P715, P717, P803, P814, P815, P819, P821, P823.

*Hat-shaped member to be a minimum of 16 gauge. The member will be fastened through the roof insulation to the steel roof deck with No. 14 self-drilling and/or self-tapping fasteners. Spacing to be determined by the structural loading requirements. In addition, any compressible UL Classified glass fiber blanket insulation with or without a vapor-retarder facing may be used between the specified roof insulation and the metal roof panels.

**Bearing plate to be a minimum of 16 gauge. Member will be fastened through the roof insulation to the steel deck with No. 14 self-drilling and/or self-tapping fasteners.

See UL Fire Resistance Directory for details of illustrations and fire resistance hourly ratings.

CAUTION

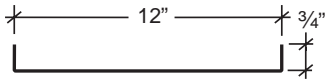
For UL 90 Rated Roofs, the above requirements must be followed. See UL Roofing Materials and Systems Directory for additional requirements. If you have any questions, call MBCI before proceeding.

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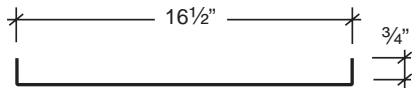
PRODUCT INFORMATION

PRODUCT CHECKLIST

SB Panel



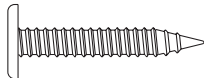
SB-12



SB-16.5



Fasteners



Pancake Head - Type A



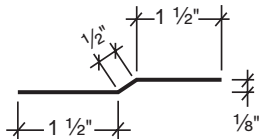
#14 Dekfast



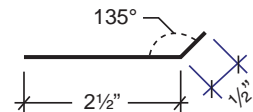
Pop Rivet



Cleats



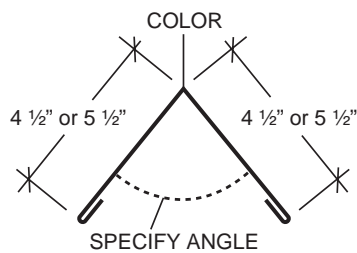
Offset Cleat



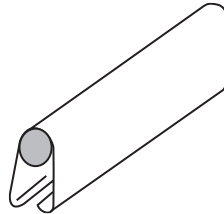
Continuous Cleat



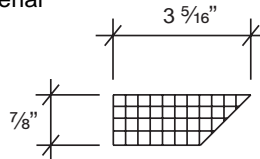
Ridge/Hip Flash



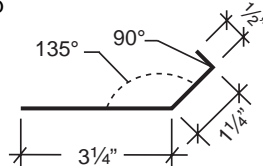
SB Batten With Mastic



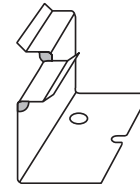
Vent Material



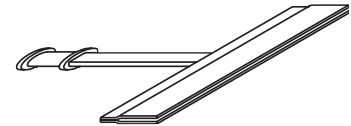
Vent Drip



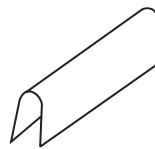
SB Clip With Mastic



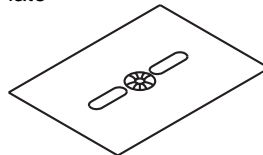
Panel Hemming Tool



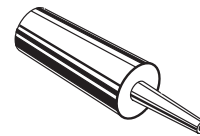
Batten Cap Coupler



Bearing Plate



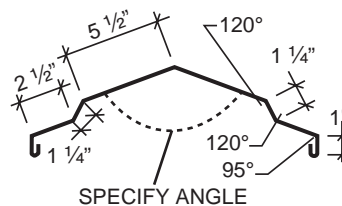
Urethane Sealant



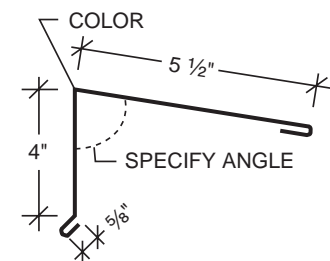
Double Bead Tape Sealer



Ridge Flash for Vent



Peak Cap



NOTE: All trim to be 24 gauge material unless noted.



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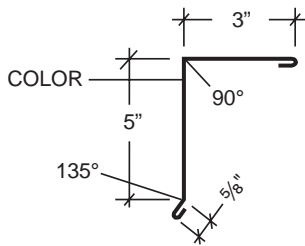
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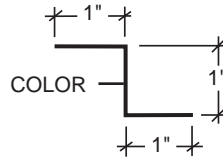
PRODUCT INFORMATION CRAFTSMAN™

PRODUCT CHECKLIST

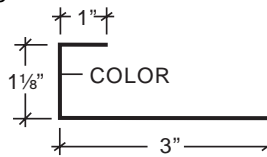
Rake Trim



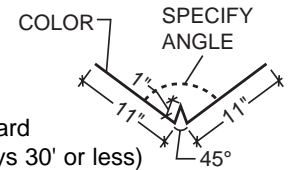
"Z" Closure



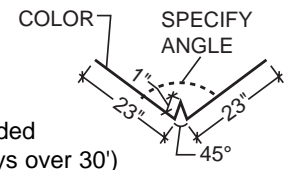
"C" Closure



Valley Trim

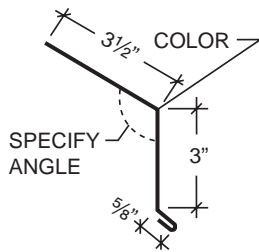


Standard (Valleys 30' or less)

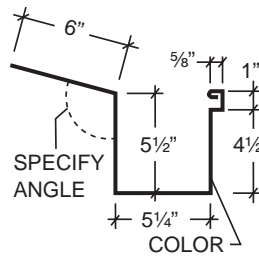


Extended (Valleys over 30')

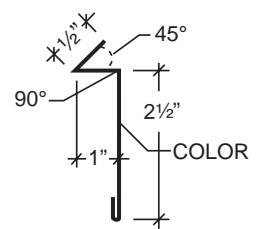
Eave Trim



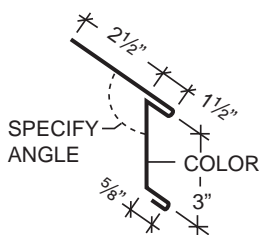
Gutter



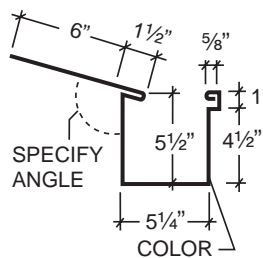
Counterflashing



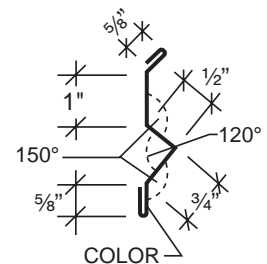
Eave with Extended Drip Edge



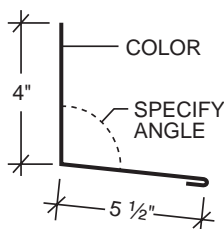
Gutter with Drip Edge



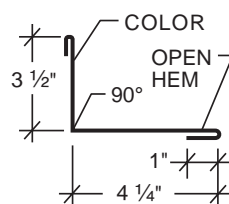
Alternate Counterflashing



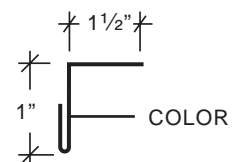
Parapet High Side Eave Flash



Parapet Rake Trim



Angle Trim

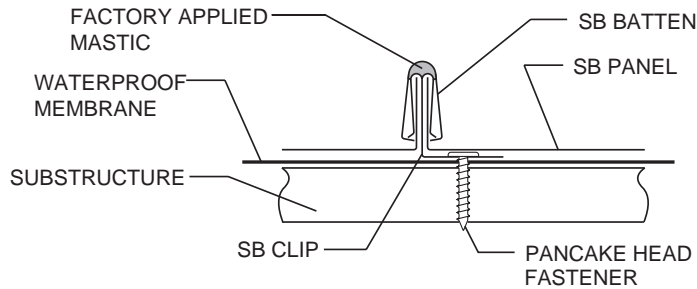


NOTE: All trim to be 24 gauge material unless noted.

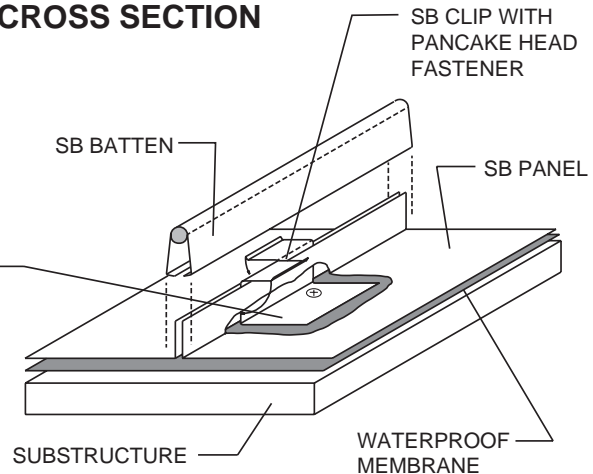
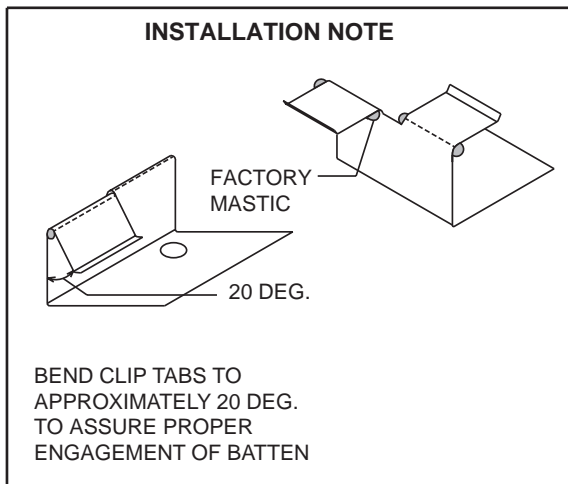
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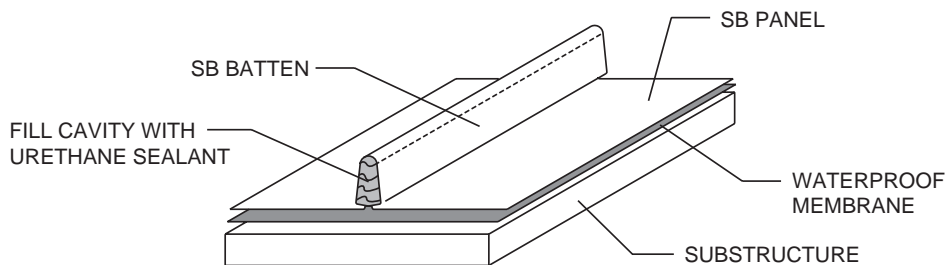
TYPICAL DETAILS PANEL



INSTALLED PANEL CROSS SECTION



BATTEN END SEALANT DETAIL



BATTEN END SEALANT DETAIL

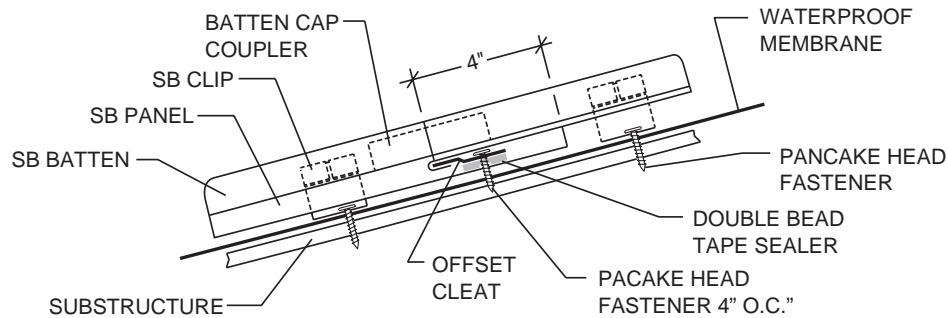
NOTES:

1. Factory applied mastic in battens is mandatory.
2. If it is necessary to raise the tabs of a clip up after they have been bent down into place, the clip must be replaced to prevent clip failure.
3. Clips to be installed on 2'-0" o.c. unless otherwise instructed on roof plans.
4. Ends of panels should be sealed with urethane sealant at all eave and valley conditions.

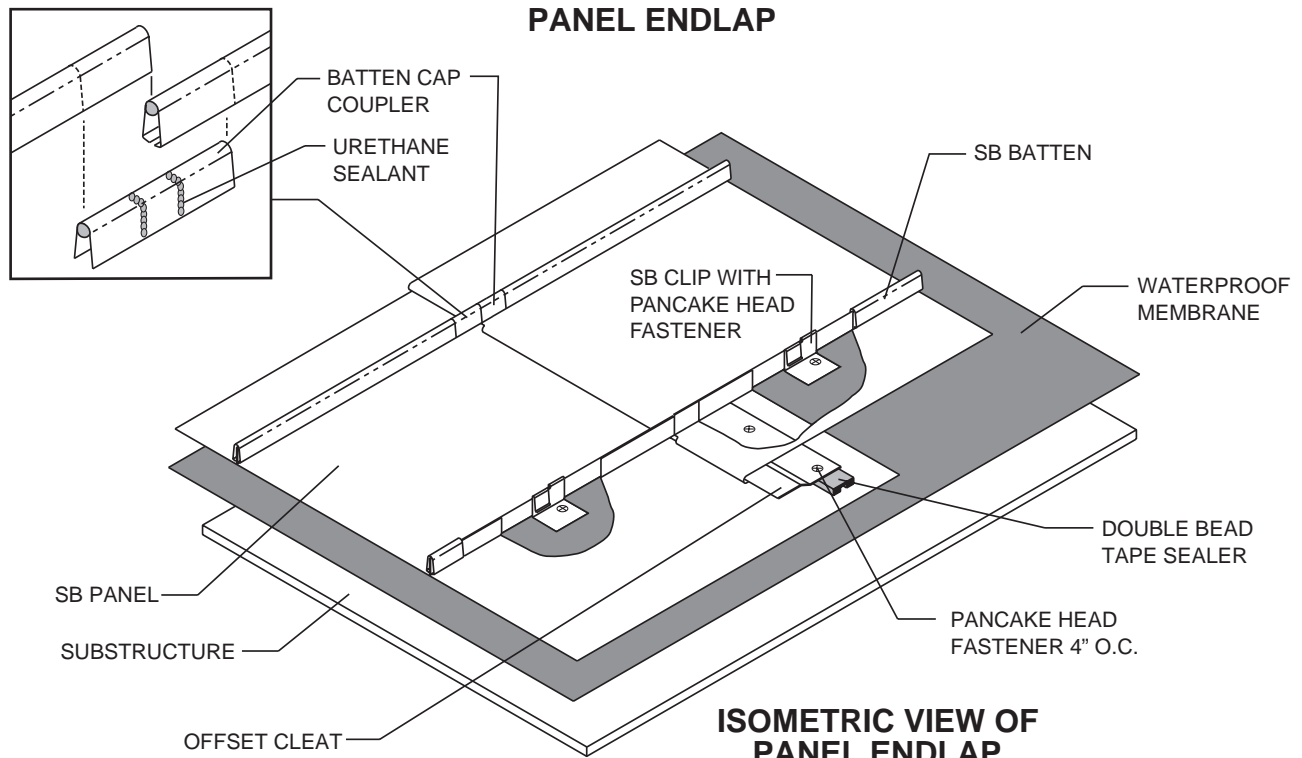
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TYPICAL DETAILS ENDLAP



CROSS SECTION OF PANEL ENDLAP



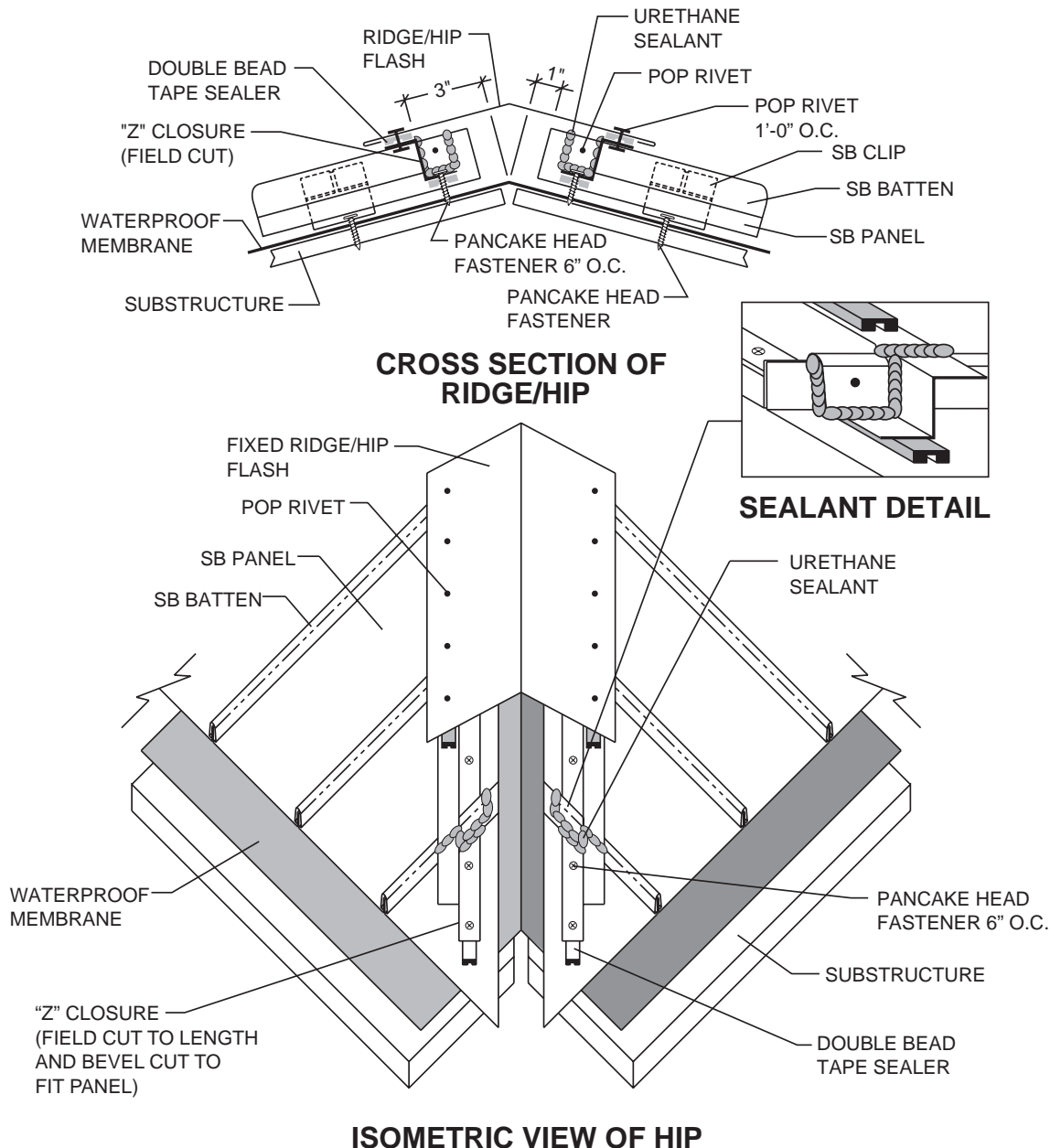
NOTES:

1. Panels are lapped 4".
2. Install double bead tape sealer across width of bottom panel. Center of tape sealer should be 2" from upslope end of panel.
3. Attach offset cleat to bottom panel with pancake head fasteners. Use four fasteners per panel for 12" wide panels and five fasteners per panel for 16½" wide panels. Fasteners must go through tape sealer. Apply urethane sealant up vertical legs of panels in line with tape sealer.
4. Field hem top panel (see page CS-13) and engage onto offset cleat.
5. To connect two battens, snap first batten to panels except for last two feet. Field cut a 4" long batten cap coupler from 10' stock. Apply a bead of urethane sealant across coupler approximately 1" from one end. Slide this end into the end of the first batten. Apply a bead of urethane sealant across coupler approximately 1" from other end and slide the second batten onto the coupler until it butts the first batten. Holding the two battens together, snap the last 2' of the first batten down and continue by snapping the second batten completely down.

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TYPICAL DETAILS RIDGE/HIP



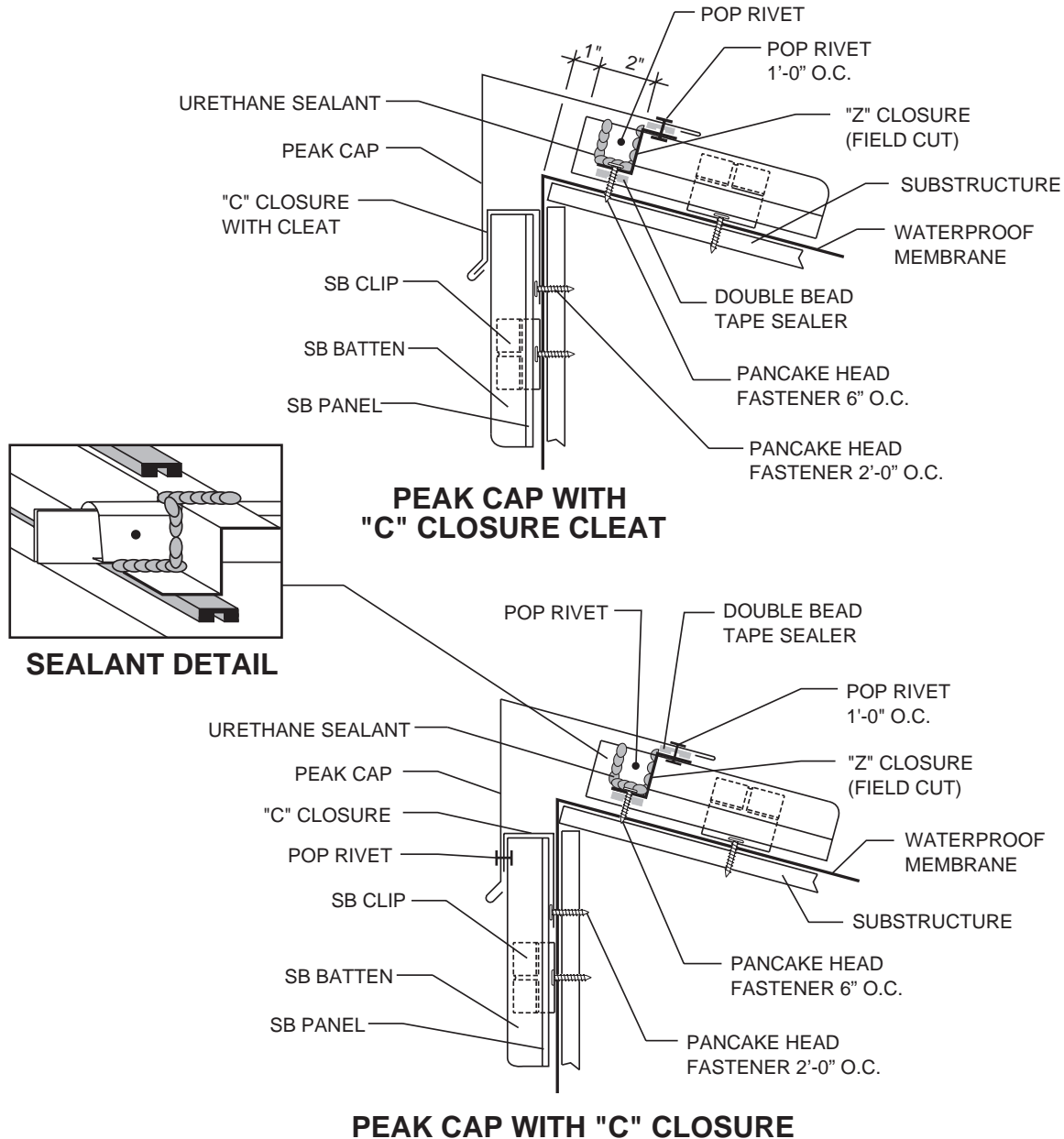
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. At ridge, use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. At hips, install fasteners 6" o.c. maximum. Install "Z" closures so that ridge/hip flash will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach ridge/hip flash to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

PRODUCT INFORMATION

CRAFTSMAN™

TYPICAL DETAILS PEAK CAP



NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that peak cap will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach peak cap to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**
6. When using "C" closure with cleat, order peak cap with open hem at the bottom.

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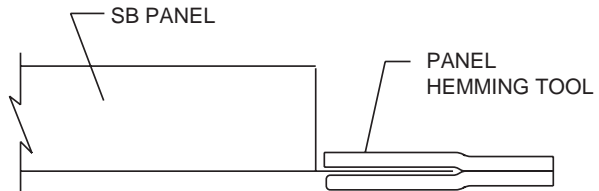
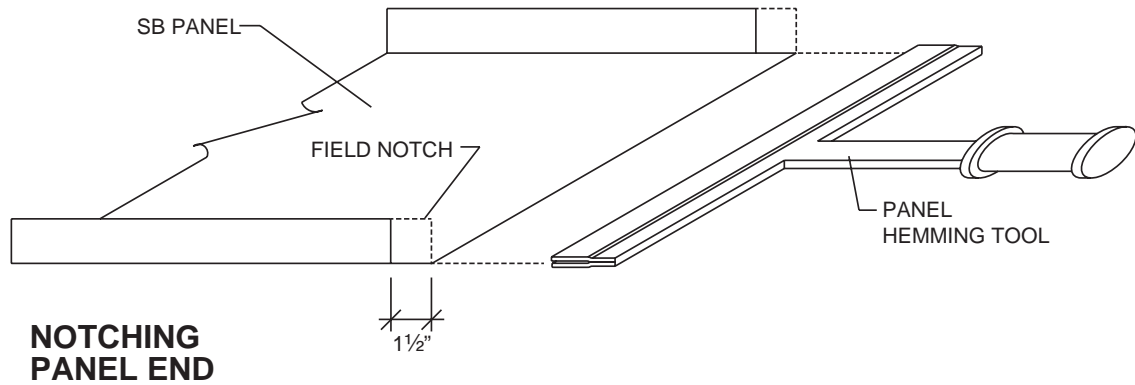
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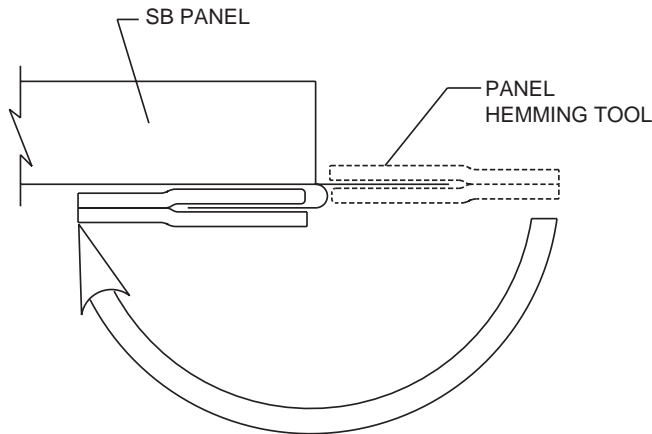


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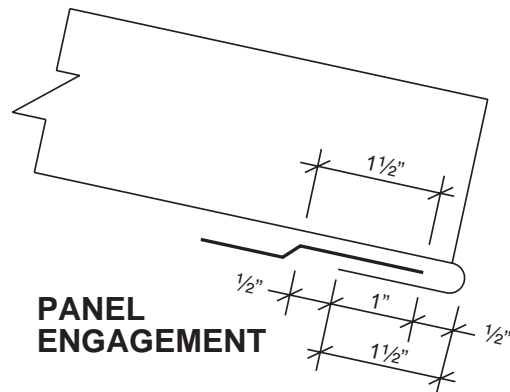
TYPICAL DETAILS FIELD HEMMING PANEL END



ENGAGING HEMMING TOOL



FORMING OPEN HEM



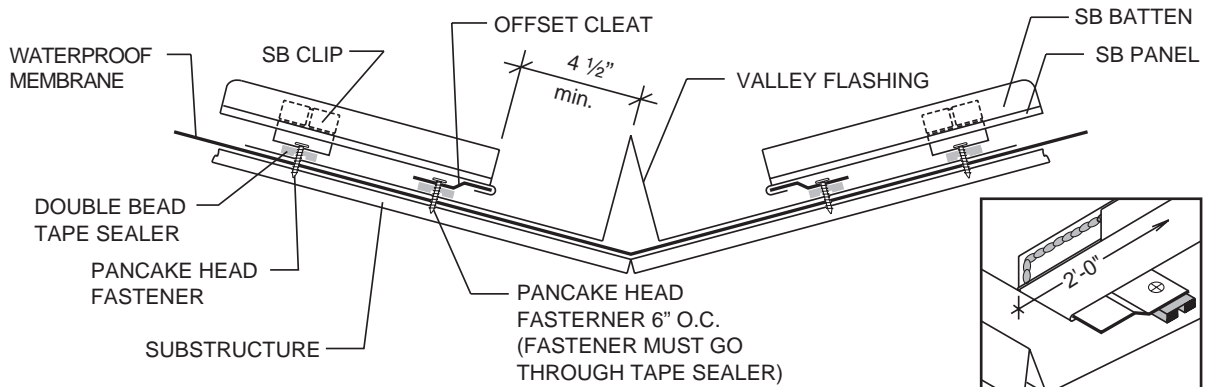
NOTES:

1. Field notch vertical legs of panel 1 1/2".
2. Engage panel hemming tool onto protruding pan of panel.
3. Bend pan of panel down to form an open hem.
4. Hem may be tightened with a pair of vise grip "duckbills".
5. **Panel engagement shown above is for panel runs up to 100' long. For panel runs over 100' long, call MBCI.**

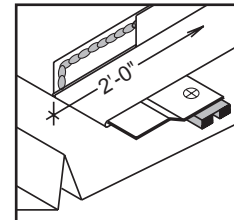
PRODUCT INFORMATION

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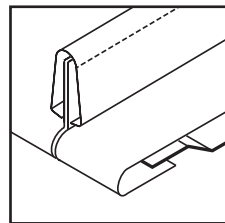
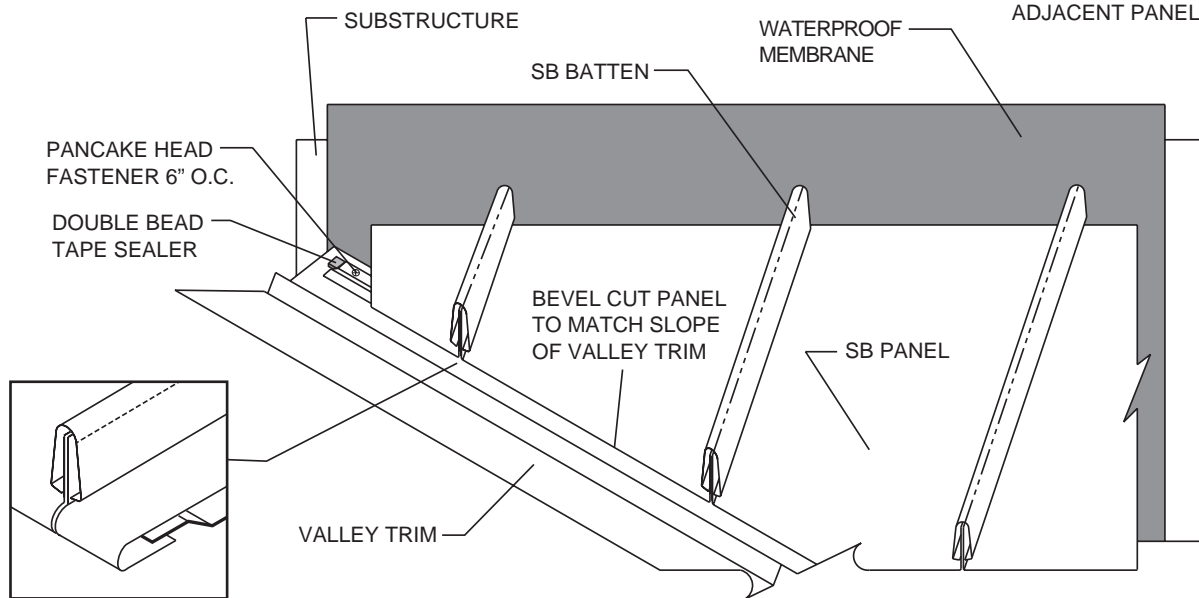
TYPICAL DETAILS VALLEY



CROSS SECTION OF VALLEY



FIELD APPLY BEAD OF URETHANE SEALANT TO VERTICAL LEG OF PANEL BEFORE INSTALLING ADJACENT PANEL



PANEL END DETAIL

SEE PAGE CS-13 FOR PANEL ENGAGEMENT

ISOMETRIC VIEW OF VALLEY

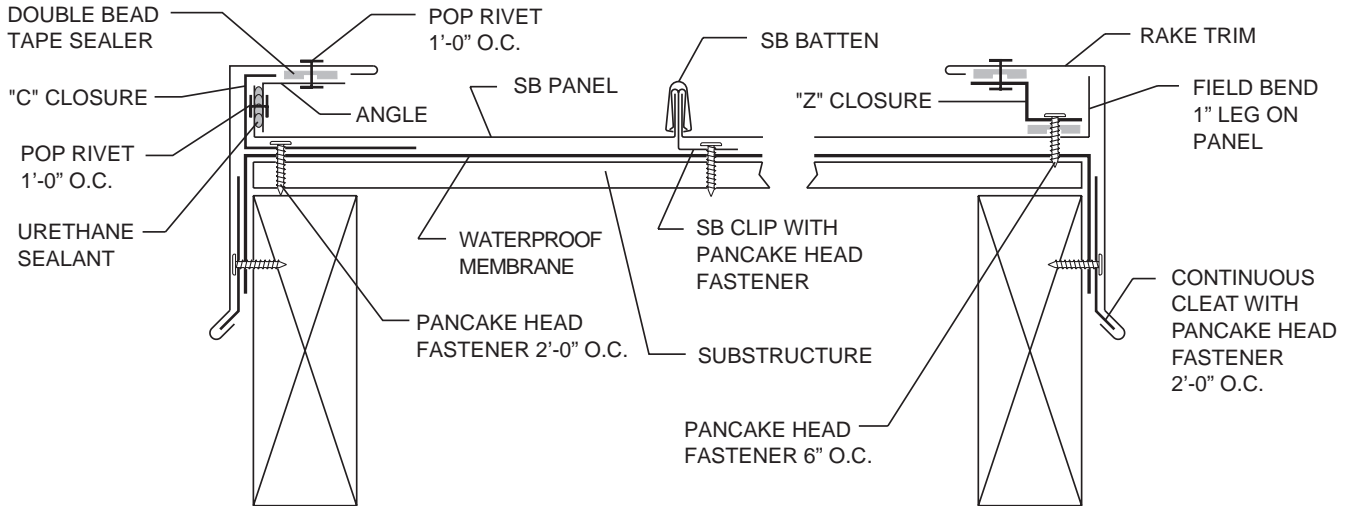
NOTES:

1. For valleys longer than 30', use extended valley trim - see page CS-8.
2. End of panel should be a minimum of 4 1/2" from center of valley.
3. Panel and batten ends must be sealed. To seal batten ends, see page CS-9.
4. To field hem panel ends, see page CS-13.

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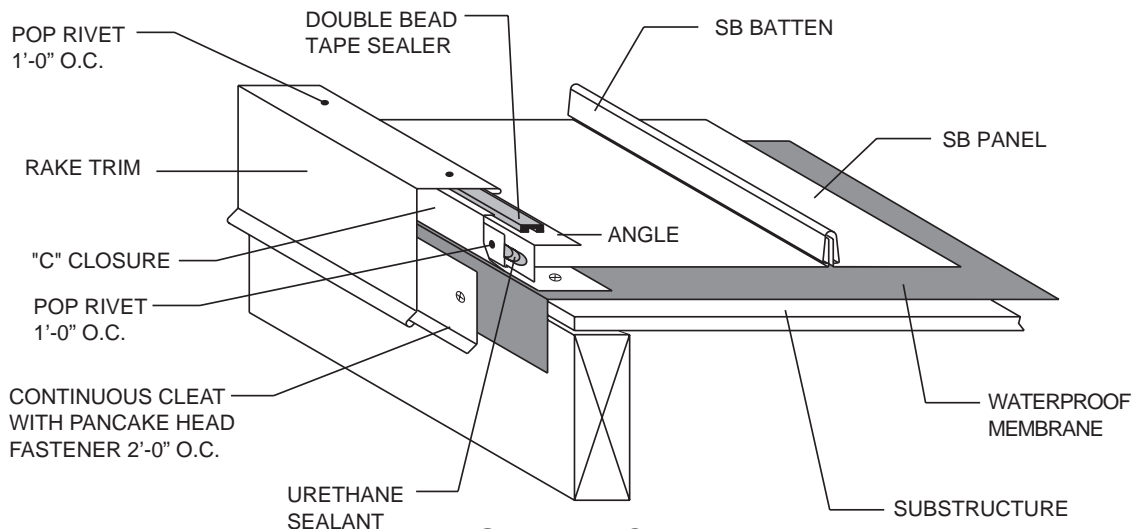
PRODUCT INFORMATION

TYPICAL DETAILS RAKE



FLOATING RAKE

FIXED RAKE



**ISOMETRIC VIEW OF
FLOATING RAKE**

NOTES:

Floating Rake

1. Attach "C" closure to substructure with pancake head fasteners 2'-0" o.c.
2. Apply a bead of urethane sealant to vertical leg of panel and rivet angle trim to panel 1'-0" o.c.
3. Slide panel into "C" closure and install clips.
4. Install double bead tape sealer to top leg of angle trim and rivet rake trim to angle trim 1'-0" o.c. **Do not fasten rake trim to "C" closure.**
5. If roof finishes off module, field bend a vertical leg on panel and install as outlined in steps 1-4 above.

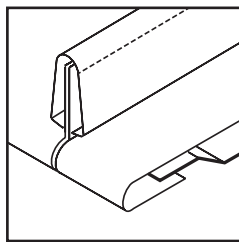
Fixed Rake

1. Install double bead tape sealer to pan of panel. Attach "Z" closure to substructure with pancake head fasteners 6" o.c.
2. Install double bead tape sealer to top leg of "Z" closure. Attach rake trim to "Z" closure with rivets 1'-0" o.c.
3. If roof finishes off module, field bend a vertical leg on panel and install as outlined in steps 1-2 above.

PRODUCT INFORMATION

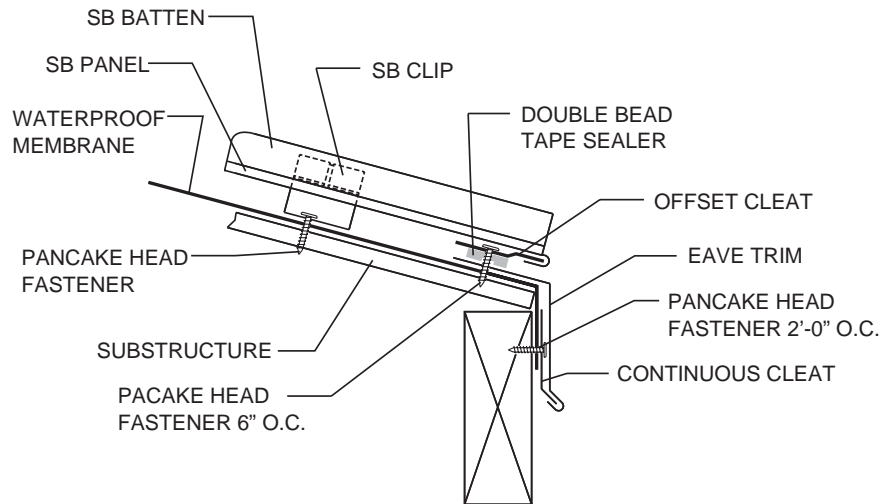
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TYPICAL DETAILS EAVE TRIM

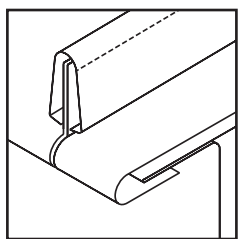


PANEL END DETAIL

SEE PAGE CS-13 FOR
PANEL ENGAGEMENT

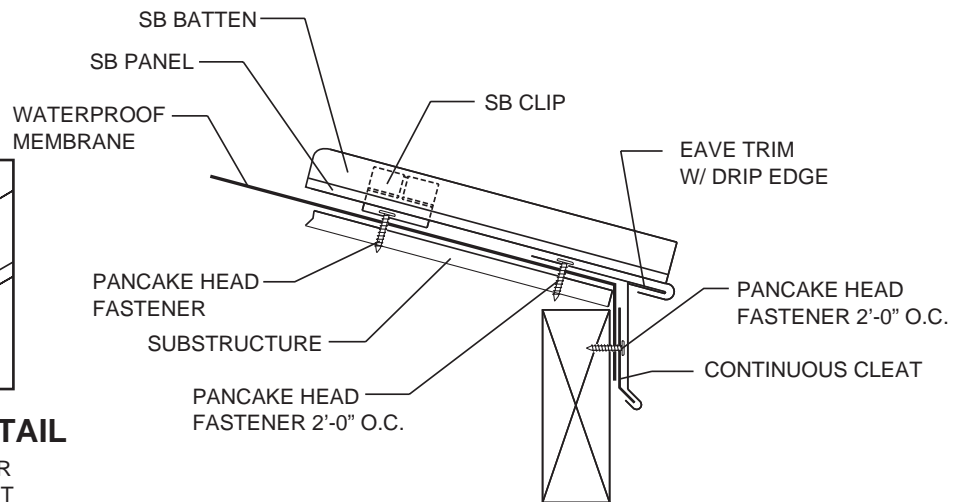


EAVE OFFSET CLEAT



PANEL END DETAIL

SEE PAGE CS-13 FOR
PANEL ENGAGEMENT



EAVE WITH DRIP EDGE

NOTES:

Offset Cleat

1. Install eave trim to substructure with two pancake head fasteners per 10'-0" piece.
2. Attach offset cleat with pancake head fasteners 6" o.c. Fasteners must go through double bead tape sealer.
3. To field hem panels, see page CS-13.
4. To seal batten ends, see page CS-9.

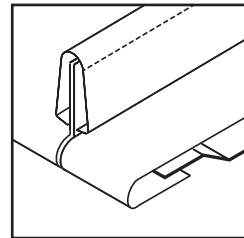
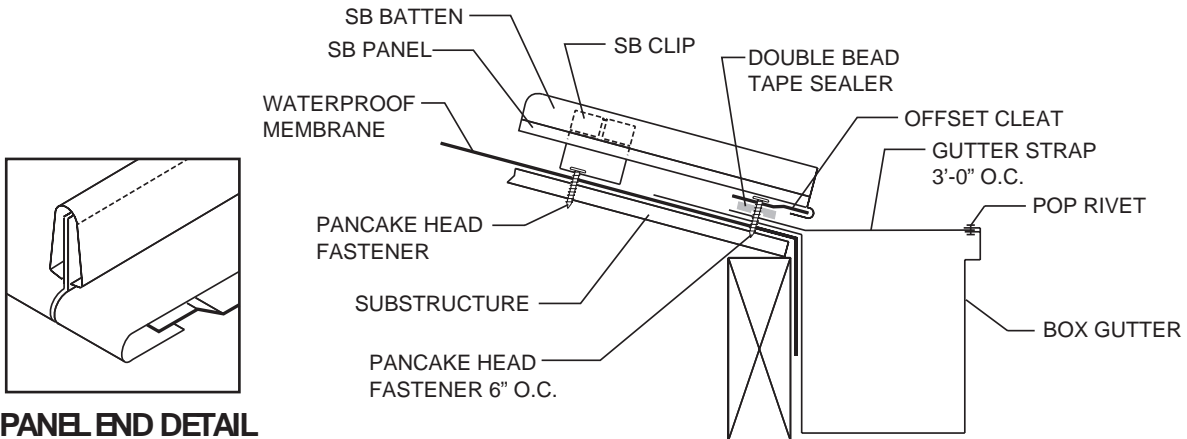
Eave with Extended Drip Edge

1. Install eave trim to substructure with pancake head fasteners 2'-0" o.c.
2. To field hem panels, see page CS-13.
3. To seal batten ends, see page CS-9.
4. This detail may be used on roofs with slopes up to 4:12. For slopes greater than 4:12, please call MBCI.

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PRODUCT INFORMATION

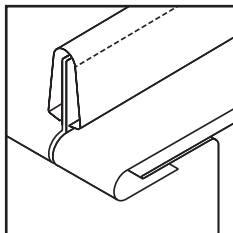
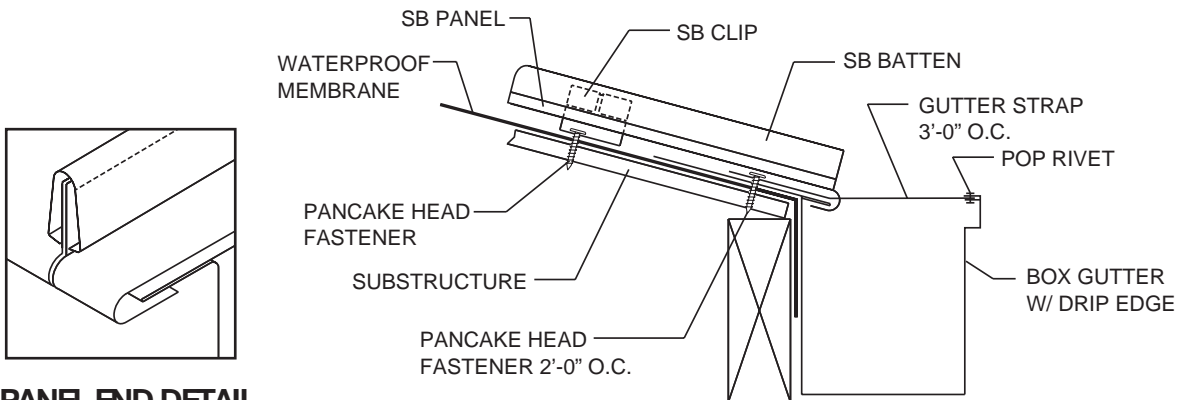
TYPICAL DETAILS GUTTER



PANEL END DETAIL

SEE PAGE CS-13 FOR
PANEL ENGAGEMENT

GUTTER WITH OFFSET CLEAT



PANEL END DETAIL

SEE PAGE CS-13 FOR
PANEL ENGAGEMENT

GUTTER WITH DRIP EDGE

NOTES:

Offset Cleat

1. Install gutter to substructure with two pancake head fasteners per 10'-0".
2. Rivet gutter straps to gutter 3'-0" o.c.
3. Attach offset cleat with pancake head fasteners 6" o.c. Fasteners must go through double bead tape sealer.
4. To field hem panels, see page CS-13.
5. To seal batten ends, see page CS-9.
6. The above gutter should not be used in areas that experience snow loads of 10 PSF or higher. See page CS-24 for the gutter detail for these areas.

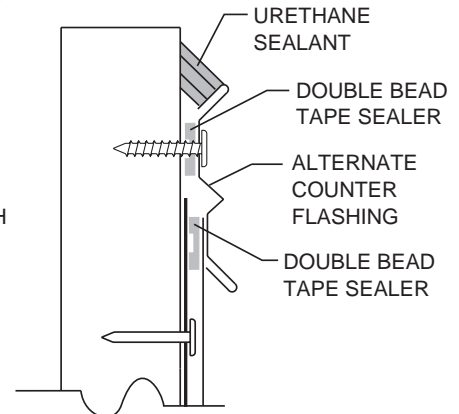
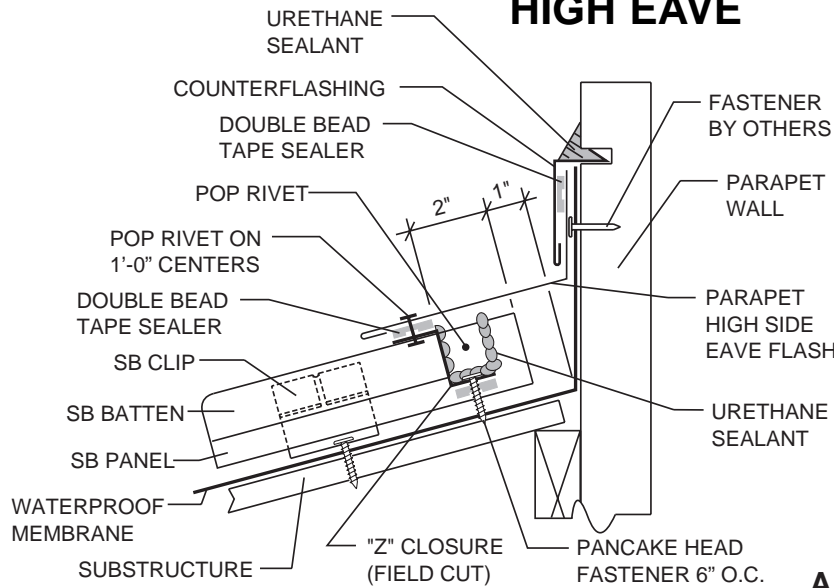
Gutter with Drip Edge

1. Install gutter to substructure with pancake head fasteners 2'-0".
2. Rivet gutter straps to gutter 3'-0".
3. To field hem panel, see page CS-13.
4. To seal batten ends, see page CS-9.
5. This detail may be used on roofs with slopes up to 4:12. For slopes greater than 4:12, please call MBCI.
6. The above gutter should not be used in areas that experience snow loads of 10 PSF or higher. See page CS-24 for the gutter detail for these areas.

PRODUCT INFORMATION

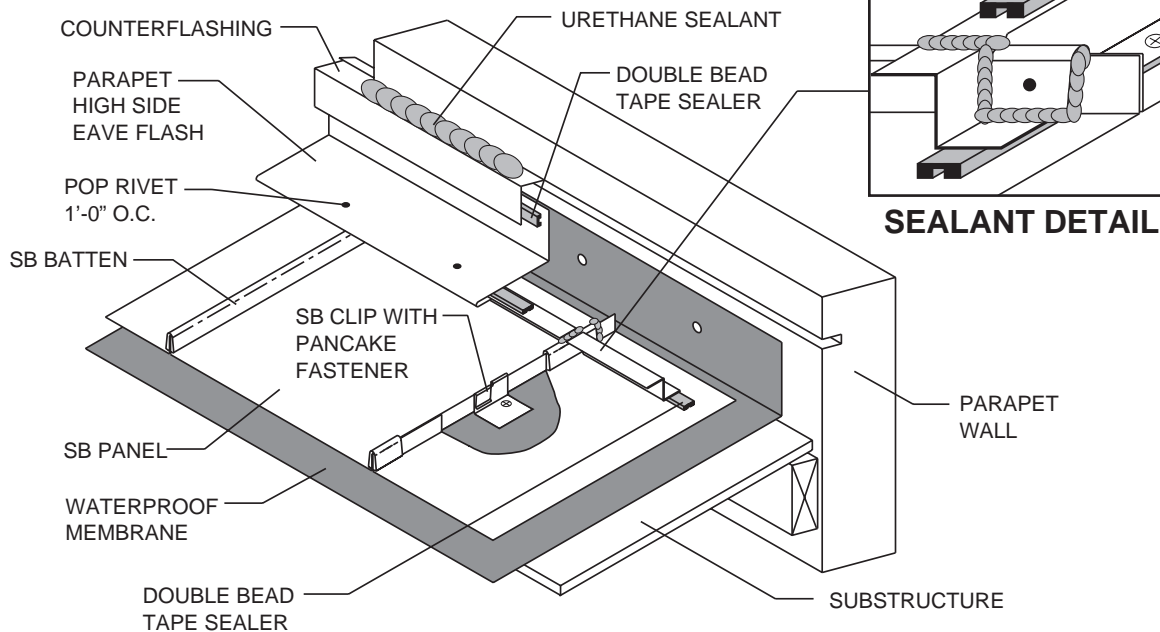
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PARAPET DETAILS HIGH EAVE



ALTERNATE DETAIL

CROSS SECTION OF HIGH EAVE



ISOMETRIC VIEW OF HIGH EAVE

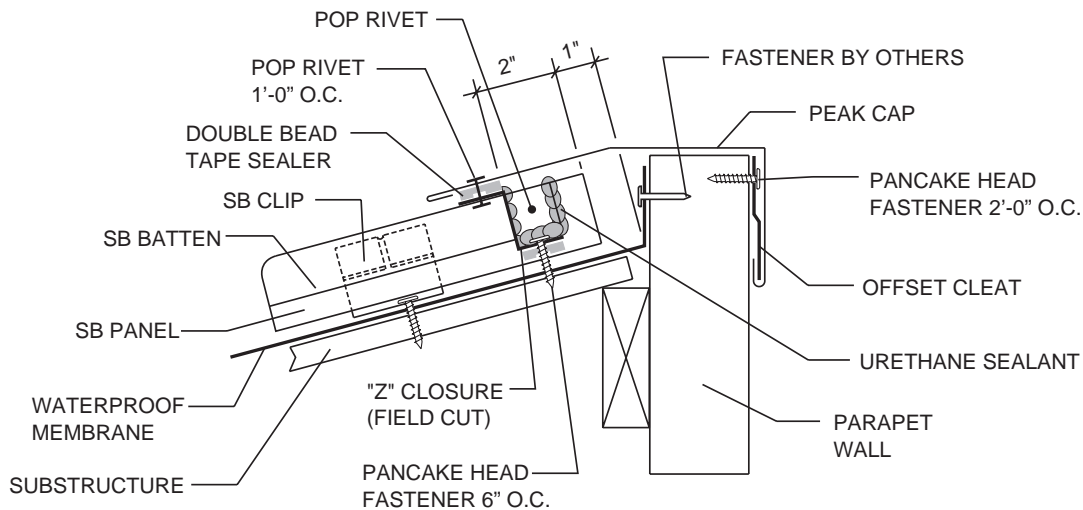
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that parapet high side eave flash will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach parapet high side eave flash to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

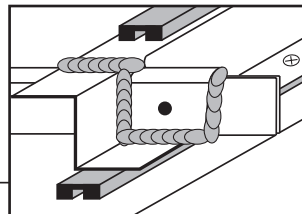
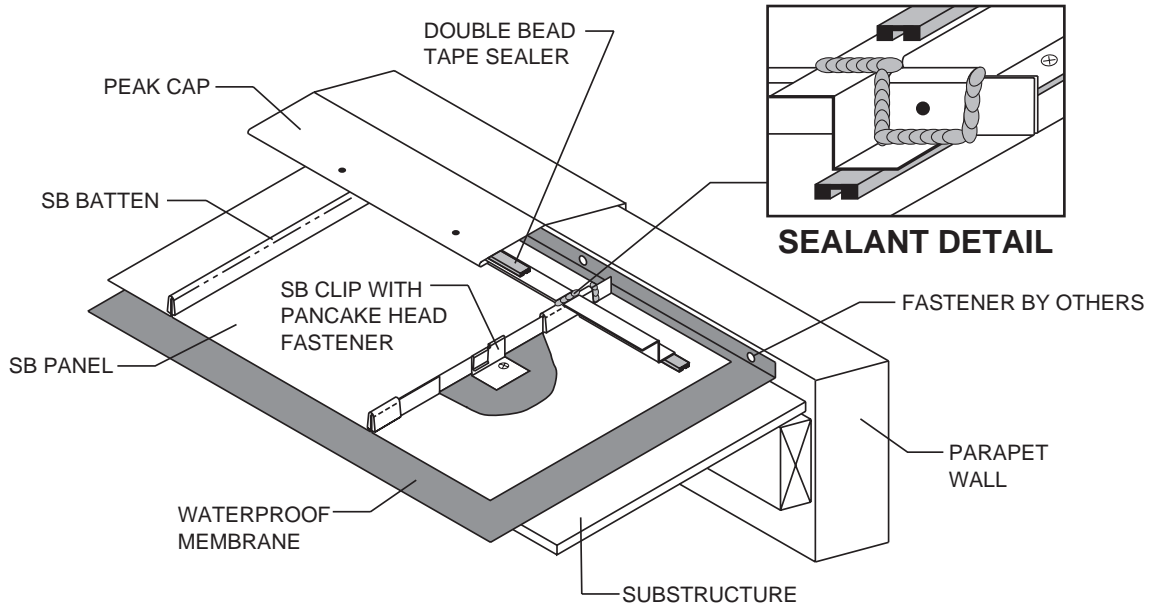
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PRODUCT INFORMATION

PARAPET DETAILS PEAK CAP



CROSS SECTION OF PEAK CAP



SEALANT DETAIL

ISOMETRIC VIEW OF PEAK CAP

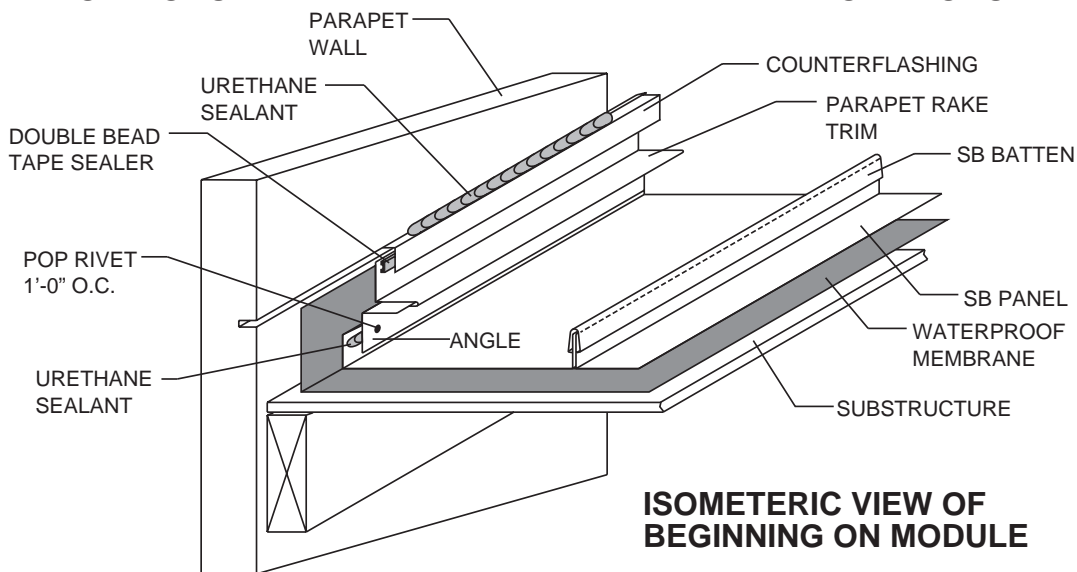
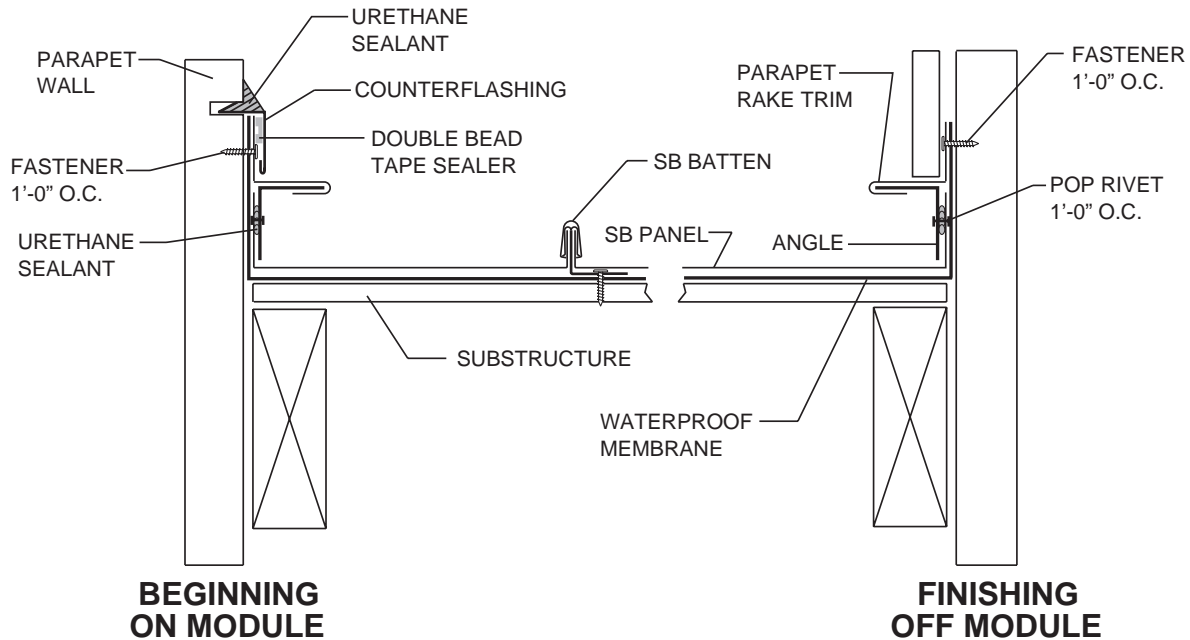
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that peak cap will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach peak cap to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

PRODUCT INFORMATION

CRAFTSMAN™

PARAPET DETAILS PARAPET RAKE TRIM



NOTES:

Beginning On Module

1. Apply a bead of urethane sealant to vertical leg of panel and rivet angle trim to panel 1'-0" o.c.
2. Hook open hem of parapet rake trim onto angle trim and fasten vertical leg of rake trim to parapet wall.

Finishing Off Module

1. Field bend a vertical leg and install as outlined above.

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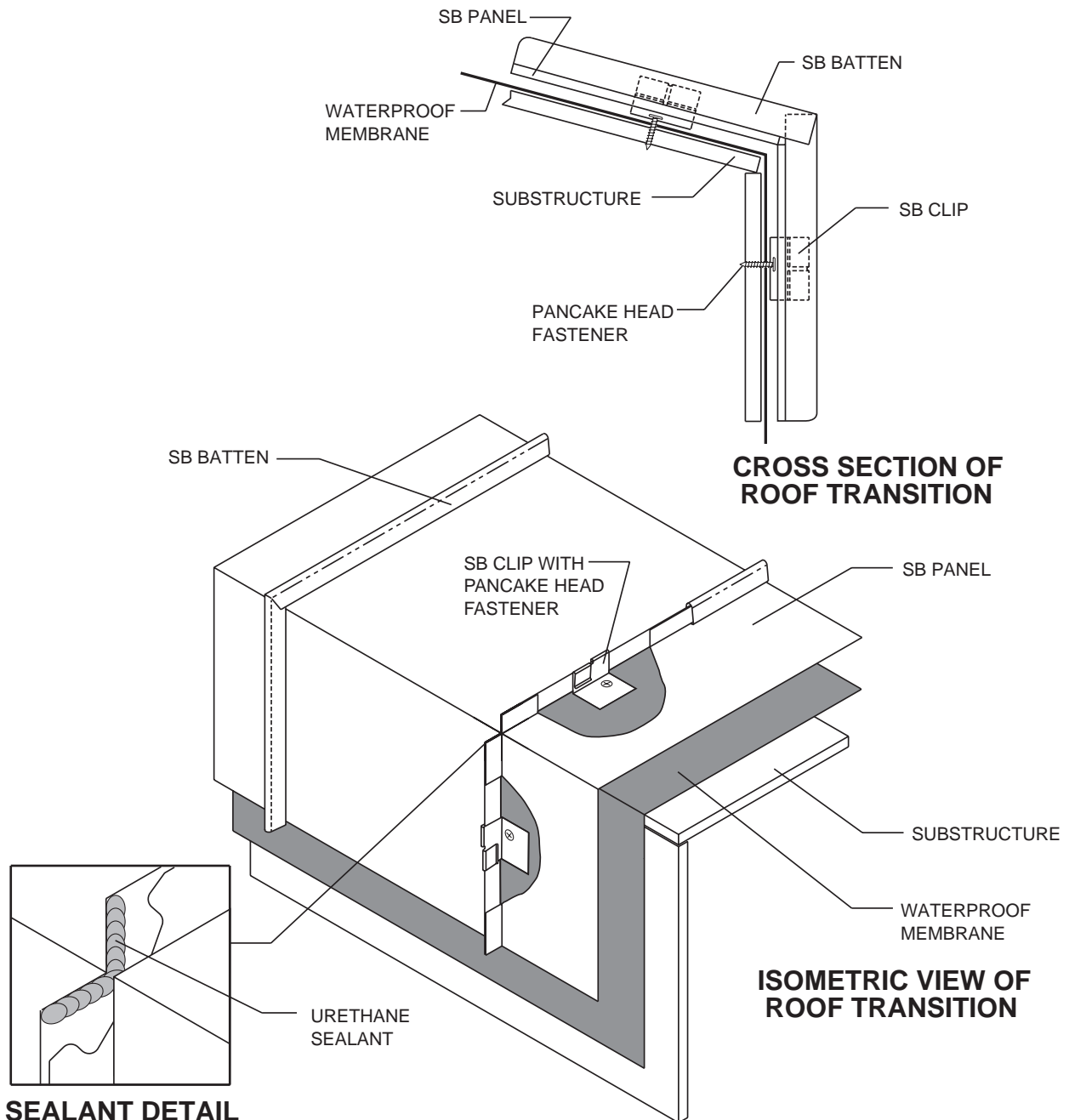
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PRODUCT INFORMATION

MISCELLANEOUS DETAILS ROOF TRANSITION



NOTES:

1. Field cut vertical legs of panel and bend pan to required angle.
2. Before installing panel, apply a bead of urethane sealant to the ends of the panel seams of the previous panel.
3. Field notch batten, bend to required angle and install.
4. **Do not use this detail inside the building envelope.**



Metal Roof and Wall Systems

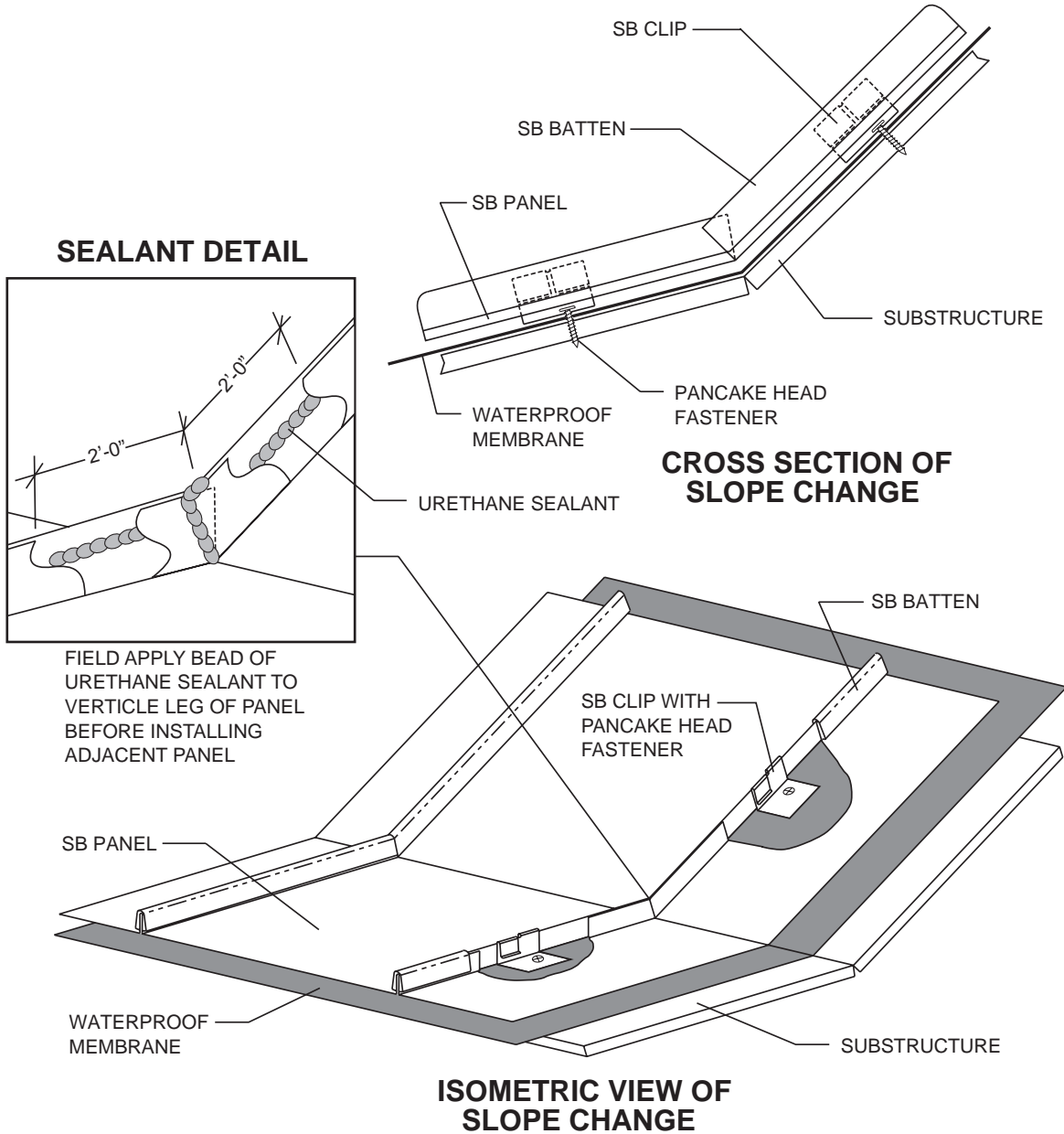
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PRODUCT INFORMATION CRAFTSMAN™

MISCELLANEOUS DETAILS SLOPE CHANGE



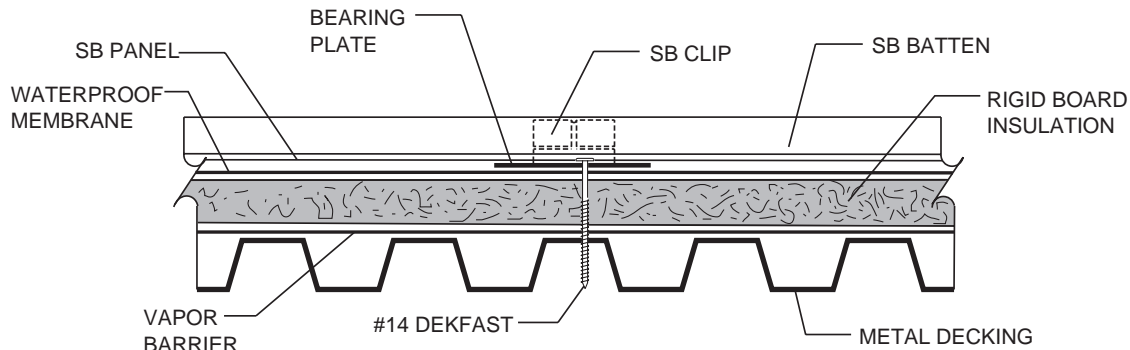
NOTES:

1. Field cut vertical legs of panel and bend pan to required angle.
2. Seal panel seams with urethane sealant.
3. Field cut batten and install.

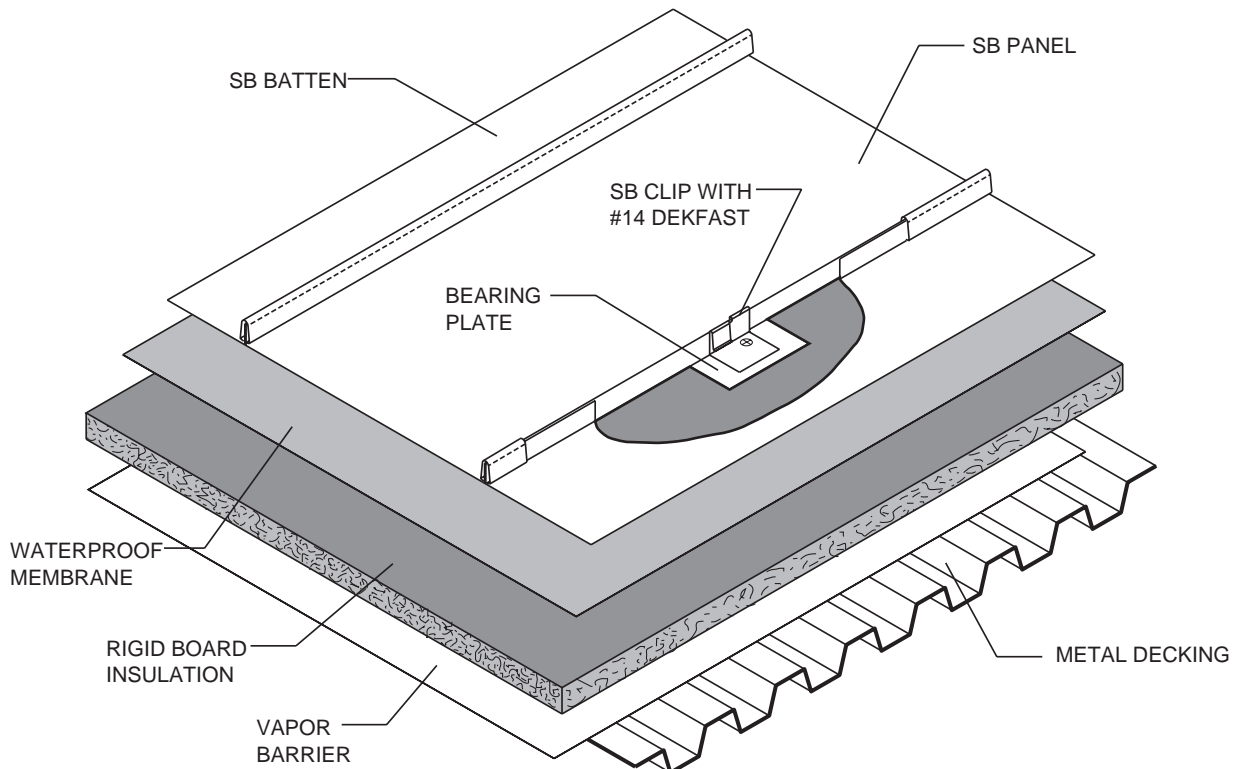
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PRODUCT INFORMATION

MISCELLANEOUS DETAILS RIGID BOARD OVER METAL DECK



**CROSS SECTION OF RIGID BOARD
INSULATION OVER METAL DECK**



**ISOMETRIC VIEW OF RIGID BOARD
INSULATION OVER METAL DECK**

NOTES:

1. Metal deck to be 1½" deep, 22 gauge.
2. Clips and bearing plates to be installed simultaneously with one #14 Dekfast fastener. Length of fastener to be ½" longer than combined thickness of metal deck and rigid board insulation.
3. Rigid board insulation must have a minimum density of 2 PCF.



Metal Roof and Wall Systems

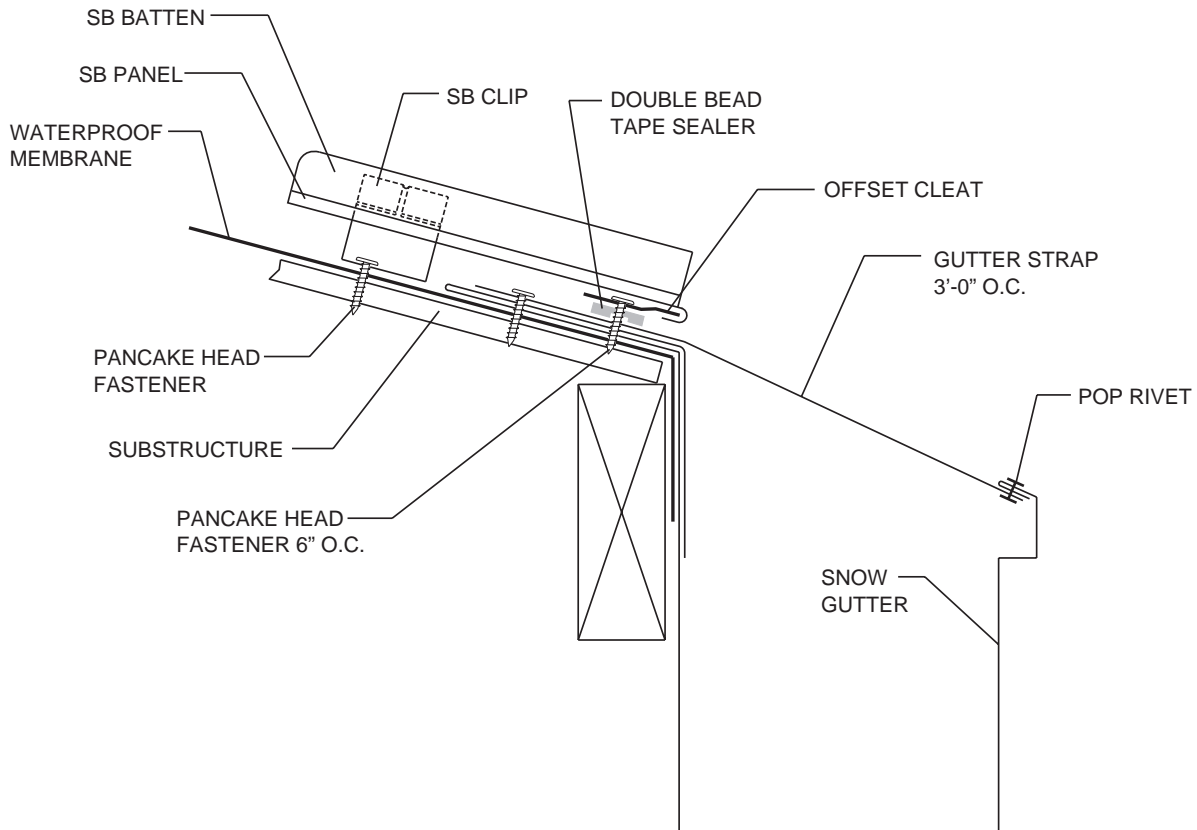
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PRODUCT INFORMATION CRAFTSMAN™

MISCELLANEOUS DETAILS SNOW GUTTER



NOTES:

1. Install gutter to substructure with two pancake head fasteners per 10'-0".
2. Rivet gutter straps to gutter 3'-0" o.c.
3. Attach offset cleat with pancake head fasteners 1'-0" o.c. Fasteners must go through double bead tape sealer.
4. To field hem panels, see page CS-13.
5. To seal batten ends, see page CS-9.

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PRODUCT INFORMATION

INSTALLATION GUIDELINES

I. Pre-Order

- A. Prior to ordering panels, all dimensions should be confirmed by field measurement.

II. Jobsite Storage and Handling

- A. Check the shipment against the shipping list.
- B. Damaged material must be noted on bill of lading.
- C. Panel crates should be handled carefully. A spreader bar of appropriate length is recommended for hoisting.
- D. Check to see that moisture has not formed inside the bundles during shipment. If moisture is present, panels should be uncrated and wiped dry, then restacked and loosely covered so that air can circulate between the panels.

III. Application Checklist

- A. Check substructure for proper alignment and uniformity to avoid panel distortion.
- B. Waterproof membrane should be protected from damage until the roof panels are installed. However, if membrane is damaged, repair of the membrane is necessary prior to panel installation. Always install membrane in such a manner that will allow for water shedding.
- C. Prior to installation of panels, roof should be swept clean of any debris.
- D. Care should be taken to place clip snug against vertical leg of panel and flush on the substructure surface.
- E. Periodic check of panel alignment is crucial to proper panel installation.
- F. For proper appearance, ribs must line up at valleys and ridges/hips.
- G. Panels should be cut on the ground to minimize cut filings on adjacent panels. Keep panels clean during installation. **DO NOT STEP ON PANELS.**
- H. A low profile fastener, such as a pancake head screw, is required for panel installation.



Metal Roof and Wall Systems

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PRODUCT INFORMATION

CRAFTSMAN™

LARGE BATTEN

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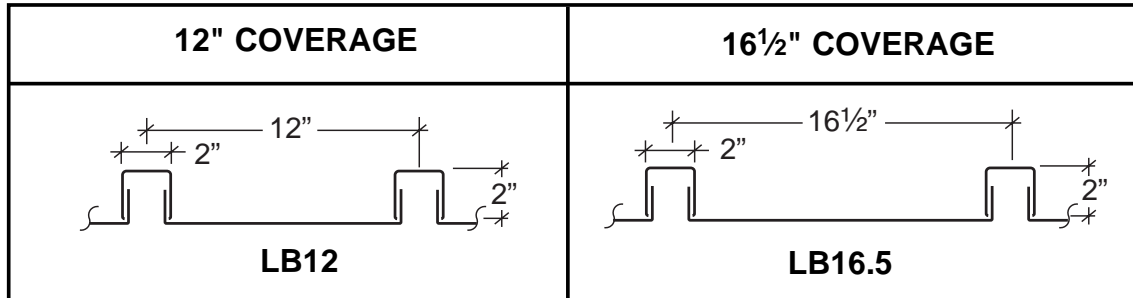
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CRAFTSMAN™ PRODUCT INFORMATION

GENERAL DESCRIPTION

CRAFTSMAN™ LARGE BATTEN PROFILES



Coverage Widths - 12" and 16½"

Minimum Slope - 3:12

Panel Attachment - LB Clip (concealed fastening system)

Panel Substrate - Galvalume® (standard)

Gauge - Standard: 24 Optional: 22 and 26 gauge

Coatings - Signature® 200, Signature® 300 and Signature® 300 Metallic

PRODUCT SELECTION CHART

PRODUCT	Signature® 300 Metallic			Signature® 300			Signature® 200			Galvalume Plus®		
	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.
Craftsman™												
12" Wide	■	●	■	■	●	■	●	●	■	●	●	■
16½" Wide		●	■		●	■		●	■		●	■

● - Available in any quantity.

■ - Minimum quantity may be required.

Other colors, finishes, gauges and materials available; please inquire.

Signature is a registered trademark of MBCI. Galvalume and Galvalume Plus are registered and protected trademarks of BIEC International, Inc.



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PRODUCT INFORMATION

CRAFTSMAN™

UL 90 REQUIREMENTS

Construction #281 LB Over Plywood Deck

1. Metal Panels - 24 gauge or heavier - 12" or 16½" wide, continuous over two or more spans.
2. Panel Clips - LB clip - spaced 2'-0" o.c. max.
3. Fasteners - #10 x 1" pancake head. 1 per clip.

Construction #308 LB Over Metal Deck

1. Metal Panels - 24 gauge or heavier - 12" or 16½" wide, continuous over two or more spans.
2. Panel Clips - LB clip - spaced 2'-0" o.c. max.
3. Fasteners - 1 per clip.

FIRE RESISTANCE RATING

MBCI, HOUSTON TX 77238

R8116 (R)

1. Mechanically Attached Metal Roof Panels - Type Craftsman™ LB 12" or 16½" (24 MSG). Secured by steel anchor clips. Anchor clips are attached to a hat-shaped member * (Minimum depth 1") or a bearing plate**.

For use in Design Nos. P224, P225, P227, P230, P237, P508, P510, P512, P701, P711, P715, P717, P803, P814, P815, P819, P821, P823.

*Hat-shaped member to be a minimum of 16 gauge. The member will be fastened through the roof insulation to the steel roof deck with No. 14 self-drilling and/or self-tapping fasteners. Spacing to be determined by the structural loading requirements. In addition, any compressible UL Classified glass fiber blanket insulation with or without a vapor-retarder facing may be used between the specified roof insulation and the metal roof panels.

**Bearing plate to be a minimum of 16 gauge. Member will be fastened through the roof insulation to the steel deck with No. 14 self-drilling and/or self-tapping fasteners.

See UL Fire Resistance Directory for details of illustrations and fire resistance hourly ratings.

CAUTION

For UL 90 Rated Roofs, the above requirements must be followed. See UL Roofing Materials and Systems Directory for additional requirements. If you have any questions, call MBCI before proceeding.

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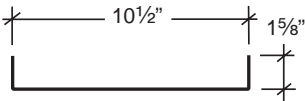
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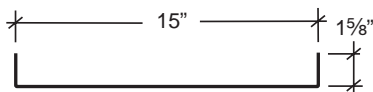
PRODUCT INFORMATION

PRODUCT CHECKLIST

LB Panel

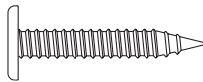


LB-12



LB-16.5

Fasteners



Pancake Head - Type A

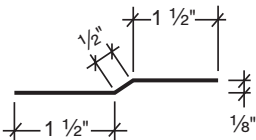


#14 Dekfast

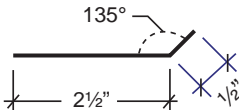


Pop Rivet

Cleats

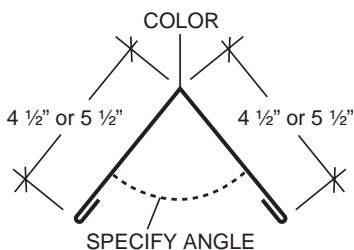


Offset Cleat

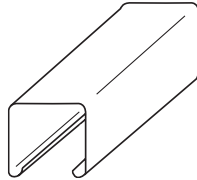


Continuous Cleat

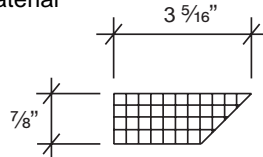
Ridge/Hip Flash



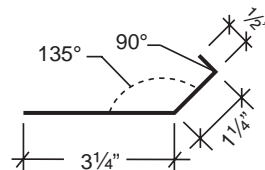
LB Batten



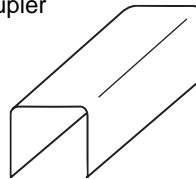
Vent Material



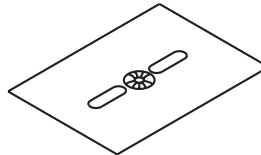
Vent Drip



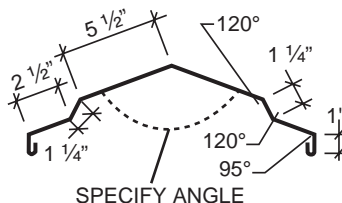
Batten Cap Coupler



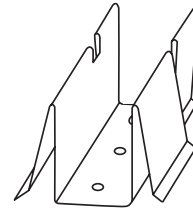
Bearing Plate



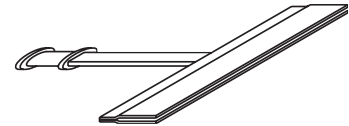
Ridge Flash for Vent



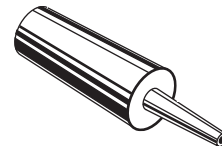
LB Clip



Panel Hemming Tool



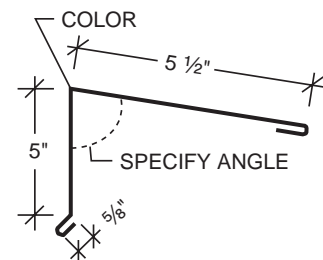
Urethane Sealant



Double Bead Tape Sealer



Peak Cap



NOTE: All trim to be 24 gauge material unless noted.



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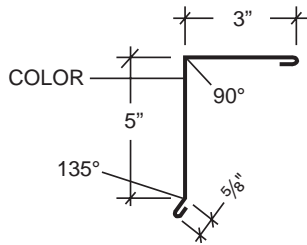
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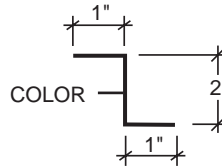
PRODUCT INFORMATION CRAFTSMAN™

PRODUCT CHECKLIST

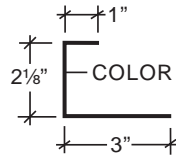
Rake Trim



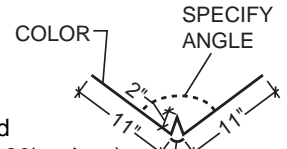
"Z" Closure



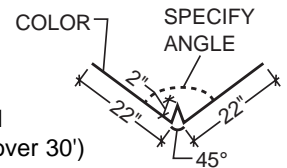
"C" Closure



Valley Trim



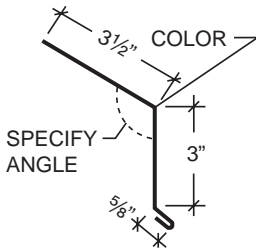
Standard (Valleys 30' or less)



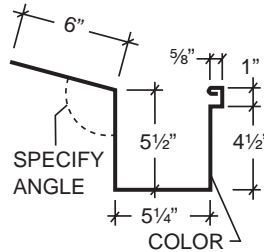
Extended (Valleys over 30')



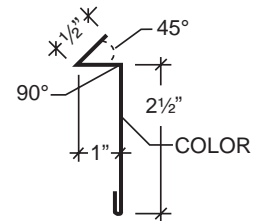
Eave Trim



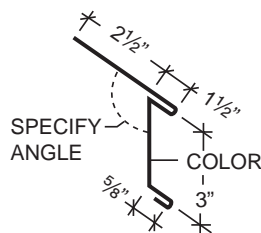
Gutter



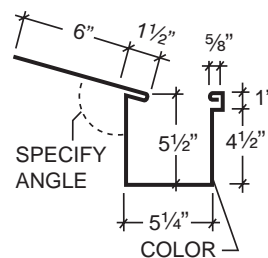
Counterflashing



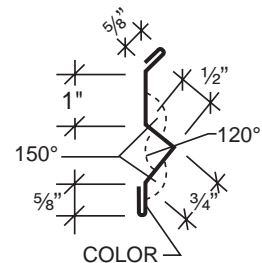
Eave with Extended Drip Edge



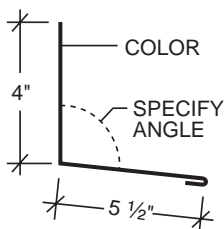
Gutter with Drip Edge



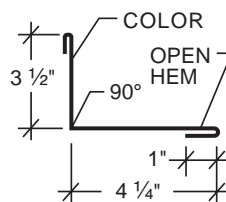
Alternate Counterflashing



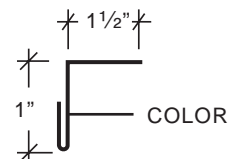
Parapet High Side Eave Flash



Parapet Rake Trim



Angle Trim

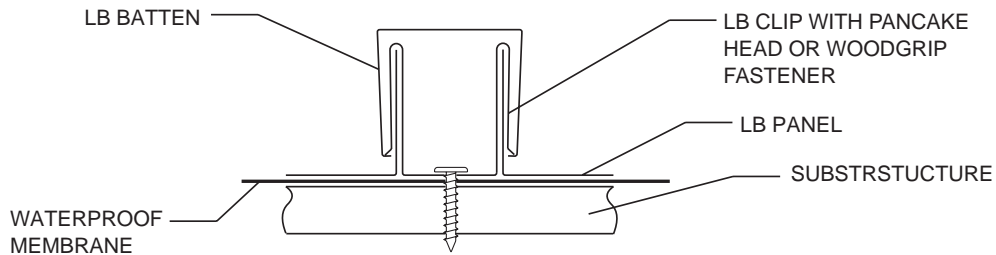


NOTE: All trim to be 24 gauge material unless noted.

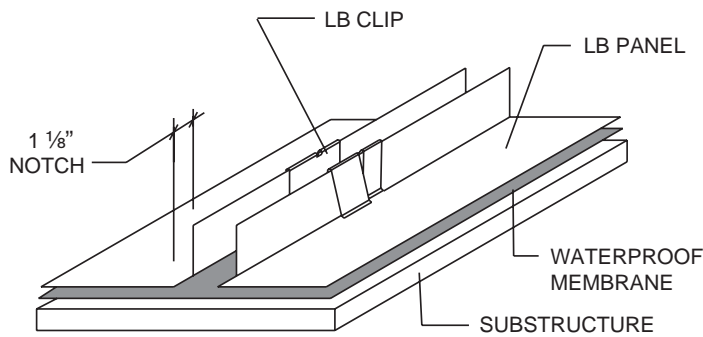
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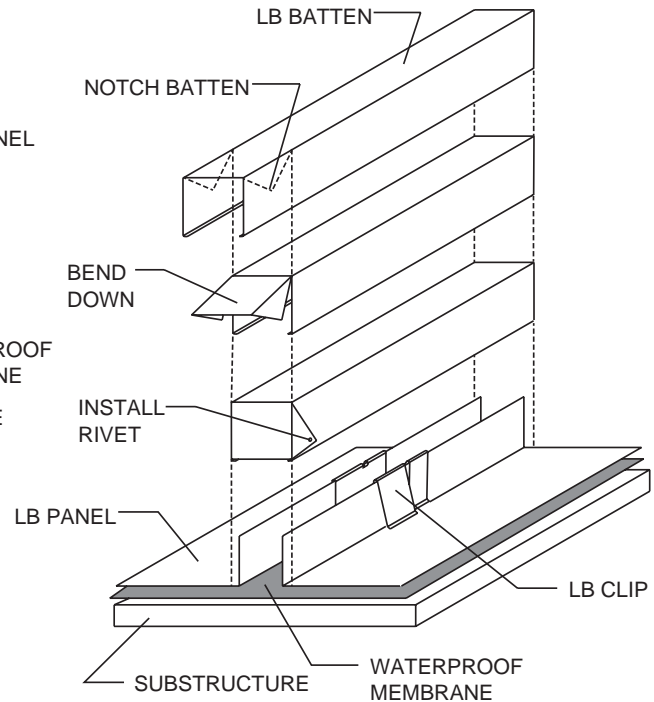
TYPICAL DETAILS PANEL



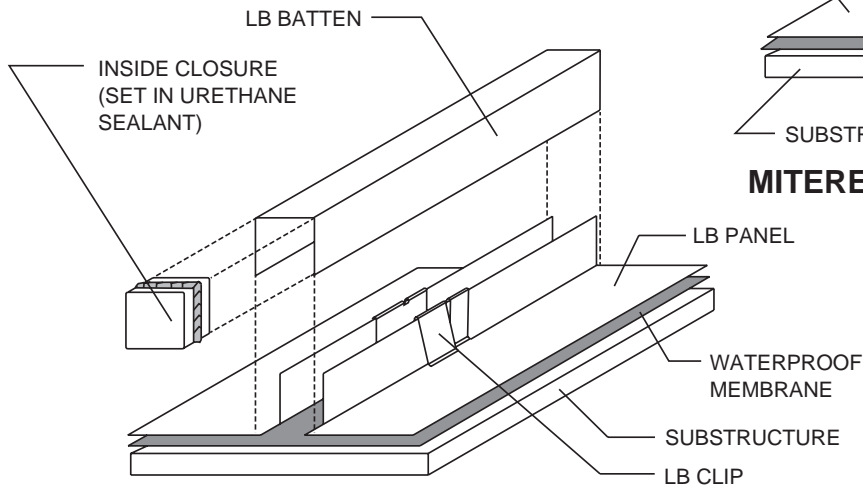
INSTALLED PANEL CROSS SECTION



**NOTCHING PANEL SEAMS
 FOR BATTEN INSIDE CLOSURE**



MITERED BATTEN END



INSTALLING BATTEN INSIDE CLOSURE

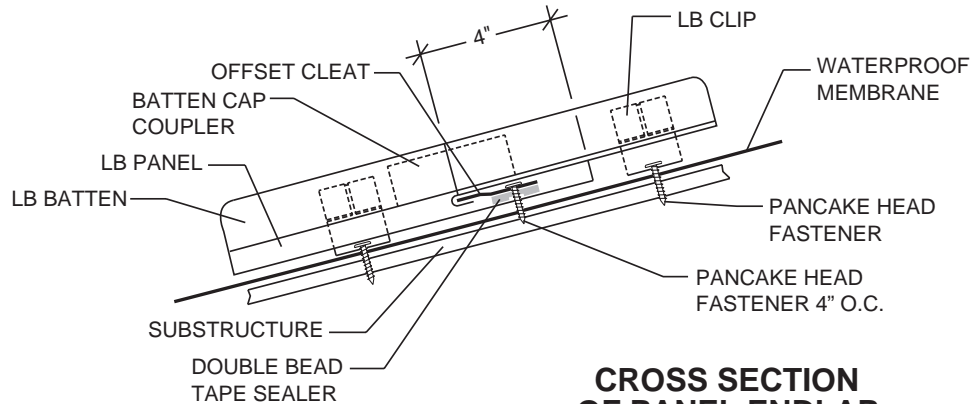
NOTES:

1. Clips to be installed on 2'-0" o.c. unless otherwise instructed on roof plans.
2. Ends of battens should be sealed with inside closures or by mitering battens at all eave and valley conditions.

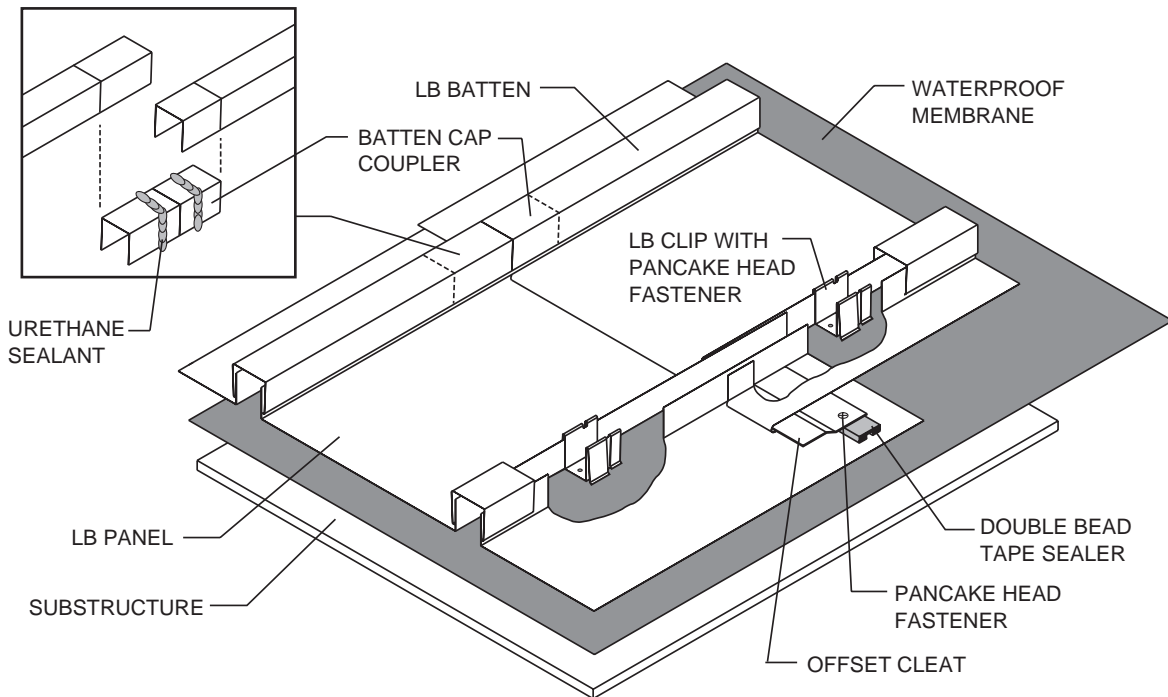
PRODUCT INFORMATION

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TYPICAL DETAILS ENDLAP



CROSS SECTION OF PANEL ENDLAP



ISOMETRIC VIEW OF ENDLAP

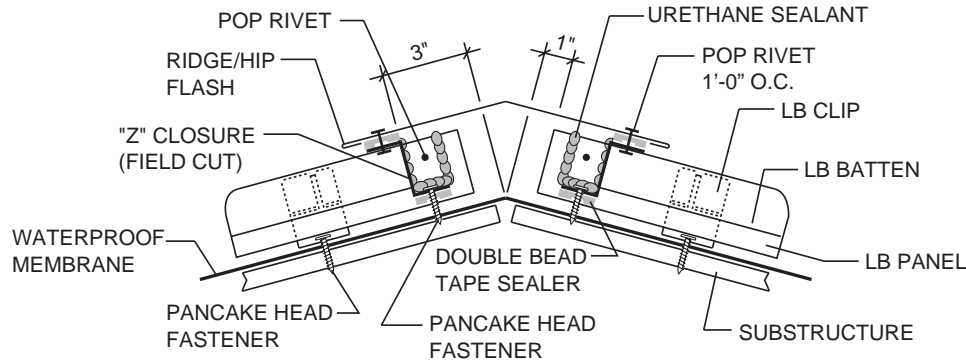
NOTES:

1. Panels are lapped 4".
2. Install double bead tape sealer across width of bottom panel. Center of tape sealer should be 2" from upslope end of panel.
3. Attach offset cleat to bottom panel with pancake head fasteners. Use four fasteners per panel for 12" wide panels and five fasteners per panel for 16½" wide panels. Fasteners must go through tape sealer. Apply urethane sealant up vertical legs of panels in line with tape sealer.
4. Field hem top panel (see page CS-35) and engage onto offset cleat.
5. To connect two battens, snap first batten to panels except for last two feet. Field cut a 4" long batten cap coupler from 10' stock. Apply a bead of urethane sealant across coupler approximately 1" from one end. Slide this end into the end of the first batten. Apply a bead of urethane sealant across coupler approximately 1" from other end and slide the second batten onto the coupler until it butts the first batten. Holding the two battens together, snap the last 2' of the first batten down and continue by snapping the second batten completely down.

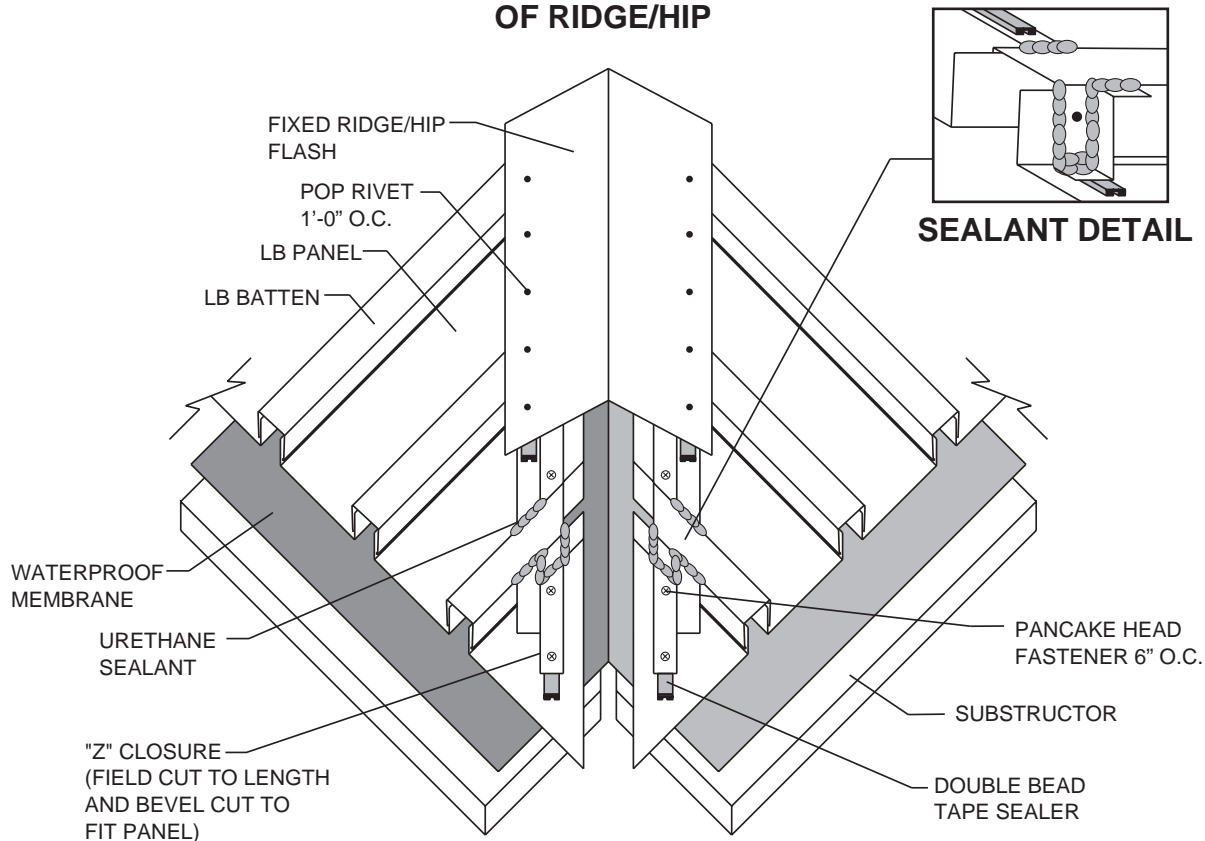
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PRODUCT INFORMATION

TYPICAL DETAILS RIDGE/HIP



CROSS SECTION OF RIDGE/HIP



SEALANT DETAIL

ISOMETRIC VIEW OF HIP

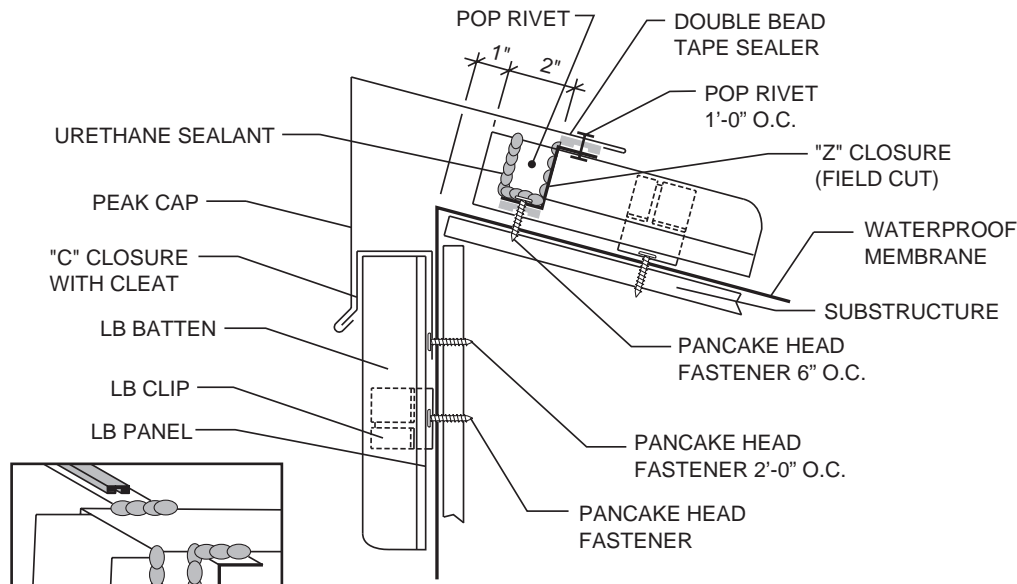
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. At ridge, use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. At hips, install fasteners 6" o.c. maximum. Install "Z" closures so that ridge/hip flash will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent it sliding downslope. This must be done upslope from the "Z" closure.
5. Attach ridge/hip flash to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

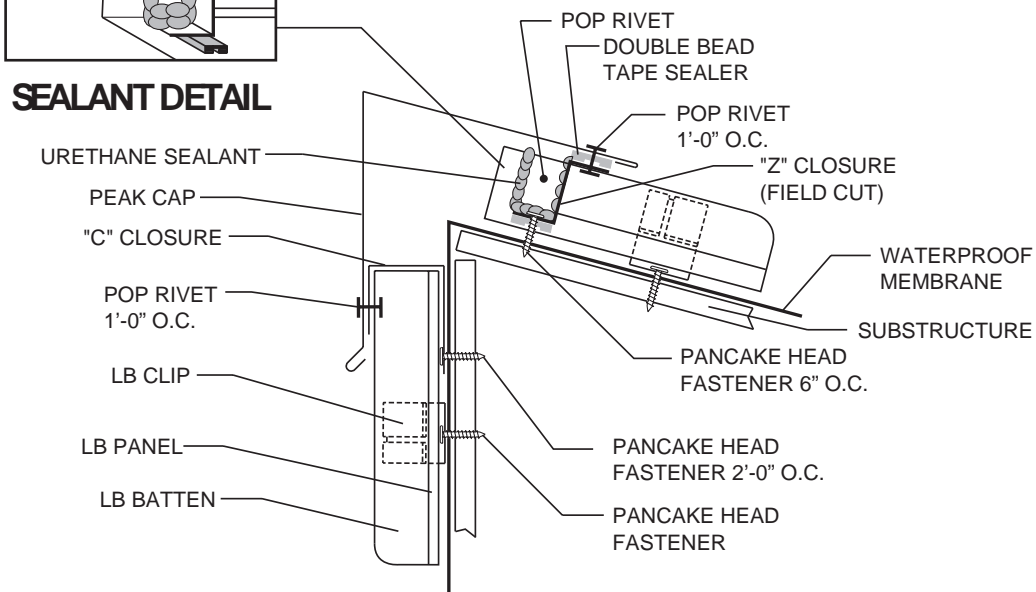
PRODUCT INFORMATION

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TYPICAL DETAILS PEAK CAP



PEAK CAP WITH "C" CLOSURE CLEAT



PEAK CAP WITH "C" CLOSURE

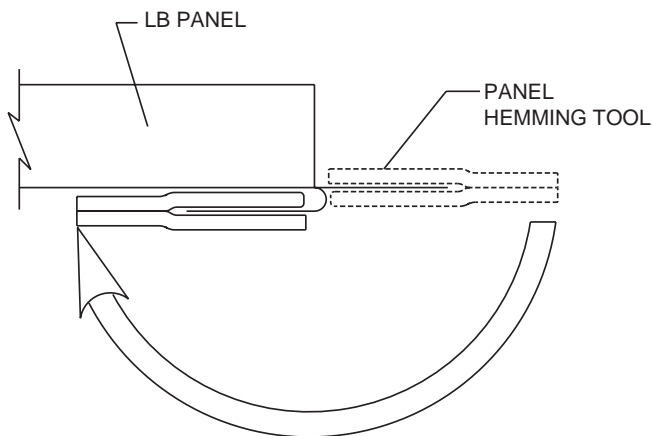
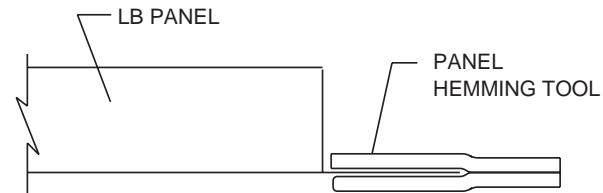
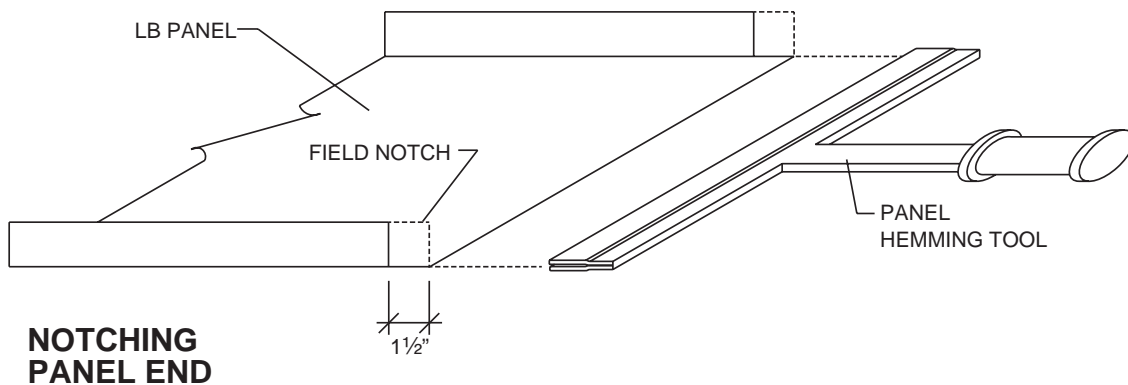
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that peak cap will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach peak cap to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**
6. When using "C" closure with cleat, order peak cap with open hem at the bottom.

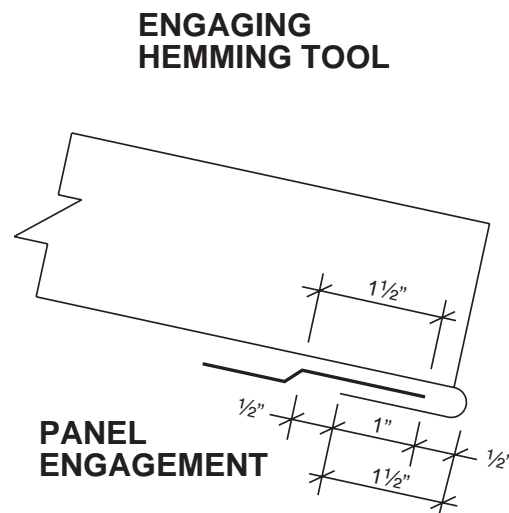
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PRODUCT INFORMATION

TYPICAL DETAILS FIELD HEMMING PANEL END



**FORMING
 OPEN HEM**



NOTES:

1. Field notch vertical legs of panel 1 1/2".
2. Engage panel hemming tool onto protruding pan of panel.
3. Bend pan of panel down to form an open hem.
4. Hem may be tightened with a pair of vise grip "duckbills".
5. **Panel engagement shown above is for panel runs up to 100' long. For panel runs over 100' long, call MBCI.**



Metal Roof and Wall Systems

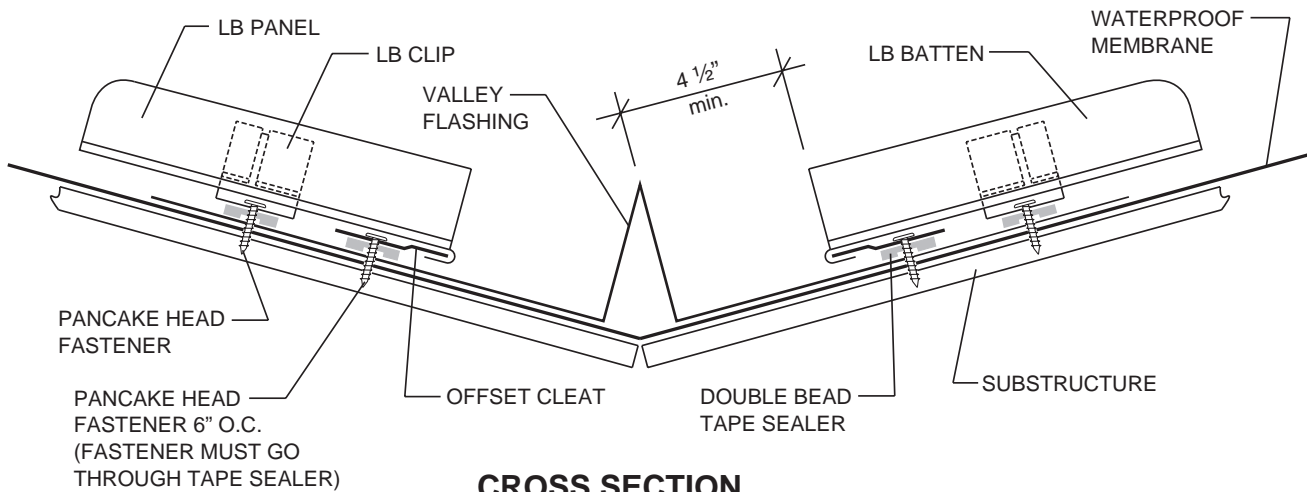
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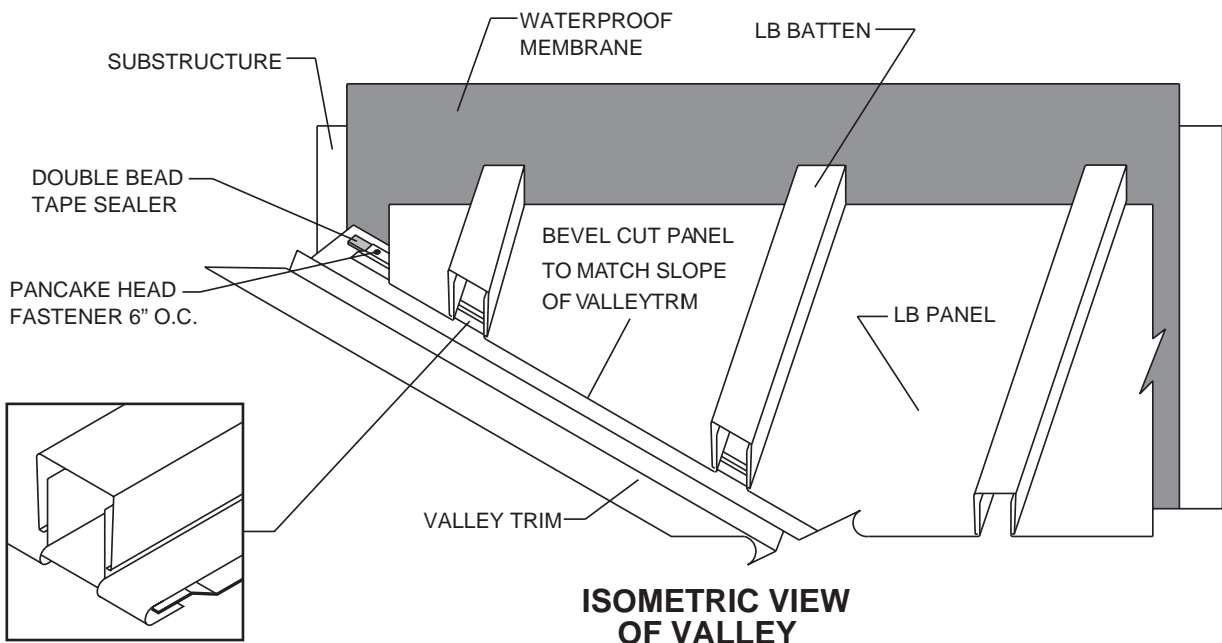
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PRODUCT INFORMATION CRAFTSMAN™

TYPICAL DETAILS VALLEY



CROSS SECTION OF VALLEY



ISOMETRIC VIEW OF VALLEY

SEALANT DETAIL

SEE PAGE CS-35 FOR PANEL ENGAGEMENT

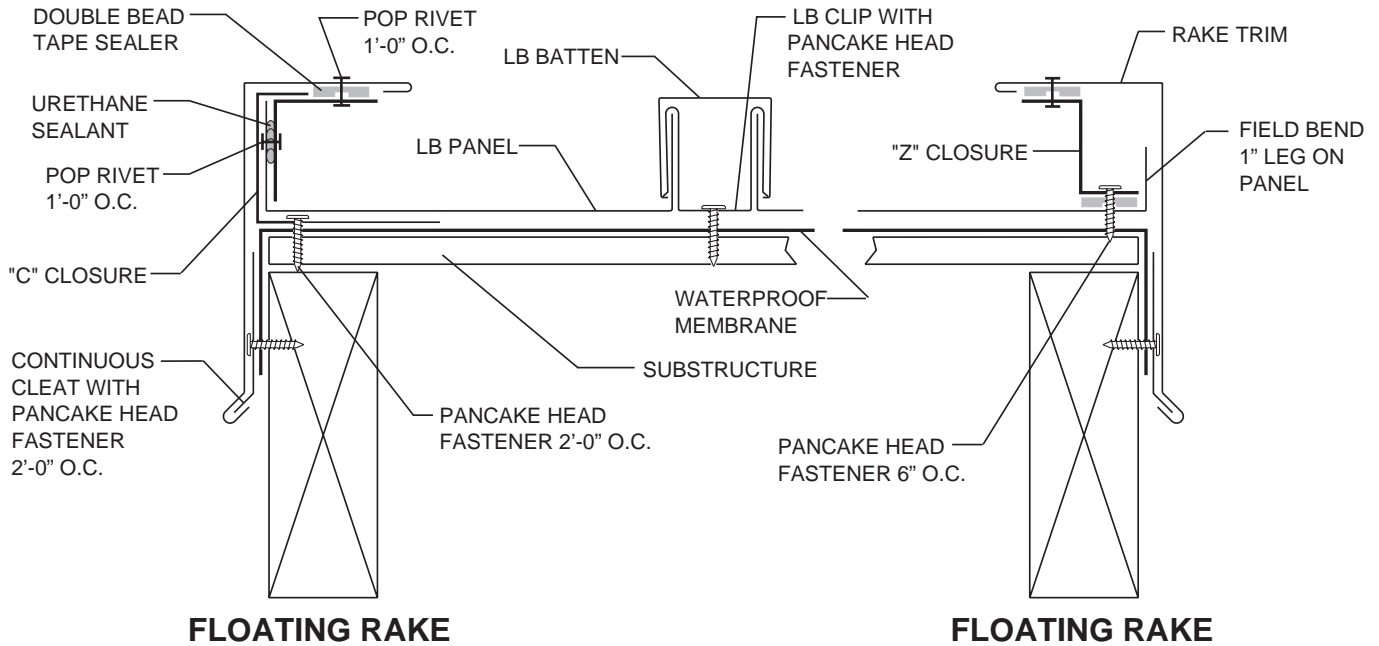
NOTES:

1. For valleys longer than 30', use extended valley trim - see page CS-30.
2. End of panel should be a minimum of 4 1/2" from center of valley.
3. Panel and batten ends must be sealed. To seal batten ends, see page CS-31.
4. To field hem panel ends, see page CS-35.

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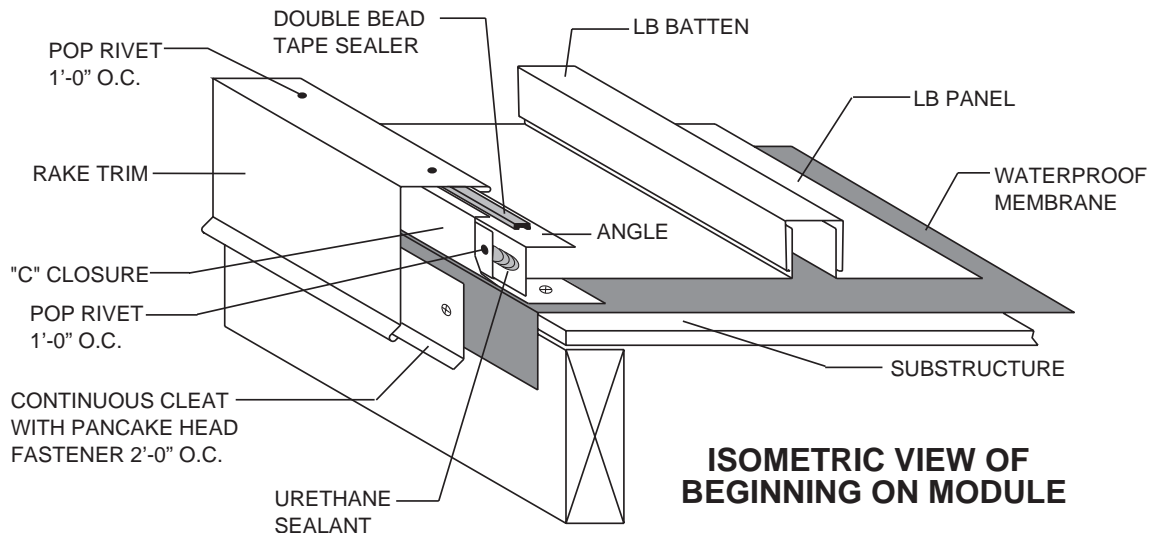
PRODUCT INFORMATION

TYPICAL DETAILS RAKE



FLOATING RAKE

FLOATING RAKE



**ISOMETRIC VIEW OF
BEGINNING ON MODULE**

NOTES:

Floating Rake

1. Attach "C" closure to substructure with pancake head fasteners 2'-0" o.c.
2. Apply a bead of urethane sealant to vertical leg of panel and rivet angle trim to panel 1'-0" o.c.
3. Slide panel into "C" closure and install clips.
4. Install double bead tape sealer to top leg of angle trim and rivet rake trim to angle trim 1'-0" o.c. **Do not fasten rake trim to "C" closure.**
5. If roof finishes off module, field bend a vertical leg on panel and install as outlined in steps 1-4 above.

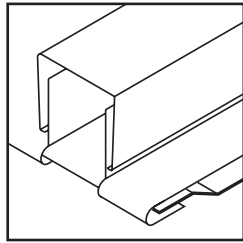
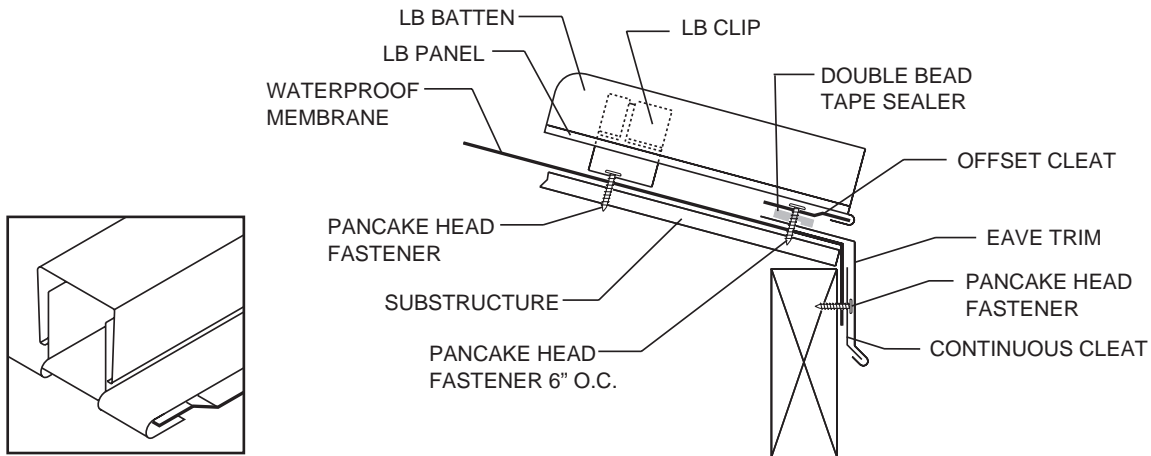
Fixed Rake

1. Install double bead tape sealer to pan of panel. Attach "Z" closure to substructure with pancake head fasteners 6" o.c.
2. Install double bead tape sealer to top leg of "Z" closure. Attach rake trim to "Z" closure with rivets 1'-0" o.c.
3. If roof finishes off module, field bend a vertical leg on panel and install as outlined in steps 1-2 above.

PRODUCT INFORMATION

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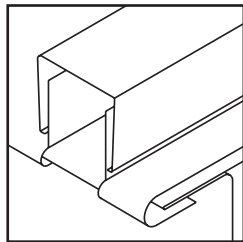
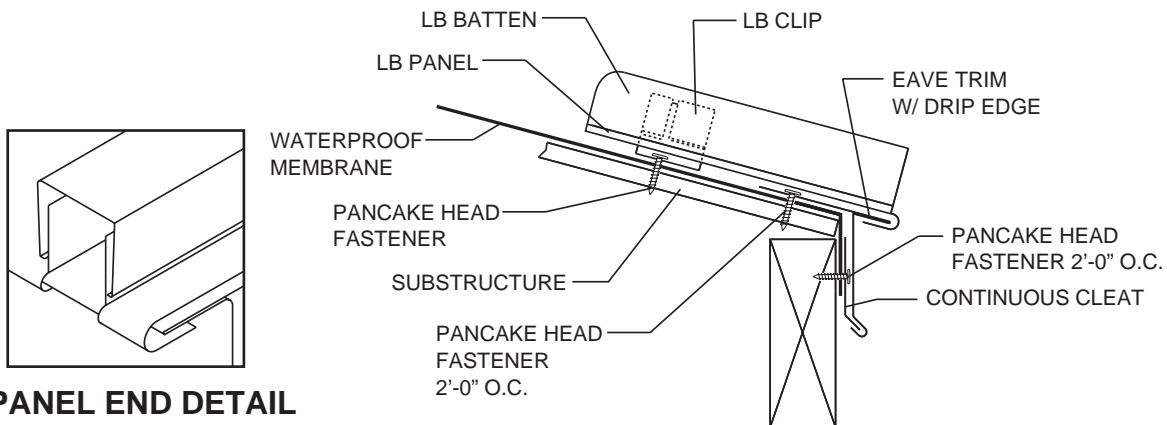
TYPICAL DETAILS EAVE TRIM



PANEL END DETAIL

SEE PAGE CS-35 FOR
PANEL ENGAGEMENT

EAVE WITH OFFSET CLEAT



PANEL END DETAIL

SEE PAGE CS-35 FOR
PANEL ENGAGEMENT

EAVE WITH DRIP EDGE

NOTES:

Offset Cleat

1. Install eave trim to substructure with two pancake head fasteners per 10'-0" piece.
2. Attach offset cleat with pancake head fasteners 6" o.c. Fasteners must go through double bead tape sealer.
3. To field hem panels, see page CS-35.
4. To seal batten ends, see page CS-31.

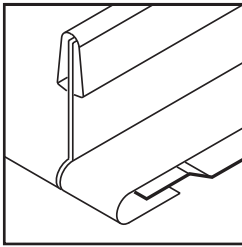
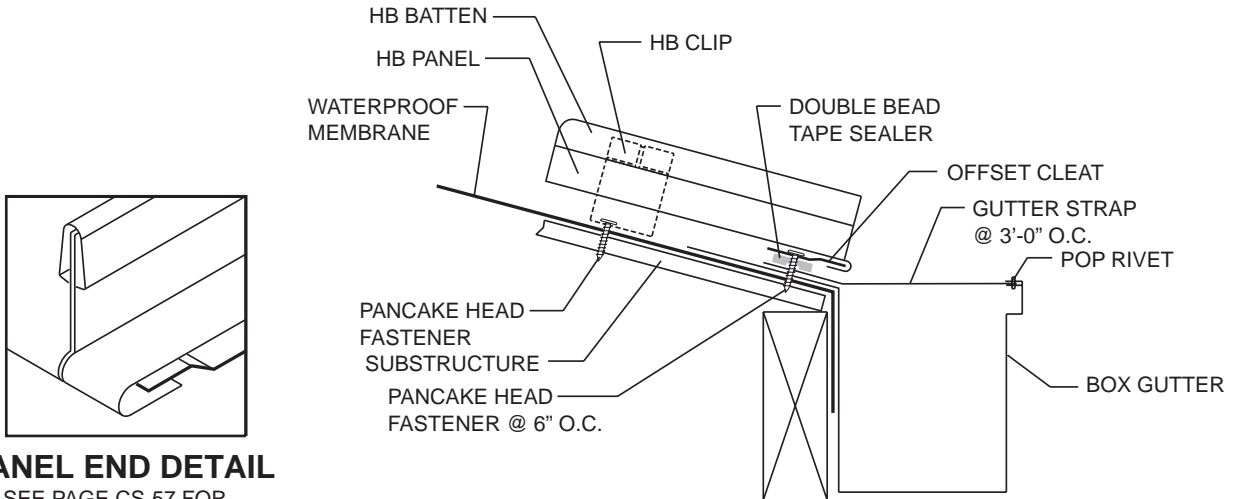
Eave with Extended Drip Edge

1. Install eave trim to substructure with pancake head fasteners 2'-0" o.c.
2. To field hem panels, see page CS-35.
3. To seal batten ends, see page CS-31.
4. This detail may be used on roofs with slopes up to 4:12. For slopes greater than 4:12, please call MBCI.

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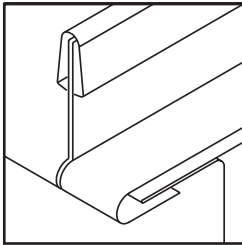
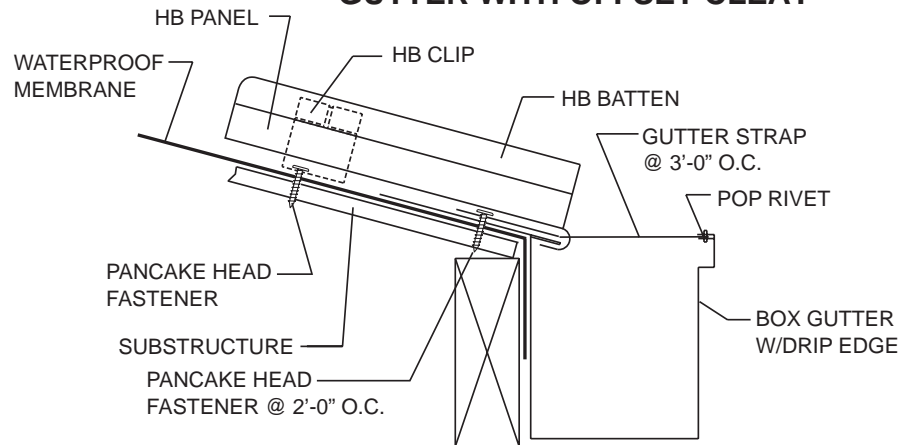
TYPICAL DETAILS GUTTER



PANEL END DETAIL

SEE PAGE CS-57 FOR
PANEL ENGAGEMENT

GUTTER WITH OFFSET CLEAT



PANEL END DETAIL

SEE PAGE CS-57 FOR
PANEL ENGAGEMENT

GUTTER WITH DRIP EDGE

NOTES:

Offset Cleat

1. Install gutter to substructure with two pancake head fasteners per 10'-0".
2. Rivet gutter straps to gutter 3'-0" o.c.
3. Attach offset cleat with pancake head fasteners 6" o.c. Fasteners must go through double bead tape sealer.
4. To field hem panels, see page CS-35.
5. To seal batten ends, see page CS-31.
6. The above gutter should not be used in areas that experience snow loads of 10 PSF or higher. See page CS-46 for the gutter detail for these areas.

Gutter with Drip Edge

1. Install gutter to substructure with pancake head fasteners 2'-0".
2. Rivet gutter straps to gutter 3'-0".
3. To field hem panel, see page CS-35.
4. To seal batten ends, see page CS-31.
5. This detail may be used on roofs with slopes up to 4:12. For slopes greater than 4:12, please call MBCI.
6. The above gutter should not be used in areas that experience snow loads of 10 PSF or higher. See page CS-46 for the gutter detail for these areas.



Metal Roof and Wall Systems

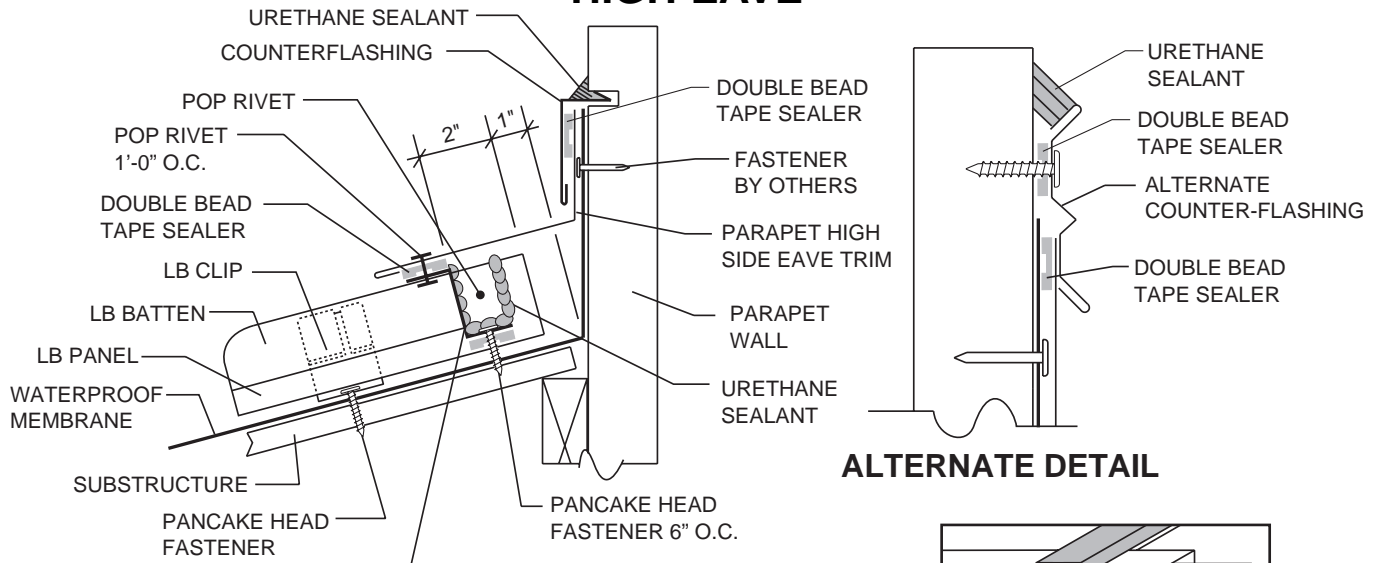
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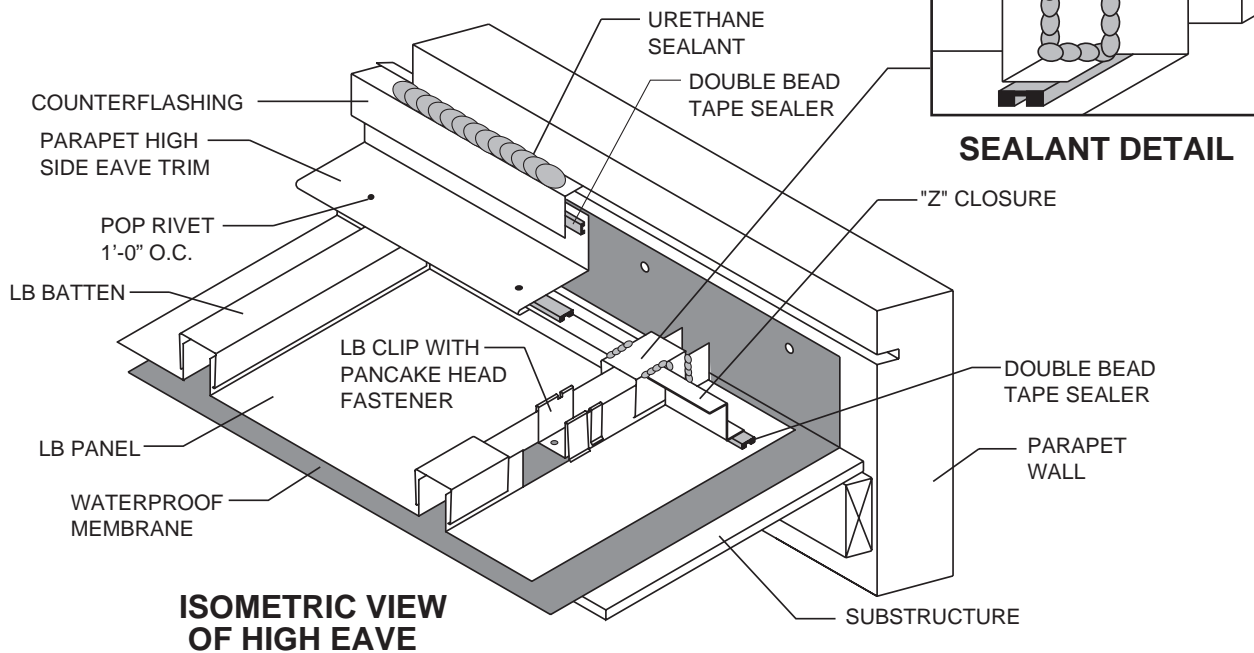
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PRODUCT INFORMATION CRAFTSMAN™

PARAPET DETAILS HIGH EAVE



CROSS SECTION OF HIGH EAVE



ISOMETRIC VIEW OF HIGH EAVE

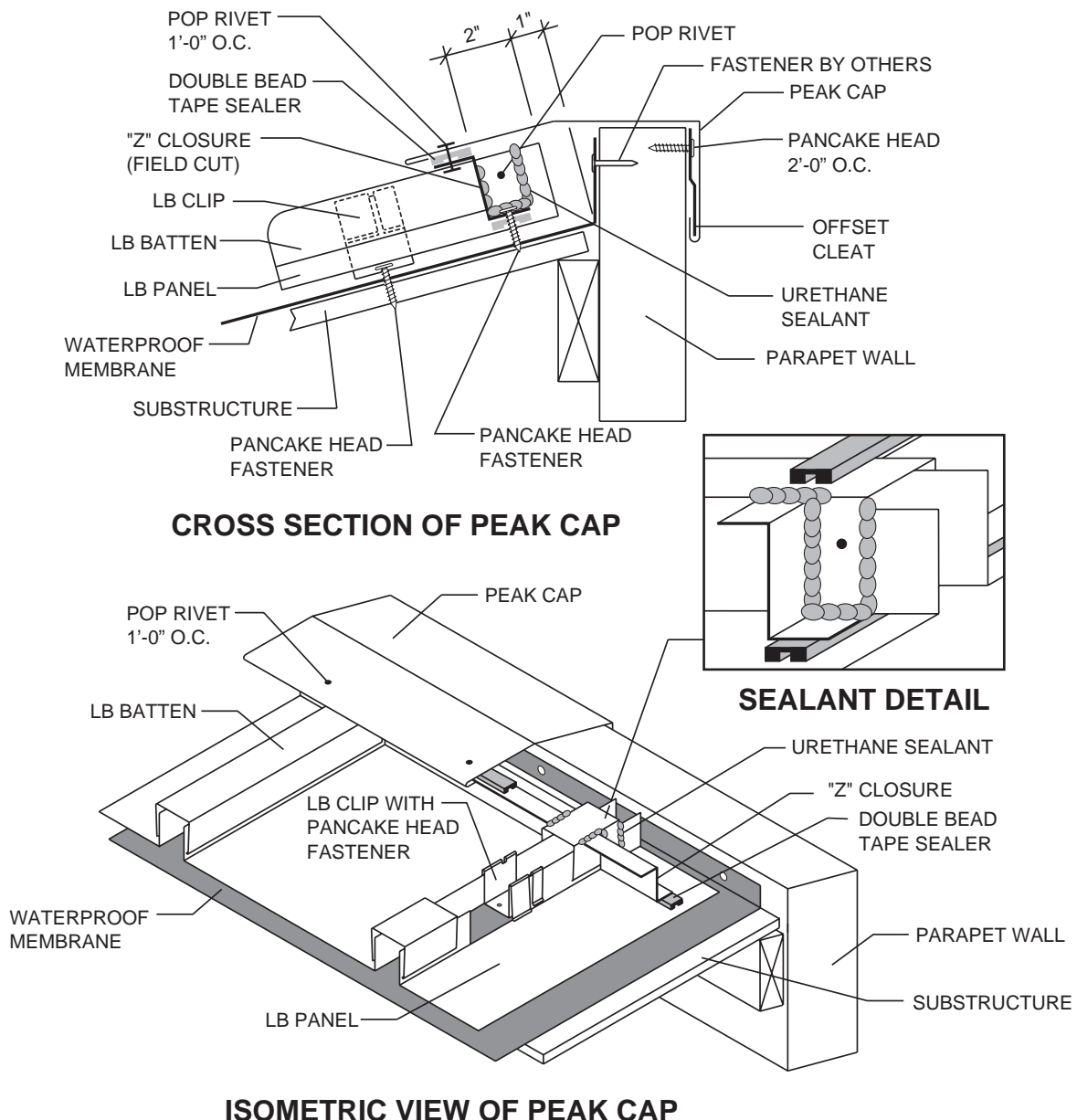
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that parapet high side eave flash will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach parapet high side eave flash to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

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PRODUCT INFORMATION

PARAPET DETAILS PEAK CAP



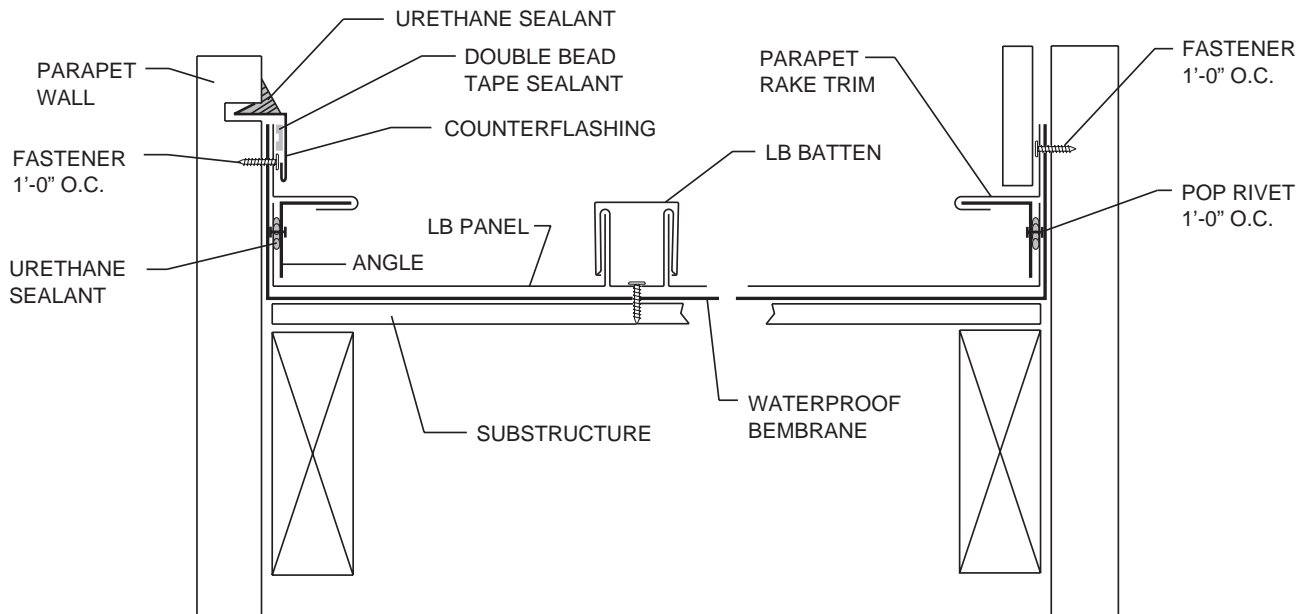
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that peak cap will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach peak cap to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

PRODUCT INFORMATION

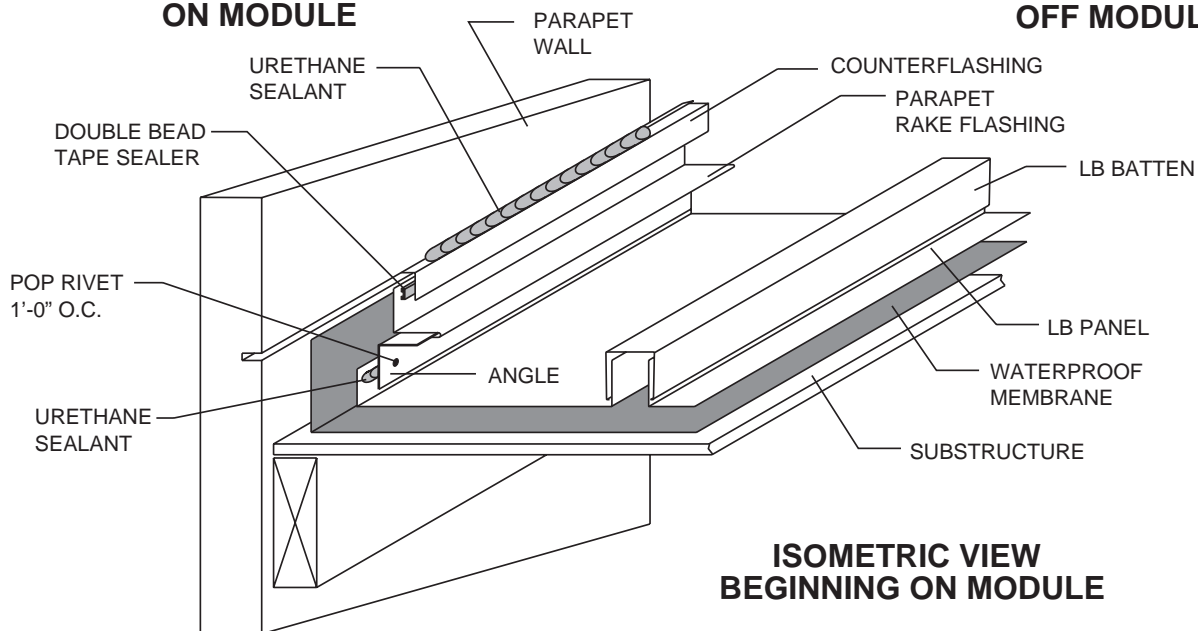
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PARAPET DETAILS PARAPET RAKE TRIM



**BEGINNING
ON MODULE**

**FINISHING
OFF MODULE**



**ISOMETRIC VIEW
BEGINNING ON MODULE**

NOTES:

Beginning On Module

1. Apply a bead of urethane sealant to vertical leg of panel and rivet angle trim to panel 1'-0" o.c.
2. Hook open hem of parapet rake trim onto angle trim and fasten vertical leg of rake trim to parapet wall.

Finishing Off Module

1. Field bend a vertical leg and install as outlined above.

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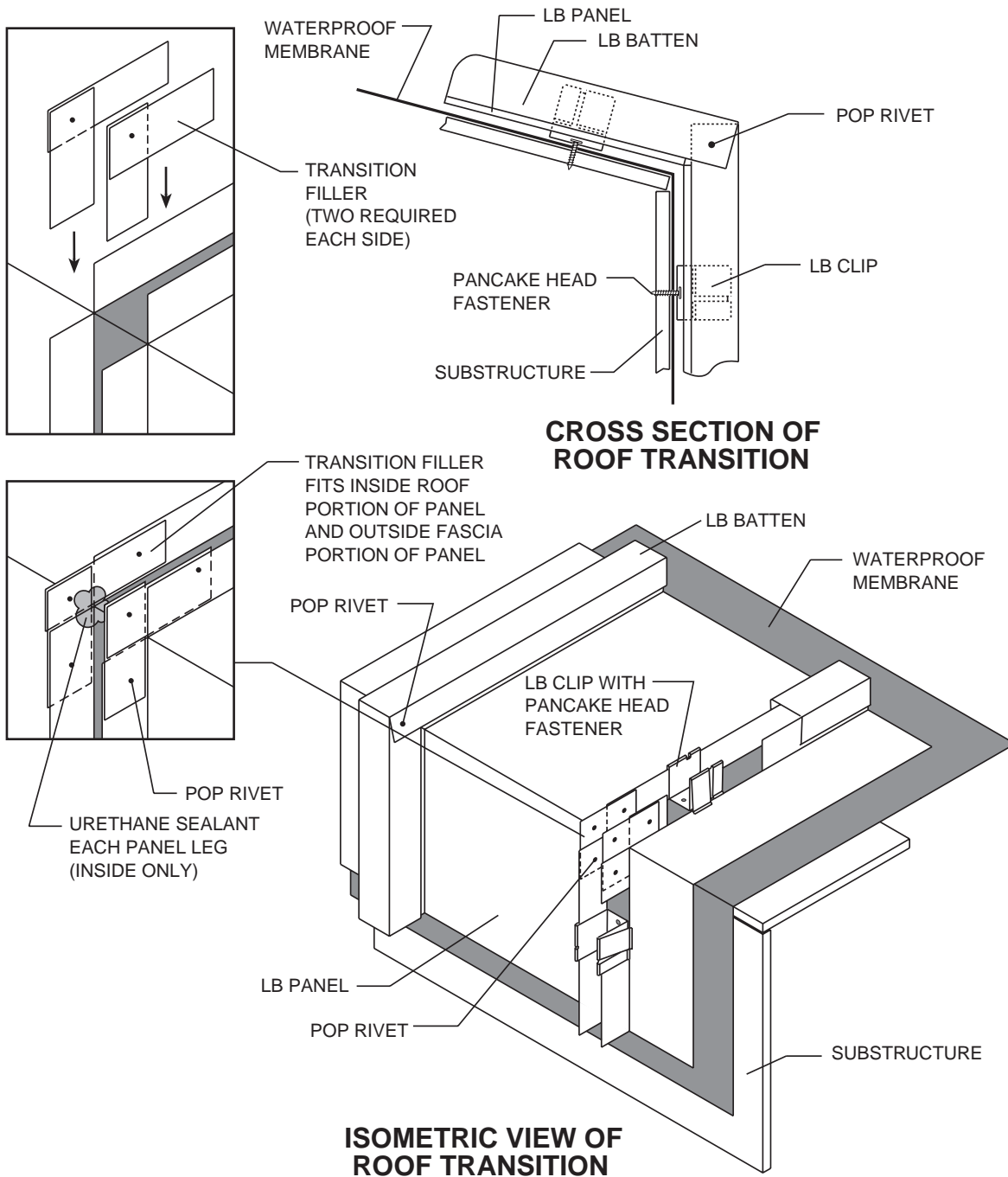
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PRODUCT INFORMATION

MISCELLANEOUS DETAILS ROOF TRANSITION



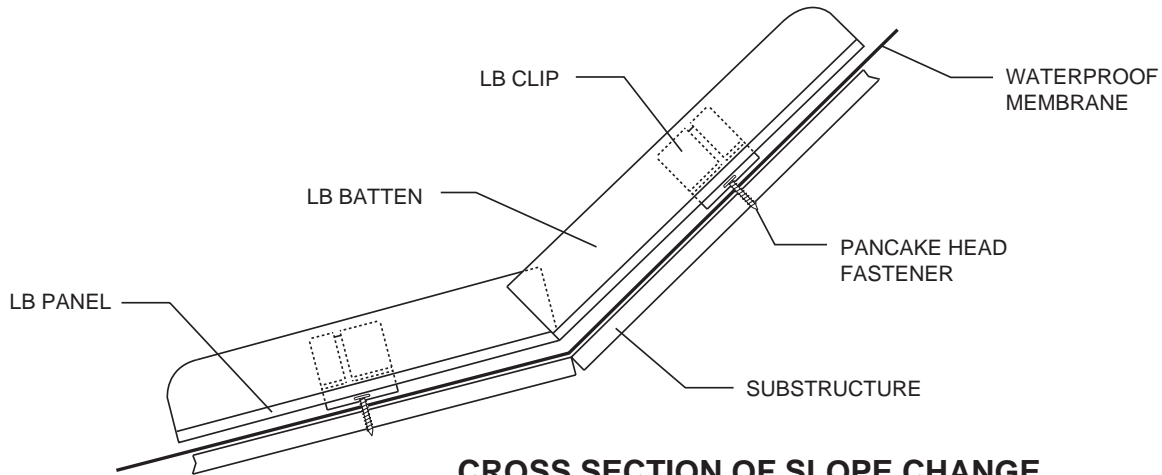
NOTES:

1. Field cut vertical legs of panel and bend pan to required angle.
2. Field notch batten, bend to required angle and install.
3. **Do not use this detail inside the building envelope.**

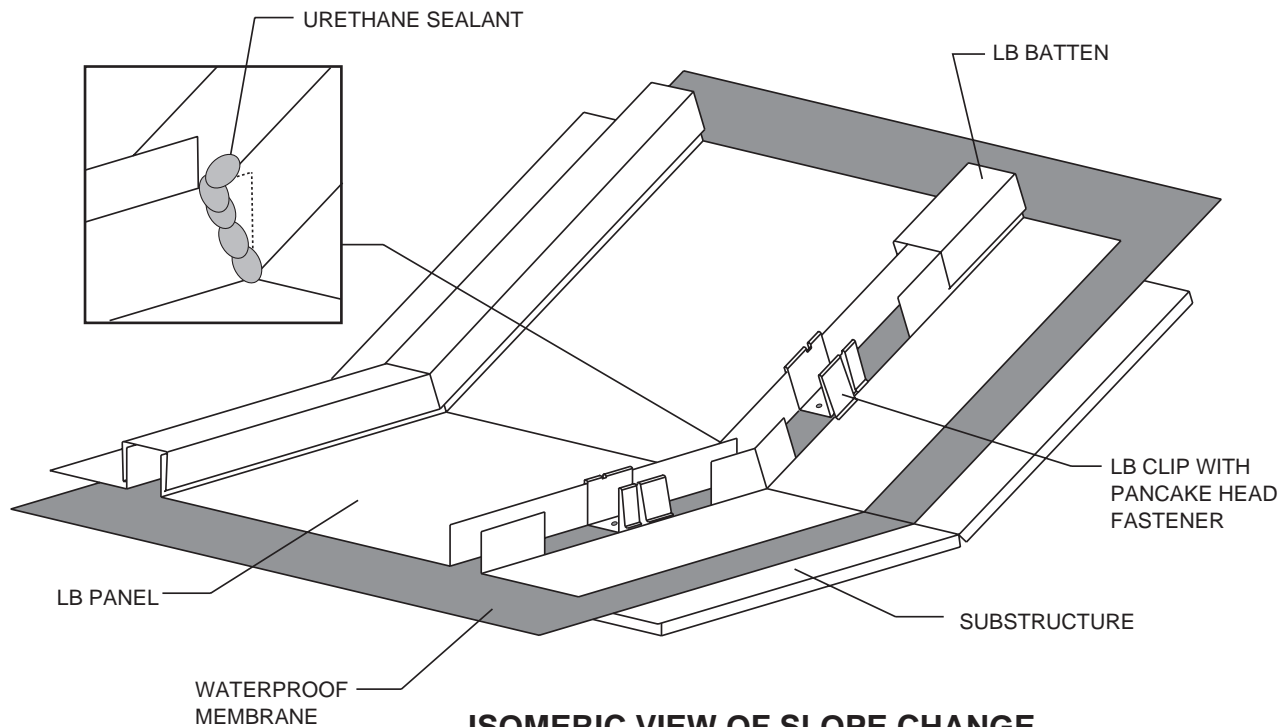
PRODUCT INFORMATION

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MISCELLANEOUS DETAILS SLOPE CHANGE



CROSS SECTION OF SLOPE CHANGE



ISOMERIC VIEW OF SLOPE CHANGE

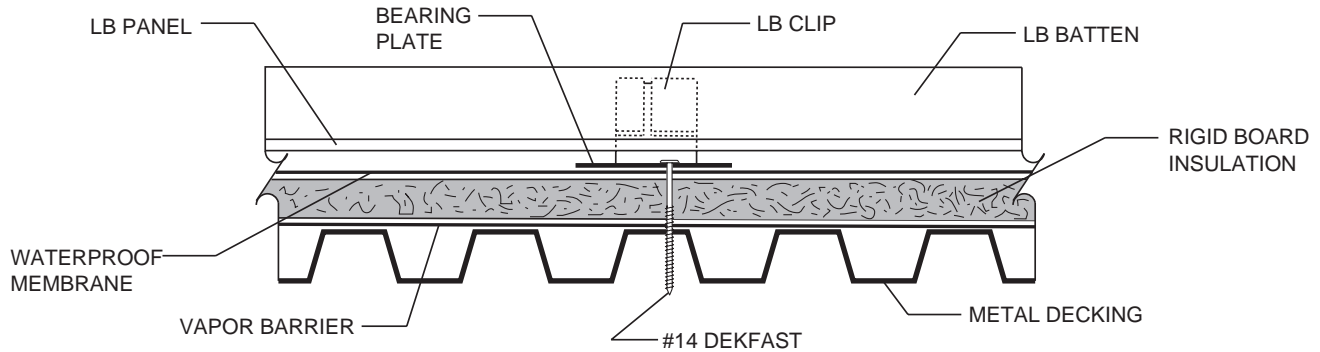
NOTES:

1. Field cut vertical legs of panel and bend pan to required angle.
2. Seal panel seams with urethane sealant.
3. Field cut batten and install.

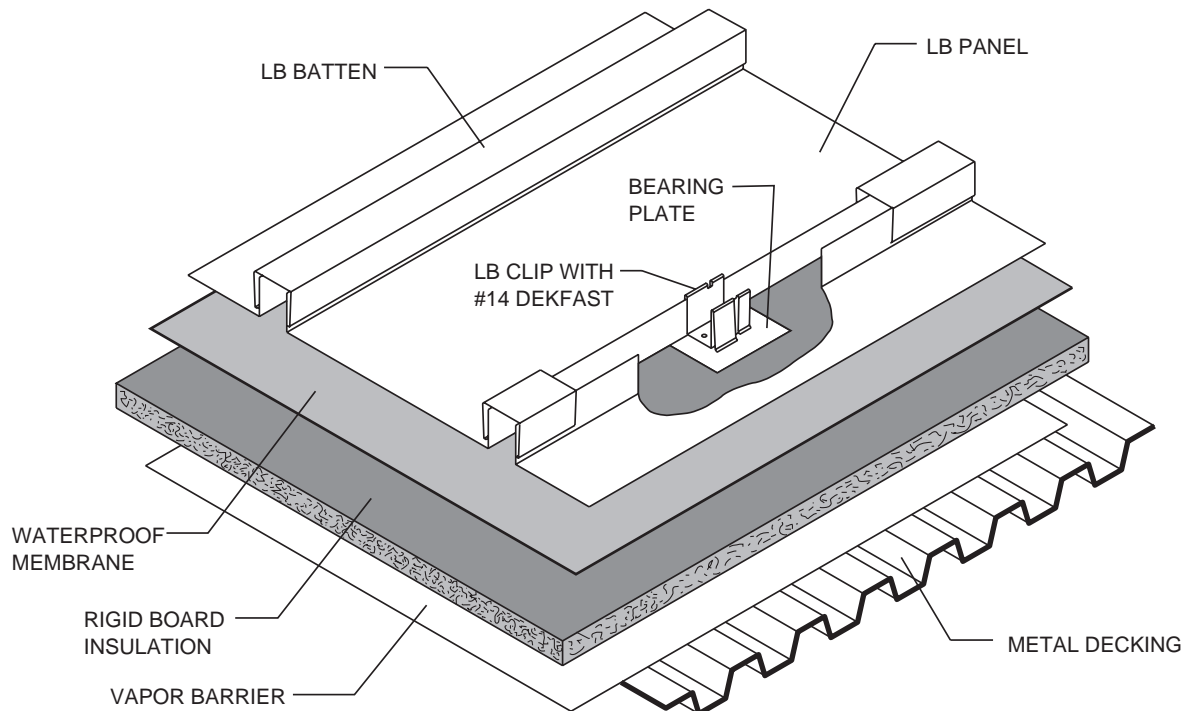
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PRODUCT INFORMATION

MISCELLANEOUS DETAILS RIGID BOARD OVER METAL DECK



**CROSS SECTION OF RIGID BOARD
 INSULATION OVER METAL DECK**



**ISOMETRIC VIEW OF RIGID BOARD
 INSULATION OVER METAL DECK**

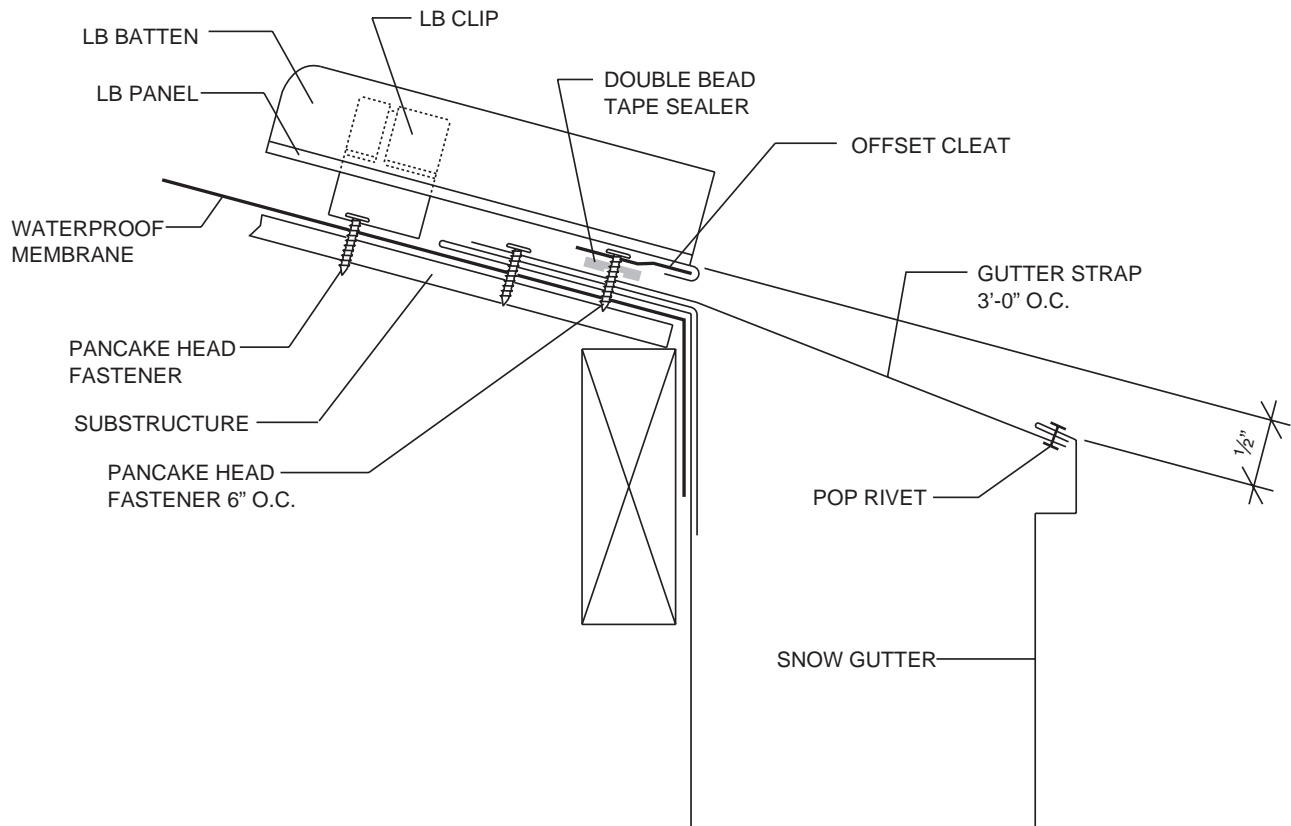
NOTES:

1. Metal deck to be 1½" deep, 22 gauge.
2. Clips and bearing plates to be installed simultaneously with one #14 Dekfast fastener. Length of fastener to be ½" longer than combined thickness of metal deck and rigid board insulation.
3. Rigid board insulation must have a minimum density of 2 PCF.

PRODUCT INFORMATION

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MISCELLANEOUS DETAILS SNOW GUTTER



NOTES:

1. Install gutter to substructure with two pancake head fasteners per 10'-0".
2. Rivet gutter straps to gutter 3'-0" o.c.
3. Attach offset cleat with pancake head fasteners 1'-0" o.c. Fasteners must go through double bead tape sealer.
4. To field hem panels, see page CS-35.
5. To seal batten ends, see page CS-31.

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PRODUCT INFORMATION

INSTALLATION GUIDELINES

I. Pre-Order

- A. Prior to ordering panels, all dimensions should be confirmed by field measurement.

II. Jobsite Storage and Handling

- A. Check the shipment against the shipping list.
- B. Damaged material must be noted on bill of lading.
- C. Panel crates should be handled carefully. A spreader bar of appropriate length is recommended for hoisting.
- D. Check to see that moisture has not formed inside the bundles during shipment. If moisture is present, panels should be uncrated and wiped dry, then restacked and loosely covered so that air can circulate between the panels.

III. Application Checklist

- A. Check substructure for proper alignment and uniformity to avoid panel distortion.
- B. Waterproof membrane should be protected from damage until the roof panels are installed. However, if membrane is damaged, repair of the membrane is necessary prior to panel installation. Always install membrane in such a manner that will allow for water shedding.
- C. Prior to installation of panels, roof should be swept clean of any debris.
- D. Care should be taken to place clip snug against vertical leg of panel and flush on the substructure surface.
- E. Periodic check of panel alignment is crucial to proper panel installation.
- F. For proper appearance, ribs must line up at valleys and ridges/hips.
- G. Panels should be cut on the ground to minimize cut filings on adjacent panels. Keep panels clean during installation. **DO NOT STEP ON PANELS.**
- H. A low profile fastener, such as a pancake head screw, is required for panel installation.



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PRODUCT INFORMATION

CRAFTSMAN™

HIGH BATTEN

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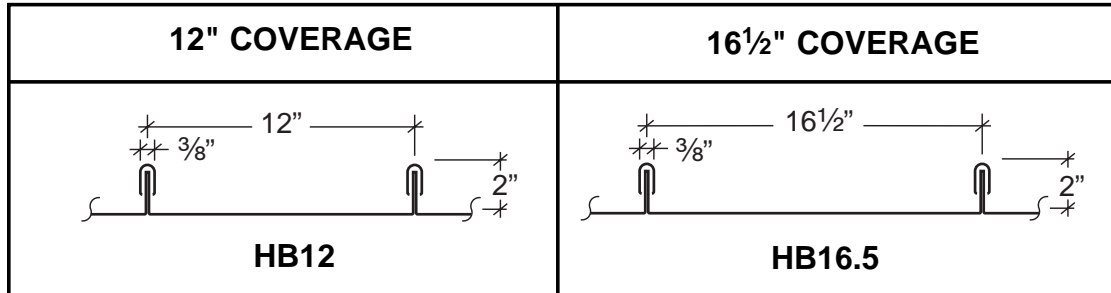
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CRAFTSMAN™ PRODUCT INFORMATION

GENERAL DESCRIPTION

CRAFTSMAN™ HIGH BATTEN PROFILES



Coverage Widths - 12" and 16½"

Minimum Slope - 3:12

Panel Attachment - HB Clip (concealed fastening system)

Panel Substrate - Galvalume® (standard)

Gauge - Standard: 24 Optional: 22 and 26 gauge

Coatings - Signature® 200, Signature® 300 and Signature® 300 Metallic

PRODUCT SELECTION CHART

PRODUCT	Signature® 300 Metallic			Signature® 300			Signature® 200			Galvalume Plus®		
	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.	26 Ga.	24 Ga.	22 Ga.
Craftsman™ 12" Wide	■	●	■	■	●	■	●	●	■	●	●	■
16½" Wide		●	■		●	■		●	■		●	■

● - Available in any quantity.

■ - Minimum quantity may be required.

Other colors, finishes, gauges and materials available; please inquire.

Signature is a registered trademark of MBCI. Galvalume and Galvalume Plus are registered and protected trademarks of BIEC International, Inc.



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PRODUCT INFORMATION

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UL 90 REQUIREMENTS

Construction #282 HB Over Plywood Deck

1. Metal Panels - 24 gauge or heavier - 12" or 16 ½" wide, continuous over two or more spans.
2. Panel Clips - HB clip - spaced 2'-0" o.c. max.
3. Fasteners - #10 x 1" pancake head. 1 per clip.

Construction #309 HB Over Metal Deck

1. Metal Panels - 24 gauge or heavier - 12" or 16 ½" wide, continuous over two or more spans.
2. Panel Clips - HB clip - spaced 2'-0" o.c. max.
3. Fasteners - 1 per clip.

FIRE RESISTANCE RATING

MBCI, HOUSTON TX 77238

R8116 (R)

1. Mechanically Attached Metal Roof Panels - Type Craftsman™ HB 12" or 16 ½" (24 MSG).
Secured by steel anchor clips. Anchor clips are attached to a hat-shaped member * (Minimum depth 1") or a bearing plate**.

For use in Design Nos. P224, P225, P227, P230, P237, P508, P510, P512, P701, P711, P715, P717, P803, P814, P815, P819, P821, P823.

*Hat-shaped member to be a minimum of 16 gauge. The member will be fastened through the roof insulation to the steel roof deck with No. 14 self-drilling and/or self-tapping fasteners. Spacing to be determined by the structural loading requirements. In addition, any compressible UL Classified glass fiber blanket insulation with or without a vapor-retarder facing may be used between the specified roof insulation and the metal roof panels.

**Bearing plate to be a minimum of 16 gauge. Member will be fastened through the roof insulation to the steel deck with No. 14 self-drilling and/or self-tapping fasteners.

See UL Fire Resistance Directory for details of illustrations and fire resistance hourly ratings.

CAUTION

For UL 90 Rated Roofs, the above requirements must be followed. See UL Roofing Materials and Systems Directory for additional requirements. If you have any questions, call MBCI before proceeding.

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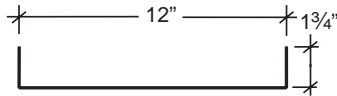
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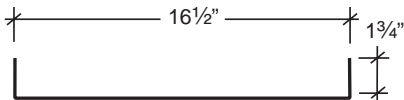
PRODUCT INFORMATION

PRODUCT CHECKLIST

HB Panel



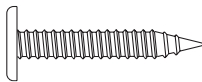
HB-12



HB-16.5



Fasteners



Pancake Head - Type A



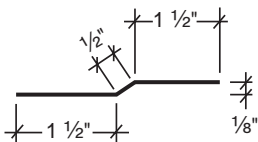
#14 Dekfast



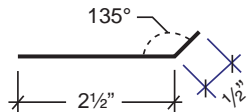
Pop Rivet



Cleats



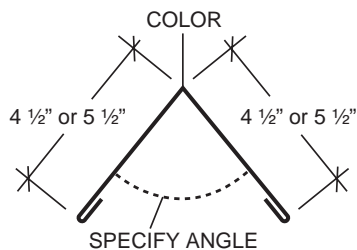
Offset Cleat



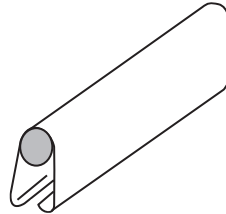
Continuous Cleat



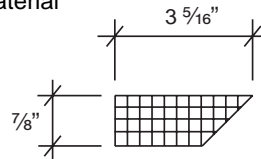
Ridge/Hip Flash



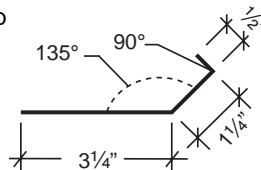
HB Batten With Mastic



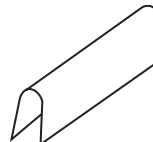
Vent Material



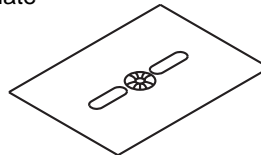
Vent Drip



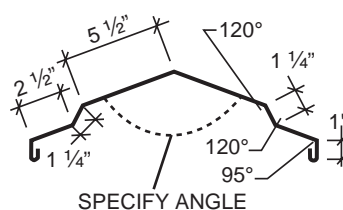
Batten Cap Coupler



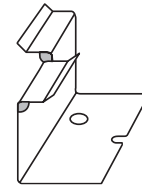
Bearing Plate



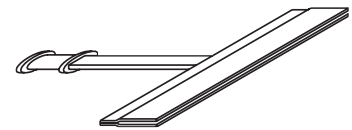
Ridge Flash for Vent



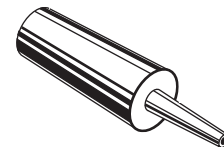
HB Clip with Mastic



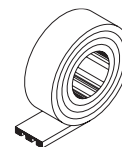
Panel Hemming Tool



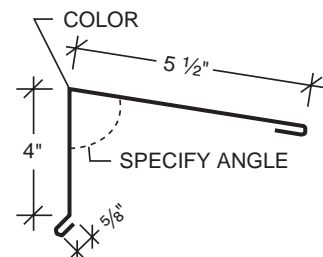
Urethane Sealant



Double Bead Tape Sealer



Peak Cap



NOTE: All trim to be 24 gauge material unless noted.

SUBJECT TO CHANGE WITHOUT NOTICE

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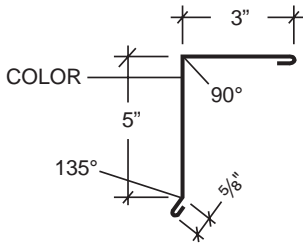
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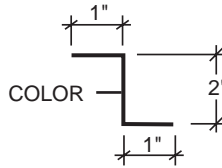
PRODUCT INFORMATION CRAFTSMAN™

PRODUCT CHECKLIST

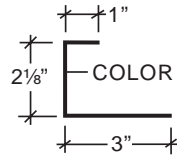
Rake Trim



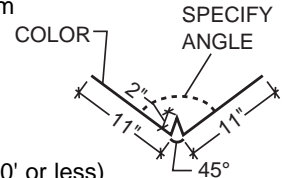
"Z" Closure



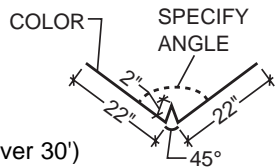
"C" Closure



Valley Trim



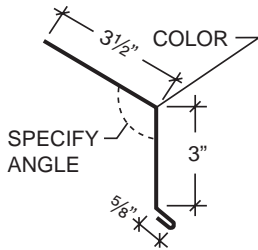
Standard (Valleys 30' or less)



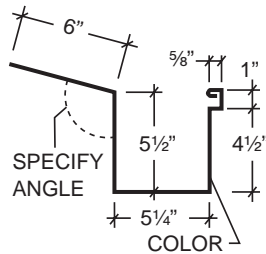
Extended (Valleys over 30')



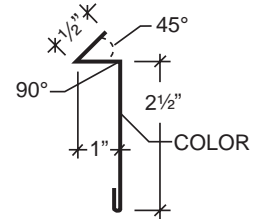
Eave Trim



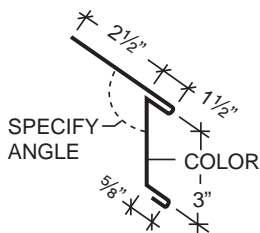
Gutter



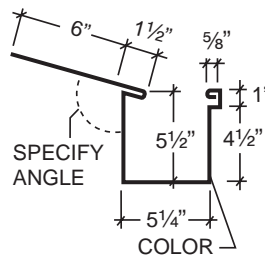
Counterflashing



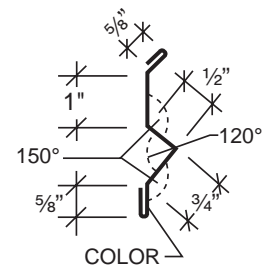
Eave with Extended Drip Edge



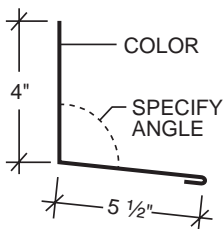
Gutter with Drip Edge



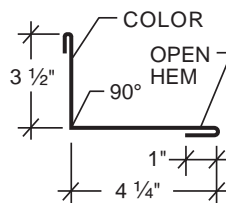
Alternate Counterflashing



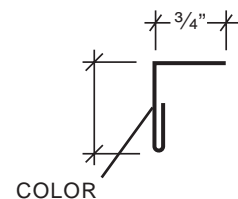
Parapet High Side Eave Flash



Parapet Rake Trim



Angle Trim

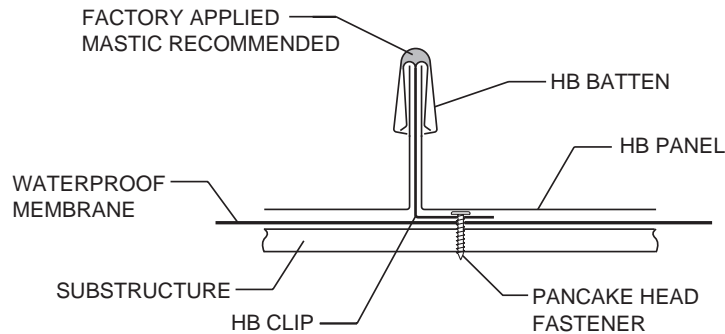


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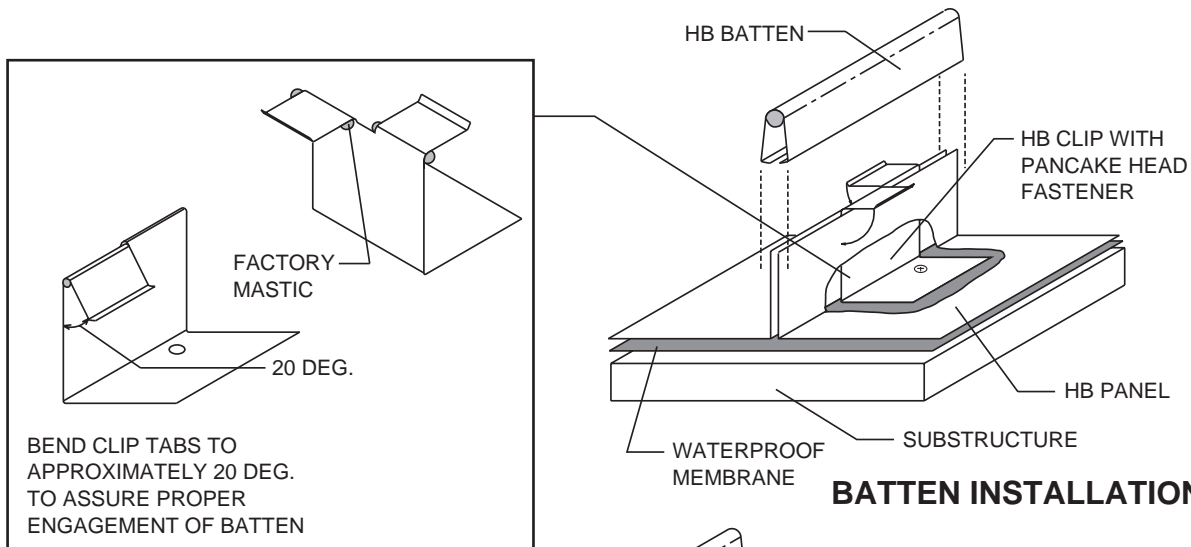
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PRODUCT INFORMATION

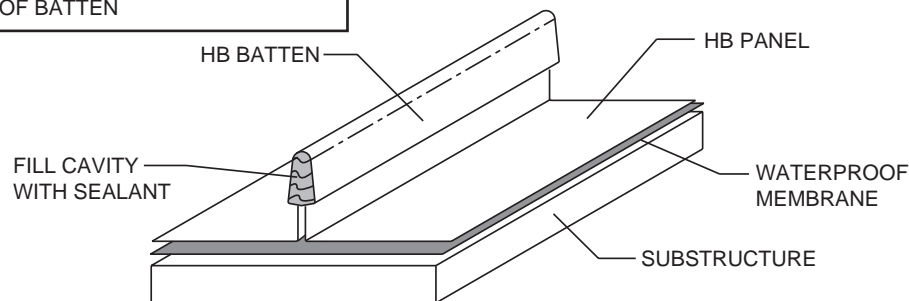
TYPICAL DETAILS PANEL



INSTALLED PANEL CROSS SECTION



BATTEN INSTALLATION



BATTEN END SEALANT DETAIL

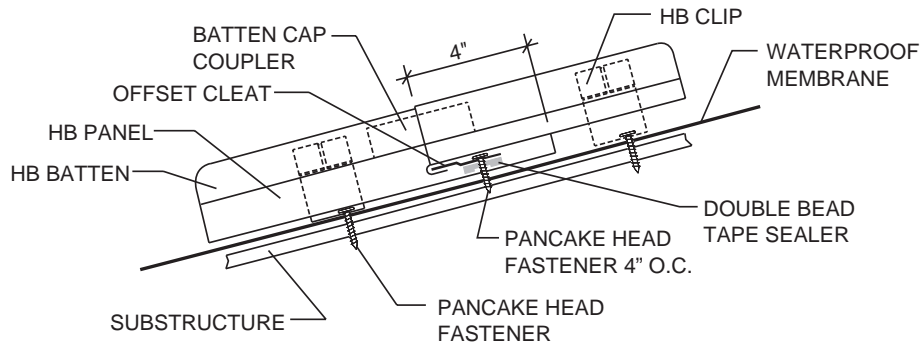
NOTES:

1. Factory applied mastic in battens is recommended.
2. If it is necessary to raise the tabs of a clip up after they have been bent down into place, the clip must be replaced to prevent clip failure.
3. Clips to be installed 2'-0" o.c. unless otherwise instructed on roof plans.
4. Ends of panels should be sealed with urethane sealant at all eave and valley conditions.

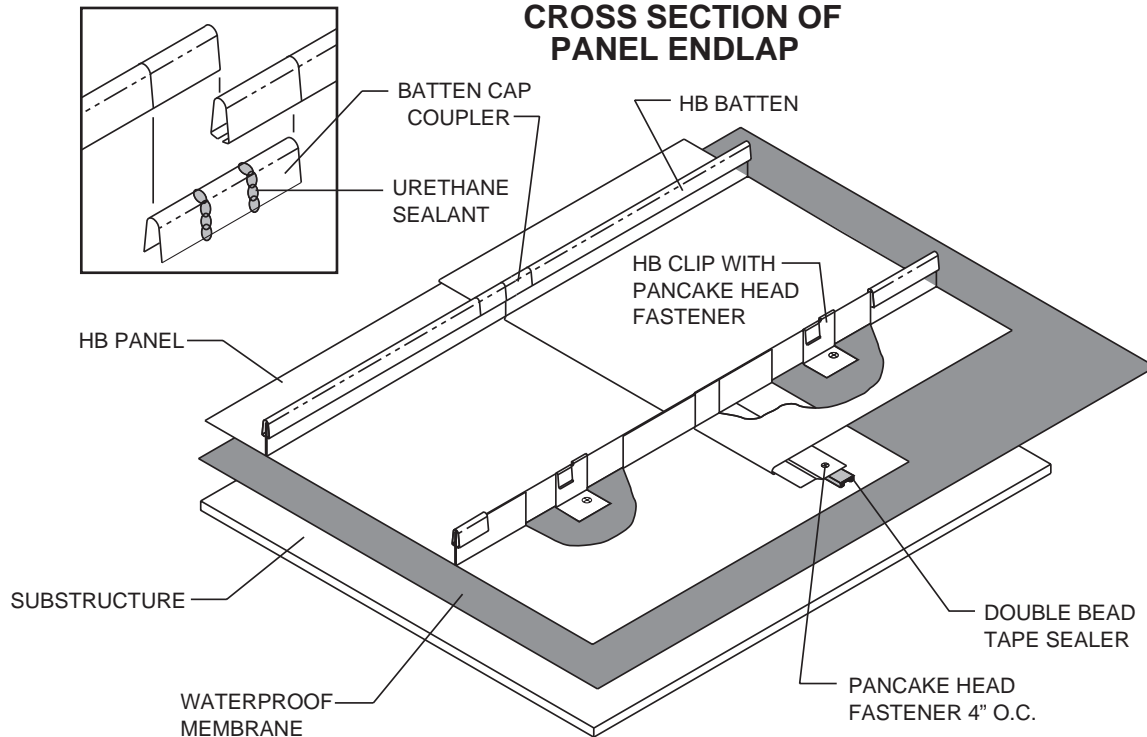
PRODUCT INFORMATION

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TYPICAL DETAILS ENDLAP



CROSS SECTION OF PANEL ENDLAP



ISOMETRIC VIEW OF PANEL ENDLAP

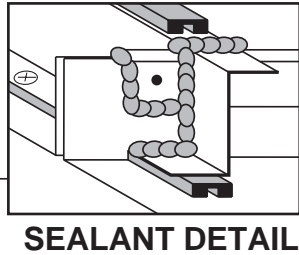
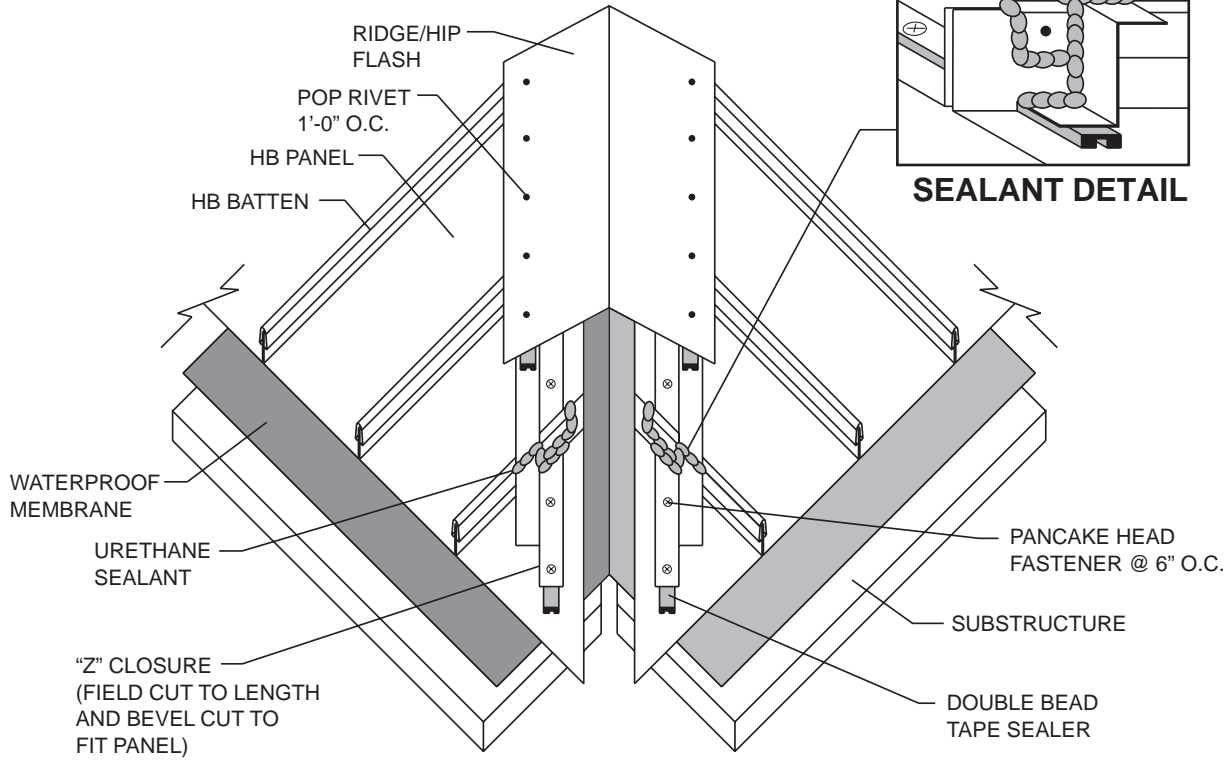
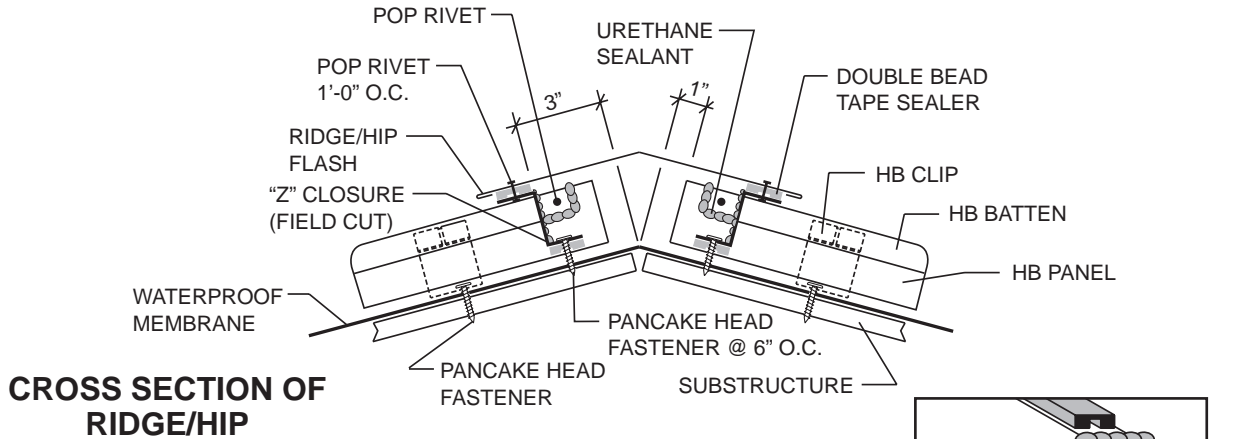
NOTES:

1. Panels are lapped 4".
2. Install double bead tape sealer across width of bottom panel. Center of tape sealer should be 2" from upslope end of panel.
3. Attach offset cleat to bottom panel with pancake head fasteners. Use four fasteners per panel for 12" wide panels and five fasteners per panel for 16½" wide panels. Fasteners must go through tape sealer. Apply urethane sealant up vertical legs of panels in line with tape sealer.
4. Field hem top panel (see page CS-57) and engage onto offset cleat.
5. To connect two battens, snap first batten to panels except for last two feet. Field cut a 4" long batten cap coupler from 10' stock. Apply a bead of urethane sealant across coupler approximately 1" from one end. Slide this end into the end of the first batten. Apply a bead of urethane sealant across coupler approximately 1" from other end and slide the second batten onto the coupler until it butts the first batten. Holding the two battens together, snap the last 2' of the first batten down and continue by snapping the second batten completely down.

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PRODUCT INFORMATION

TYPICAL DETAILS RIDGE/HIP



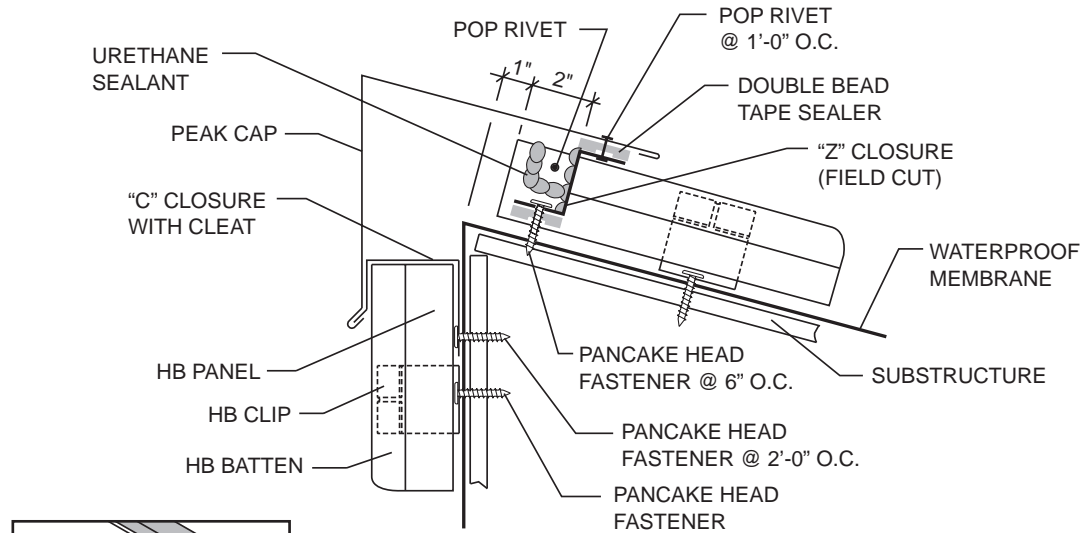
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. At ridge, use three fasteners for 12" wide panels or four fasteners for 16 1/2" wide panels. At hips, install fasteners 6" o.c. maximum. Install "Z" closures so that ridge/hip flash will overhang top leg of "Z" closure 1/2".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach ridge/hip flash to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

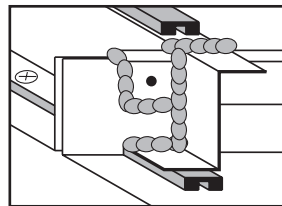
PRODUCT INFORMATION

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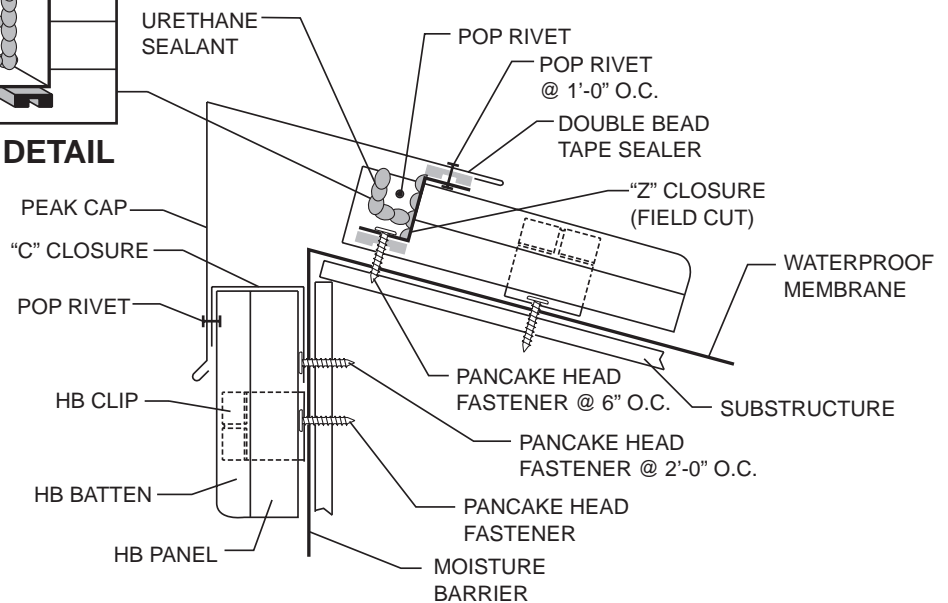
TYPICAL DETAILS PEAK CAP



PEAK CAP WITH "C" CLOSURE CLEAT



SEALANT DETAIL SEALANT DETAIL



PEAK CAP WITH "C" CLOSURE

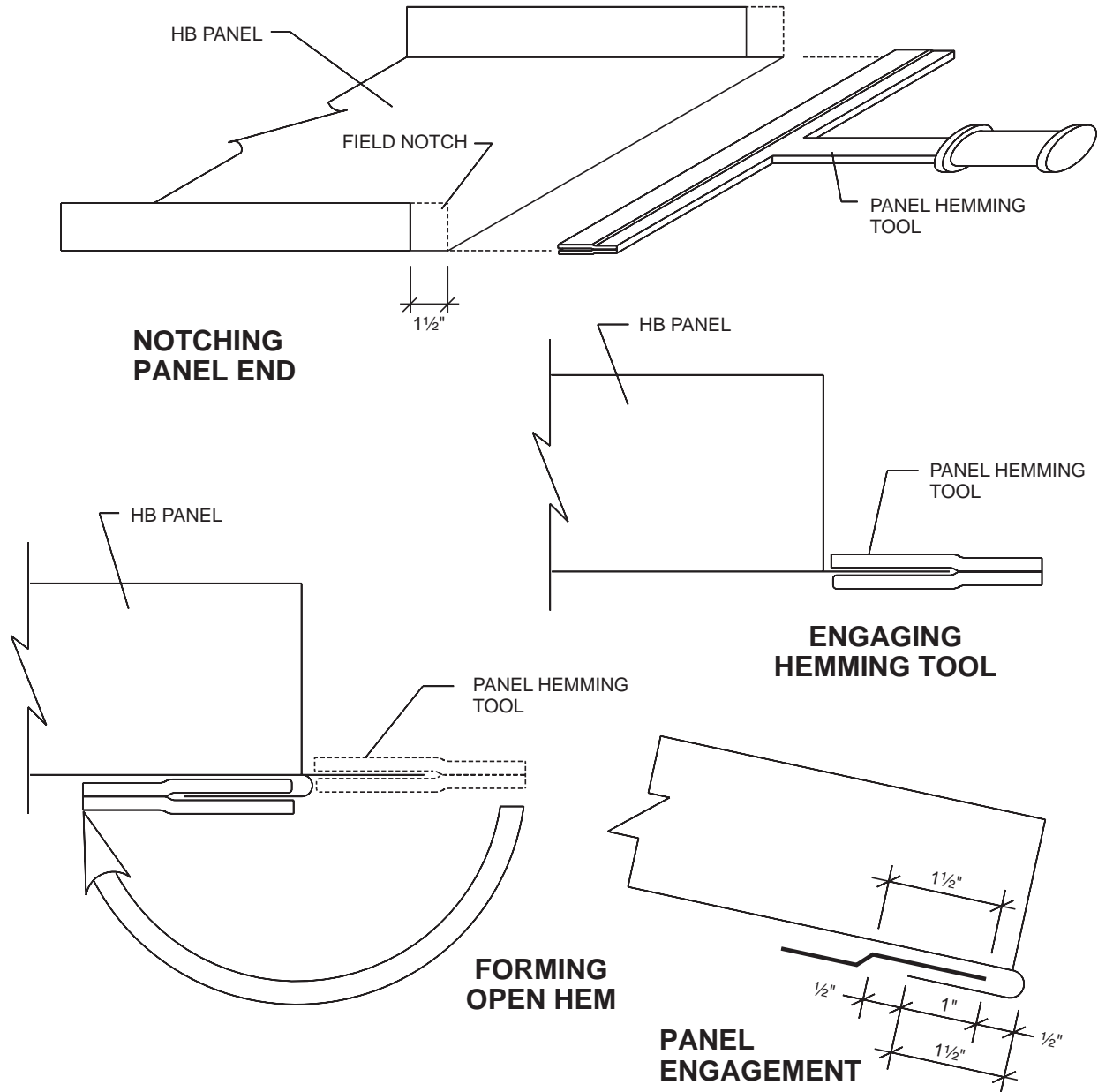
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that peak cap will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach peak cap to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**
6. When using "C" closure with cleat, order peak cap with open hem at the bottom.

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PRODUCT INFORMATION

TYPICAL DETAILS FIELD HEMMING PANEL END



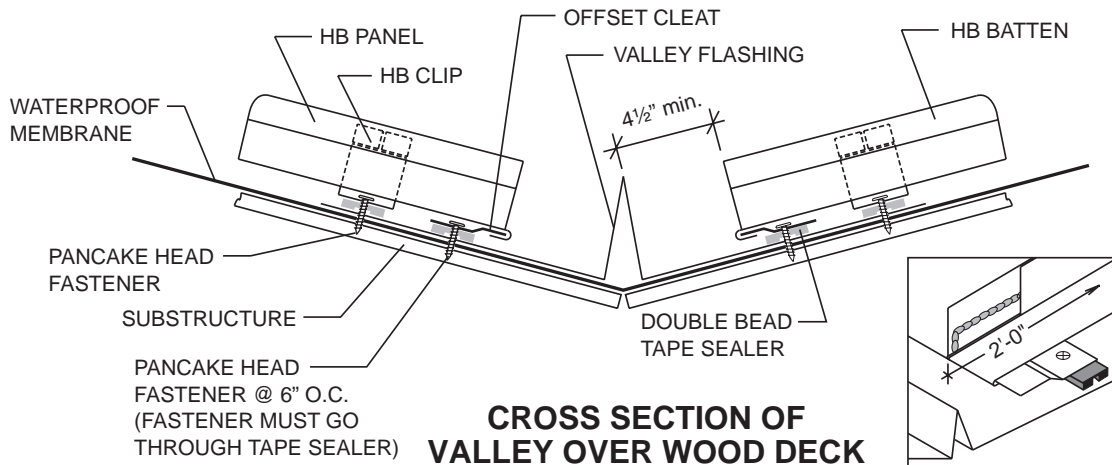
NOTES:

1. Field notch vertical legs of panel 1 1/2".
2. Engage panel hemming tool onto protruding pan of panel.
3. Bend pan of panel down to form an open hem.
4. Hem may be tightened with a pair of vise grip "duckbills".
5. **Panel engagement shown above is for panel runs up to 100' long. For panel runs over 100' long, call MBCI.**

PRODUCT INFORMATION

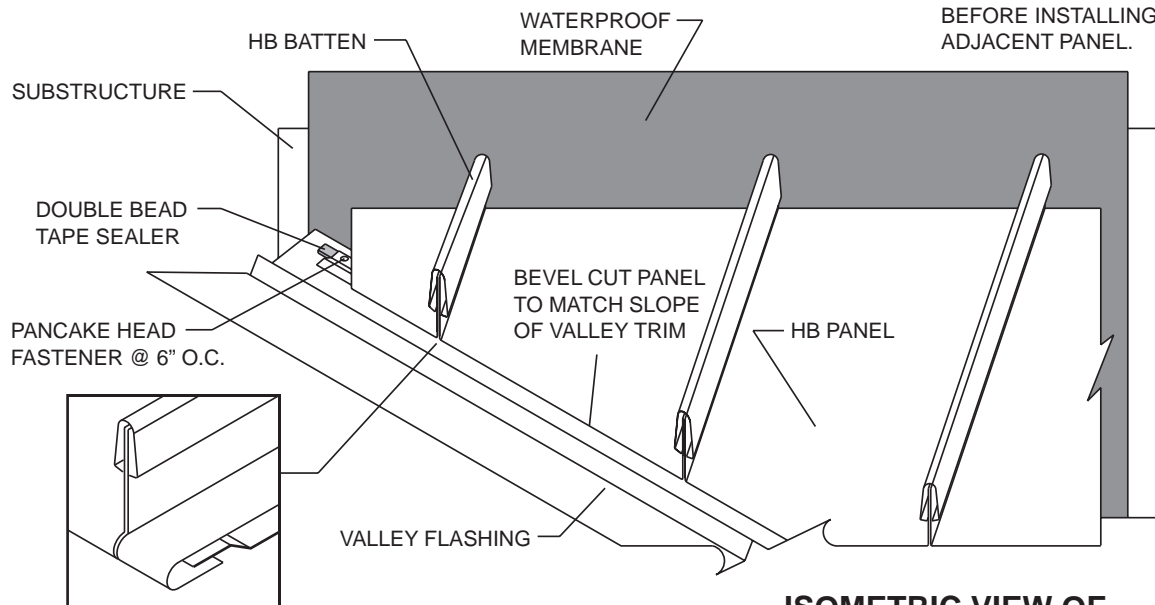
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TYPICAL DETAILS VALLEY



**CROSS SECTION OF
VALLEY OVER WOOD DECK**

FIELD APPLY BEAD OF URETHANE SEALANT TO VERTICAL LEG OF PANEL BEFORE INSTALLING ADJACENT PANEL.



**ISOMETRIC VIEW OF
VALLEY OVER WOOD DECK**

**PANEL END
DETAIL**

SEE PAGE CS-57 FOR
PANEL ENGAGEMENT

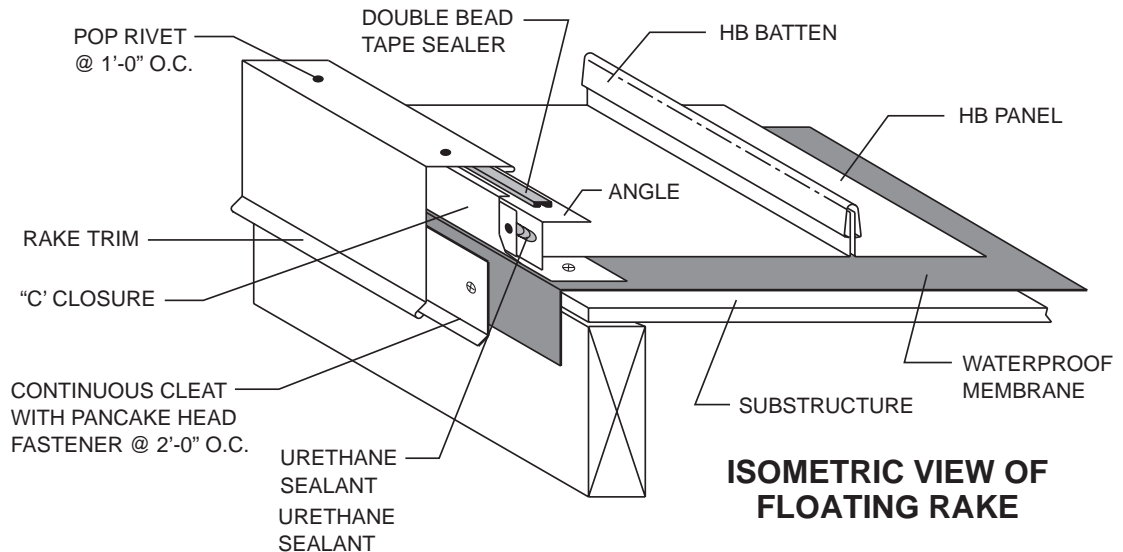
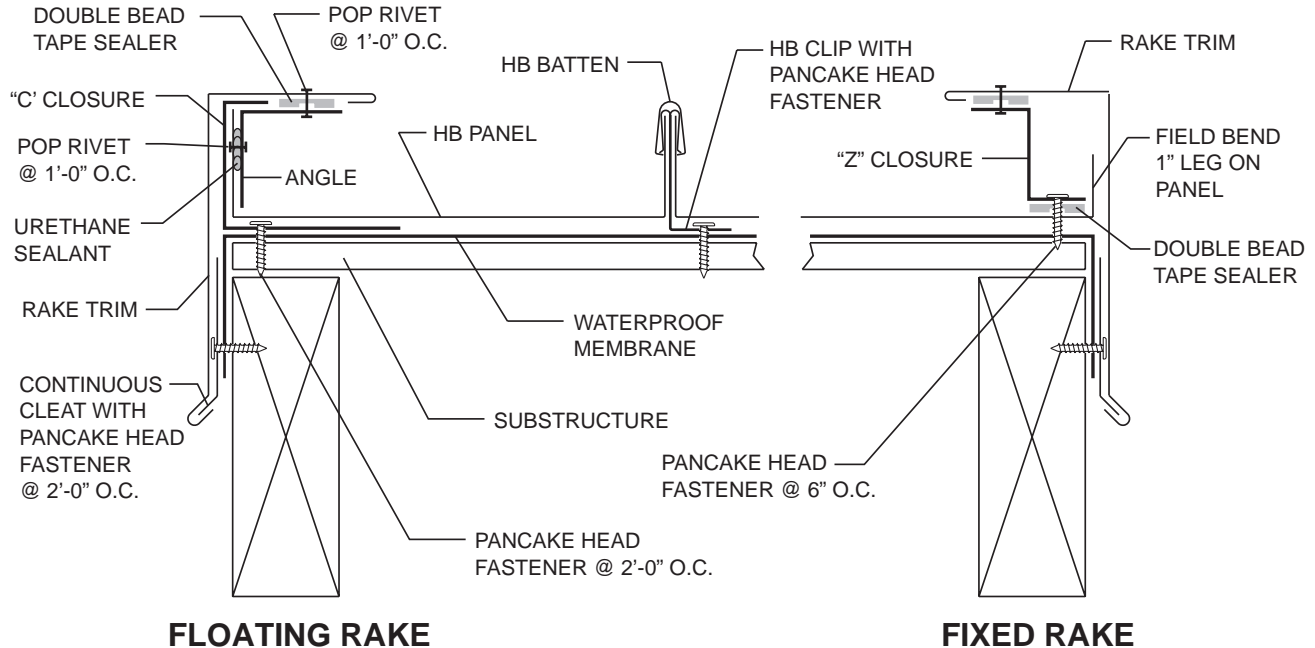
NOTES:

1. For valleys longer than 30', use extended valley trim - see page CS-52.
2. End of panel should be a minimum of 4½" from center of valley.
3. Panel and batten ends must be sealed. To seal batten ends, see page CS-53.
4. To field hem panel ends, see page CS-57.

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PRODUCT INFORMATION

TYPICAL DETAILS RAKE



**ISOMETRIC VIEW OF
FLOATING RAKE**

NOTES:

Floating Rake

1. Attach "C" closure to substructure with pancake head fasteners 2'-0" o.c.
2. Apply a bead of urethane sealant to vertical leg of panel and rivet angle trim to panel 1'-0" o.c.
3. Slide panel into "C" closure and install clips.
4. Install double bead tape sealer to top leg of angle trim and rivet rake trim to angle trim 1'-0" o.c. **Do not fasten rake trim to "C" closure.**
5. If roof finishes off module, field bend a vertical leg on panel and install as outlined in steps 1-4 above.

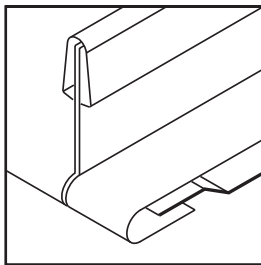
Fixed Rake

1. Install double bead tape sealer to pan of panel. Attach "Z" closure to substructure with pancake head fasteners 6" o.c.
2. Install double bead tape sealer to top leg of "Z" closure. Attach rake trim to "Z" closure with rivets 1'-0" o.c.
3. If roof finishes off module, field bend a vertical leg on panel and install as outlined in steps 1-2 above.

PRODUCT INFORMATION

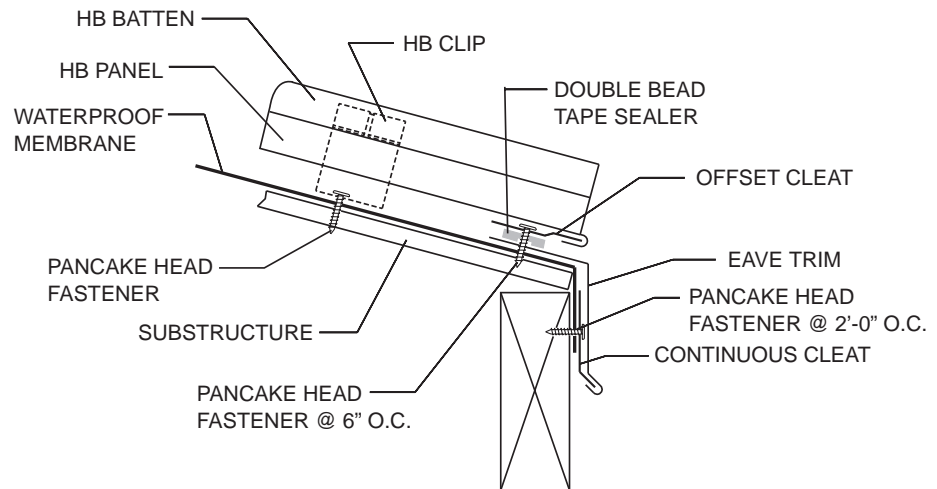
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TYPICAL DETAILS EAVE TRIM

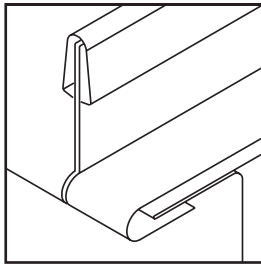


PANEL END DETAIL

SEE PAGE CS-57 FOR
PANEL ENGAGEMENT

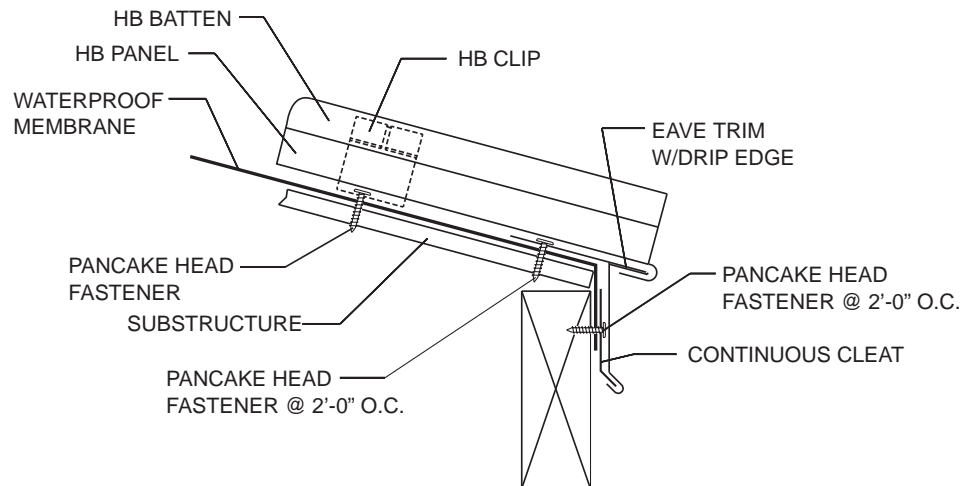


EAVE WITH OFFSET CLEAT



PANEL END DETAIL

SEE PAGE CS-57 FOR
PANEL ENGAGEMENT



EAVE WITH DRIP EDGE

NOTES:

Offset Cleat

1. Install eave trim to substructure with two pancake head fasteners per 10'-0" piece.
2. Attach offset cleat with pancake head fasteners 6" o.c. Fasteners must go through double bead tape sealer.
3. To field hem, see page CS-57.
4. To seal batten ends, see page CS-53.

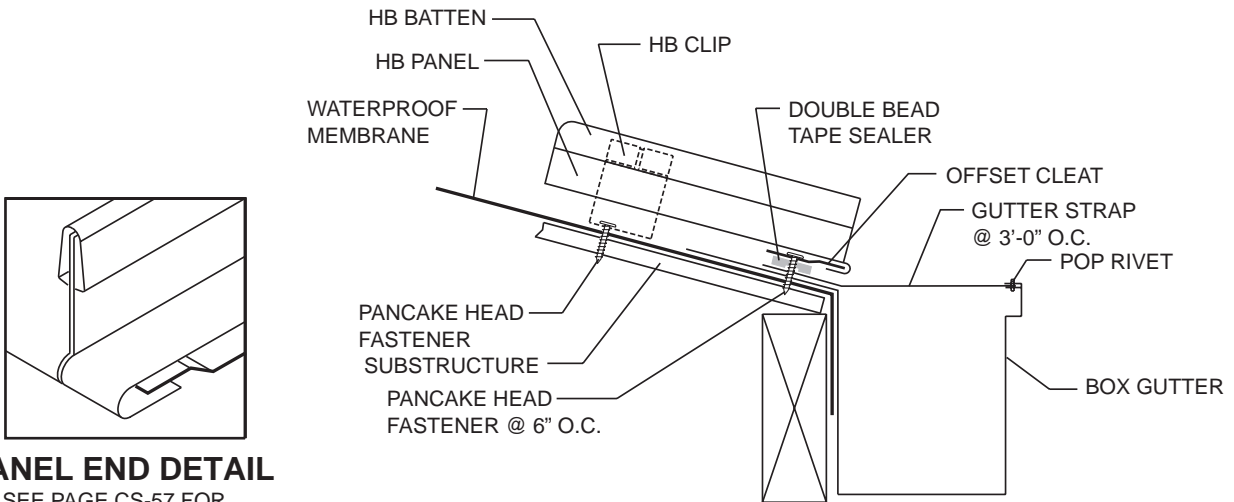
Eave with Extended Drip Edge

1. Install eave trim to substructure with pancake head fasteners 2'-0" o.c.
2. To field hem panels, see page CS-57.
3. To seal batten ends, see page CS-53.
4. This detail may be used on roofs with slopes up to 4:12. For slopes greater than 4:12, please call MBCI.

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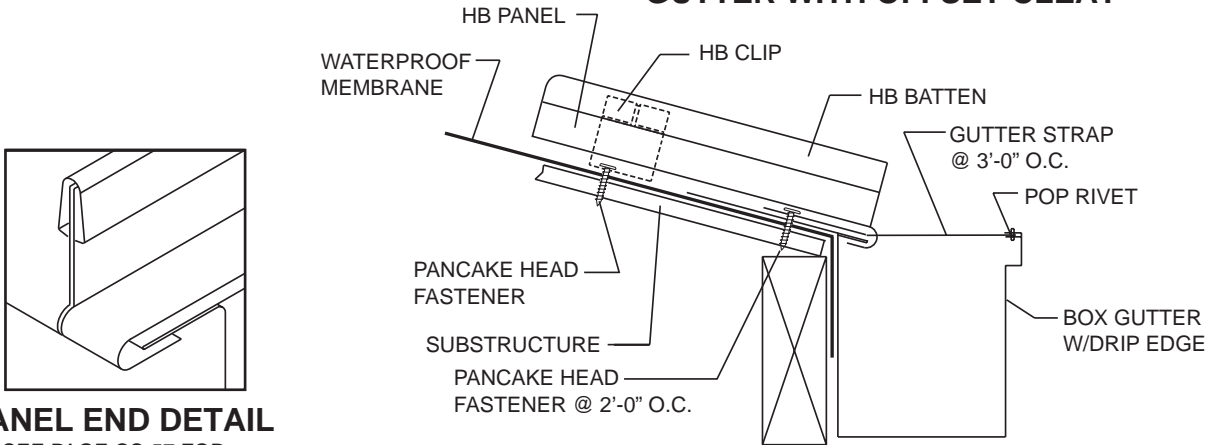
PRODUCT INFORMATION

TYPICAL DETAILS GUTTER



PANEL END DETAIL
 SEE PAGE CS-57 FOR
 PANEL ENGAGEMENT

GUTTER WITH OFFSET CLEAT



PANEL END DETAIL
 SEE PAGE CS-57 FOR
 PANEL ENGAGEMENT

GUTTER WITH DRIP EDGE

NOTES:

Offset Cleat

1. Install gutter to substructure with two pancake head fasteners per 10'-0".
2. Rivet gutter straps to gutter 3'-0" o.c.
3. Attach offset cleat with pancake head fasteners 6" o.c. Fasteners must go through double bead tape sealer.
4. To field hem panels, see page CS-57.
5. To seal batten ends, see page CS-53.
6. The above gutter should not be used in areas that experience snow loads of 10 PSF or higher. See page CS-68 for the gutter detail for these areas.

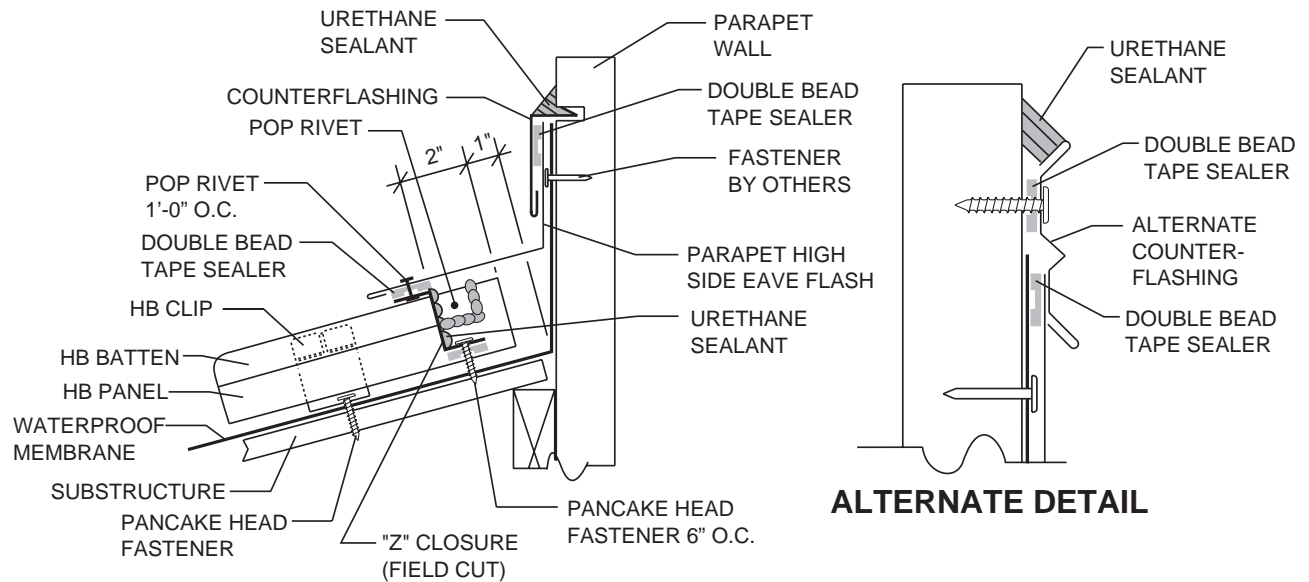
Gutter with Drip Edge

1. Install gutter to substructure with pancake head fasteners 2'-0".
2. Rivet gutter straps to gutter 3'-0".
3. To field hem panel, see page CS-57.
4. To seal batten ends, see page CS-53.
5. This detail may be used on roofs with slopes up to 4:12. For slopes greater than 4:12, please call MBCI.
6. The above gutter should not be used in areas that experience snow loads of 10 PSF or higher. See page CS-68 for the gutter detail for these areas.

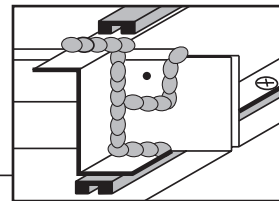
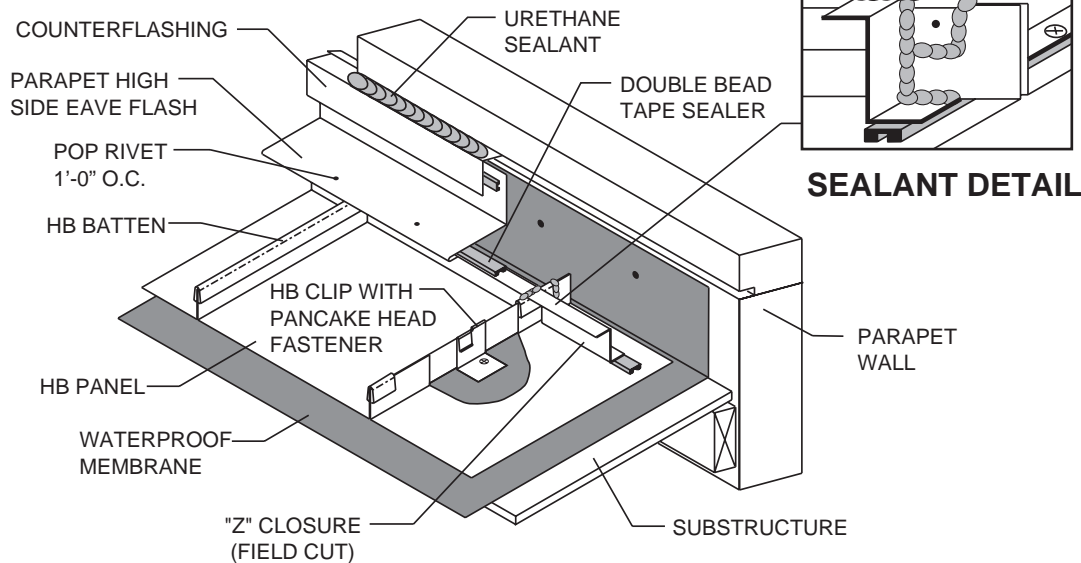
PRODUCT INFORMATION

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PARAPET DETAILS HIGH EAVE



CROSS SECTION OF HIGH EAVE



SEALANT DETAIL

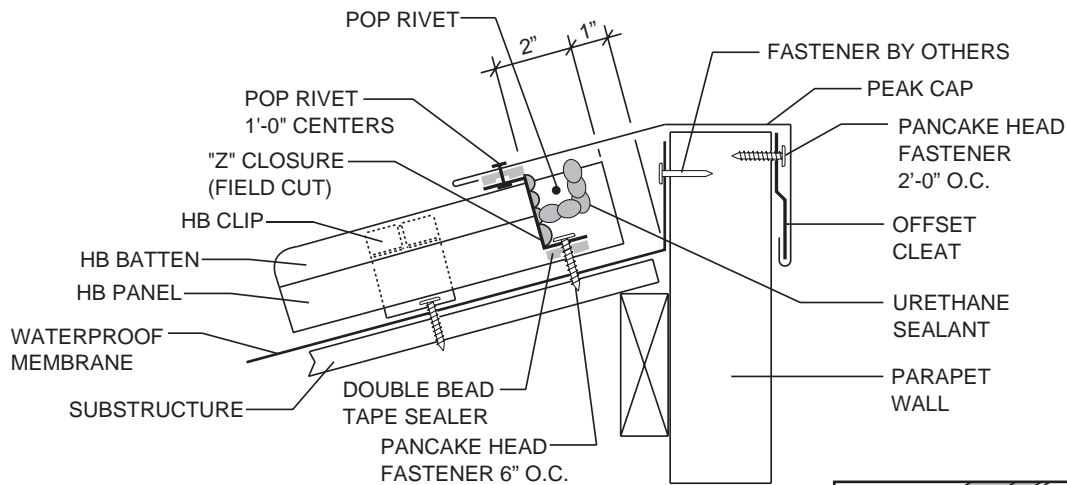
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that parapet high side eave flash will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach parapet high side eave flash to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

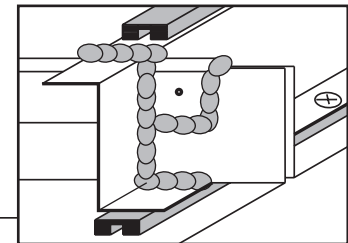
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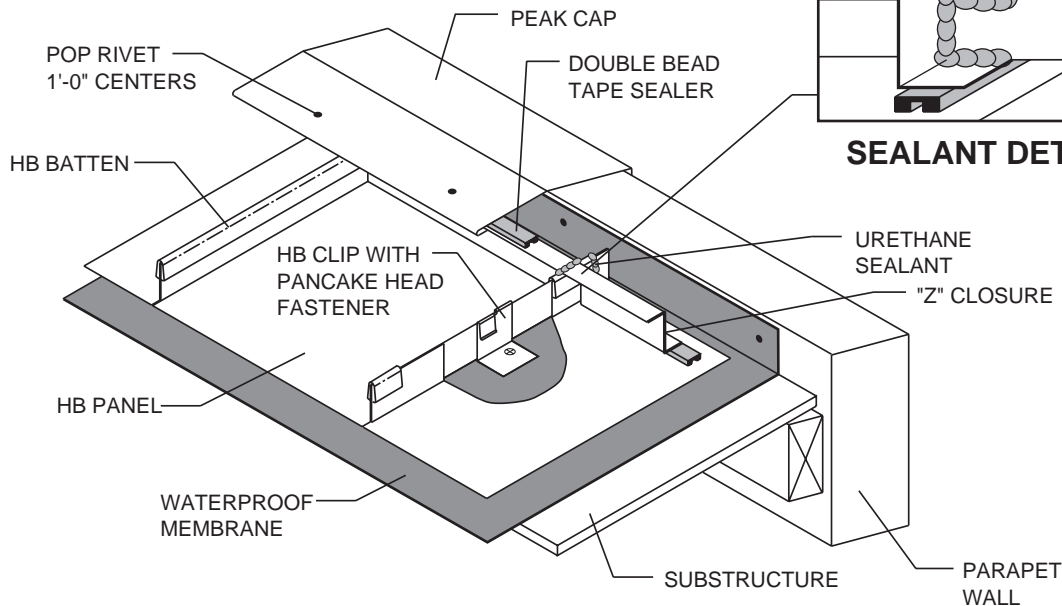
PARAPET DETAILS PEAK CAP



CROSS SECTION OF PEAK CAP



SEALANT DETAIL



ISOMETRIC VIEW OF PEAK CAP

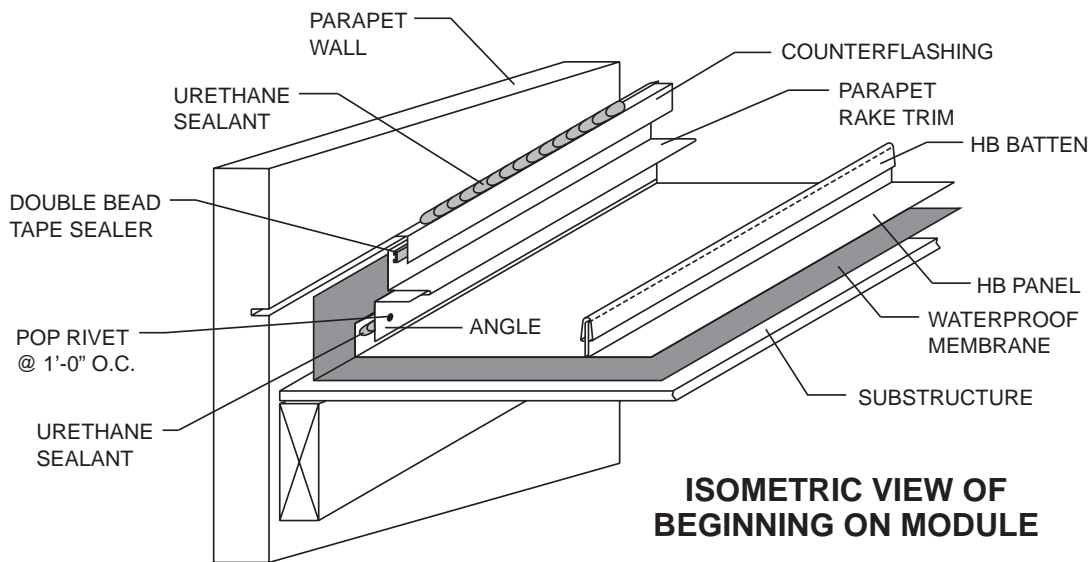
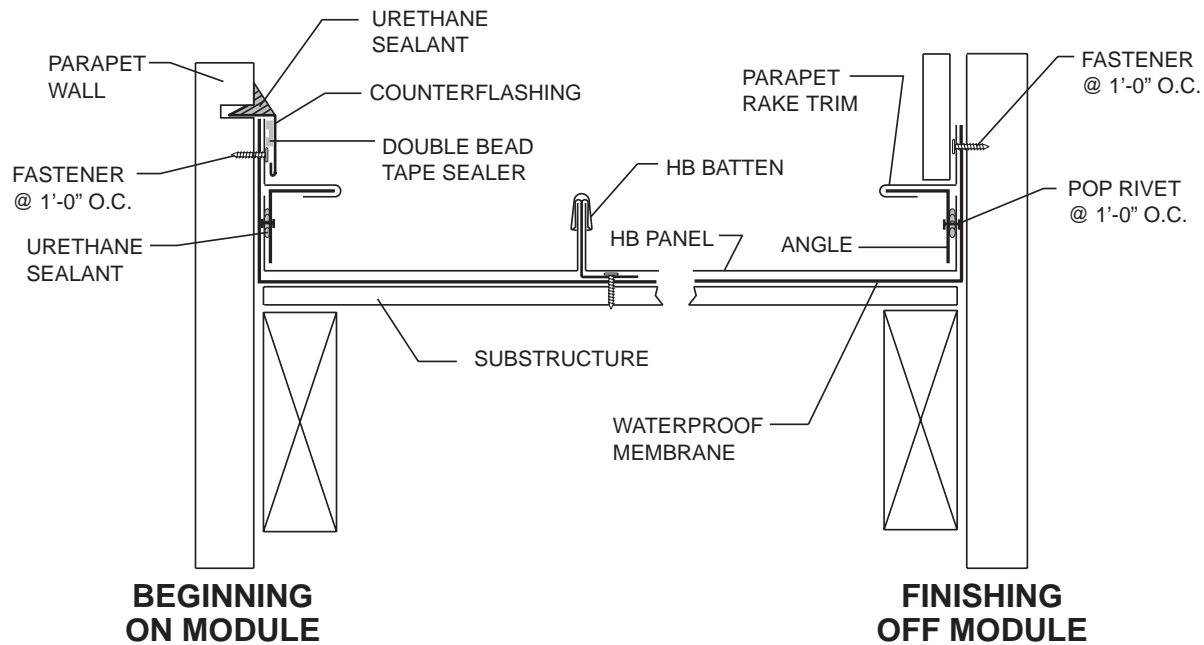
NOTES:

1. Field cut "Z" closures from 10' stock lengths to fit panel width.
2. Install "Z" closures to roof panel with pancake head fasteners. Use three fasteners for 12" wide panels or four fasteners for 16½" wide panels. Install "Z" closures so that peak cap will overhang top leg of "Z" closure ½".
3. Batten should stop 1" from upslope end of panel. This will allow the end of the batten to be sealed with urethane sealant and prevent water from being forced into the voids on each side of the batten by a strong wind.
4. Rivet batten to vertical leg of panel to prevent its sliding downslope. This must be done upslope from the "Z" closure.
5. Attach peak cap to top leg of "Z" closure with rivets 1'-0" o.c. **Do not rivet through top of batten.**

PRODUCT INFORMATION

CRAFTSMAN™

PARAPET DETAILS PARAPET RAKE TRIM



NOTES:

Beginning On Module

1. Apply a bead of urethane sealant to vertical leg of panel and rivet angle trim to panel 1'-0" o.c.
2. Hook open hem of parapet rake trim onto angle trim and fasten vertical leg of rake trim to parapet wall.

Finishing Off Module

1. Field bend a vertical leg and install as outlined above.

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 Dallas, TX 800/653-6224
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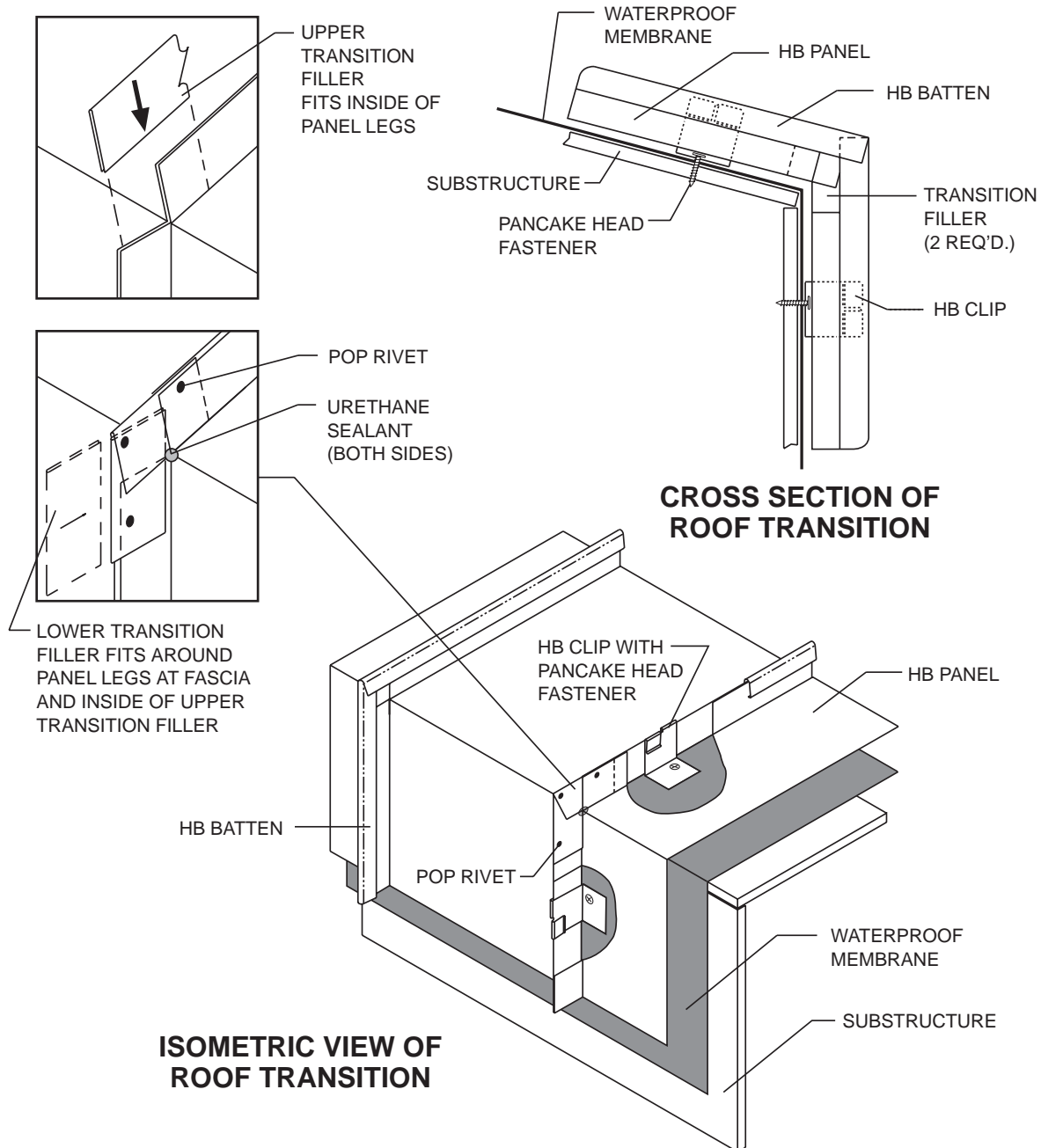
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 Memphis, TN 800/206-6224
 Oklahoma City, OK 800/597-6224
 Omaha, NE 800/458-6224
 Phoenix, AZ 888/533-6224
 Richmond, VA 800/729-6224

Rome, NY 800/559-6224
 Salt Lake City, UT 800/874-2404
 San Antonio, TX 800/598-6224
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PRODUCT INFORMATION

MISCELLANEOUS DETAILS ROOF TRANSITION



NOTES:

1. Field cut vertical legs of panel and bend pan to required angle.
2. Cut two 4" long pieces of HB transition filler from 10'-0" stock.
3. Install upper piece of transition filler between roof panel legs. Install lower piece of transition filler over fascia panel legs and inside of upper transition filler.
4. Field notch batten, bend to required angle and install.
5. **Do not use this detail inside the building envelope.**



Metal Roof and Wall Systems

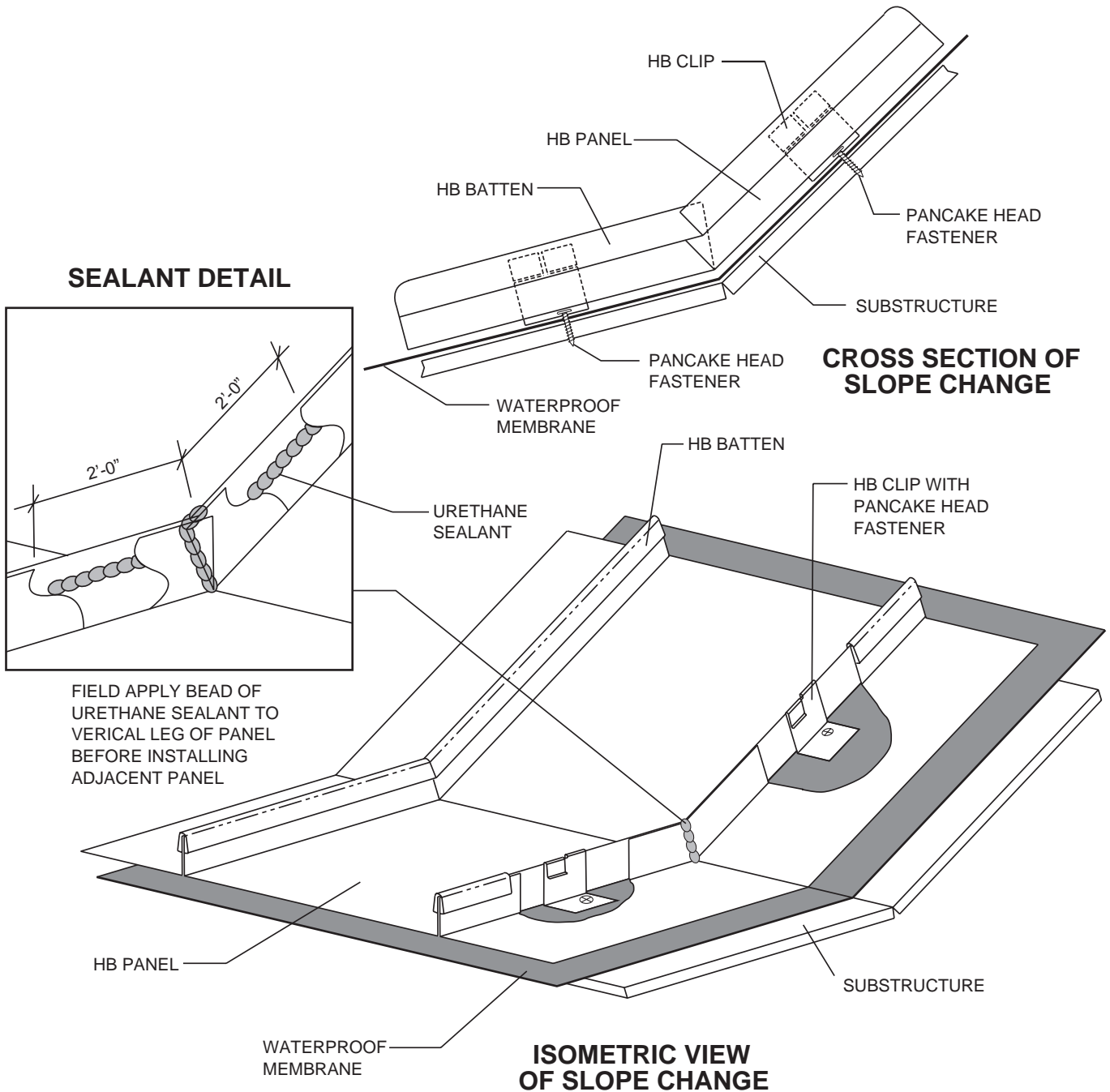
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Dallas, TX 800/653-6224
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PRODUCT INFORMATION CRAFTSMAN™

MISCELLANEOUS DETAILS SLOPE CHANGE



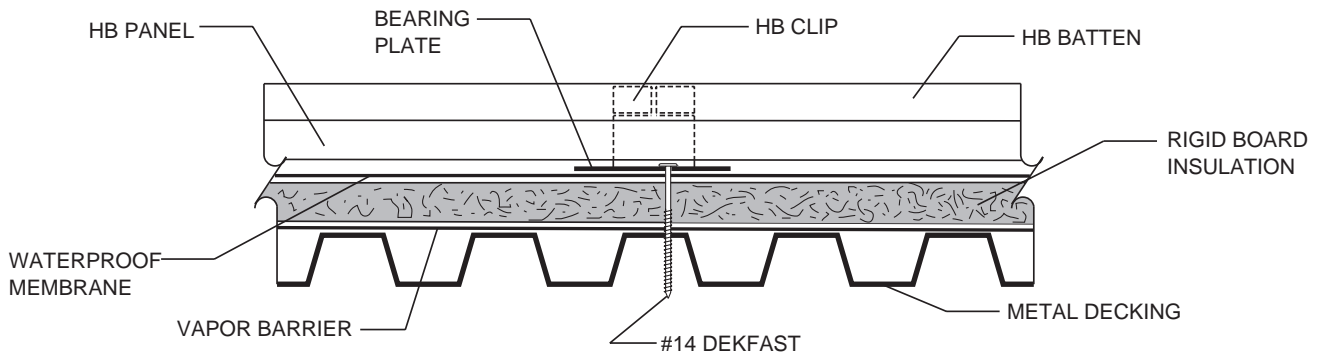
NOTES:

1. Field cut vertical legs of panel and bend pan to required angle.
2. Seal panel seams with urethane sealant.
3. Field cut batten and install.

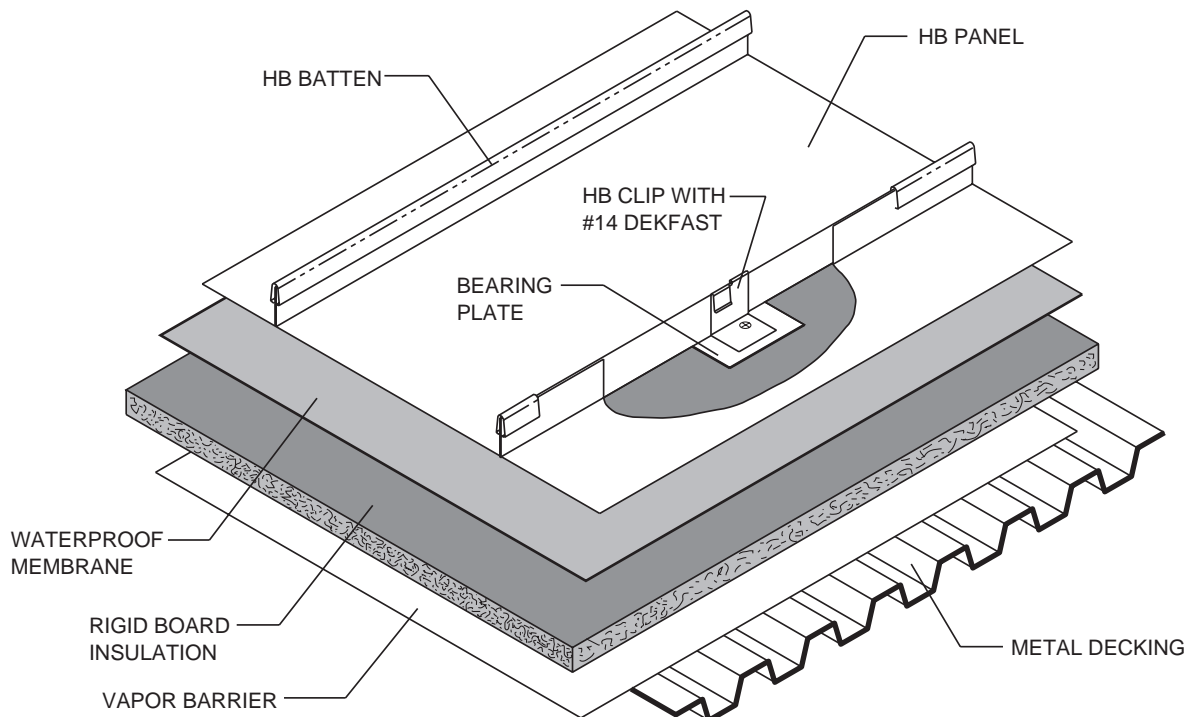
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PRODUCT INFORMATION

MISCELLANEOUS DETAILS RIGID BOARD OVER METAL DECK



**CROSS SECTION OF RIGID BOARD
 INSULATION OVER METAL DECK**



**ISOMETRIC VIEW OF RIGID BOARD
 INSULATION OVER METAL DECK**

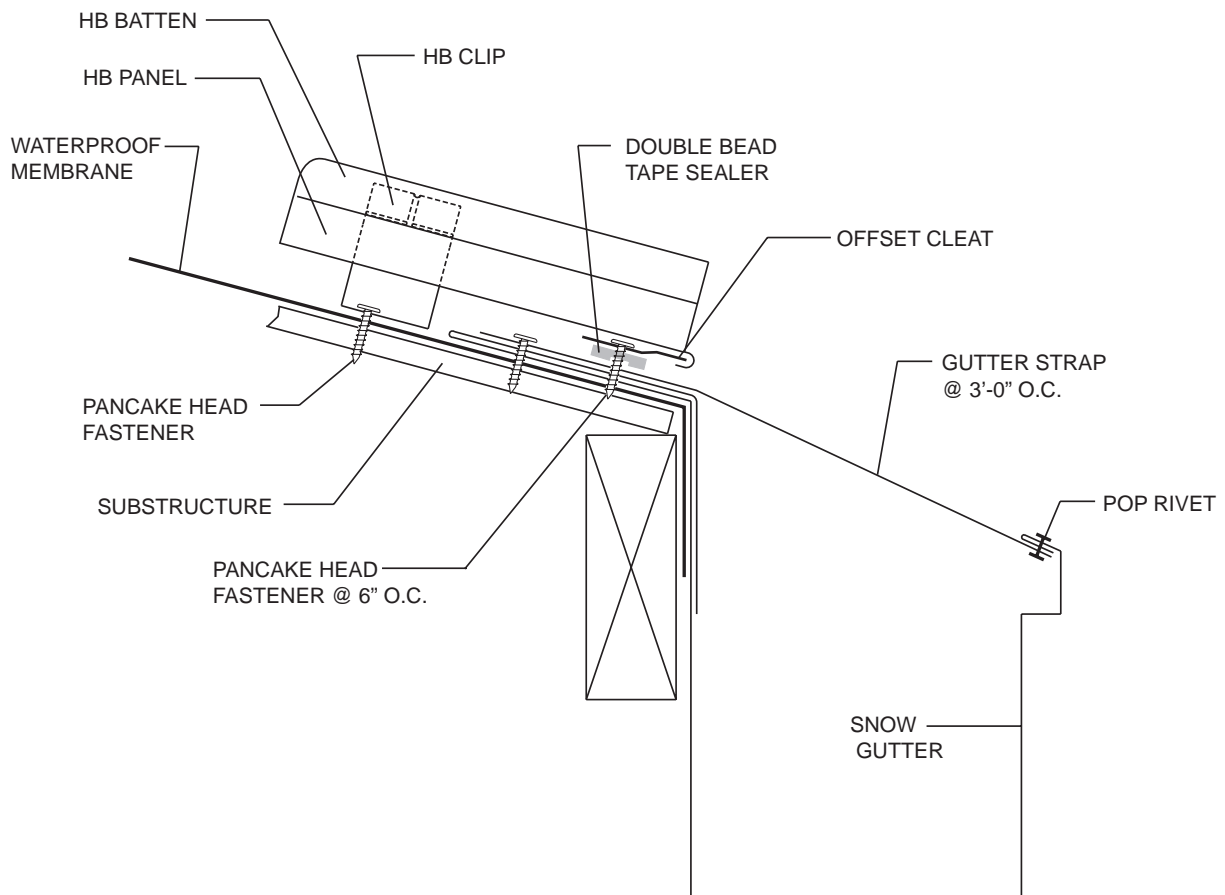
NOTES:

1. Metal deck to be 1½" deep, 22 gauge.
2. Clips and bearing plates to be installed simultaneously with one #14 Dekfast fastener. Length of fastener to be ½" longer than combined thickness of metal deck and rigid board insulation.
3. Rigid board insulation must have a minimum density of 2 PCF.

PRODUCT INFORMATION

CRAFTSMAN™

MISCELLANEOUS DETAILS SNOW GUTTER



NOTES:

1. Install gutter to substructure with two pancake head fasteners per 10'-0".
2. Rivet gutter straps to gutter 3'-0" o.c.
3. Attach offset cleat with pancake head fasteners 1'-0" o.c. Fasteners must go through double bead tape sealer.
4. To field hem panels, see page CS-57.
5. To seal batten ends, see page CS-53.

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PRODUCT INFORMATION

INSTALLATION GUIDELINES

I. Pre-Order

- A. Prior to ordering panels, all dimensions should be confirmed by field measurement.

II. Jobsite Storage and Handling

- A. Check the shipment against the shipping list.
- B. Damaged material must be noted on bill of lading.
- C. Panel crates should be handled carefully. A spreader bar of appropriate length is recommended for hoisting.
- D. Check to see that moisture has not formed inside the bundles during shipment. If moisture is present, panels should be uncrated and wiped dry, then restacked and loosely covered so that air can circulate between the panels.

III. Application Checklist

- A. Check substructure for proper alignment and uniformity to avoid panel distortion.
- B. Waterproof membrane should be protected from damage until the roof panels are installed. However, if membrane is damaged, repair of the membrane is necessary prior to panel installation. Always install membrane in such a manner that will allow for water shedding.
- C. Prior to installation of panels, roof should be swept clean of any debris.
- D. Care should be taken to place clip snug against vertical leg of panel and flush on the substructure surface.
- E. Periodic check of panel alignment is crucial to proper panel installation.
- F. For proper appearance, ribs must line up at valleys and ridges/hips.
- G. Panels should be cut on the ground to minimize cut filings on adjacent panels.
Keep panels clean during installation. **DO NOT STEP ON PANELS.**
- H. A low profile fastener, such as a pancake head screw, is required for panel installation.



Metal Roof and Wall Systems

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PRODUCT INFORMATION

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Specifier: Notation [#] means that text following is a specifier's note or sample.

PART 1 - GENERAL

1.01 DESCRIPTION

Specifier: Do not alter paragraph "A" except by adding section title in brackets.

A. General:

1. Furnish all labor, material, tools, equipment and services for all preformed [# choose one: roof, fascia, mansard, equipment screens] as indicated, in accord with provisions of Contract Documents.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically indicated, furnish and install all supplementary or miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation.
4. See Division 1 for General Requirements.

B. Related work specified elsewhere:

1. Structural steel: Section 05100.
2. Steel joists: Section 05200 or 05400.
3. Flashing and sheet metal: Section 07600.

Specifier: Delete references to sections not used and add any references which become pertinent.

1.02 QUALITY ASSURANCE

A. Applicable standards:

1. SMACNA: "Architectural Sheet Metal Manual", Sheet Metal and Air Conditioning Contractors National Association, Inc.
2. AISC: "Steel Construction Manual", American Institute of Steel Construction.
3. AISI: "Cold Form Steel Design Manual", American Iron and Steel Institute.
4. UL: "Tests for Uplift Resistance of Roof Assemblies", Underwriters Laboratories, Inc.
5. ASTM E 283-84: "Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen", American Society for Testing and Materials.
6. ASTM E 331-83: "Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls and Doors by Uniform Static Air Pressure Difference", American Society for Testing and Materials.
7. ASTM A 792-83-AZ50: "Specifications for steel sheet, aluminum-zinc alloy coated (galvanized) by the hot dip process, general requirements (Galvalume)", American Society for Testing and Materials.

B. Manufacturer's qualifications:

1. Manufacturer has a minimum of three years experience in manufacturing panels of this nature. Panels

specified in this section shall be produced in a factory environment (not job site) with fixed-base roll forming equipment to assure the highest level of quality control. A letter certifying compliance should accompany the product material submittals.

C. Installer's qualifications:

1. Installer of the system shall be an approved installer, certified by the manufacturer, specifically for MBCI's Craftsman™ Series roof system and meet the following minimum criteria:
 - a. Maintain a \$250,000 general liability coverage for each loss.
 - b. Maintain sufficient worker's compensation coverage as mandated by law.
 - c. Has no viable claims pending regarding negligent acts or defective workmanship on previously performed or current projects.
 - d. Has not filed for protection from creditors under any state or federal insolvency or debtor relief statutes or codes.
 - e. Project foreman is the person having received specific training in the proper installation of the specified system and will be present to supervise whenever material is being installed. Specific training program shall include the following:
 1. The instructor must have a minimum of 10 years' experience.
 2. A formal curriculum.
 3. Classroom instruction with review and thorough understanding of the specific product's technical manual.
 4. Hands-on mock-up instruction with a review and thorough understanding of the specific product's details.
 5. The installer must pass a written and oral exam.
 - f. Provide five references from five different architects or building owners for projects that have been in service for a minimum of two years, stating satisfactory performance by the installer.
 - g. Provide certification letter that installer has a minimum of three years' of metal product installation experience immediately preceding the date upon which work is to commence.

D. Installation Quality Control:

1. The general contractor shall provide a third party independent metal roofing consultant, working for the general contractor and approved by the metal roofing system manufacturer, to approve the metal roof system installation drawings and inspect the installation of the Craftsman™ Series roof system at the following times of the roof installation:
 - a. At completion of the first assembly of secondary framing.
 - b. At the first assembly of substrates.
 - c. Prior to installing a typical roof curb.
 - d. Prior to installing a typical trim component.

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- e. Prior to installing an unusual component or condition.
- f. At final completion of all roofing work.
2. The third party independent roofing consultant shall provide written and photographic reports to be submitted to the architect (owner), roofing manufacturer, roofing installer and general contractor appraising the installation of the roofing system at each of the above project progress stages. The installer shall make all necessary corrections, additions or remedial actions to resolve any issues raised in the reports.
3. The third party independent roofing consultant shall have the authority to have any and all roofing work corrected, as required, to insure the proper installation and weathertightness of the roofing system.

1.03 SYSTEM PERFORMANCE REQUIREMENTS

A. Performance Testing:

1. Metal roof system must be tested in accordance with Underwriters Laboratories, Inc. (UL) Test Method 580 "Tests for Uplift Resistance of Roof Assemblies".
2. Metal roof system must be installed in accordance with UL Construction Method [# choose one: 280 or 310 (Small Batten), 281 or 308 (Large Batten), 282 or 309 (High Batten)]. See the current UL Roofing Materials and Systems Directory for requirements of each Construction Method.
3. Panel clip spacing will not exceed spacings specified in the UL Construction Method and must be designed to meet requirements of specified building codes and design loads.
4. Resist the roof design pressures calculated in accordance with [# choose one: SBBCI, UBC, BOCA, ASCE or an applicable national or local building code]. Determine panel bending and clip-to-panel strength by testing in accordance with UL Test Method 580. Capacity for gauge, span or loading other than those tested may be determined by interpolating test results. Use a minimum factor of safety of 1.5 for wind uplift design in accordance with Chapter F of AISI 1986.
5. [# Small Batten or High Batten only] Metal roof system must be tested in accordance with ASTM E 283-84 "Standard Test Method for Air Infiltration" with a uniform static air pressure differential of 4 psf. The resulting air infiltration leakage rate will be a minimum of [# choose one: 0.048 cfm/sq ft (Small Batten-12" or High Batten-12") or 0.035 cfm/sq ft (Small Batten-16 1/2" or High Batten-16 1/2")].
6. [# Small Batten or High Batten only] Metal roof system must be tested in accordance with ASTM E 331-83 "Standard Test Method for Water

Penetration" with a uniform static air pressure differential of 4 psf. The resulting water penetration rate will be no uncontrollable water leakage when five gallons of water per hour is sprayed per square foot of roof area (five gallons per hour equates to 8 inches of rainfall per hour).

1.04 SUBMITTALS

A. Shop drawings:

1. Submit complete shop drawings and erection details, approved by the general contractor's third party metal roof consultant, to the architect (owner) for review. Do not proceed with manufacture prior to review of shop drawings. Do not use drawings prepared by the architect (owner) for shop or erection drawings.
2. Shop drawings show methods of erection, elevations and plans of roof and wall panels, sections and details, anticipated loads, flashings, roof curbs, vents, sealants, interfaces with all materials not supplied and proposed identification of component parts and their finishes.

B. Performance Tests:

1. Submit certified test results by a recognized testing laboratory or agency stating the metal roof system has been tested in accordance with the specified test methods listed in "1.03 System Performance Requirements" for each metal roof system specified in this section.

C. Calculations:

1. Submit engineering calculations defining the metal roof system design loads for all roof areas based on specified building codes, allowable clip loads and required type and number of fasteners per clip to secure the panel clips to the specified roof substructure.
2. Compute uplift loads on clip fasteners with full recognition of prying forces and eccentric clip loading. Calculate holding strength of fasteners in accordance with submitted test data provided by the fastener manufacturer based on length of embedment and properties of materials.

D. Samples:

1. Submit samples and color chips for all proposed finishes.
 - a. Submit one 8 inch long sample of panel, including clips and battens.
 - b. Submit two 3 inch x 5 inch color chip samples in color selected by the architect (owner).

E. Warranty(s):

1. Metal roof system manufacturer, upon final acceptance for project, furnish a warranty covering bare metal against rupture, structural failure and perforation due to normal atmospheric corrosion exposure for a period of 20 years.
2. Covering paint finish against cracking, checking,



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blistering, peeling, flaking, chipping, chalking and fading for a period of [# choose one: twenty (20) years for roof panels (premium thermoset silicone polyester) or twenty (20) years for wall panels and twenty (20) years for roof panels (premium fluor-carbon coating produced with Kynar 500 or Hylar 5000 resin)].

- F. Metal roof system fabrication certification:
1. Submit a letter from the metal roof system manufacturer certifying the Craftsman™ Series panels have been produced in a factory environment (not job site roll formed) with fixed-base roll forming equipment.
G. Third party metal roof consultant approval:
1. Submit a letter from the metal roof system manufacturer indicating acceptance of the general contractor's third party metal roof consultant for use on this specific project.

- H. Installation contractor's qualifications:
1. Submit certificate from manufacturer certifying that installer of the metal roof system has met all of the criteria outlined in "1.02 C. Installer's qualifications" and is an authorized installer certified by the manufacturer within one year of the beginning of installation of the metal roof system.
2. Submit the formal syllabus for the classroom and hands-on training.
3. Submit five references from five different architects or building owners for projects that have been in service for a minimum of two years, stating satisfactory performance by the installation contractor.

- I. Metal roof system installation inspection reports:
1. Submit written and photographic metal roof system installation inspection reports from the general contractor's third party metal roof consultant appraising the installation of the metal roof system. The written and photographic inspection reports are to be submitted to the architect (owner), metal roof system manufacturer, metal roof system installation contractor and general contractor.
2. A separate report is to be submitted for each of the following stages of the metal roof system installation:
a. At completion of the first assembly of secondary framing.
b. At the first assembly of substrates.
c. At completion of the first assembly of panels.
d. Prior to installing a typical roof curb.
e. Prior to installing a typical trim/flashing component.
f. Prior to installing an unusual component or condition.
g. At final completion of all metal roof system work.

- A. Delivery:
1. Deliver metal roof system to job site properly packaged to provide protection against transportation damage.
B. Handling:
1. Exercise extreme care in unloading, storing and erecting metal roof system to prevent bending, warping, twisting and surface damage.
C. Storage:
1. Store all material and accessories above ground on well skidded platforms. Store under waterproof covering. Provide proper ventilation of metal roof system to prevent condensation build-up between each panel or trim/flashing component. Do not store panels in contact with other materials that might cause staining, denting or other surface damage.

PART 2 - PRODUCTS

[# CRAFTSMAN™ SERIES, for roof, fascia, mansards, equipment screens; minimum slope of 3:12]

2.01 MATERIALS

- A. Metal roof system profile: [# choose one]
1. 1 inch high x 3/8 inch wide battens (Small Batten-SB) x [# choose one: 12 inch, 16 1/2 inch] wide panels.
2. 2 inch high x 2 inch wide battens (Large Batten-LB) x [# choose one: 12 inch, 16 1/2 inch] wide panels.
3. 2 inch high x 3/8 inch wide battens (High Batten-HB) x [# choose one: 12 inch, 16 1/2 inch] wide panels.
B. Metal roof system style:
1. Snap on batten with factory applied mastic. (# Small Batten or High Batten only)
2. Concealed fastener.
C. Gauge: [# choose one]
1. 22 gauge.
2. 24 gauge.
3. 26 gauge. (# not for 16 1/2 inch wide panels)
D. Substrate:
1. Galvalume sheet steel, 0.5 ounces/square foot, minimum yield 50,000 PSI.
E. Clip: [# choose one]
1. One piece clip with factory applied mastic, 1 inch high by 1 inch wide by 2 inches long with one guide hole in the bottom to accommodate a clip fastener (Small Batten).
2. One piece clip, 2 inches high by 1-5/16 inch wide by 2 inches long with guide holes in the bottom to accommodate a clip fastener (Large Batten).
3. One piece clip with factory applied mastic, 2 inches high by 1 inch wide by 2 inches long with a guide hole in the bottom to accommodate a clip fastener (High Batten).
F. Texture: [# choose one]
1. Smooth.
2. Embossed (minimizes oil canning effect).

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

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G. Finish: [# choose one]

1. Premium thermoset silicone polyester (20 year warranty).
2. Premium fluorocarbon coating produced with Kynar 500 or Hylar 5000 resin (20 year warranty).
3. Bare Galvalume (20 year warranty).
4. Color Bond (for field painting - available in 24 gauge only).

H. Color:

1. Selected from metal roof system manufacturer's standard offering.

I. Acceptable manufacturer:

1. MBCI - Houston, TX - (281) 445-8555.

J. Other manufacturers desiring approval, comply with Section 01630.

K. Acceptable Curb and Equipment Support units:

1. LM Curbs - Longview, TX.
2. Kentuckiana Curbs - Louisville, KY.

L. Prefabricated Roof Jacks:

1. Construction Fasteners - Wyomissing, PA.
2. ITW Buildex - Itasca, IL.

M. Rooftop Walkways:

1. Unistrut Corporation - Wayne, MI.

system manufacturer.

- c. All joint sealant is to be a one-part elastomeric polyurethane sealant approved by the metal roof system manufacturer.

2.03 FABRICATION

- A. Material shall be in-line tension leveled prior to roll forming finished panel profile.
- B. Where possible, roll form panels in continuous lengths, full length of detailed runs.
- C. Standard panel length shall be no more than 45 feet long (for longer length availability, contact manufacturer).
- D. Fabricate trim/flashing and accessories to detailed profiles.
- E. Fabricate trim/flashing from same material as panel.
- F. Snap-on battens shall have a factory applied hot-melt mastic. (# Small Batten and High Batten only)
- G. Panel clips shall have a factory applied hot-melt mastic. (# Small Batten and High Batten only)

2.02 Miscellaneous Materials

A. Fasteners:

1. All self-tapping/self-drilling fasteners, bolts, nuts, self-locking rivets and other suitable fasteners shall be designed to withstand specified design loads.
 - a. Use Construction Fasteners, Inc. long life ZAC fasteners or equal for all interior and exterior metal roof system applications.
 - b. Provide fasteners with a factory applied coating in a color to match metal roof system application.
 - c. Provide neoprene washers under heads of exposed fasteners.
 - d. Locate and space all exposed fasteners in a true vertical and horizontal alignment. Use proper torque settings to obtain controlled uniform compression for a positive seal without rupturing the neoprene washer.

B. Accessories:

1. Provide all components required per the metal roof system manufacturer's approved shop drawings for a complete metal roof system to include panels, panel clips, battens, trim/flashing, fascias, ridge, closures, sealants, fillers and any other required items.
 - a. All outside closures will be fabricated from Galvalume sheet steel of the same gauge, finish and color as the panels.
 - b. All tape seal is to be a pressure sensitive, 100 percent solids, polyisobutylene compound sealing tape with a release paper backing. Provide permanently elastic, non-sagging, non-toxic, non-staining tape seal approved by the metal roof

2.04 PREFABRICATED CURBS AND EQUIPMENT SUPPORTS

- A. Comply with loading and strength requirements as indicated where units support work of other trades. Coordinate dimensions of curbs and supports with equipment supplier/manufacturer.
- B. Fabricate curbs of structural quality aluminum or Galvalume sheet, with mitered and welded corner joints, factory primed and prepared for painting. Provide integral base plates and water diverters/crickets. Front base plate must be a minimum of 15 inches from beginning of diverer/cricket to the end of the base plate. Curbs shall be designed to install under metal roof system on the high side and over metal roof system on the low side.
- C. Minimum height of prefabricated curb will be 8 inches above the finished metal roof system.
- D. Curbs shall be constructed to match the slope of the roof and provide a level top surface for mounting equipment.
- E. Curb flanges must be constructed to match the configuration of the metal roof panels.
- F. Coordinate the size of the curbs with the mechanical contractor prior to fabrication.
- G. Submit roof curb manufacturer's shop drawings to metal roof system manufacturer for review prior to fabrication (refer to metal roof system manufacturer's standard installation details). Metal roof system manufacturer will review roof curb manufacturer's shop drawings for compatibility with metal roof system.



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2.05 PREFABRICATED ROOF JACKS

A. Through-the-roof pipe flashings shall be "MASTER FLASH", manufactured by Construction Fasteners, Inc. Pipe flashings shall be a one piece [# choose one: EPDM (ethylene propylene diene monomer - for standard applications), neoprene (for exposure to petrochemicals) or silicone (for high temperature applications)] molded rubber boot having a serviceable temperature range of [# choose one: -65°F to 250°F (EPDM), -45°F to 250°F (neoprene) or -100°F to 450°F (silicone)] and shall be resistant to ozone and ultraviolet rays. Units shall have an aluminum flanged base ring that can be bent to conform to the roof panel contour. Do not install through-the-roof pipes or pipe flashings through any panel seams - install ONLY in the flat portion of the panel.

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

- A. Examination:
1. Inspect installed work of other trades and verify that such work is complete to a point where this work may continue.
2. Verify that installation may be made in accordance with approved shop drawings and manufacturer's instructions.
B. Discrepancies:
1. In event of discrepancy, notify the architect (owner).
2. Do not proceed with installation until discrepancies have been resolved.

3.02 INSTALLATION

- A. Install metal roof system so that it is weathertight, without waves, warps, buckles, fastening stresses or distortion, allowing for expansion and contraction.
B. Install metal roof system in accordance with manufacturer's instructions and shop drawings.
C. Provide concealed anchors at all panel attachment locations.
D. Install panels plumb, level and straight with seams parallel, conforming to design as indicated.

3.03 ROOF CURB INSTALLATION

A. Comply with metal roof system manufacturer's shop drawings, instructions and recommendations for installation of roof curbs. Refer to metal roof system manufacturer's standard installation details. Anchor curbs securely in place with provisions for thermal and structural movement.

3.04 CLEANING, PROTECTION

- A. Dispose of excess materials and remove debris from site.
B. Clean work in accordance with manufacturer's recommendations.
C. Protect work against damage until final acceptance. Replace or repair to the satisfaction of the architect (owner), any work that becomes damaged prior to final acceptance.
D. Touch up minor scratches and abrasions with touch up paint supplied by the metal roof system manufacturer.

END OF SECTION

DISCLAIMER: MBCI makes no warranty, express or implied, as to the merchantability or fitness for any particular purpose of any product not manufactured by MBCI. If you choose to use a product not manufactured by MBCI, as defined herein, you take the product as is and at your own risk.

Descriptions and specifications contained herein were in effect at the time this publication was approved for printing. MBCI reserves the right to discontinue products at any time or change specifications and/or designs without notice and without incurring obligation.

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