



DOUBLE-LOK[®] OVER "R" PANEL

Technical/Installation Information

IMPORTANT NOTICE

READ THIS MANUAL COMPLETELY PRIOR TO BEGINNING THE INSTALLATION OF THE DOUBLELOK® OVER “R” PANEL ROOFING SYSTEM.

ALWAYS INSPECT EACH AND EVERY PANEL AND ALL ACCESSORIES BEFORE INSTALLATION. NEVER INSTALL ANY PRODUCT IF ITS QUALITY IS IN QUESTION. NOTIFY MBCI IMMEDIATELY IF ANY PRODUCT IS BELIEVED TO BE OUT OF TOLERANCE, SPECIFICATION OR HAS BEEN DAMAGED DURING SHIPMENT.

IF THERE IS A CONFLICT BETWEEN PROJECT ERECTION DRAWINGS PROVIDED OR APPROVED BY THE MANUFACTURER AND DETAILS IN THIS MANUAL, PROJECT ERECTION DRAWINGS WILL TAKE PRECEDENCE.

The Engineering data contained herein is for the expressed use of customers and design professionals. Along with this data, it is recommended that the design professional have a copy of the most current version of the North American Specification for the Design of Cold-Formed Steel Structural Members published by the American Iron and Steel Institute to facilitate design. This Specification contains the design criteria for cold-formed steel components. Along with the Specification, the designer should reference the most current building code applicable to the project jobsite in order to determine environmental loads. If further information or guidance regarding cold-formed design practices is desired, please contact the manufacturer.

Descriptions and specifications contained herein were in effect at the time this publication was approved for printing. In a continuing effort to refine and improve products, MBCI reserves the right to discontinue products at any time or change specifications and/or designs without incurring obligation. To ensure you have the latest information available, please inquire or visit our website: mbci.com. Application details are for illustration purposes only and may not be appropriate for all environmental conditions, building designs, or panel profiles. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices. Insulation is not shown in these details for clarity.

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Double-Lok® Over "R" Panel

GENERAL INFORMATION

DESIGN INFORMATION

1. The new Double-Lok® roof can be installed over an existing "R" panel roof with minimal alterations. The Double-Lok® 2" standoff clip is fastened through the existing "R" panel and into the existing purlin, holding the flat of the Double-Lok® panel 2" above the purlins and ¾" above the major ribs of the existing "R" panel roof.
2. Because of the clearances outlined above, the cavity between the old and new roofs can be vented or additional insulation can be added during installation of the new Double-Lok® roof. Venting the cavity can be a good option when the existing roof slope is 3:12 or greater as this allows for convective air flow during the summer and can help reduce the chance of ice damming in the winter.
3. 24" wide Double-Lok® panels are used to keep the Double-Lok® clips in between the major ribs of the existing "R" panel roof. However, if the existing "R" panel roof is severely out of module and the Double-Lok® clips begin to foul the "R" panel major ribs, an 18" wide Double-Lok® panel can be installed to allow the Double-Lok® clips to again fall in between the "R" panel major ribs. The existing roof should be surveyed ahead of time to determine if 18" wide Double-Lok® panels may be needed.
4. The new Double-Lok® roof system will add approximately 1½" lbs per square foot to the existing roof structure. A registered professional engineer should be consulted to determine if the existing structure can safely support the additional loads.
5. It should be recognized that the existing roof was probably installed in a time when the building codes were less strenuous than they are currently. The current codes should be reviewed and the new roof engineered to meet these codes. That may result in the need for tighter purlin spacing in the edge zones of the roof as most older buildings were built with a 5' purlin spacing throughout. See pages DLRF-8 and DLRF-9 showing how to install a Retro-Fit clip zee on top of the existing "R" panel roof to allow for clip spacings of less than 5' in the edge zones.
6. The Double-Lok® installation manual must be used in conjunction with this manual to insure proper installation of the new roof.
7. All details shown in this manual have been detailed based on "R" panel walls. If different wall panels and/or wall conditions exist, then some trim conditions shown may require special trim or additional parts to be purchased.

WARNING

As with all standing seam roof systems, sound attenuation (example: blanket insulation) should be installed between the panels and open framing, such as purlins or joists, to prevent "roof rumble" during windy conditions.

Applications over solid deck such as rigid insulation over a metal deck or a wood deck may require additional acoustical consideration to ensure that thermal vibration noises are isolated from the building interior. This is especially important if the bottom of the deck is left open to the interior or in cathedral ceiling applications.

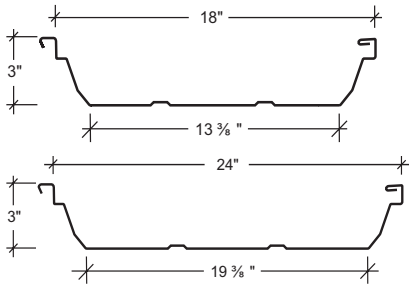
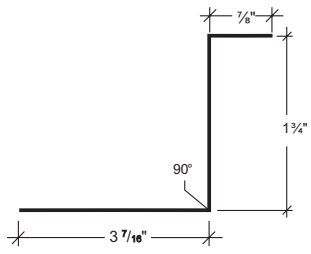
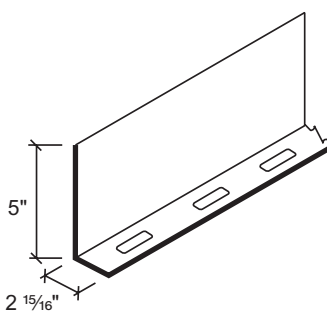
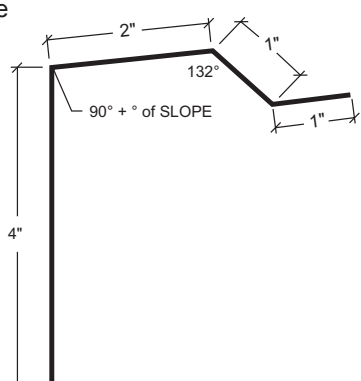
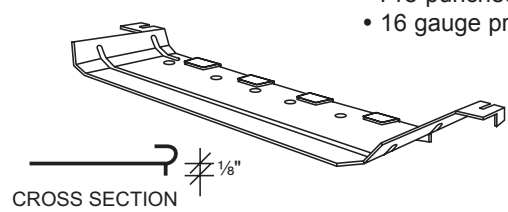
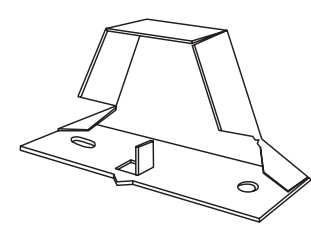
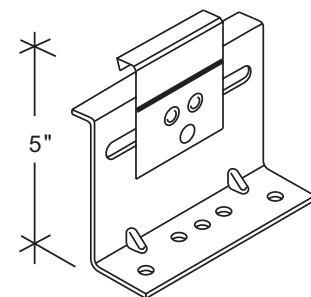
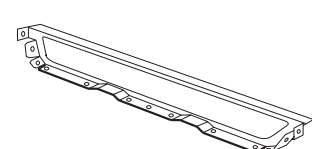
A vapor retarder may be necessary to protect roofing components when high humidity is a factor. The need for a vapor retarder, as well as the type, placement and location should be determined by an architect or engineer. The following are examples of conditions that may require a vapor retarder: (A) a project where outside winter temperatures below 40 degrees F. are anticipated and where average winter interior relative humidity of 45% or greater is expected. (B) building usages with high humidity interiors such as indoor swimming pools, textile manufacturing operations, food, paper or other wet-process industrial plants. (C) Construction elements that may release moisture after the roof is installed, such as interior concrete, masonry or plaster work and fuel burning heaters.

Double-Lok® Over "R" Panel



GENERAL INFORMATION

PRODUCT CHECKLIST

Double-Lok® Panel • 24 or 22 gauge • Factory-applied mastic • Pre-punched  18" ☐ 24" ☐	Double-Lok® Retro-Fit Clip Zee • 10'-6" length • Used at edge zones • Available in 14 gauge  HW-4657 ☐
2" Standoff Rake Support • 20'-0" length • 14 gauge painted  HW-7664 ☐	Double-Lok® Retro-Fit Eave Angle • 8'-0" length • Galvanized • Available in 16, 14 & 12 gauge  HW-4658 ☐
Back-Up Plate - Modified (24" or 18") • For use at endlaps and at the ridge • Pre-punched • 16 gauge prepainted  CROSS SECTION HW-7760 (24") ☐ HW-7769 (18") ☐	Inside Closure • 18 gauge Galvalume • For use at eave  METAL HW-426 ☐
2" Standoff, Sliding Clip (Hi-Thermal)  HW-2129 ☐	Outside Closure (24" or 18") • For use at ridge, or high eave • 24 gauge • Painted to match roof color  HW-430 (24") ☐ HW-432 (18") ☐

NOTE: All trim to be 26 gauge material unless noted

SUBJECT TO CHANGE WITHOUT NOTICE

SEE mbci.com FOR CURRENT INFORMATION

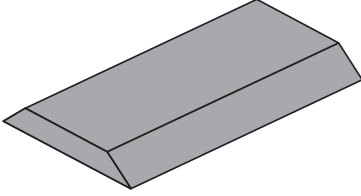
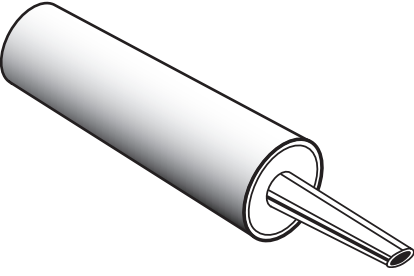
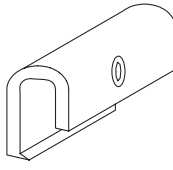
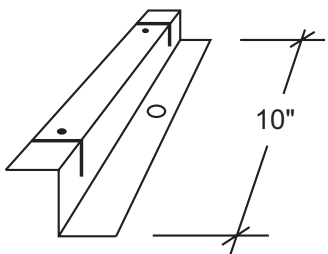
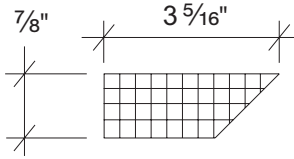
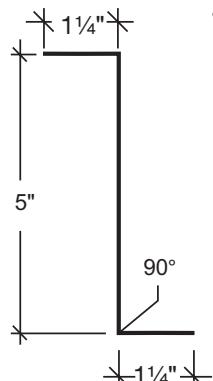
DLRF-3



Double-Lok® Over "R" Panel

GENERAL INFORMATION

PRODUCT CHECKLIST

Tape Sealer • Used at the Retro-Fit eave angle, outside closures, endlaps and trim connections  Tri-Bead 3/16" x 7/8" x 25' HW-504 ☐ • Used at roof curbs  Triple Bead 3/16" x 2 1/2" x 20' HW-502 ☐	Tape Sealer - Minor Rib Pre-Cut Beveled 7/32" x 1 3/8" x 4"  • Used to fill void at the minor ribs of the panel at the eave and valleys HW-512 ☐
Urethane Sealant  White - HW-540 ☐ Gray - HW-541 ☐ Bronze - HW-542 ☐ Almond - HW-544 ☐	S-5!™ Double-Lok® Wind Clamp  • Used at clip locations to provide additional panel uplift capacity • Clamp usage to be determined by a registered professional engineer HW-589 ☐
Gutter Strap • 18 Gauge  10" FL-246 ☐	Plastic Vent Material • Used at low eave or high eave when venting roof cavity  7/8" 3 5/16" HW-530 ☐ Double-Lok® Retro-Fit Furring Zee  1 1/4" 5" 90° 1 1/4" • Use at Rake when using variable termination trim • 24 Gauge FL-365 ☐

PRODUCT CHECKLIST

PERFORATED

1"

1"

3 1/4"

1/2"

1"

The drawing shows a bent plate with a 90-degree bend. The horizontal leg has a total length of 3 1/4 inches, with a 1-inch segment at the left end. The vertical leg has a height of 1 inch. The plate is bent at a 90-degree angle, and the top surface is labeled 'PERFORATED'. A dashed line indicates the original straight position of the plate. Dimensions are given in inches.

Technical drawing of a 90-degree elbow. The drawing shows a horizontal pipe section on the right and a vertical pipe section on the left, meeting at a 90-degree angle. The horizontal section is dimensioned as 9" and the vertical section as 3/4". A label "COLOR" is present with a leader line pointing to the horizontal section.

Technical drawing of a roof truss. The drawing shows a cross-section of a roof with various dimensions and angles. Key dimensions include a top horizontal span of 1", a vertical height of 1/2", a horizontal distance of 4 3/4" from the left wall to the peak, a vertical height of 4 3/4" from the base to the peak, a horizontal distance of 5 1/2" from the left wall to the right wall, and a vertical height of A from the base to the right wall. Angles are specified as 90° at the top left, 156° at the left peak, 90° at the right peak, 102° at the bottom left, and 90° ± of Roof Pitch at the bottom right. The drawing also indicates a 90° - ° of Roof Pitch at the top right.

ROOF PITCH	DIM. A	LENGTH	PART NO
¼-4:12	6 5/16"	10'-2"	FL-240A 
¼-4:12	6 5/16"	10'-2"	FL-241A 
4 ¼-6:12	6 5/16"	10'-2"	FL-240B 
4 ¼-6:12	6 5/16"	20'-2"	FL-241B 

Technical drawing of a roof truss section. The drawing shows a cross-section of a roof with various dimensions and angles. Key dimensions include a horizontal span of 5 1/2", a vertical height of 13 3/4", and a base width of 2". Angles are specified as 156°, 102°, 90°, and 135°. The drawing also indicates a 5/8" dimension at the base and a 4 3/4" dimension on the left side. The word "COLOR" is written on the left side of the drawing.

Diagram of a roof truss showing dimensions and labels:

- Horizontal dimension: $2\frac{1}{2}$
- Vertical dimension: "A"
- Angle: 120°
- Label: COLOR
- Angle: 120°
- Horizontal dimension: $1\frac{1}{2}$

ROOF PITCH	DIM. A	LENGTH	PART NO
¼-2 ½:12	6 ½"	10'-2"	FL-213 
2 ⅞-4:12	7 ½"	10'-2"	FL-214 

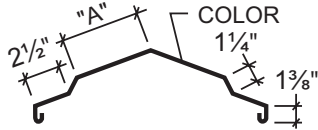


Double-Lok® Over "R" Panel

GENERAL INFORMATION

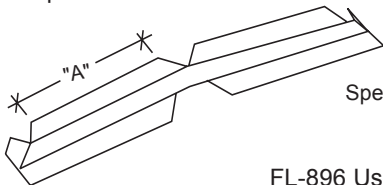
PRODUCT CHECKLIST

Vented Ridge Trim



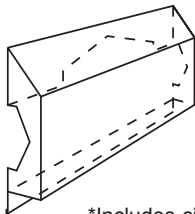
ROOF PITCH	DIM. A	LENGTH	PART NO
1/2-3 3/4:12	4 1/2"	10'-2"	FL-300 ☐
3 13/16-6:12	5 1/2"	10'-2"	FL-302 ☐
1/2-3 3/4:12	7 1/2"	10'-2"	FL-303 ☐
3 3/16-6:12	8 1/2"	10'-2"	FL-304 ☐

Ridge End Cap



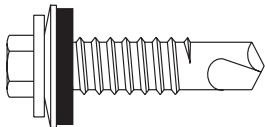
FL-896 Use with FL-213 ☐
FL-897 Use with FL-214 ☐

Floating Peak Box



FL-125* ☐
*Includes cinch angles and flexible membrane.

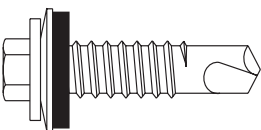
Fastener #1



1/4"-14 x 1" Driller
5/16" Hex Washer Head with 5/8" O.D. washer ☐

- Clip to purlin
- Retro-Fit furring zee to purlin
- Inside closure to retrofit eave angle
- Rake angle to purlin

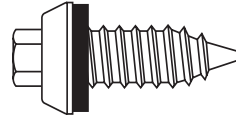
Fastener #1E



1/4" - 14 x 1 1/4" Long Life with #3 Drill Point
5/16" Hex Washer Head with EDPM washer ☐

- Panel to retrofit eave angle
- Rake trim to roof panel
- Endlap at Trapezoid
- Outside Closure at Trapezoid and Panel Seam

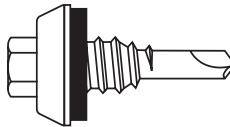
Fastener #2A



1/4"-14 x 7/8" Long Life AB
5/16" Hex Washer Head, EDPM Washer ☐

- Use in place of fasteners #1E and #4 at all stripouts

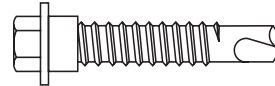
Fastener #4



1/4"-14 x 7/8" Lap TEK
5/16" Hex Washer Head, with 5/8" O.D. washer ☐

- Ridge and other flashing to outside closure
- Gutter to panel
- Gutter to strap
- Trim to trim connections

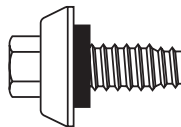
Fastener #5



1/4"-14 x 1 5/8" Shoulder with #3 Drill Point
5/16" Hex Washer Head ☐

- Rake support to rake angle

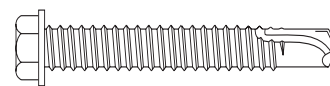
Fastener #46



1/4"-14 x 5/8" Long Life Type B
5/16" Hex Washer Head ☐

- Endlap at Prepunched Holes
- Outside Closures at Prepunched Holes

Fastener #1616



1/4"-14 x 2" Self Drilling #3 w/o washer ☐

- Retro-Fit eave angle to eave strut

Fastener #210



14 x 3" Deck Screw
#3 Phillips Truss Head ☐

GENERAL INFORMATION

PREPARATORY REQUIREMENTS

1. The eave of the existing "R" panel roof must be cut back so that it does not extend beyond the face of the building side wall.
2. A special retrofit eave angle, press broke to the existing roof pitch, must be installed at the eave.
3. A 2' x 4" angle and 2" standoff rake support angle [HW-7664] must be installed approximately 6" from the end wall steel line. **This will allow the Double-Lok® clips to fall between the existing "R" panel major ribs.**
4. You must use the Double-Lok® installation manual in conjunction with this manual to insure proper installation of the new roof.
5. The existing roof (eave to ridge) must be on plane (1/4" in 20' or 3/8" in 40' tolerance).
6. Field cutting of panels should be avoided when possible. If field cutting is required, the panels must be cut with nibblers, snips or shears to prevent edge rusting. **Do not cut the panels with saws, abrasive blades, grinders or torches.**
7. All details shown in this manual have been detailed based on "R" Panel Walls. If different wall panels and/or wall conditions exist, then some trim conditions shown may require special trim or additional parts to be purchased.

NOTE

It is the responsibility of the erector to install this roof using safe construction practices that are in compliance with OSHA regulations. MBCI is not responsible for the performance of this roof system if it is not installed in accordance with the instructions shown in this manual. Deviations from these instructions and details must be approved in writing by MBCI.

CAUTION

Diaphragm capabilities and purlin stability are not provided by MBCI's Double-Lok® roof system. Therefore, other bracing may be required.

CAUTION

The minimum recommended slope for the roof system is ¼ on 12. A slope of less than ¼ on 12 could cause severe ponding and will void material warranties.

CAUTION

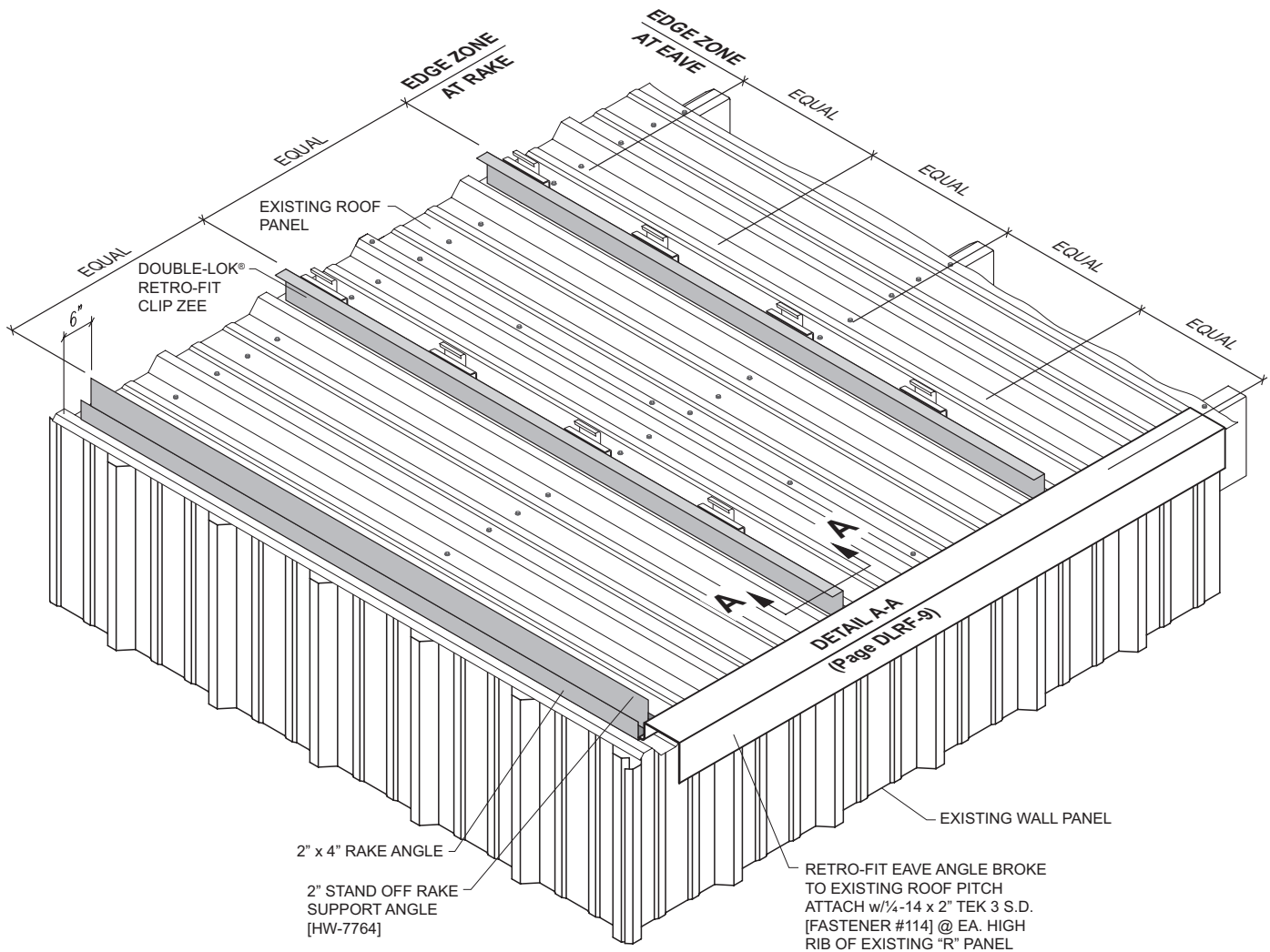
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Double-Lok® Over "R" Panel

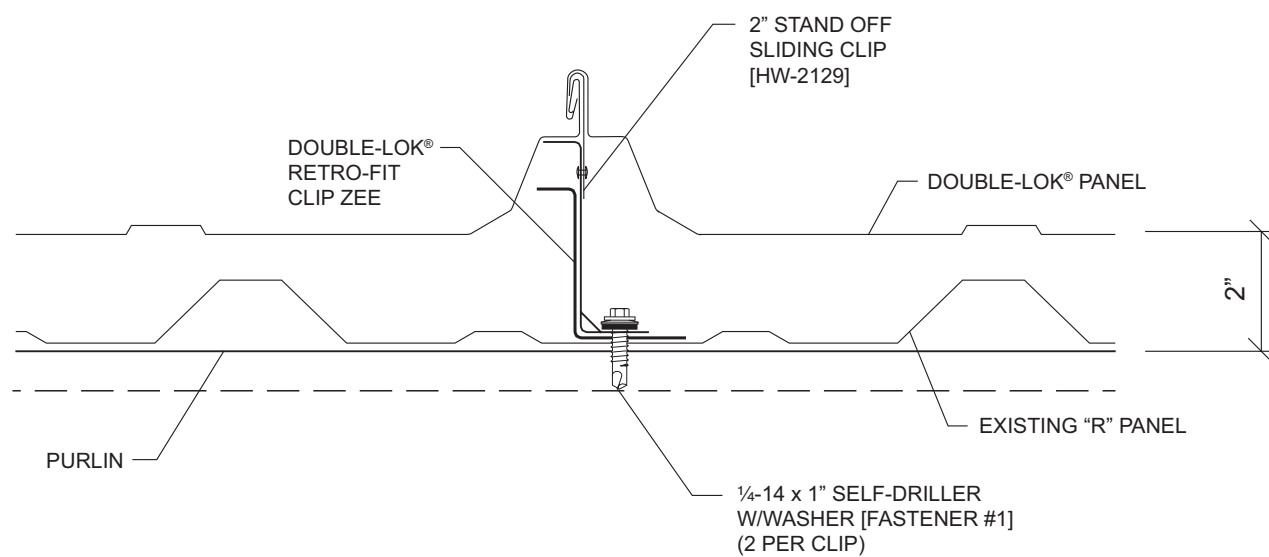
DETAILS

RETRO-FIT ISOMETRIC VIEW OF EDGE ZONE CONDITION



DETAILS

RETRO-FIT CLIP ATTACHMENT AT EDGE ZONE CONDITION



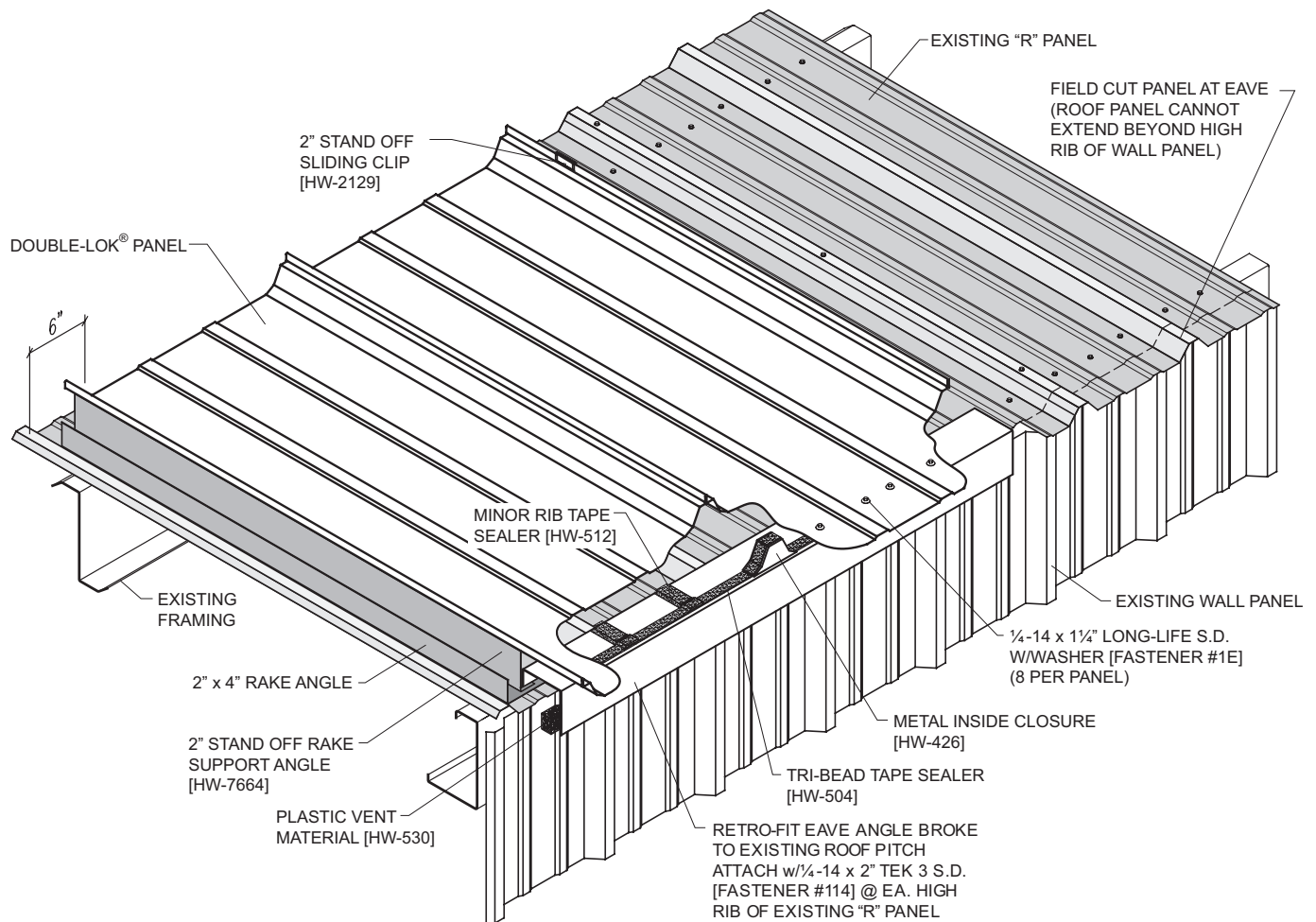
DETAIL A-A



Double-Lok® Over "R" Panel

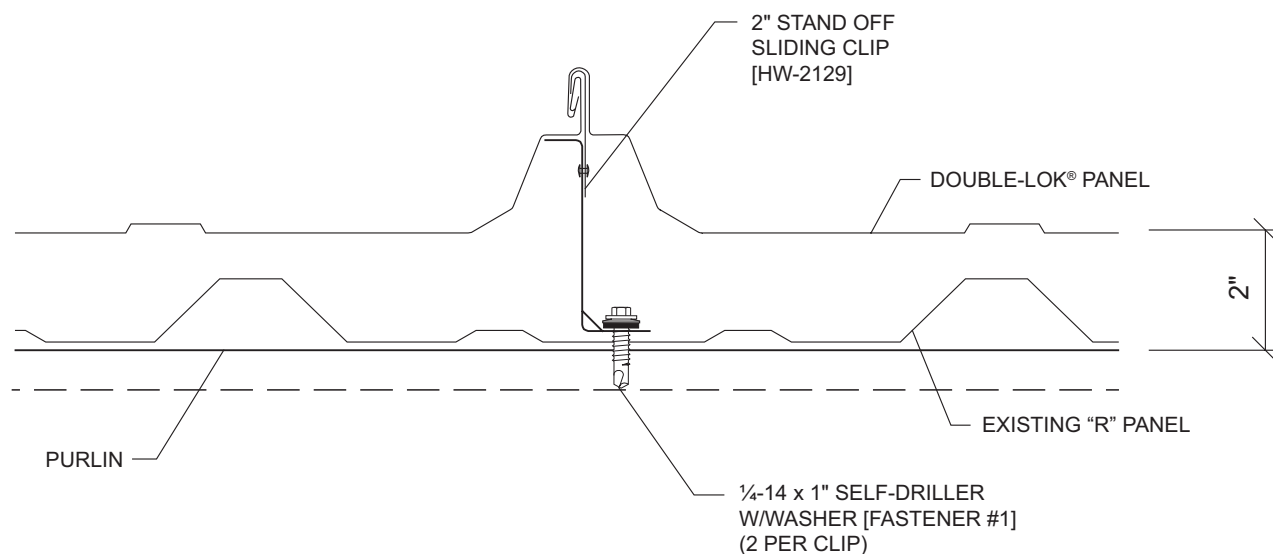
DETAILS

RETRO-FIT ISOMETRIC VIEW OF VENTED ROOF CAVITY



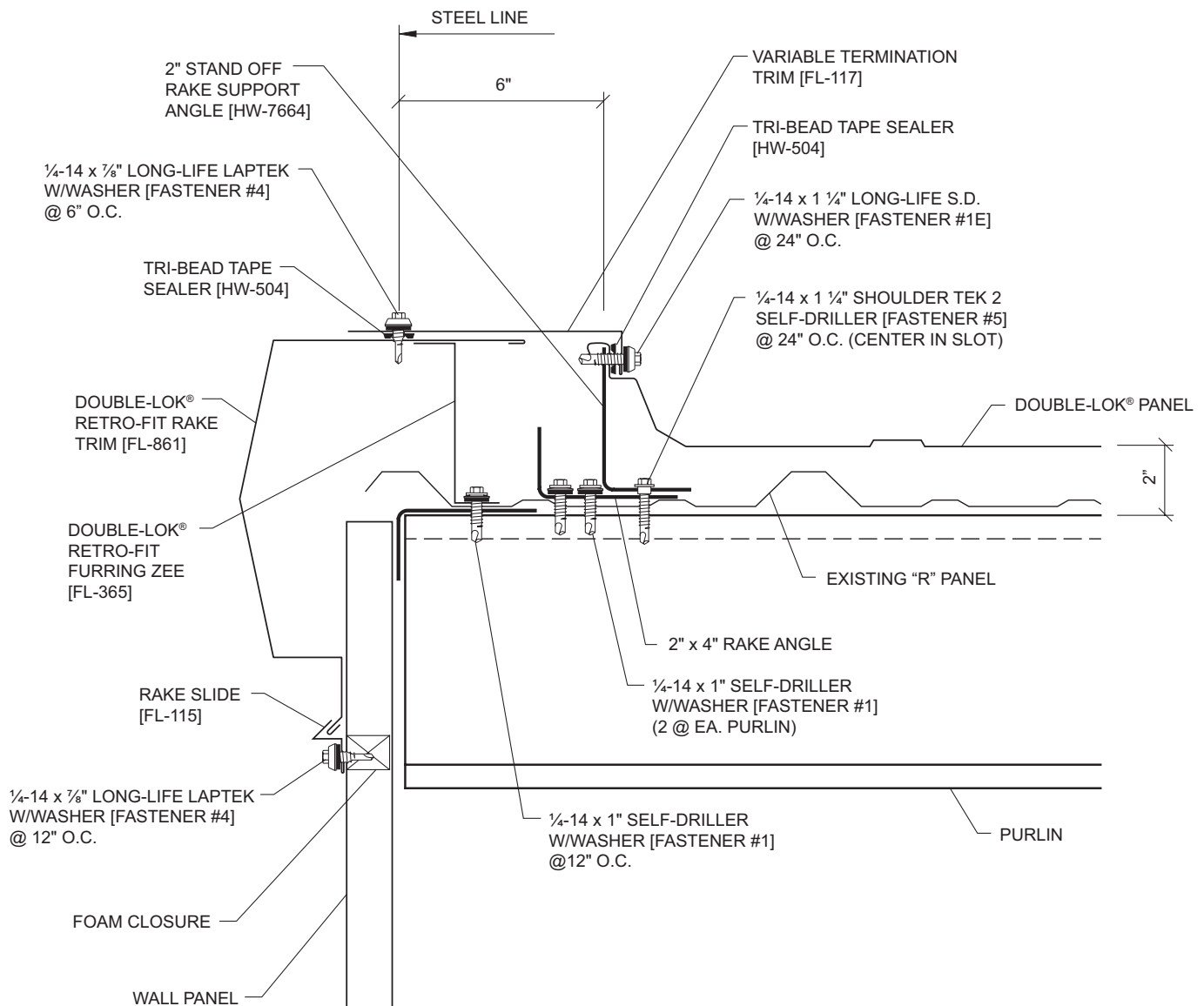
DETAILS

RETRO-FIT CLIP ATTACHMENT IN VENTED ROOF CAVITY



DETAILS

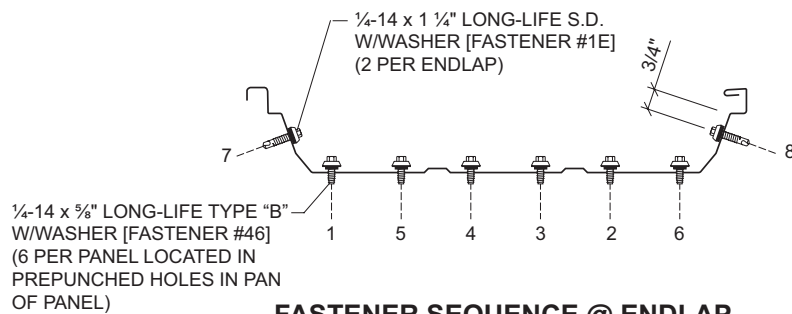
RETRO-FIT RAKE WITH VENTED ROOF CAVITY



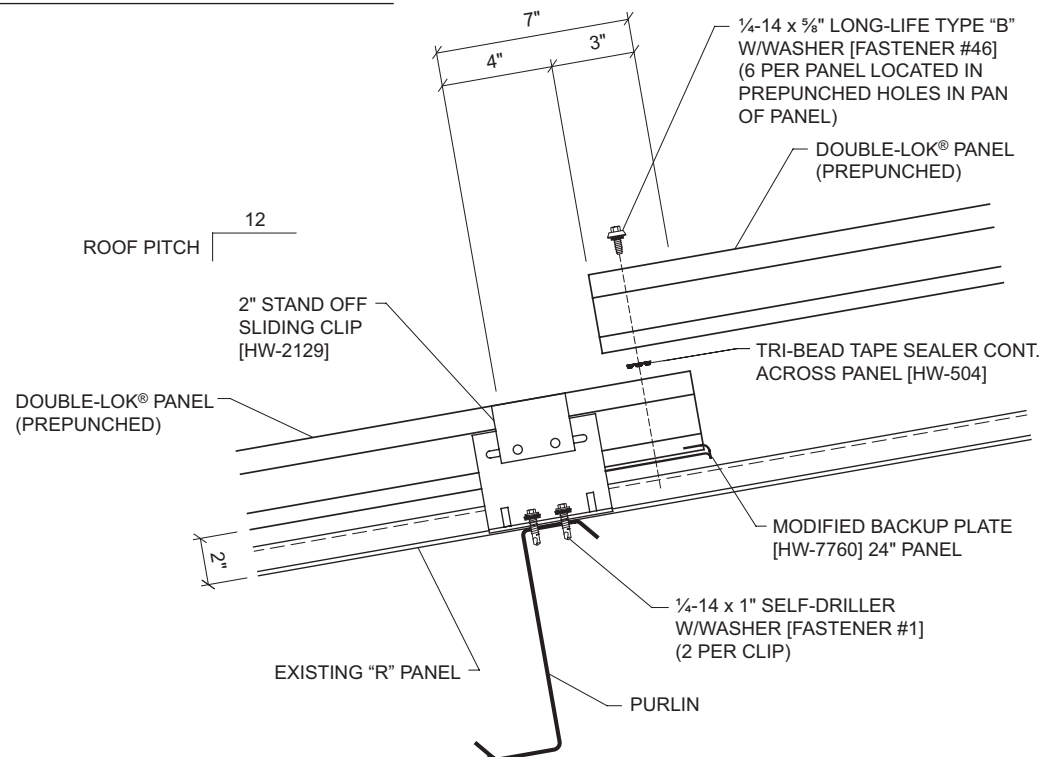
NOTE: For roof panel lengths less than 100'-0"

DETAILS

RETRO-FIT ENDLAP WITH VENTED ROOF CAVITY

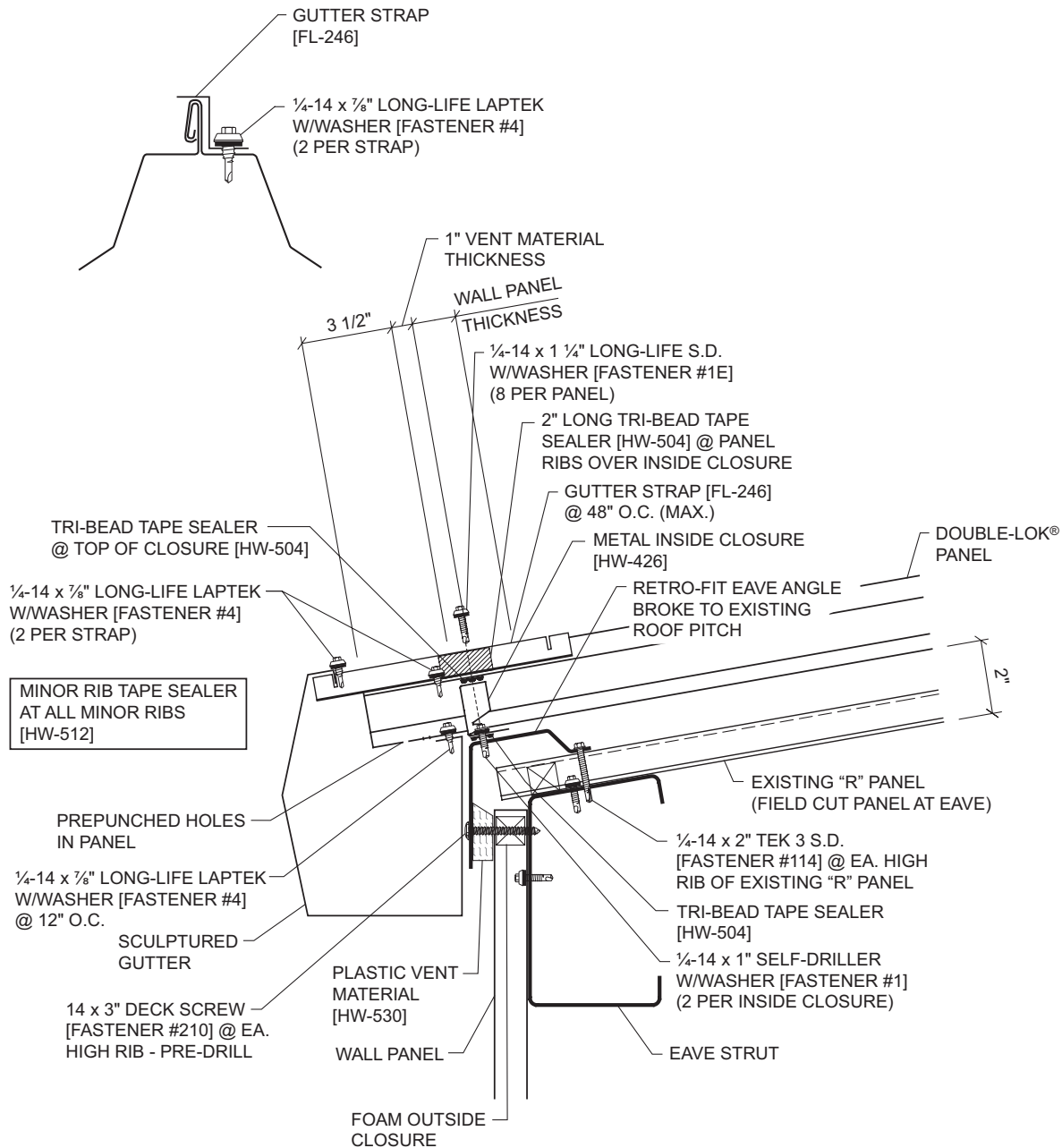


FASTENER SEQUENCE @ ENDLAP



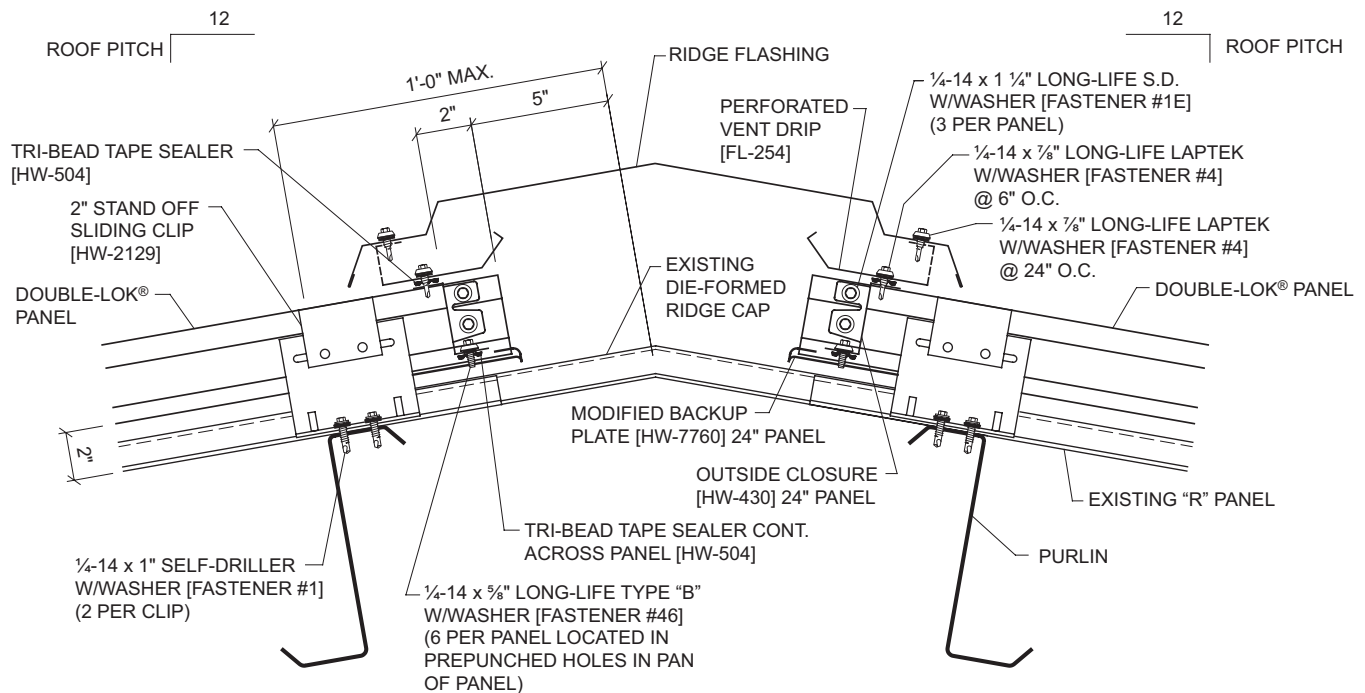
DETAILS

RETRO-FIT EAVE WITH VENTED ROOF CAVITY



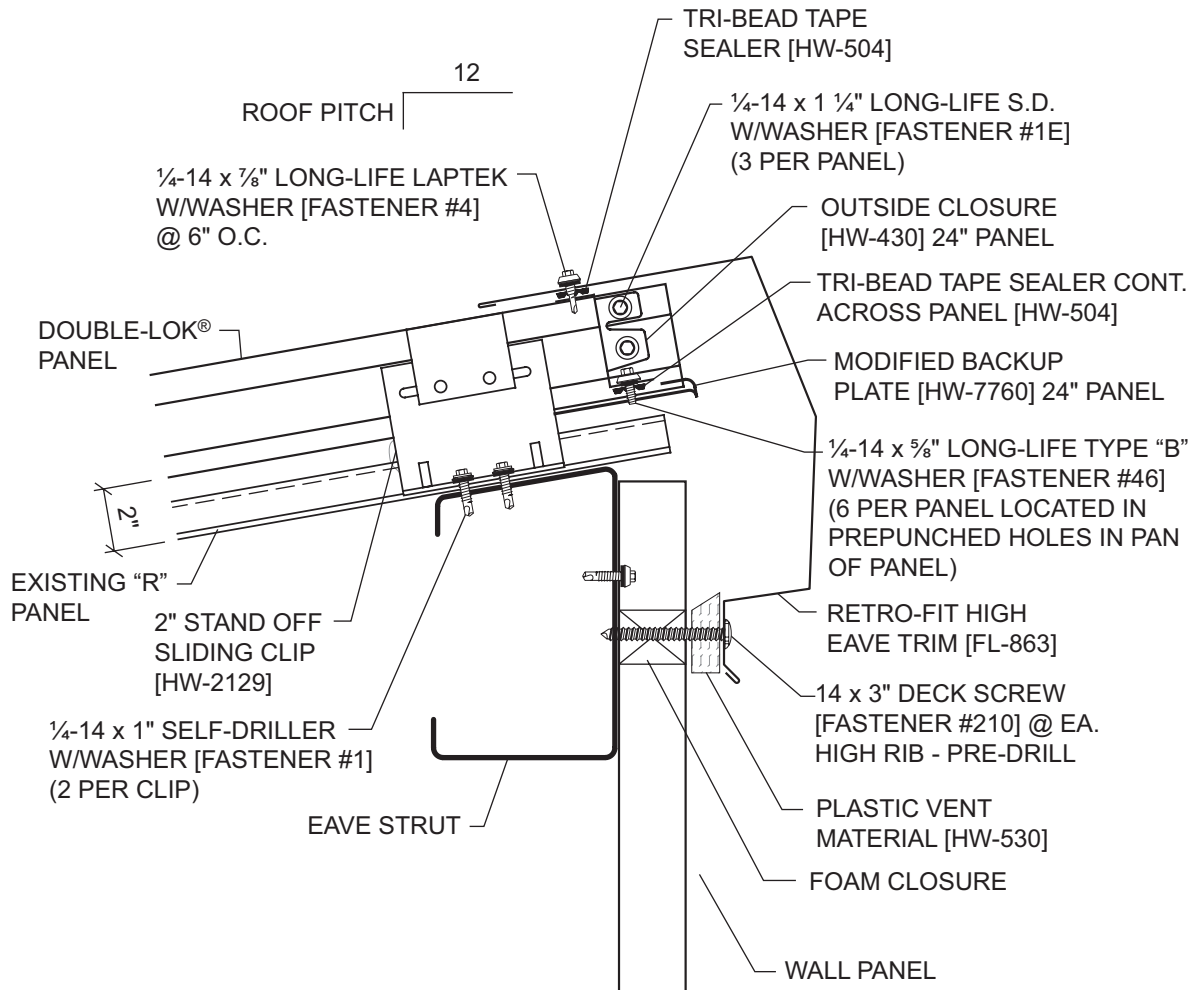
DETAILS

RETRO-FIT RIDGE WITH VENTED ROOF CAVITY



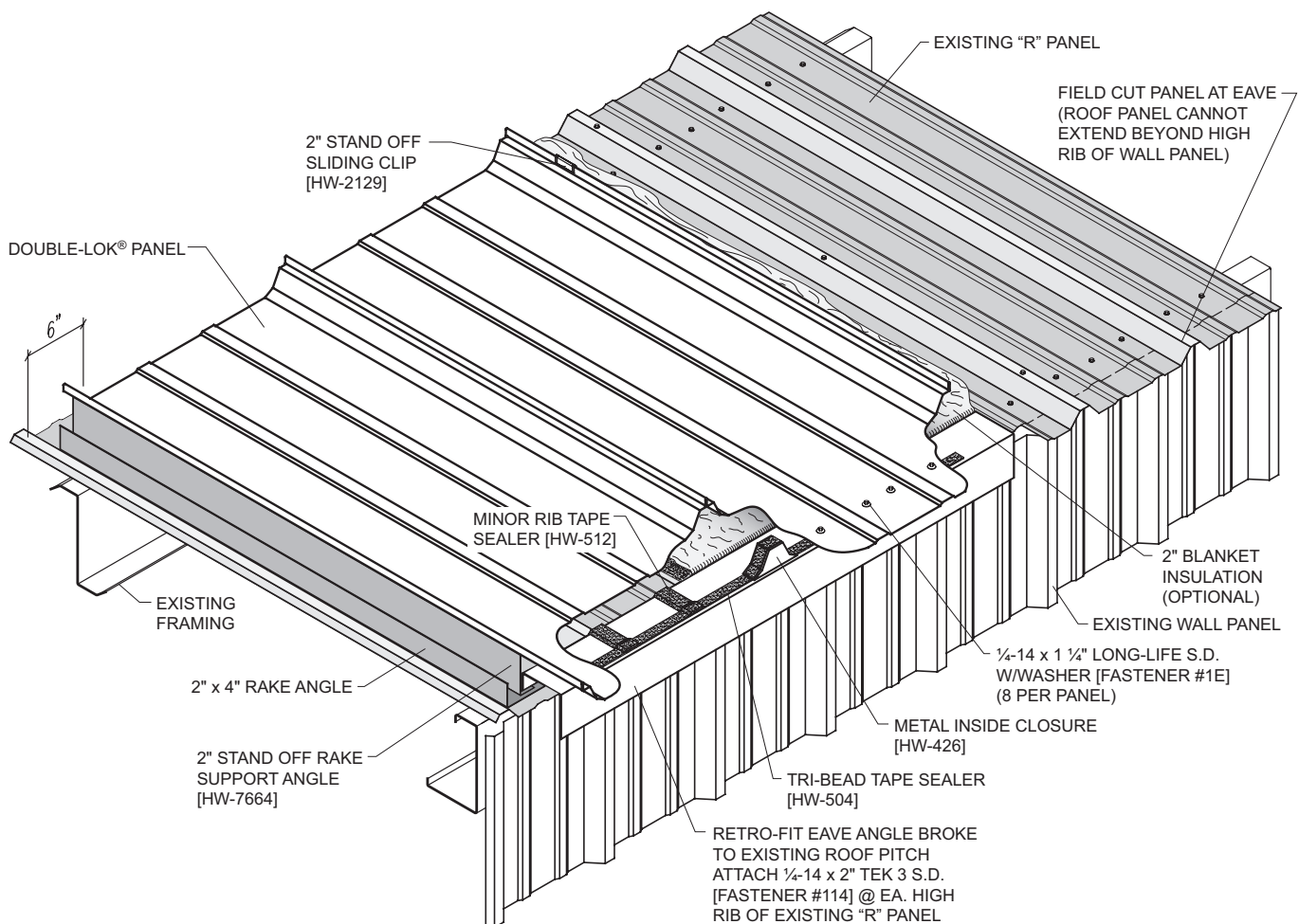
DETAILS

RETRO-FIT HIGH EAVE WITH VENTED ROOF CAVITY



DETAILS

RETRO-FIT ISOMETRIC VIEW OF INSULATED ROOF CAVITY

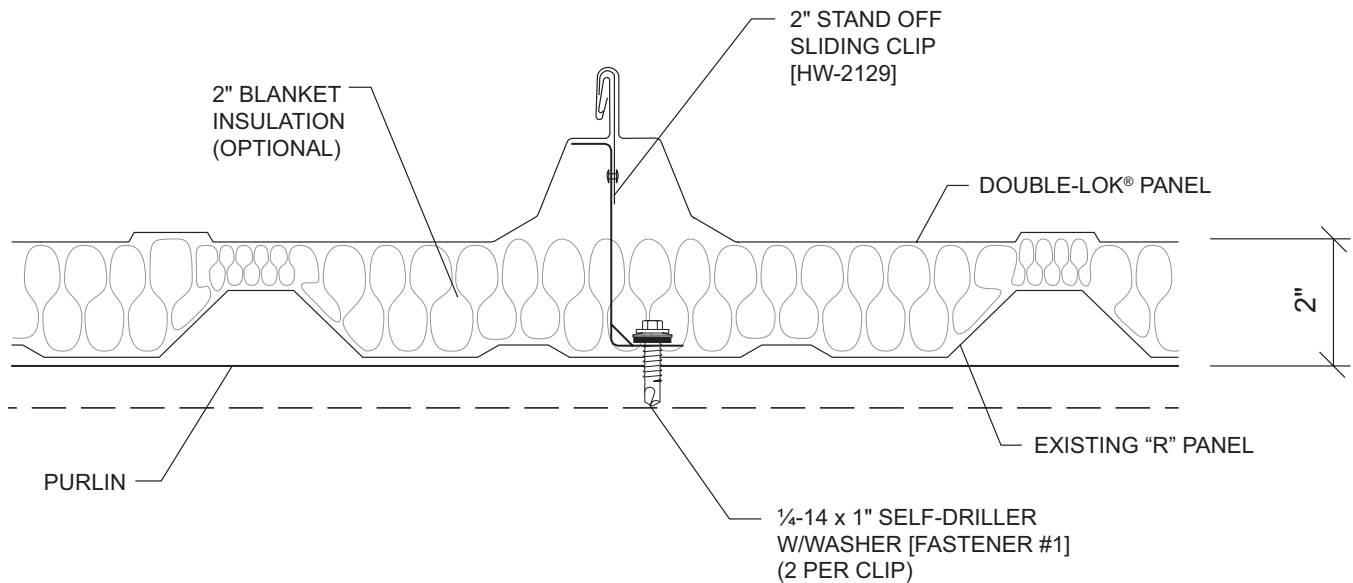




Double-Lok® Over "R" Panel

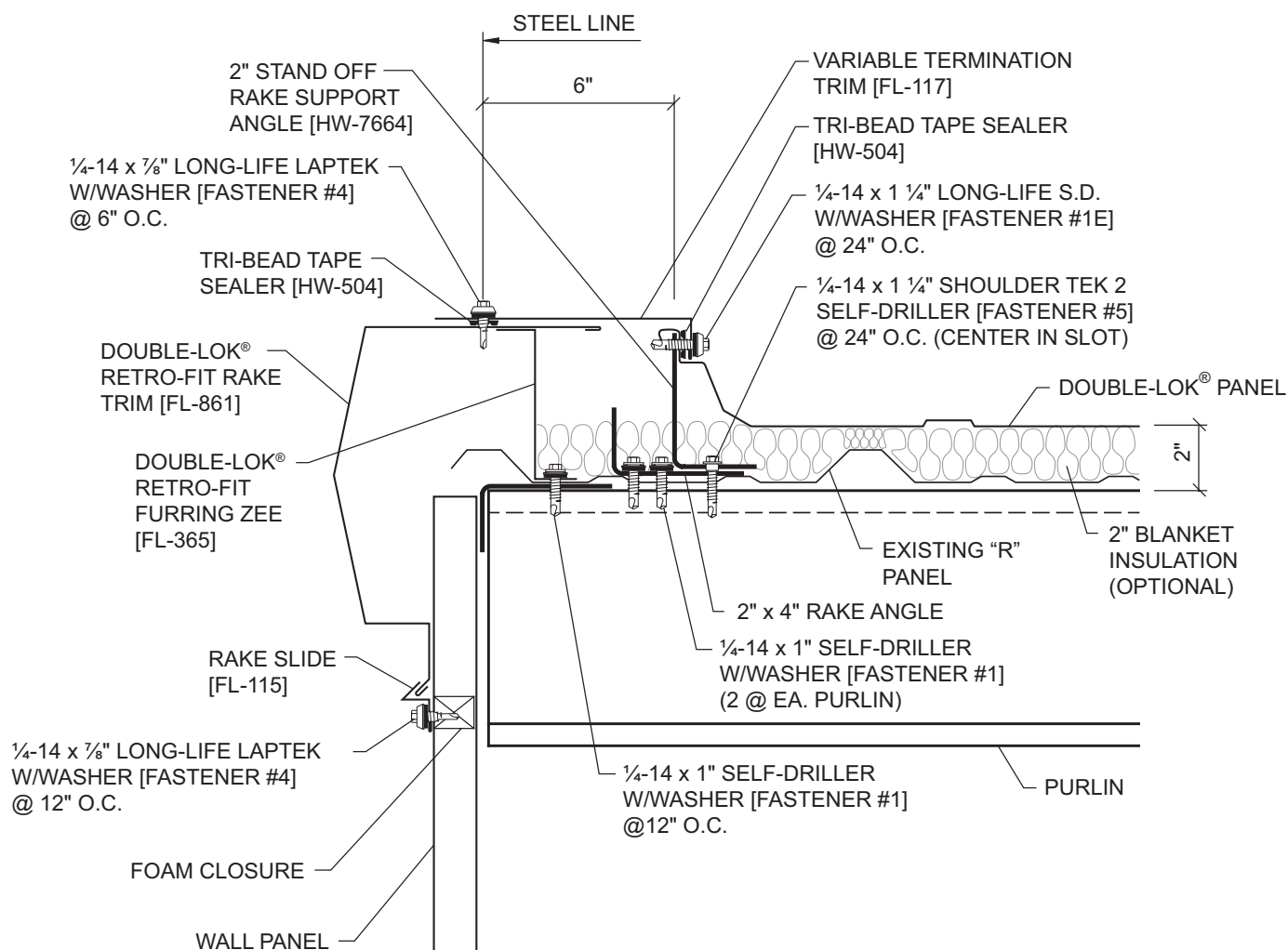
DETAILS

RETRO-FIT CLIP ATTACHMENT IN INSULATED ROOF CAVITY



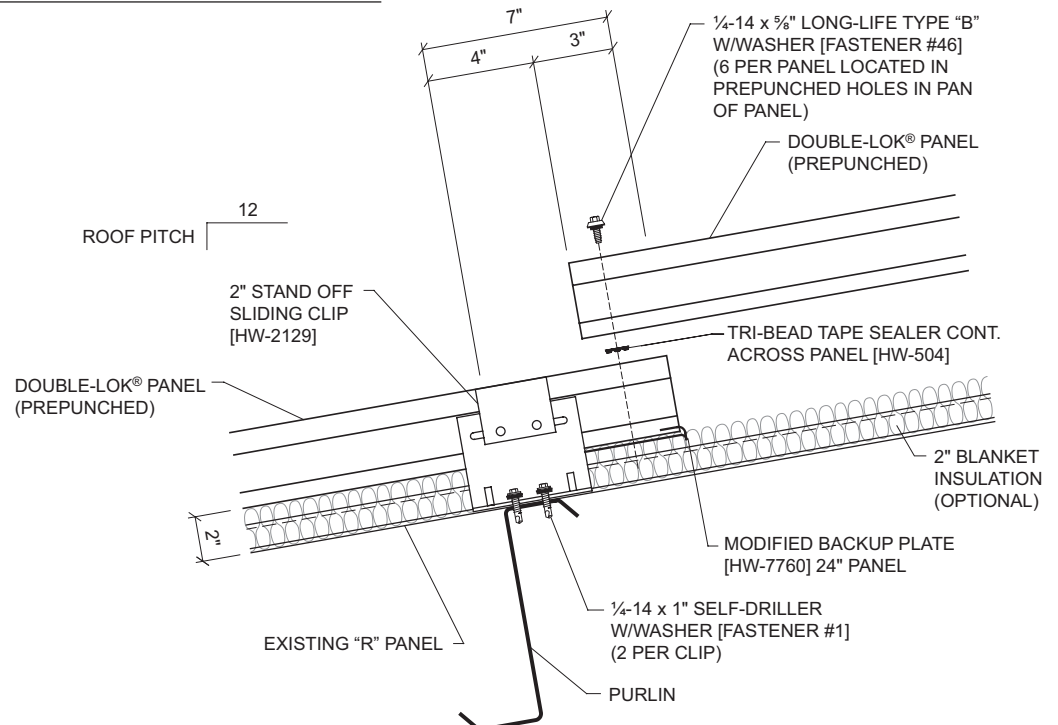
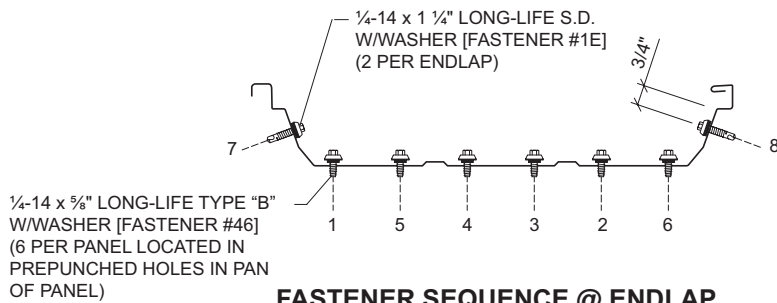
DETAILS

RETRO-FIT RAKE WITH INSULATED ROOF CAVITY



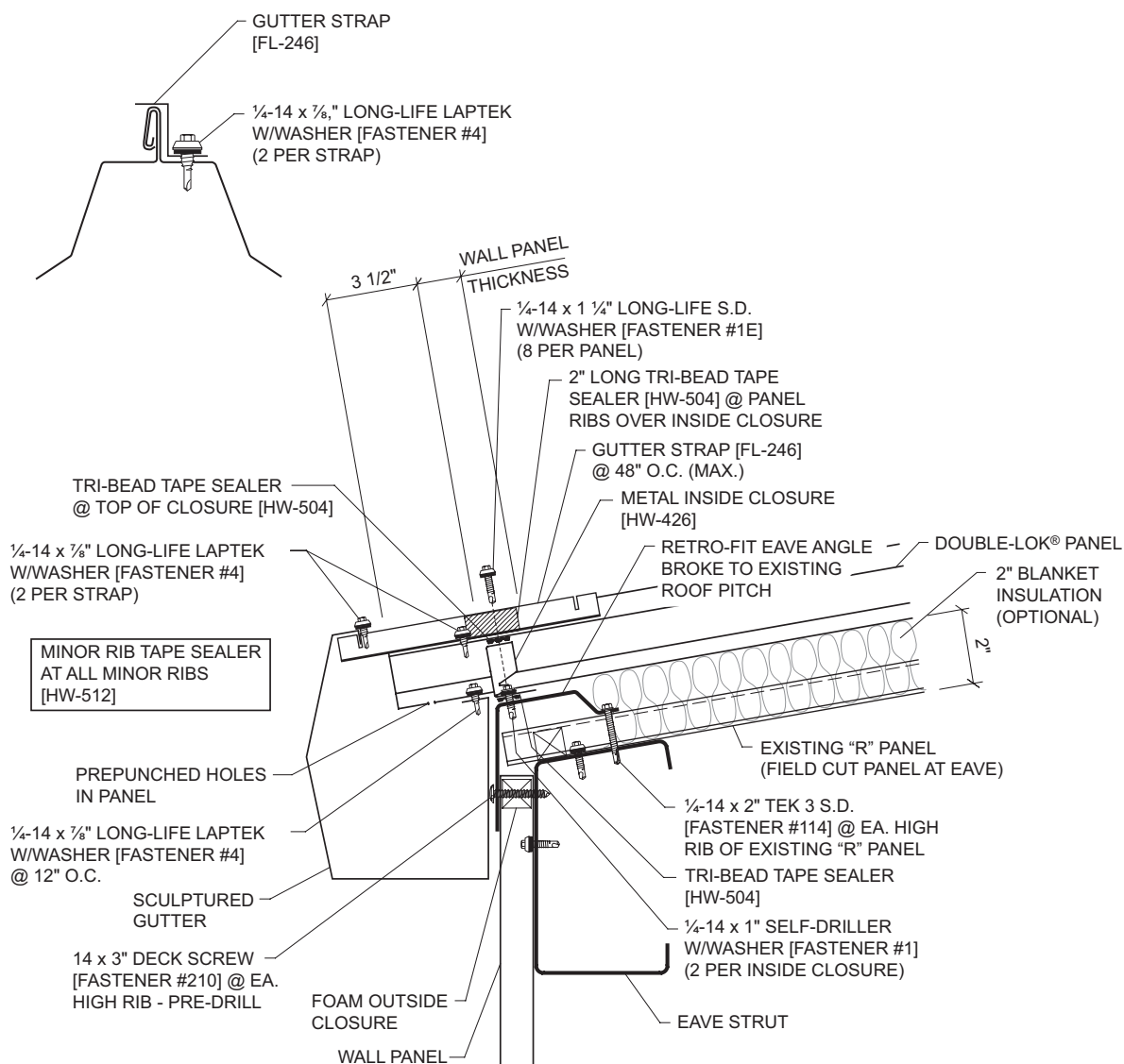
DETAILS

RETRO-FIT ENDLAP WITH INSULATED ROOF CAVITY



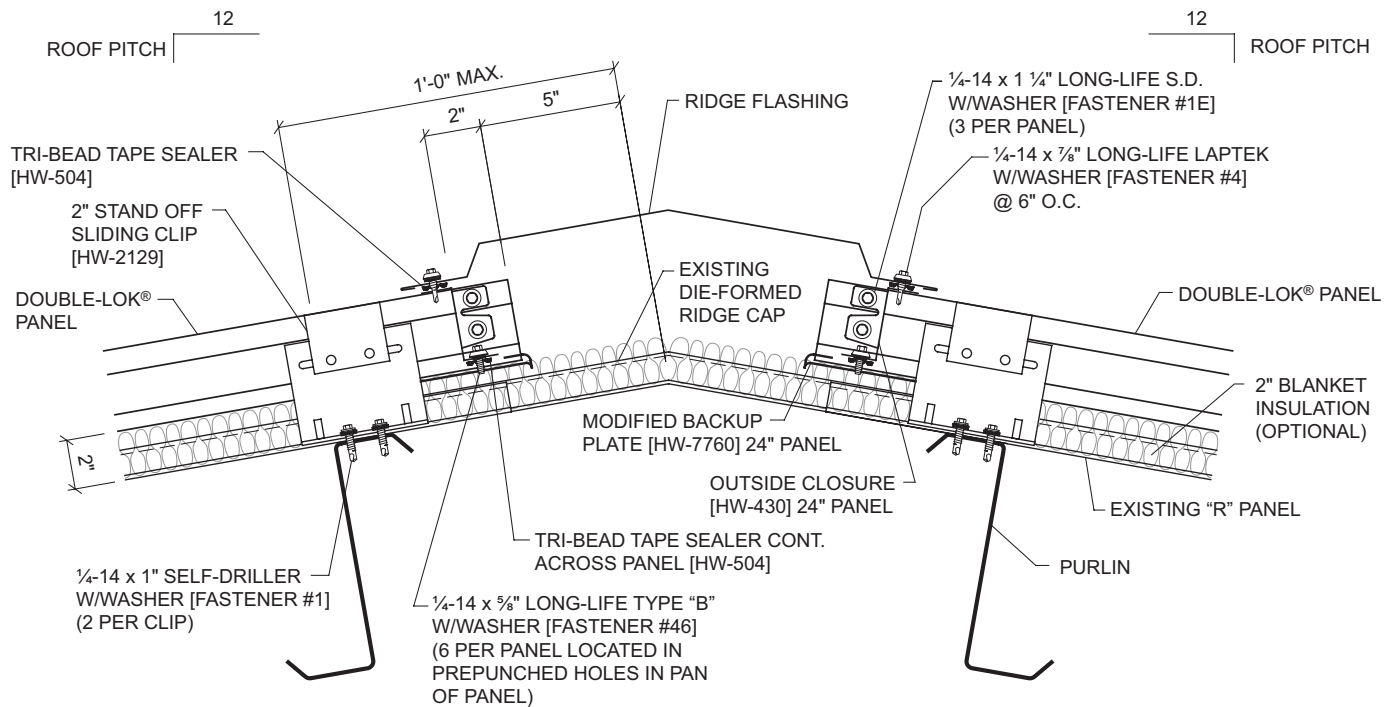
DETAILS

RETRO-FIT EAVE WITH INSULATED ROOF CAVITY



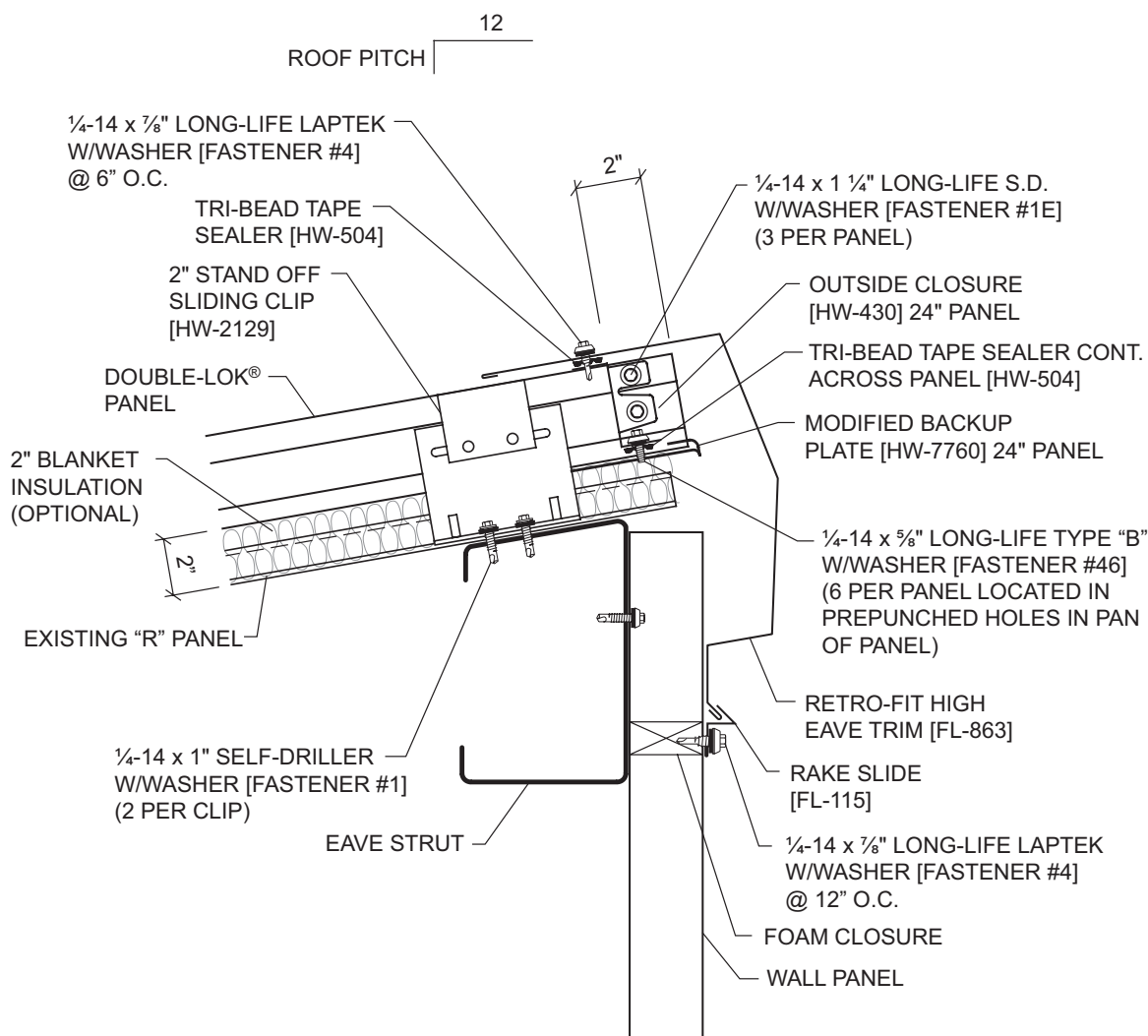
DETAILS

RETRO-FIT RIDGE WITH INSULATED ROOF CAVITY



DETAILS

RETRO-FIT HIGH EAVE WITH INSULATED ROOF CAVITY





Double-Lok[®] Over "R" Panel

NOTES

NOTES



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