

### 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.

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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 at www.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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## **GENERAL INFORMATION**

#### **DESIGN INFORMATION**

- 1. The new Double-Lok<sup>®</sup> roof can be installed over an existing "R" panel roof with minimal alterations. The Double-Lok<sup>®</sup> 2" standoff clip is fastened through the existing "R" panel and into the existing purlin, holding the flat of the Double-Lok<sup>®</sup> 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<sup>®</sup> 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<sup>®</sup> panels are used to keep the Double-Lok<sup>®</sup> 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<sup>®</sup> clips begin to foul the "R" panel major ribs, an 18" wide Double-Lok<sup>®</sup> panel can be installed to allow the Double-Lok<sup>®</sup> 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<sup>®</sup> panels may be needed.
- 4. The new Double-Lok<sup>®</sup> 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<sup>®</sup> 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.

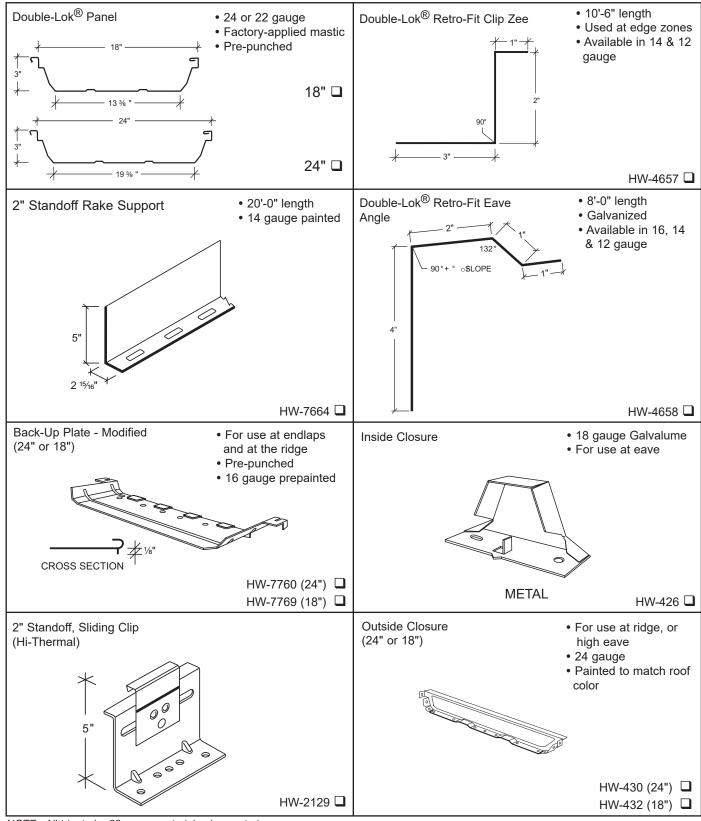
A vapor retarder may be necessary to protect roofing components when high humidity is a factor. The need for a vapor retarder, as well as the type, placement and location should be determined by an architect or engineer. The following are examples of conditions that may require a vapor retarder: (A) 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.

REV 00.01



## **GENERAL INFORMATION**

#### PRODUCT CHECKLIST

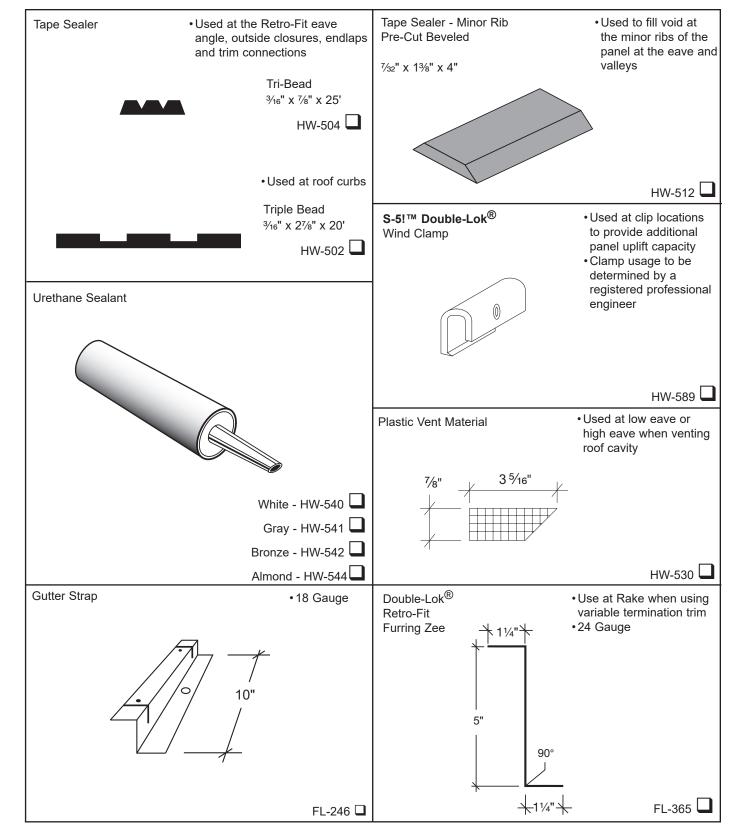


NOTE: All trim to be 26 gauge material unless noted



# **GENERAL INFORMATION**

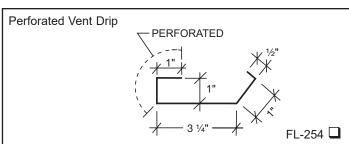
#### PRODUCT CHECKLIST



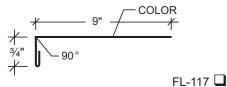


## **GENERAL INFORMATION**

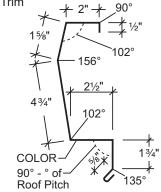
#### PRODUCT CHECKLIST



Veriable Termination



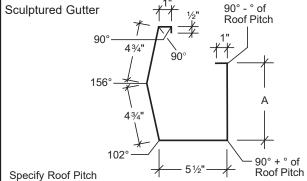
Sculptured Eave Trim



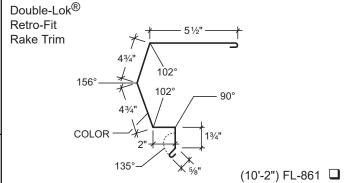
Specify Roof Pitch

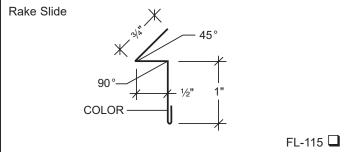
(10'-2") FL-250 •

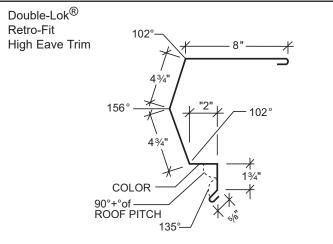
of Pitch (20'-2") FL-251 •



ROOF PITCH	DIM. A	LENGTH	PART NO
1/4-4:12	65/16"	10'-2"	FL-240A 🗖
1/4-4:12	65/16"	10'-2"	FL-241A 🔲
41⁄4-6:12	6 <sup>15</sup> ⁄16"	10'-2"	FL-240B 🗖
41⁄4-6:12	6 <sup>15</sup> ⁄16"	20'-2"	FL-241B 🗖



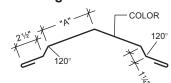




Specify Roof Pitch

(10'-2") FL-863 🖵

#### **Ridge Flashing**



 For use without ventilator 24"
 Peak purlin spacing

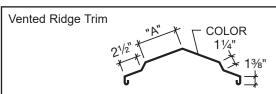
ROOF PITCH	DIM. A	LENGTH	PART NO
1/4-21/2:12	6½"	10'-2"	FL-213 🗖
2%16-4:12	7½"	10'-2"	FL-214 🗖

DLRF-5

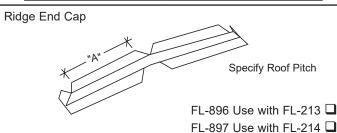


## **GENERAL INFORMATION**

#### PRODUCT CHECKLIST



R	ROOF PITCH	DIM. A	LENGTH	PART NO
	1/2-33/4:12	41/2"	10'-2"	FL-300 🗖
	313/16-6:12	5½"	10'-2"	FL-302 🗖
	1/2-33/4:12	7½"	10'-2"	FL-303 🗖
	313/16-6:12	81/2"	10'-2"	FL-304 🗖

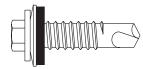


Floating Peak Box



FL-125\* The strict of the FL-125 FL-1

Fastener #1

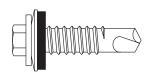


- Clip to purlin
- Retro-Fit furring zee to purlin
- Inside closure to retrofit eave angle
- Rake angle to purlin

1/4"-14 x 1" Driller

5/16" Hex Washer Head with 5/8" O.D. washer

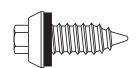
Fastener #1E



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

1/4" -14 x 11/4" Long Life with #3 Drill Point 5/16" Hex Washer Head with EDPM washer

Fastener #2A

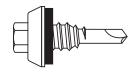


Use in place of fasteners #1E and #4 at all stripouts

1/4"-14 x 7/8" Long Life AB

5/16" Hex Washer Head, EDPM Washer

Fastener #4



 Ridge and other flashing to outside closure

- Gutter to panel
- Gutter to strap
- Trim to trim connections

1/4"-14 x 7/8" Lap TEK

5/16" Hex Washer Head, with 5%" O.D. washer

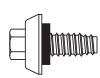
Fastener #5



Rake support to rake angle

1/4"-14 x 11/4" Shoulder with #3 Drill Point 5/16" Hex Washer Head

Fastener #46

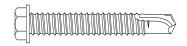


- Endlap at Pepunched Holes
- Outside Closures at Prepunched Holes

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

Fastener #1616

 Retro-Fit eave angle to eave strut



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

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  $\frac{1}{4}$  on 12. A slope of less than  $\frac{1}{4}$  on 12 could cause severe ponding and will void material warranties.

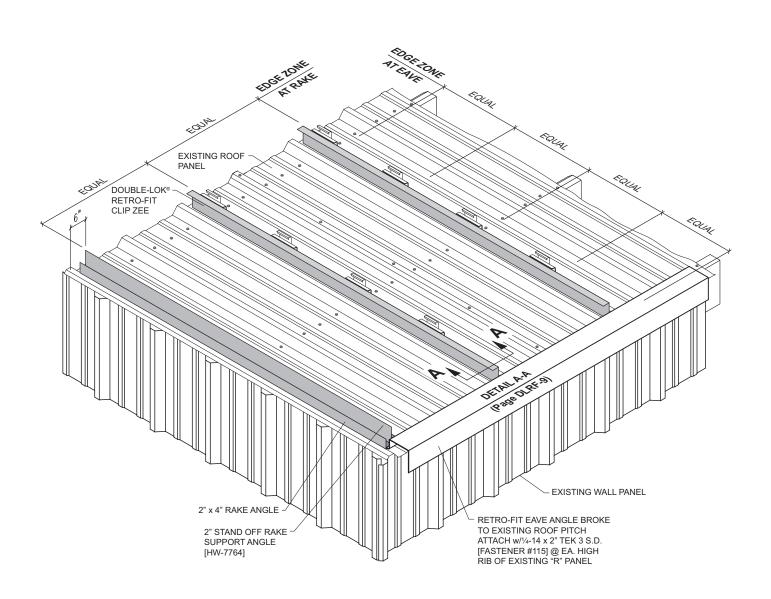
#### **CAUTION**

Application and design details are for illustration purposes only, and may not be appropriate for all environmental conditions or building designs. Projects should be engineered to conform to applicable building codes, regulations, and accepted industry practices



# **DETAILS**

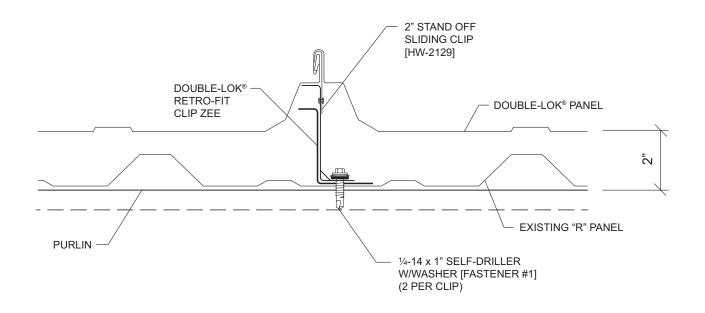
# RETRO-FIT ISOMETRIC VIEW OF EDGE ZONE CONDITION





# **DETAILS**

# RETRO-FIT CLIP ATTACHMENT AT EDGE ZONE CONDITION

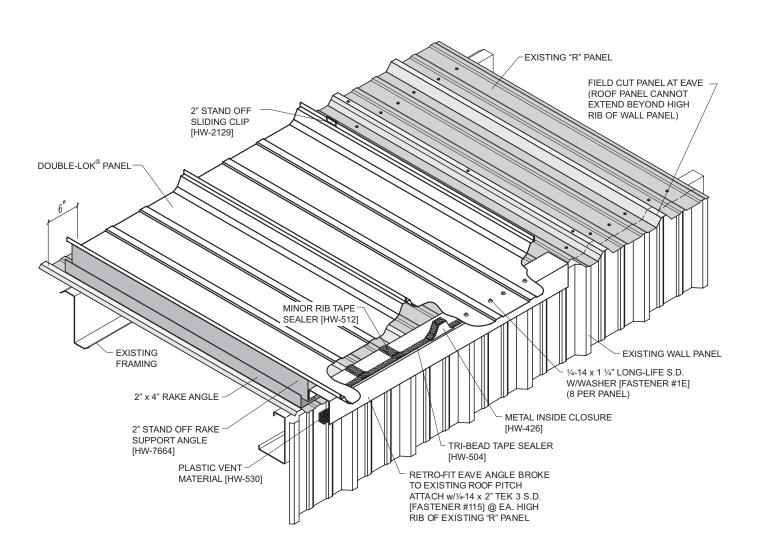


**DETAIL A-A** 



# **DETAILS**

# RETRO-FIT ISOMETRIC VIEW OF VENTED ROOF CAVITY

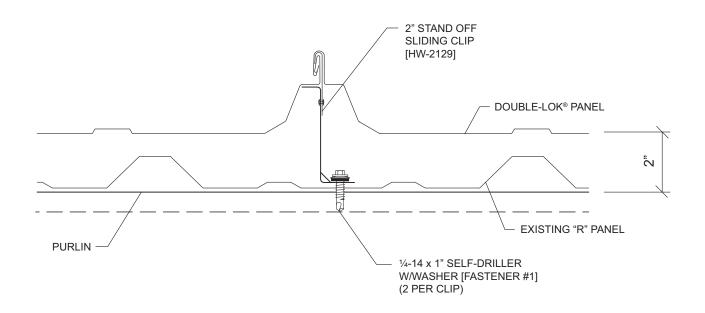


SUBJECT TO CHANGE WITHOUT NOTICE



# **DETAILS**

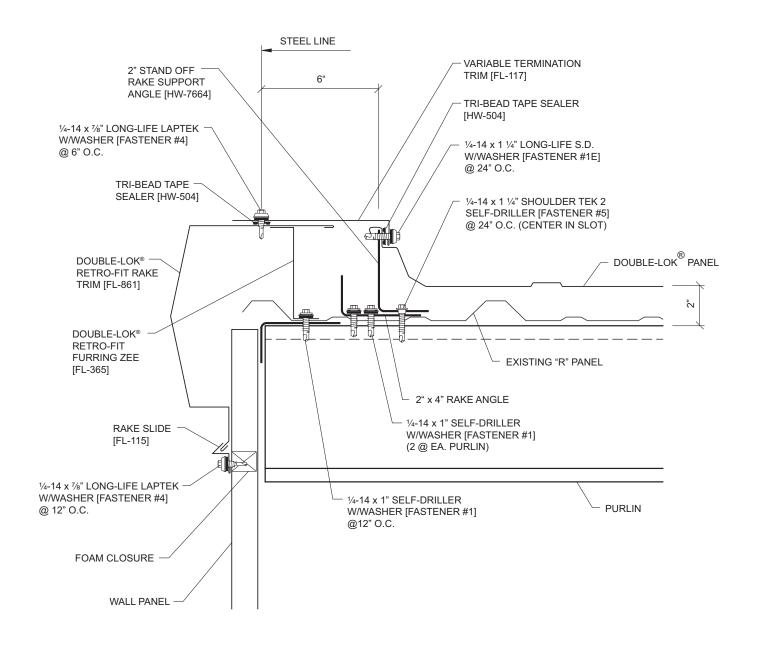
# RETRO-FIT CLIP ATTACHMENT IN VENTED ROOF CAVITY





# **DETAILS**

# RETRO-FIT RAKE WITH VENTED ROOF CAVITY

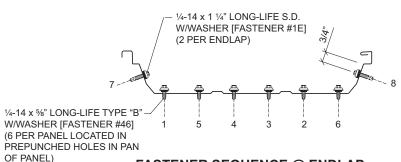


NOTE: For roof panel lengths less than 100'-0"

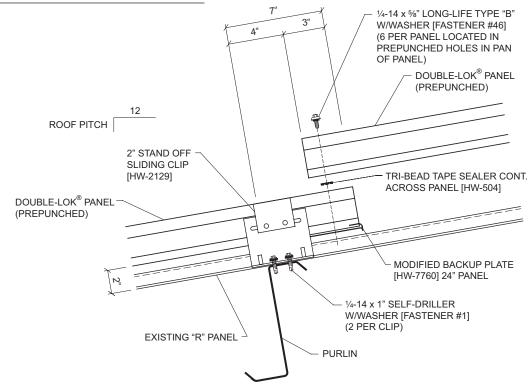


# **DETAILS**

# RETRO-FIT ENDLAP WITH VENTED ROOF CAVITY



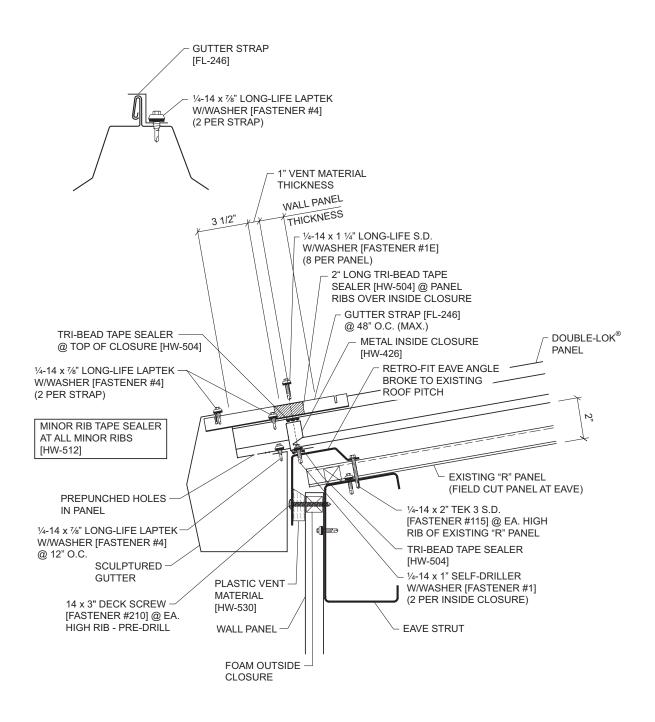
**FASTENER SEQUENCE @ ENDLAP** 





# **DETAILS**

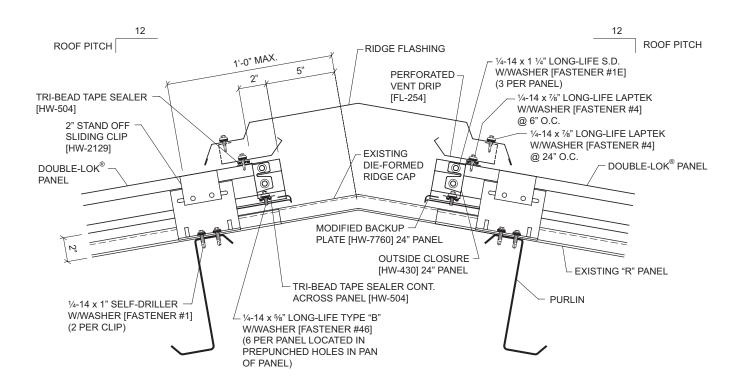
# RETRO-FIT EAVE WITH VENTED ROOF CAVITY





# **DETAILS**

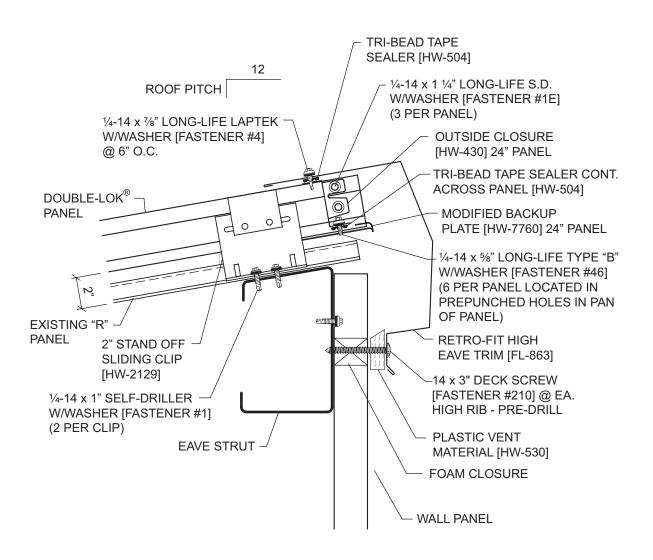
# RETRO-FIT RIDGE WITH VENTED ROOF CAVITY





# **DETAILS**

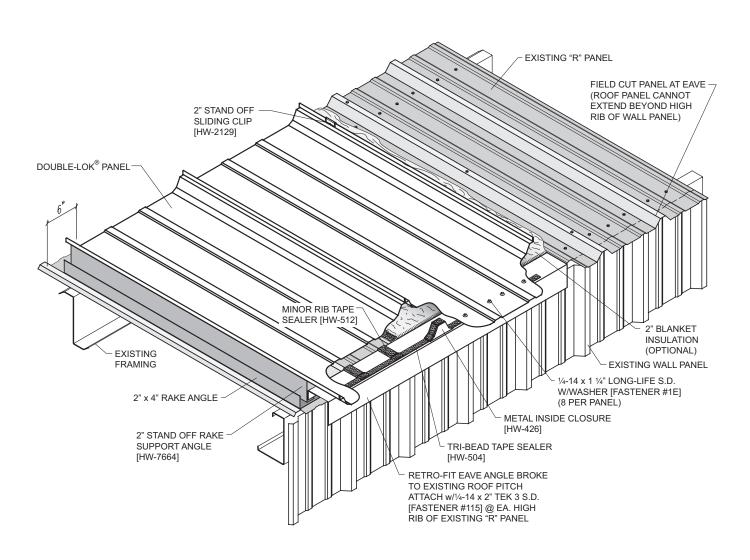
# RETRO-FIT HIGH EAVE WITH VENTED ROOF CAVITY





# **DETAILS**

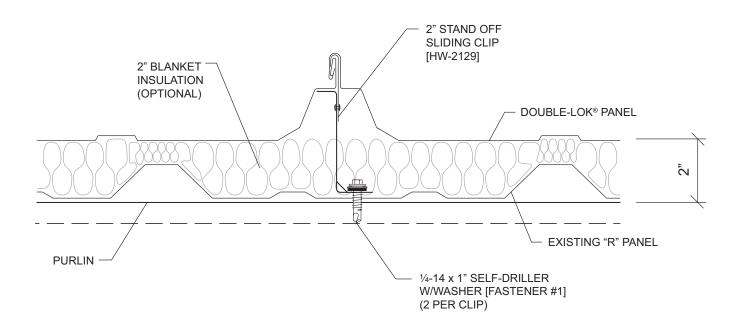
# RETRO-FIT ISOMETRIC VIEW OF INSULATED ROOF CAVITY





# **DETAILS**

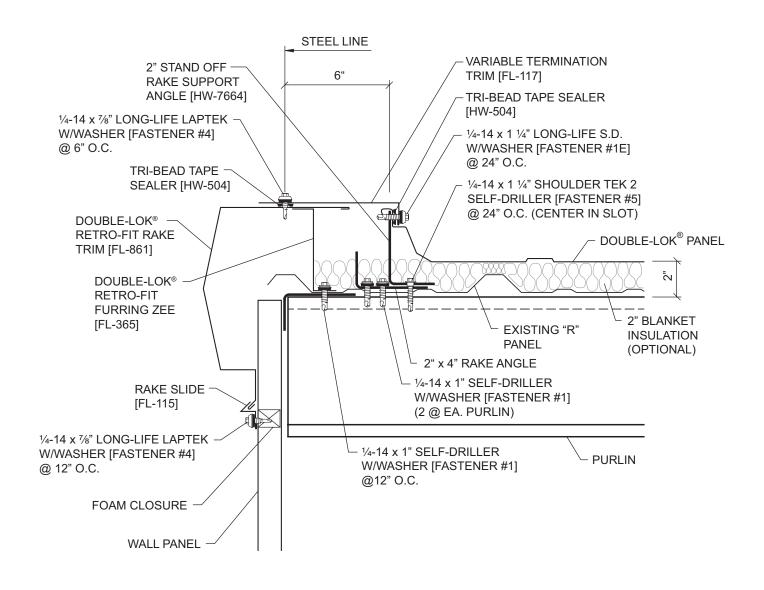
# RETRO-FIT CLIP ATTACHMENT IN INSULATED ROOF CAVITY





# **DETAILS**

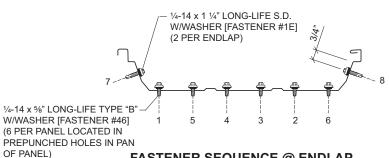
# RETRO-FIT RAKE WITH INSULATED ROOF CAVITY



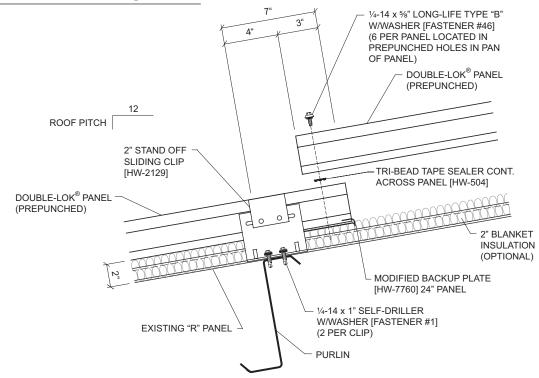


# **DETAILS**

#### **RETRO-FIT ENDLAP** WITH INSULATED ROOF CAVITY



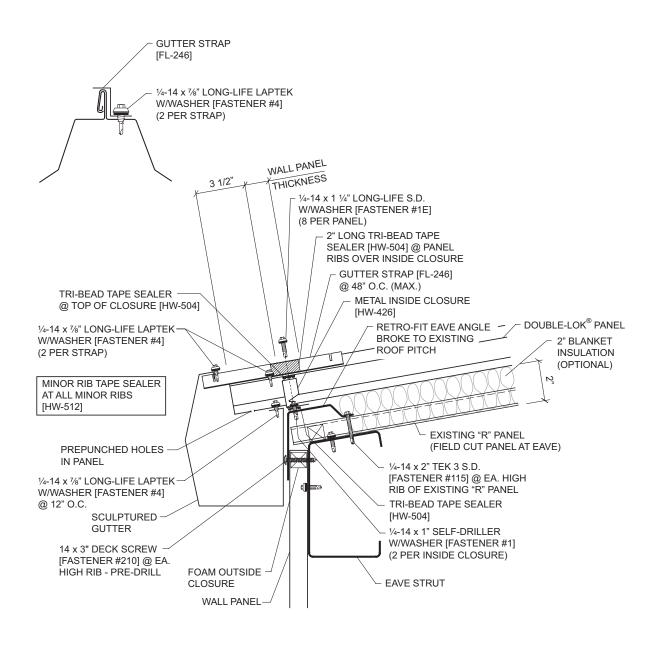
**FASTENER SEQUENCE @ ENDLAP** 





# **DETAILS**

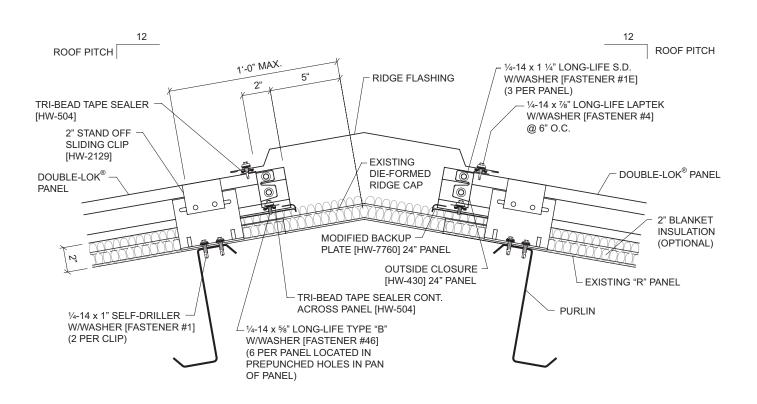
## RETRO-FIT EAVE WITH INSULATED ROOF CAVITY





# **DETAILS**

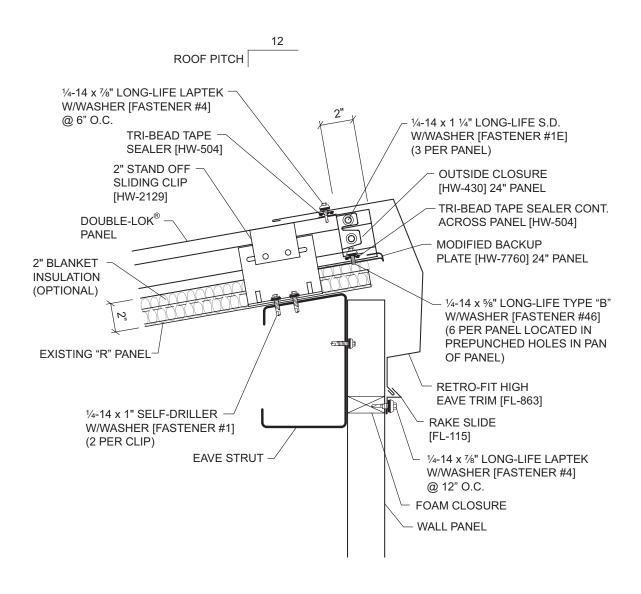
# RETRO-FIT RIDGE WITH INSULATED ROOF CAVITY





# **DETAILS**

## RETRO-FIT HIGH EAVE WITH INSULATED ROOF CAVITY





# **NOTES**



# **NOTES**



#### For the most current information available, visit our Web site at www.mbci.com

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