INTRODUCTION

If your roof is causing problems due to leaks, high maintenance costs and low energy efficiency, the MBCI NuRoof® Retrofit System is the remedy. With the NuRoof® Retrofit System, you can install a slopped roof which will eliminate leaks and minimize maintenance costs. Energy efficiency may also be increased substantially with additional insulation.

The NuRoof® Retrofit System allows design flexibility with a choice of roof slopes, hips, valleys, gable endwalls, vertical and trapezoidal standing seam panels, as well as the traditional PBR Panel. These panels are available in a wide range of colors and gauges. So, whether you are retrofitting an old warehouse, manufacturing plant or an office building, the MBCI NuRoof® Retrofit System is the answer.

ARCHITECT/OWNER RESPONSIBILITY

The architect/owner using the MBCI NuRoof® Retrofit System must recognize that the existing structural roof system most likely was designed based on the roof load being applied uniformly by means of a metal deck or similar substrate. The NuRoof® Retrofit System will replace the uniform load with a series of concentrated loads onto the existing roof system which may not be feasible in all applications. Also, as a result of the addition of the retrofit roof, additional weight will be added to the existing roof that must be checked. MBCI highly recommends that a structural engineer conduct an investigation of the entire structure being proposed for a retrofit system to determine the adequacy of the existing roof structure to withstand additional loading. Their investigation should include the condition of the existing structural, existing dead loads, can existing loads be removed, (i.e. rock ballast) and what additional dead loads will the structure accept and at what spacing?

NOTE:
1. Some buildings may have structural members in both directions. In this case, each method may be used where required.
2. Hipped NuRoof® Systems may require both methods.
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1. The recommended slope range of the retrofit roof is 1/4:12 - 4:12. For slopes greater than 4:12 please contact MBCI.

2. The maximum recommended height of the retrofit system above the existing roof is 10 feet. This is not due to the capacity of the framing, but to the altered shape of the building and its ability to withstand the new wind loads as well as erection limitations.

3. The NuRoof® Retrofit System will add approximately 2 to 4 PSF to the weight of the existing roof.

4. Load transfer may result in concentrated loads occurring on the existing roof. A professional structural engineer must investigate the existing roof to be sure that no undesirable effects are created on the existing roof by the NuRoof® Retrofit System.

5. Lateral wind forces will be developed at gabled endwalls created by the retrofit roof. These wind forces will be transmitted into the existing roof by the “X” bracing parallel to the retrofit purlins. MBCI cannot be responsible for the adequacy of the existing building to resist the additional wind forces which develop at these gabled endwalls.

6. The uniform retrofit roof loads will be concentrated through the retrofit columns. These concentrated loads are then transmitted to the existing roof deck above the existing roof structural members. The adequacy of the existing metal deck corrugations to resist web crippling must be investigated during the design phase. It is not recommended to install this system over the existing insulation board due to possible creep over the life of the system (consult the manufacturer of the existing insulation board for allowable static compressive loads). If the existing roof has moisture trapped within the layers from water intrusion, MBCI recommends the removal of the roofing materials (down to the existing deck) at all base channels or roof support zee locations. This will allow trapped moisture to be drawn out by proper ventilation. If the deck is corroded through to the structural framing, consult with your structural engineer for possible deck reinforcement at the column base attachments to maintain the integrity of the metal deck. NOTE: Existing metal decks can provide lateral support (diaphragm action) to the overall structure. Removing the metal deck at the column locations may compromise the integrity of the existing metal diaphragm system. Since the NuRoof® Retrofit System relies on the existing metal deck to transfer its lateral loads to the existing structural system, the existing metal deck must remain intact.

7. An “attic space” will be created by the NuRoof® Retrofit System. MBCI recommends proper venting of this “attic space” in accordance with applicable codes, to be determined by a mechanical engineer, allowing any trapped moisture to escape. MBCI also recommends that “attic space” be reviewed by other building, fire, or insurance related officials for possible sprinkling or extension of existing fire walls to the bottom of the “new” roof system. Use a minimum of 3” vinyl faced roll insulation between the retrofit panels and the retrofit purlins to help prevent condensation and roof noise. If the use of retrofit framing in “New Construction” will result in the installation of HVAC equipment and ductwork in the “attic space” to conflict with the extensive bracing system required by the NuRoof® Retrofit System, please consult with MBCI’s sales engineering staff during the design phase to resolve these issues.

8. The NuRoof® framework is equally effective over existing roof decks made of metal, Tongue and Groove wood and concrete decks. However, each existing roof system must be evaluated independently on its ability to accept multiple point loading from the retrofit system.
9. The NuRoof® framework will be supplied in unpunched 20'-0” lengths. Field cutting of material will be required.

10. For MBCI to properly design the retrofit framing, the following information is required: Retrofit roof live/wind load, collateral load, snow load, seismic zone, existing building size and location, existing structural orientation (parallel or perpendicular to retrofit roof slope) and spacing, type of existing substrate members, governing code, retrofit roof pitch, retrofit roof panel desired, and the use of hipped or gable ends. MBCI is not responsible for the ability of the existing building to accept the loads imposed upon it by the retrofit framework. The MBCI engineering department can conduct an engineering study of the proposed retrofit framing and provide column reactions based on the above information that may be used by your structural engineer to do their study of the existing structure. Following this page is a design data sheet. This sheet can be filled out and sent to MBCI for our Project Service Department to perform estimates, designs, drawings or a combination of all three.

CAUTION

In certain cases the retrofit roof panel selected may require additional retrofit purlins at the perimeter of the roof to ensure that the panel is capable of resisting the additional wind/snow load in this area.
# PRODUCT INFORMATION

## DESIGN DATA SHEET

### PROJECT INFORMATION

<table>
<thead>
<tr>
<th>From:</th>
<th>Live Load: psf</th>
<th>ASTM E1592</th>
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<td>Project Name:</td>
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<td>Project Location:</td>
<td>Snow Load: psf</td>
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<td>(City, State, County):</td>
<td>Wind Speed: mph</td>
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### EXISTING ROOF GEOMETRY

<table>
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<tr>
<th>Length: ft</th>
<th>Eave Height: ft</th>
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<tr>
<td>Width: ft</td>
<td>Overhang: ft</td>
</tr>
<tr>
<td>Slope: :12</td>
<td>Parapet Height: ft</td>
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(Please provide drawings of existing roof plan - including structural drawings)

### EXISTING ROOF TYPE

- Built Up
- Modified Bitumen
- Single Ply
- Shingle
- Trocal
- Other - Specify -
- PVC

### EXISTING ROOF SUBSTRATE

- Insulation Type: in.
- Plywood Thickness: in.
- Metal Deck Thickness: in.
- Insulation Thickness: in.
- Concrete Thickness: in.
- Structural
- Lightweight
- Precast
- Other - Specify

### EXISTING STRUCTURAL MEMBERS

- Bar Joists: @ " o.c.
- Wood Trusses: @ " o.c.
- "Hot Rolled" Steel: @ " o.c.
- Wood Rafters: @ " o.c.
- Concrete Beams: @ " o.c.
- Other - Specify: @ " o.c.

Has the existing structure been analyzed by a professional engineer?

- yes
- no

### NUROOF® GEOMETRY

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<th>Length: ft</th>
<th>Ridge Condition:</th>
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<tr>
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<tr>
<td>Eave Height: ft</td>
<td>Roof Panels: (Profile, Width, Gauge)</td>
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<tr>
<td>Overhang: ft</td>
<td>Wall Panels: (Profile, Width, Gauge)</td>
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<tr>
<td>Eave Condition: Eave Trim</td>
<td>Fascia: (Profile, Width, Gauge)</td>
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<tr>
<td>Box Gutter</td>
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<tr>
<td>Sculptured Gutter</td>
<td>Galvanized</td>
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<tr>
<td>Snow Gutter</td>
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(Please provide drawings of new proposed roof plan)

### NOTES

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# NuRoof® PRODUCT INFORMATION

## SECTION PROPERTIES

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<tr>
<th>D x B1 x B2 (in.)</th>
<th>Section</th>
<th>Ga.</th>
<th>Weight (PLF)</th>
<th>Ix (in.4/ft.)</th>
<th>Sx (in.3/ft.)</th>
<th>RX (in.)</th>
<th>Ma (in.-Kips)</th>
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### AXIS X-X

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### AXIS X-X

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### AXIS X-X

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### NOTES:
1. All calculations for the properties of cees and zees are calculated in accordance with the 2001 North American Specification for the Design of Cold-Formed Steel Structural Members published by the American Iron and Steel Institute (A.I.S.I).
2. Ix is for deflection determination.
3. Sx is for bending.
4. Maxo is allowable bending moment.
5. The allowable bending moment (Ma) assumes that the compressive flange is laterally braced so as to provide the full moment capacity of the section.

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.
RETROFIT FRAMING OVER STRUCTURAL MEMBERS PARALLEL TO THE ROOF SLOPE (Base Channel Attachment)
NuRoof® DESIGN INFORMATION

RETROFIT FRAMING OVER STRUCTURAL MEMBERS PARALLEL TO THE ROOF SLOPE
(Column Attachment)

DETAIL 1

CROSS SECTION A-A
COLUMN ATTACHMENT

PLAN VIEW
COLUMN ATTACHMENT

DETAIL 1

EXISTING STRUCTURAL

BASE CHANNEL

SELF-DRILLING FASTENERS

EXISTING ROOF DECK

EXISTING STRUCTURAL

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)

SELF-DRILLING FASTENERS

RETROFIT COLUMN

BASE CHANNEL

EXISTING STRUCTURAL

SELF-DRILLING FASTENERS

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)

RETROFIT COLUMN

BASE CHANNEL

EXISTING STRUCTURAL

SELF-DRILLING FASTENERS

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PARALLEL TO THE ROOF SLOPE
(“X” Bracing Attachment)

DETAIL 1

CROSS SECTION A-A
ANGLE BRACE ATTACHMENT

DETAIL 1

BASE CHANNEL
RETROFIT COLUMN
SPACING DETERMINED
BY EXISTING STRUCTURAL
SPACING

EXISTING STRUCTURAL

RETROFIT FRAMEWORK

LONGITUDINAL
ANGLE BRACING

RETROFIT COLUMN

TRANSVERSE
ANGLE BRACING
(EVERY 40' MIN.)

FIELD NOTCH
ANGLE BRACE

SELF-DRILLING
FASTENERS

EXISTING
ROOF DECK

BASE CHANNEL

SELF-DRILLING
FASTENERS

EXISTING
ROOF DECK

A

A

ANGLE BRACING

RETROFIT COLUMN

SELF-DRILLING
FASTENERS

ANGLE BRACING

BASE CHANNEL

EXISTING STRUCTURAL

FASTENER TO
EXISTING STRUCTURAL
(NOT BY MBCI)
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PARALLEL TO THE ROOF SLOPE
(Purlin Attachment)

NOTE: PURLIN LAPS MUST OCCUR AT A COLUMN LOCATION

SELF-DRILLING FASTENERS

6"

BASE CHANNEL

RETROFIT COLUMN SPACING DETERMINED BY EXISTING STRUCTURAL SPACING

LONGITUDINAL ANGLE BRACING

EXISTING STRUCTURAL

DETAIL 1

PURLIN FLANGE CAN BE ROLL FORMED TO A MAXIMUM SLOPE OF 4:12

TRANSVERSE ANGLE BRACING (EVERY 40' MIN.)

CROSS SECTION A-A
PURLIN ATTACHMENT
NuRoof®

DESIGN INFORMATION

RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PARALLEL TO THE ROOF SLOPE
(Strut Attachment)

DETAIL 1

RETROFIT FRAMEWORK

CONTINUOUS CHANNEL SECTION (EVERY BRACED COLUMN LINE)

BASE CHANNEL

RETROFIT COLUMN SPACING DETERMINED BY EXISTING STRUCTURAL SPACING

LONGITUDINAL ANGLE BRACING

DETAIL 1

RETROFIT COLUMN

TRANSVERSE ANGLE BRACING (EVERY 40' MIN.)

BASE CHANNEL

EXISTING STRUCTURAL

SELF-DRILLING FASTENERS

EXISTING ROOF DECK

NEEDS SCHEDULAR REVIEW

SELF-DRILLING FASTENERS

CROSS SECTION A-A

STRUT ATTACHMENT

RETROFIT PURLIN

RETROFIT FRAMEWORK

CONTINUOUS CHANNEL SECTION (EVERY BRACED COLUMN LINE)

SELF-DRILLING FASTENERS

EXISTING ROOF DECK

NEEDS SCHEDULAR REVIEW

SELF-DRILLING FASTENERS

BASE CHANNEL

EXISTING STRUCTURAL

SELF-DRILLING FASTENERS

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PARALLEL TO THE ROOF SLOPE
(Panel Attachment)

DETAIL 1

CROSS SECTION A-A

PANEL ATTACHMENT
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PERPENDICULAR TO THE ROOF SLOPE
(Base Zee Attachment)

NOTE: PURLIN LAPS MUST OCCUR
AT A COLUMN LOCATION

SELF-DRILLING FASTENERS

RETROFIT PURLIN SPACING
BASE ZEE SPACING
LONGITUDINAL ANGLE BRACING
RETROFIT FRAMEWORK
DETAIL 1

EXISTING STRUCTURAL

RETROFIT PURLIN
RETROFIT COLUMN
TRANSVERSE ANGLE BRACING (EVERY 40' MIN.)

PURLIN FLANGE CAN BE ROLL FORMED TO A
MAXIMUM SLOPE OF 4:12

SELF-DRILLING FASTENERS

BASE ZEE EXISTING ROOF DECK

FASTENER TO EXISTING STRUCTURAL
(NOT BY MBCI)

DETAIL 1

CROSS SECTION A-A
PURLIN ATTACHMENT
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PERPENDICULAR TO THE ROOF SLOPE
(Column Attachment)

A

EXISTING STRUCTURAL

BASE ZEE

RETROFIT COLUMN

PLAN VIEW
COLUMN ATTACHMENT

CROSS SECTION A-A
COLUMN ATTACHMENT

DETAIL 1

RETROFIT FRAMEWORK

DETAIL 1

BASE ZEE

SELF-DRILLING FASTENERS
(4) REQ’D.

FASTENER TO EXISTING STRUCTURAL
(NOT BY MBCI)

BASE ZEE

SELF-DRILLING FASTENERS
(4) REQ’D.

FASTENER TO EXISTING STRUCTURAL
(NOT BY MBCI)

BASE ZEE

BASE ZEE SPACING

EXISTING STRUCTURAL SPACING

EXISTING ROOF DECK

EXISTING STRUCTURAL

EXISTING ROOF DECK

EXISTING STRUCTURAL

FASTENER TO EXISTING STRUCTURAL
(NOT BY MBCI)

BASE ZEE

BASE ZEE

BASE ZEE

RETROFIT COLUMN

RETROFIT COLUMN

RETROFIT COLUMN

BASE ZEE

SELF-DRILLING FASTENERS
(4) REQ’D.

FASTENER TO EXISTING STRUCTURAL
(NOT BY MBCI)
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PERPENDICULAR TO THE ROOF SLOPE
(“X” Bracing Attachment)

DETAIL 1 CROSS SECTION A-A

ANGLE BRACING
SELF-DRILLING FASTENERS
(4) REQ’D.

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)

DETAIL 1

RETROFIT FRAMEWORK

LONGITUDINAL ANGLE BRACING
TRANSVERSE ANGLE BRACING (EVERY 40' MIN.)
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PERPENDICULAR TO THE ROOF SLOPE
(Purlin Attachment)

NOTE: PURLIN LAPS MUST OCCUR AT A COLUMN LOCATION

SELF-DRILLING FASTENERS

RETROFIT PURLIN

RETROFIT COLUMN

RETROFIT PURLIN SPACING

BASE ZEE SPACING

LONGITUDINAL ANGLE BRACING

EXISTING STRUCTURAL

RETROFIT FRAMEWORK

DETAIL 1

EXISTING STRUCTURAL SPACING

TRANSVERSE ANGLE BRACING (EVERY 40’ MIN.)

4:12
3:12
2:12
1:12

PURLIN FLANGE CAN BE ROLL FORMED TO A MAXIMUM SLOPE OF 4:12

SELF-DRILLING FASTENERS

RETROFIT COLUMN

SELF-DRILLING FASTENERS

(4) REQ’D.

ANGLE BRACING BASE ZEE

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)

EXISTING ROOF DECK

DETAIL 1

SELF-DRILLING FASTENERS

ANGLE BRACING

BASE ZEE EXISTING ROOF DECK

EXISTING STRUCTURAL

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)

RETROFIT COLUMN

SELF-DRILLING FASTENERS

(4) REQ’D.

CROSS SECTION A-A
PURLIN ATTACHMENT
RETROFIT FRAMEWORK OVER STRUCTURAL MEMBERS PERPENDICULAR TO THE ROOF SLOPE (Strut Attachment)

DETAIL 1 CROSS SECTION A-A

CROSS SECTION A-A

STRUT ATTACHMENT

BASE ZEE SPACING

EXISTING ROOF DECK

EXISTING STRUCTURAL

RETROFIT PURLIN SPACING

BASE ZEE

LONGITUDINAL ANGLE BRACING

RETROFIT STRUT ATTACHMENT

BASE ZEE

EXISTING STRUCTURAL

SELF-DRILLING FASTENERS (4) REQ'D.

CONTINUOUS CHANNEL SECTION (EVERY BRACED COLUMN LINE)

ANGLE BRACING

RETROFIT COLUMN

SELF-DRILLING FASTENERS

CONTINUOUS CHANNEL SECTION (EVERY BRACED COLUMN LINE)

SELF-DRILLING FASTENERS

ANGLE BRACING

BASE ZEE EXISTING ROOF DECK

EXISTING STRUCTURAL

FASTENER TO EXISTING STRUCTURAL (NOT BY MBCI)

DETAIL 1

RETROFIT COLUMN

RETROFIT PURLIN

TRANSVERSE ANGLE BRACING (EVERY 40' MIN.)

CONTINUOUS CHANNEL SECTION (EVERY BRACED COLUMN LINE)
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
PERPENDICULAR TO THE ROOF SLOPE
(Panel Attachment)

DETAIL 1

CROSS SECTION A-A
PANEL ATTACHMENT
RETROFIT FRAMING OVER STRUCTURAL MEMBERS
(Gable Endwall Girt Attachment)

ISOMETRIC VIEW OF ENDWALL

CROSS SECTION A-A
ENDWALL ATTACHMENT
RETROFIT FRAMING FOR ROOF HIP
(Back-to-Back Hip Channel Attachment)

NUROOF® DESIGN INFORMATION

DETAIL 1

RETROFIT FRAMEWORK

LONGITUDINAL ANGLE BRACING

CONTINUOUS CHANNEL SECTION (EVERY BRACED COLUMN LINE)

TRANSVERSE ANGLE BRACING (EVERY 40' MIN.)

4 1/8" x 2" HIP CHANNEL (BACK TO BACK)

HIP CHANNEL BACK TO BACK

SELF-DRILLING FASTENERS

12" O.C. STAGGERED

(2) PANCAKE HEAD SELF DRILLERS

4 1/8" x 2" HIP CHANNEL (BACK TO BACK STITCHED @ 12" O.C.)

(2) PANCAKE HEAD SELF DRILLERS

RETROFIT HEAD SELF DRILLERS

DETAIL 1

BASE CHANNEL

EXISTING STRUCTURAL

BASE ZEE

DETAIL 1

RETROFIT COLUMN

RETROFIT PURLIN

RETROFIT FRAMEWORK

(2) PANCAKE HEAD SELF DRILLERS

RETROFIT PURLIN

4 1/8" x 2" HIP CHANNEL (BACK TO BACK)

(2) PANCAKE HEAD SELF DRILLERS

RETROFIT PURLIN

4 1/8" x 2" HIP CHANNEL (BACK TO BACK)
RETROFIT FRAMING FOR ROOF VALLEY
(Back-to-Back Valley Channel Attachment)

DETAIL 1

4 1/8" x 2" VALLEY CHANNEL (BACK TO BACK)

LONGITUDINAL ANGLE BRACING

RETROFIT FRAMEWORK

RETROFIT PURLIN

TRANSVERSE ANGLE BRACING (EVERY 40' MIN.)

BASE CHANNEL

BASE ZEE

EXISTING STRUCTURAL

CONTINUOUS CHANNEL SECTION (EVERY BRACED COLUMN LINE)

TRANSVERSE BRACING

12" O.C. STAGGERED

SELF-DRILLING FASTENERS

VALLEY CHANNEL BACK TO BACK

4 1/8" x 2" VALLEY CHANNEL (BACK TO BACK STITCHED @ 12" O.C.)

(2) PANCAKE HEAD SELF DRILLERS

(2) PANCAKE HEAD SELF DRILLERS

RETROFIT PURLIN

RETROFIT COLUMN

EXISTING STRUCTURAL
RETROFIT FRAMING FOR ROOF RIDGE
(Peak Framing Attachment)

EXISTING STRUCTURAL

EXISTING ROOF DECK

BASE CHANNEL

CONTINUOUS CHANNEL SECTION

RETROFIT COLUMN

RETROFIT PURLIN

CROSS SECTION A-A
STRUT ATTACHMENT

EXISTING ROOF DECK

EXISTING STRUCTURAL

BASE CHANNEL

SELF-DRILLING FASTENERS

CONTINUOUS CHANNEL SECTION

SELF-DRILLING FASTENERS

RETROFIT COLUMN

SELF-DRILLING FASTENERS

FASTENER TO EXISTING STRUCTURAL
(NOT BY MBCI)
BASE CHANNEL CONNECTION WITH COLUMN ATTACHMENT
(Flange Connection)

EXISTING ROOF SYSTEM
BASE SHOE FASTENER (MIN. QTY. 4, NOT BY MBCI)

4" CEE COLUMN
2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)
½"-14 x 1 ¼" SELF-DRILLER W/O WASHER [FASTENER #1B]
(2) PER CONN.
½"-14 x 1 ¼" SELF-DRILLER W/O WASHER [FASTENER #1B]
(2) PER SIDE, (4) TOTAL
4⅛ x 2" CHANNEL x 1'-0" (BASE SHOE)

½"-14 x 1 ¼" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(2) PER CONN.
2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)
4½ x 2" CHANNEL x 1'-0" (BASE SHOE)
(2) PER SIDE, (4) TOTAL

EXISTING STRUCTURAL

BASE ZEE CONNECTION WITH COLUMN ATTACHMENT
(Flange Connection)

EXISTING ROOF SYSTEM
BASE ZEE FASTENER (MIN. QTY. 2, NOT BY MBCI)

4" CEE COLUMN
2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)
½"-14 x 1 ¼" SELF-DRILLER W/O WASHER [FASTENER #1B]
(2) PER CONN.
½"-14 x 1 ¼" SELF-DRILLER W/O WASHER [FASTENER #1B]
(4) TOTAL
4" CEE COLUMN
BASE ZEE

½"-14 x 1 ¼" SELF-DRILLER W/O WASHER [FASTENER #1B]
(2) PER CONN.
2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)
½"-14 x 1 ¼" SELF-DRILLER W/O WASHER [FASTENER #1B]
(4) TOTAL

EXISTING ROOF SYSTEM
BASE ZEE FASTENER (MIN. QTY. 2, NOT BY MBCI)

EXISTING STRUCTURAL
BASE ZEE CONNECTION
WITH COLUMN ATTACHMENT
(Web Connection)

EXISTING ROOF SYSTEM
BASE ZEE FASTENER
(MIN. QTY. 2, NOT BY MBCI)
EXISTING STRUCTURAL

BASE ZEE CONNECTION
(Lap Connection)

EXISTING ROOF SYSTEM
BASE ZEE FASTENER
(MIN. QTY. 2, NOT BY MBCI)
EXISTING STRUCTURAL
HIGH STRENGTH BASE ZEE-CLIP ANGLE CONNECTION
WITH COLUMN ATTACHMENT
(Flange Connection)

2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)

4" CEE COLUMN

1/4"-14 x 1 1/4" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(2) PER CONN.

BASE ZEE

BASE ZEE CLIP ANGLE

EXISTING ROOF SYSTEM
EXISTING STRUCTURAL

ANGLE CLIP FASTENER
(MIN. QTY. 2, NOT BY MBCI)

BASE ZEE FASTENER
(MIN. QTY. 2, NOT BY MBCI)

HIGH STRENGTH BASE ZEE-CLIP ANGLE CONNECTION
WITH COLUMN ATTACHMENT
(Web Connection)

2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)

4" CEE COLUMN

1/4"-14 x 1 1/4" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(2) PER CONN.

BASE ZEE

BASE ZEE CLIP ANGLE

EXISTING ROOF SYSTEM
EXISTING STRUCTURAL

ANGLE CLIP FASTENER
(MIN. QTY. 2, NOT BY MBCI)

BASE ZEE FASTENER
(MIN. QTY. 2, NOT BY MBCI)
**NUROOF® DETAILS**

**PURLIN TO COLUMN ATTACHMENT**

*Flange Connection*

- **4" CEE COLUMN**
- **2" x 2" ANGLE** (SEE PLAN FOR EXACT LOCATION)
- **¼"-14 x 1½" SELF-DRILLER W/O WASHER [FASTENER #1B]** (2) PERCONN.
- **¼"-14 x 1½" SELF-DRILLER W/O WASHER [FASTENER #1B]** (8) TOTAL

**ZEE PURLIN**

**CS-1 STRUT**

**PURLIN TO COLUMN ATTACHMENT**

*Flange Connection With Purlin Clip*

- **3" x 3" CLIP ANGLE**
- **4" CEE COLUMN**
- **CS-1 STRUT**
- **ZEE PURLIN**
- **2" x 2" ANGLE** (SEE PLAN FOR EXACT LOCATION)
- **¼"-14 x 1½" SELF-DRILLER W/O WASHER [FASTENER #1B]** (2) PERCONN.
- **¼"-14 x 1½" SELF-DRILLER W/O WASHER [FASTENER #1B]** (4) TOTAL

**PURLIN TO COLUMN ATTACHMENT**

*Flange Connection at Purlin Lap*

- **6"**
- **ZEE PURLIN**
- **CS-1 STRUT**
- **2" x 2" ANGLE** (SEE PLAN FOR EXACT LOCATION)
- **¼"-14 x 1½" SELF-DRILLER W/O WASHER [FASTENER #1B]** (2) PERCONN.
- **¼"-14 x 1½" SELF-DRILLER W/O WASHER [FASTENER #1B]** (8) TOTAL

**ZEE PURLIN**

**CS-1 STRUT**

**See www.mmbci.com for current information**

**Subject to change without notice**
**NuRoof® DETAILS**

**PURLIN TO COLUMN ATTACHMENT**

*(Web Connection)*

- 4" CEE COLUMN
- 2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)
- 1/4"-14 x 1 1/4" SELF-DRILLER
- W/O WASHER [FASTENER #1B]
- (2) PER CONN.
- 1/4"-14 x 1 1/4" SELF-DRILLER
- W/O WASHER [FASTENER #1B]
- (4) TOTAL

**PURLIN TO COLUMN ATTACHMENT**

*(Web Connection With Purlin Clip)*

- 3" x 3" CLIP ANGLE
- 3" x 3" CLIP ANGLE
- 1/4"-14 x 1 1/4" SELF-DRILLER
- W/O WASHER [FASTENER #1B]
- (4) TOTAL
- 1/4"-14 x 1 1/4" SELF-DRILLER
- W/O WASHER [FASTENER #1B]
- (8) TOTAL

**PURLIN TO COLUMN ATTACHMENT**

*(Web Connection at Purlin Lap)*

- 6" 3" 3"
- 1/4"-14 x 1 1/4" SELF-DRILLER
- W/O WASHER [FASTENER #1B]
- (8) TOTAL
LONGITUDINAL ANGLE BRACING
(Parallel to Purlins)

4" CEE COLUMN

ZEE PURLIN

CS-1 STRUT

2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)

FIELD NOTCH ANGLE AS REQUIRED

4 1/8" x 2" CHANNEL x 1'-0" (BASE SHOE)

EXISTING ROOF SYSTEM

FIELD NOTCH ANGLE AS REQUIRED

EXISTING STRUCTURAL

BASE ZEE

BASE ZEE FASTENER (MIN. QTY. 2, NOT BY MBCI)

FIELD NOTCH ANGLE AS REQUIRED

EXISTING STRUCTURAL

BASE SHOE FASTENER (MIN. QTY. 4, NOT BY MBCI)

1/4"-14 x 1 1/4" SELF-DRILLER W/O WASHER [FASTENER #1B] (2) PER SIDE, (4) TOTAL

1/4"-14 x 1 1/4" SELF-DRILLER W/O WASHER [FASTENER #1B] (4) PER CONN.

1/4"-14 x 1 1/4" SELF-DRILLER W/O WASHER [FASTENER #1B] (2) PER CONN.
TRANSVERSE ANGLE BRACING
(Perpendicular to Purlins)

1/4" x 1/4" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(4) PER CONN.

1/4" x 1/4" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(2) PER SIDE, (4) TOTAL

1/4" x 1/4" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(2) PER CONN.

1/4" x 1/4" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(4) PER CONN.

FIELD NOTCH ANGLE
AS REQUIRED

FIELD NOTCH ANGLE
AS REQUIRED

ZEE PURLIN
CS-1 STRUT
ZEE PURLIN

ZEE PURLIN

4" CEE COLUMN

2" x 2" ANGLE (SEE PLAN
FOR EXACT LOCATION)

4 1/8" x 2" CHANNEL
x 1'-0" (BASE SHOE)

EXISTING ROOF
SYSTEM
BASE ZEE FASTENER
(MIN. QTY. 2, NOT BY MBCI)
EXISTING STRUCTURAL

EXISTING ROOF
SYSTEM BASE SHOE FASTENER
(MIN. QTY. 4, NOT BY MBCI)

EXISTING STRUCTURAL

BASE ZEE
FIELD NOTCH ANGLE
AS REQUIRED

BASE ZEE
FIELD NOTCH ANGLE
AS REQUIRED

SUBJECT TO CHANGE WITHOUT NOTICE
SEE www.mbci.com FOR CURRENT INFORMATION
REV 00.01 NR-31
DOUBLE LONGITUDINAL ANGLE BRACING
(Parallel to Purlins With Base Shoe)

4” CEE COLUMN
CS-1 STRUT
ZEE PURLIN

FIELD NOTCH ANGLE AS REQUIRED

2” x 2” ANGLE (SEE PLAN FOR EXACT LOCATION)

FIELD NOTCH ANGLE AS REQUIRED

CS-1 STRUT

FIELD NOTCH ANGLE AS REQUIRED

2” x 2” ANGLE (SEE PLAN FOR EXACT LOCATION)

FIELD NOTCH ANGLE AS REQUIRED

4½” x 2” CHANNEL x 1'-0” (BASE SHOE)

½”-14 x 1½” SELF-DRILLER W/O WASHER [FASTENER #1B] (4) PER CONN.

½”-14 x 1½” SELF-DRILLER W/O WASHER [FASTENER #1B] (2) PER CONN.

½”-14 x 1½” SELF-DRILLER W/O WASHER [FASTENER #1B] (2) PER SIDE, (4) TOTAL

BASE SHOE FASTENER (MIN. QTY. 4, NOT BY MBCI)

EXISTING ROOF SYSTEM

EXISTING STRUCTURAL
DOUBLE LONGITUDINAL ANGLE BRACING
(Parallel to Purlins With Base Zee)

- 2" x 2" Angle (See Plan for Exact Location)
- 1/4"-14 x 11/4" Self-Driller W/O Washer [Fastener #1B]
  (4) Per Conn.
- 1/4"-14 x 1 1/4" Self-Driller W/O Washer [Fastener #1B]
  (2) Per Conn.
- 1/4"-14 x 1 1/4" Self-Driller W/O Washer [Fastener #1B]
  (4) Per Conn.
- 1/4"-14 x 1 1/4" Self-Driller W/O Washer [Fastener #1B]
  (2) Per Conn.
DOUBLE TRANSVERSE ANGLE BRACING
(Perpendicular to Purlins With Base Shoe)

- 2' x 2' Angle (See Plan for Exact Location)
- ZEE PURLIN
- CS-1 STRUT
- 4" CEE COLUMN

MATERIALS:
- 1/4"-14 x 1 1/4" Self-Driller W/O Washer [Fastener #1B]
  (4) per Conn.
- 1/4"-14 x 1 1/4" Self-Driller W/O Washer [Fastener #1B]
  (2) per Side, (4) Total

EXISTING STRUCTURAL
EXISTING ROOF SYSTEM
BASE SHOE FASTENER
(MIN. QTY. 4, NOT BY MBCI)
DOUBLE TRANSVERSE ANGLE BRACING
(Perpendicular to Purlins With Base Zee)

- 4" CEE COLUMN
- CS-1 STRUT
- 2" x 2" ANGLE (SEE PLAN FOR EXACT LOCATION)
- FIELD NOTCH ANGLE AS REQUIRED
- 1/4"-14 x 1 1/4" SELF-DRILLER W/O WASHER [FASTENER #1B]
  (4) PER CONN.

EXISTING ROOF SYSTEM

BASE ZEE FASTENER (MIN. QTY. 2, NOT BY MBCI)
EXISTING STRUCTURAL

ZEE PURLIN

FIELD NOTCH ANGLE AS REQUIRED

ZEE PURLIN

FIELD NOTCH ANGLE AS REQUIRED

CS-1 STRUT

FIELD NOTCH ANGLE AS REQUIRED

CS-1 STRUT

FIELD NOTCH ANGLE AS REQUIRED

1/4"-14 x 1 1/4" SELF-DRILLER W/O WASHER [FASTENER #1B]
(2) PER CONN.
EAVE OVERHANG
(With Parapet Wall)

EAVE DETAILS

EAVE WITH FASCIA WALL

EAVE WITH ANGLES
EDGE/CORNER ZONE
(For Use in High Wind Condition)

4\" CEE COLUMN

4\" CEE PURLIN BRIDGING

\(\frac{1}{4}\)\"-14 x 1\(\frac{1}{4}\)\" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(4) PER CONN.

\(\frac{1}{4}\)\"-14 x 1\(\frac{1}{4}\)\" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(2) PER CONN.

\(\frac{1}{4}\)\"-14 x 1\(\frac{1}{4}\)\" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(4) PER CONN.

EXISTING ROOF SYSTEM

BASE SHOE FASTENER
(MIN. QTY. 4, NOT BY MBCI)

\(\frac{1}{4}\)\"-14 x 1\(\frac{1}{4}\)\" S.D.
W/O WASHER [FASTENER #1B]
(4) PER CONN.

\(\frac{1}{4}\)\"-14 x 1\(\frac{1}{4}\)\" SELF-DRILLER
W/O WASHER [FASTENER #1B]
(2) PER SIDE, (4) TOTAL

4\" x 2\" CHANNEL
x 1'-0" (BASE SHOE)
ARCHITECT/ENGINEER INFORMATION
(Optional Method)

1. The optional NuRoof® Retrofit Systems are designed to go directly over existing sloped roof systems.

2. The optional NuRoof® Grid System allows for additional purlins to be installed when the existing purlin spacing does not meet the current code requirements.

3. The optional NuRoof® Retrofit System over existing PBR requires the use of the MBCI Ultra-Dek® or Double-Lok® roof systems. The high clips used with these systems elevate the roof system 1¼" over the existing structure, allowing the panels to pass over a standard 1¼" PBR panel. If the existing roof system has a rib height of 1½" a non-compressible ¼" shim can be used.

4. Care must be taken when cutting back the eave of the existing roof system to make sure no shavings land on adjacent or stored new roofing materials. Hot shavings landing on new material can cause premature rusting of the material surface.

5. When installing the optional NuRoof® Retrofit System over a PBR system the module of the existing roof system must be checked. The MBCI Ultra-Dek®/Double-Lok® roof systems hold a 24" module and if the existing roof was stretched ahead or shrunk back the clips will eventually foul into an existing major rib. An 18" panel can be installed in lieu of a 24" panel to allow the new roof system to stay on the module created by the existing roof panels.

INSTALLATION GUIDELINES

1. Pre-Order
   a. Prior to ordering panels, all dimensions should be confirmed by field measurements.

2. Jobsite Storage and Handling
   a. Check the shipment against the shipping list.
   b. Damaged material must be noted on Bill of Lading.
   c. Materials should be handled carefully. A spreader bar of appropriate length is recommended for hoisting.

3. Application Checklist
   a. Check substrate for proper alignment and uniformity.
   b. Periodic check of panel alignment is crucial to proper panel installation.
   c. Material should be cut on the ground to minimize cut fillings on new materials.
NuRoof® GRID SYSTEM
(Optional Method)

EXISTING WALL PANEL

HAT SECTION [HS-1] ATTACH TO EXISTING FRAMING WITH (2) FASTENERS PER CONN.

HAT SECTION [HS-1] ATTACH TO SECONDARY FRAMING WITH (2) FASTENERS PER CONN.

EQUAL

EXISTING ROOF PANEL

EDGE ZONE SPACING

MAIN PURLIN SPACING

PURLIN SUPPORT FRAMING

EFFECTIVE DECEMBER 18, 2007
NuRoof® GRID SYSTEM
(Optional Method Details)

**CONNECTION OF HAT SECTIONS TO PURLIN**
(SIDE VIEW)

**CONNECTION OF HAT SECTIONS TO PURLIN**
(FRONT VIEW)

**SPLICE DETAIL**
NOTE: MUST OCCUR OVER A SUPPORT MEMBER.
SSR SYSTEM OVER EXISTING PBR PANEL
(Vented Method)

NOTE: MAJOR RIB OF EXISTING ROOF PANEL CANNOT EXCEED 1 1/4" IN HEIGHT.
NuRoof® DETAILS

SSR SYSTEM OVER EXISTING PBR PANEL
(Vented Eave Detail)

INSTALLATION NOTE:
1. FIELD CUT PANEL AT EAVE. (EXISTING ROOF PANEL CANNOT EXTEND BEYOND HIGH RIB OF WALL PANEL)
2. INSTALL RETRO EAVE ANGLE ALONG CUT END OF EXISTING PANEL THAT HAS BEEN CUT BACK. ATTACH INTO EACH HIGH RIB OF THE EXISTING PANEL AND INTO EAVE STRUT BELOW.
3. CLIPS FOR DOUBLE-LOK PANEL MUST BE LAYED OUT TO FALL CENTERED IN BETWEEN THE HIGH RIBS OF THE EXISTING PANEL.
4. APPLY TRI-BEAD TAPE SEALER CONTINUOUS ALONG RETRO EAVE ANGLE.
5. ATTACH INSIDE METAL CLOSURE WITH 1/16 x 1 1/4 S.D. W/WASHER [FASTENER #1].
6. APPLY A 10" LONG PIECE OF TRI-BEAD TAPE SEALER UP AND OVER THE INSIDE METAL CLOSURE.
7. APPLY A 2" LONG PIECE OF TRI-BEAD TAPE SEALER IN VERTICAL LEG OF PANEL SEAM.
8. APPLY MINOR RIB TAPE SEAL BETWEEN PANEL AND EAVE TRIM OR GUTTER.
9. ATTACH PANEL WITH 1/16 x 1 1/4" LONG-LIFE W/WASHER IN THE FLAT PANEL AND ONE EACH SIDE OF THE INSIDE METAL CLOSURE (8) TOTAL [FASTENER #1E].

SSR SYSTEM OVER EXISTING PBR PANEL
(Vented Clip Attachment Detail)
SSR SYSTEM OVER EXISTING PBR PANEL
(Vented Rake Detail)

1/4-14 x 7/8" LONG-LIFE LAPTEK W/WASHER [FASTENER #4]
@ 12" O.C.

1/4-14 x 1/4" LONG-LIFE S.D. W/WASHER [FASTENER #1E]
@ 24" O.C.

1/4-14 x 1/4" SHOULDER TEK 2 SELF-DRILLER [FASTENER #5]
@ 24" O.C. (CENTER IN SLOT)

1/4-14 x 1" SELF-DRILLER W/WASHER [FASTENER #1]
(2 @ EA. PURLIN)

2" x 4" RAKE ANGLE

TRI-BEAD TAPE SEALER [HW-504]
SSR SYSTEM OVER EXISTING PBR PANEL
(Vented Rake Detail W/Termination)

- **2" Stand Off**
  - Rake Support Angle [HW-7866]
  - \( \frac{1}{4} \)-14 x \( \frac{3}{8} \)" Long-Life Laptek
  - W/Washer [Fastener #4]
  - @ 12" O.C.

- **VARIABLE TERMINATION**
  - Trim [FL-117]
  - Tri-Bead Tape Sealer [HW-504]

- **\( \frac{1}{4} \)-14 x \( \frac{1}{4} \)" Long-Life S.D.**
  - W/Washer [Fastener #1E]
  - @ 24" O.C.

- **\( \frac{1}{4} \)-14 x \( \frac{1}{2} \)" Shoulder Tek 2**
  - Self-Driller [Fastener #5]
  - @ 24" O.C. (Center in Slot)

- **\( \frac{1}{4} \)-14 x 1" Self-Driller**
  - W/Washer [Fastener #1]
  - @ 12" O.C.

- **Rake Slide**
  - [FL-115]

- **Furring Zee**
  - [FL-_

- **Foam Closure**

- **Rake Support Angle**

- **Existing PBR Panel**

- **2" x 4" Rake Angle**

- **2" x 4" Rake Angle**

- **Purlin**

- **Double-Lok® Panel**

- **2" x 4" Rake Angle**

- **1\( \frac{1}{4} \)-14 x 1" Self-Driller**
  - W/Washer [Fastener #1]
  - (2 @ EA. Purlin)
SSR SYSTEM OVER EXISTING PBR PANEL
(Vented Ridge Detail)
SSR SYSTEM OVER EXISTING PBR PANEL
(Vented EndLap Detail)

FASTENER SEQUENCE @ ENDLAP

1/8" x 1/4" LONG-LIFE TYPE "B" W/WASHER [FASTENER #46] (6 PER PANEL LOCATED IN PREPUNCHED HOLES IN PAN OF PANEL)

1/4" x 5/8" "LONG-LIFE TYPE "B" W/WASHER [FASTENER #46] (2 PER ENDLAP)

1/4" x 1 1/4" "LONG-LIFE S.D. W/WASHER [FASTENER #1E] (2 PER ENDLAP)

2" STAND OFF SLIDING CLIP [HW-2129]

TRI-BEAD TAPE SEALER CONT. ACROSS PANEL [HW-504]

MODIFIED BACKUP PLATE [HW-7760] 24" PANEL

1/4" x 1" SELF-DRILLER W/WASHER [FASTENER #1] (2 PER CLIP)

DOUBLE-LOCK® PANEL (PREPUNCHED)

EXISTING PBR PANEL

PURLIN
SSR SYSTEM OVER EXISTING PBR PANEL
(Insulated Method)

NOTE: MAJOR RIB OF EXISTING ROOF PANEL CANNOT EXCEED 1¼" IN HEIGHT.
SSR SYSTEM OVER EXISTING PBR PANEL
(Insulated Eave Detail)

**INSTALLATION NOTE:**
1. FIELD CUT PANEL AT EAVE. (EXISTING ROOF PANEL CANNOT EXTEND BEYOND HIGH RIB OF WALL PANEL)
2. INSTALL RETRO EAVE ANGLE ALONG CUT END OF EXISTING PANEL THAT HAS BEEN CUT BACK. ATTACH INTO EACH HIGH RIB OF THE EXISTING PANEL AND INTO EAVE STRUT BELOW.
3. CLIPS FOR DOUBLE-LOK PANEL MUST BE LAYED OUT TO FALL CENTERED IN BETWEEN THE HIGH RIBS OF THE EXISTING PANEL.
4. APPLY TRI-BEAD TAPE SEALER CONTINUOUS ALONG RETRO EAVE ANGLE.
5. ATTACH INSIDE METAL CLOSURE WITH ¼-14 x 1” S.D.S. W/WASHER [FASTENER #1].
6. APPLY A 10” LONG PIECE OF TRI-BEAD TAPE SEALER UP AND OVER THE INSIDE METAL CLOSURE.
7. APPLY A 2” LONG PIECE OF TRI-BEAD TAPE SEALER IN VERTICAL LEG OF PANEL SEAM.
8. APPLY MINOR RIB TAPE SEAL BETWEEN PANEL AND EAVE TRIM OR GUTTER.
9. ATTACH PANEL WITH ¼-14 x 1¼” LONG-LIFE W/WASHER IN THE FLAT PANEL AND ONE EACH SIDE OF THE INSIDE METAL CLOSURE (8) TOTAL [FASTENER #1E].

SSR SYSTEM OVER EXISTING PBR PANEL
(Insulated Clip Attachment Detail)
SSR SYSTEM OVER EXISTING PBR PANEL
(Insulated Rake Detail)

- ¹⁄₄ x 1 ¼" LONG-LIFE S.D. WWASHER [FASTENER #1E] @ 24" O.C.
- ¹⁄₄ x 1 ¼" SHOULDER TEK 2 SELF-DRILLER [FASTENER #6] @ 24" O.C. (CENTER IN SLOT)
- ¹⁄₄ x 1" SELF-DRILLER WWASHER [FASTENER #1] (2 @ EA. PURLIN)
- TRI-BEAD TAPE SEALER [HW-504]

Detail:
- 2" STAND OFF RAKE SUPPORT ANGLE [HW-7664]
- SCULPTURED RAKE TRIM
- RAKE SLIDE [FL-115]
- ¹⁄₄ x ½" LONG-LIFE LAPTEK WWASHER [FASTENER #4] @ 12" O.C.
- FOAM CLOSURE
- WALL PANEL
- 2" BLANKET INSULATION (OPTIONAL)
- 2" STAND OFF RAKE SUPPORT ANGLE [HW-7664]
- SCULPTURED RAKE TRIM
- RAKE SLIDE [FL-115]
- ¹⁄₄ x ½" LONG-LIFE LAPTEK WWASHER [FASTENER #4] @ 12" O.C.
- FOAM CLOSURE
- WALL PANEL
- 2" BLANKET INSULATION (OPTIONAL)
SSR SYSTEM OVER EXISTING PBR PANEL
(Insulated Rake Detail W/Termination)

1/4-14 x 1/4" LONG-LIFE LAPI TEK W/WASHER [FASTENER #4] @ 12" O.C.

TRI-BEAD TAPE SEALER [HW-504]

1/4-14 x 1 1/4" LONG-LIFE S.D. W/WASHER [FASTENER #1E] @ 24" O.C.

1/4-14 x 1 1/4" SHOULDER TEK 2 SELF-DRILLER [FASTENER #5] @ 24" O.C. (CENTER IN SLOT)

1/4-14 x 1" SELF-DRILLER W/WASHER [FASTENER #1] (2 @ EA. PURLIN)

1/4-14 x 1" SELF-DRILLER W/WASHER [FASTENER #1] @ 12" O.C.

BUILDING DIM.

6"

DOUBLE-LOK® PANEL

2" BLANKET INSULATION (OPTIONAL)

EXISTING PBR PANEL

2" x 4" RAKE ANGLE

1/4-14 x 1" SELF-DRILLER W/WASHER [FASTENER #1] (2 @ EA. PURLIN)

PURLIN

2" x 4" RAKE ANGLE

1/4-14 x 1/4" LONG-LIFE LAPI TEK W/WASHER [FASTENER #4] @ 12" O.C.

RAKE SLIDE [FL-115]

FURRING ZEE [FL-__]

RETO-FIT RAKE TRIM [FL-__]

VARIABLE TERMINATION TRIM [FL-117]

TRI-BEAD TAPE SEALER [HW-504]

1/4-14 x 1 1/4" SHOULDER TEK 2 SELF-DRILLER [FASTENER #5] @ 24" O.C. (CENTER IN SLOT)

1/4-14 x 1/4" LONG-LIFE LAPI TEK W/WASHER [FASTENER #4] @ 12" O.C.

TRI-BEAD TAPE SEALER [HW-504]

1/4-14 x 1/4" LONG-LIFE LAPI TEK W/WASHER [FASTENER #4] @ 12" O.C.

FOAM CLOSURE

WALL PANEL

2" STAND OFF RAKE SUPPORT ANGLE [HW-7664]
SSR SYSTEM OVER EXISTING PBR PANEL
(Insulated Ridge Detail)

ROOF PITCH 12

TRI-BEAD TAPE SEALER [HW-504]

2" STAND OFF SLIDING CLIP [HW-2129]

DOUBLE-LOK® PANEL

1/4" x 1" SELF-DRILLER W/WASHER [FASTENER #1]
(2 PER CLIP)

1/4" x 1/2" LONG-LIFE S.D. W/WASHER [FASTENER #1E]
(3 PER PANEL)

1/4" x 1/2" LONG-LIFE LAPTEK W/WASHER [FASTENER #4]
@ 6" O.C.

1/4" x 1" SELF-DRILLER W/WASHER [FASTENER #1E]
(6 PER PANEL LOCATED IN PREPUNCHED HOLES IN PAN OF PANEL)

RIDING FLASHING

EXISTING DIE-FORMED RIDGE CAP

MODIFIED BACKUP PLATE [HW-7760] 24" PANEL

OUTSIDE CLOSURE [HW-430] 24" PANEL

TRI-BEAD TAPE SEALER CONT. ACROSS PANEL [HW-504]

2" BLANKET INSULATION (OPTIONAL)

PURLIN

EXISTING PBR PANEL

DOUBLE-LOK® PANEL

2" BLANKET INSULATION (OPTIONAL)
SSR SYSTEM OVER EXISTING PBR PANEL
(Vented EndLap Detail)

FASTENER SEQUENCE @ ENDLAP

1/4-14 x 1 1/4" LONG-LIFE S.D. W/WASHER [FASTENER #1E] (2 PER ENDLAP)

1/4-14 x 1/4" LONG-LIFE TYPE "B" W/WASHER [FASTENER #46] (6 PER PANEL LOCATED IN PREPUNCHED HOLE IN PAN OF PANEL)

1/4-14 x 1 1/4" LONG-LIFE S.D. W/WASHER [FASTENER #1E] (2 PER ENDLAP)

1/4-14 x 1 1/4" SELF-DRILLER W/WASHER [FASTENER #1] (2 PER CLIP)

PURLIN

TRI-BEAD TAPE SEALER CONT. ACROSS PANEL [HW-504]

2" BLANKET INSULATION (OPTIONAL)

DOUBLE-LOK® PANEL (PREPUNCHED)

2" STAND OFF SLIDING CLIP [HW-2129]

EXISTING PBR PANEL

MODIFIED BACKUP PLATE [HW-7760] 24" PANEL