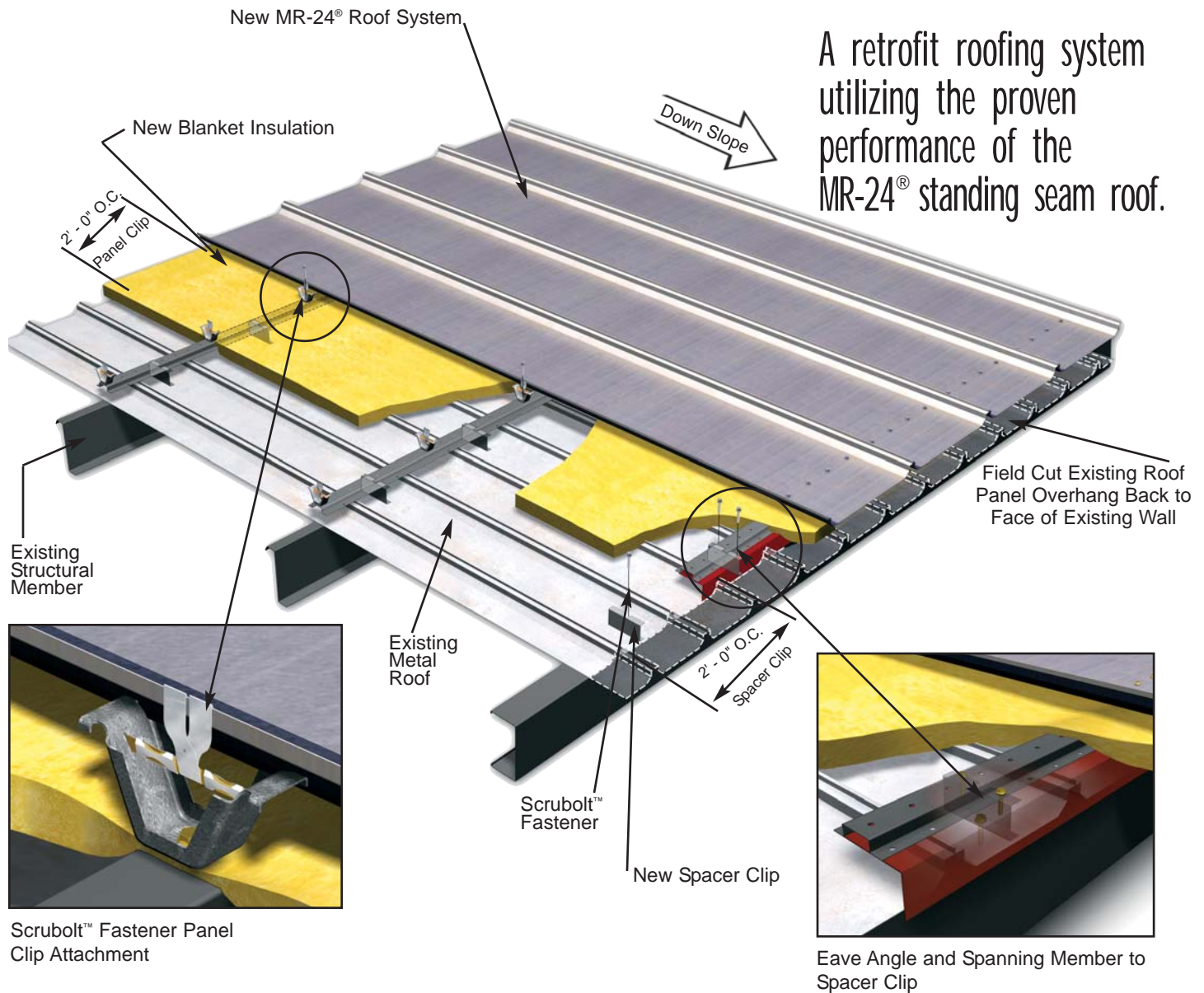


# HIGH PROFILE METAL OVER METAL REROOF SYSTEM

A retrofit roofing system utilizing the proven performance of the MR-24® standing seam roof.



Scrubolt™ Fastener Panel Clip Attachment

Eave Angle and Spanning Member to Spacer Clip

## PRODUCT INSTALLATION

The High Profile Metal over Metal System allows for the efficient installation of the MR-24® standing seam roof system over an existing standing seam or through-fastened rib type roof with a minimum roof slope of 1/4":12".

## WEATHERTIGHTNESS

The MR-24 roof panels used on this system are permanently seamed together with a full 360° Pittsburgh double lock seam to assure weathertightness and long-term performance with minimal maintenance expense.

## ROOF MOVEMENT

The MR-24 roof clips, installed with factory punched holes, securely attach the roof panels to the new supporting structural members with stainless steel tabs roll-formed into the panel seam. Stainless steel tabs are more than 50% stronger than coated carbon steel standing seam tabs. The clip design will accommodate expansion and contraction forces in roofs up to 400 feet wide.

## ACCESSORIES

The High Profile Metal over Metal System includes a complete line of accessories designed specifically to perform in conjunction with the MR-24 roof system.

## WIND UPLIFT

The MR-24 roof system has a UL class 90 wind uplift rating and has been tested in accordance with ASTM E 1592, and meets Factory Mutual requirements for a Class 1 roof assembly.

# HIGH PROFILE METAL OVER METAL SPECIFICATIONS

## 1. GENERAL

1.1 The Butler Manufacturing Company High Profile Metal Over Metal Retrofit System, here after known as the "System", is designed to allow the installation of the MR-24® Roof System over an existing "R" panel roof. The System uses spacer clips and structural members to which the new MR-24 Roof System is attached. The System is an assembly of quality components, assembled in the field to achieve a weathertight standing seam roof that performs like a single steel membrane protecting the building and its contents. All materials manufactured and purchased by Butler Manufacturing are of first quality. To insure quality, all materials and parts must meet rigid material and performance specifications established by Butler's Research and Development Department.

## 2. COMPONENT DESCRIPTION

### 2.1 MR-24® Roof System Panel

2.1.1 Roof panel shall be factory roll formed MR-24 roof panel manufactured by Butler Manufacturing Company, 24" wide, with a major corrugation 2" high (2-3/4" including seam), 24" on center. The flat of the panel shall contain cross flutes 6" on center perpendicular to the major corrugations the entire length of the panel to reduce wind noise, increase strength, and improve walkability.

2.1.2 Panel material as specified shall be 24 gage GALVALUME® steel coated on both sides with a layer of aluminum-zinc alloy (approximately 55% aluminum, 45% zinc) applied by the continuous hot dipped method. Minimum 0.55 ounce coated weight per square foot as determined by the triple spot test per ASTM Specification A 792.

OR

Panel material shall be a laminate consisting of: a base layer of 24-gage steel coated on both sides with GALVALUME. Core layer of a constrained viscoelastic material. An outer layer of 0.006" thick stainless steel (Type 304).

OR

Panel material shall be a laminate consisting of: a base layer of 24-gage steel coated on both sides with GALVALUME. A core layer of a constrained viscoelastic material. An outer layer of 0.008" thick aluminum (alloy 5052).

OR

Panel material shall be 24-gage Galvanized (G-90 coating) per ASTM Specification A-653 (G-90), and painted with exterior colors of Butler-Cote® finish system, a full strength, 70% Kynar 500® or Hylar 5000® fluoropolymer coating.

OR

Special materials, gages, or colors as applicable for custom design.

### 2.2 MR-24 Roof System Clip

The Retrofit MR-24 Roof Panel Clip: Galvanized steel clip base with stainless steel sliding clip tab. Galvanized steel clip base shall be pre-punched or pre-drilled for mounting to existing secondary structural members. Sliding clip tab shall be designed to lock into and become an integral part of the roof panel double lock seam. The roof clip securely holds the panels to the existing secondary structural members while still allowing the entire new MR-24 roof to move due to thermal expansion and contraction forces.

### 2.3 Consult the Butler Manufacturing Company MR-24 Roof System Specification for additional information.

### 2.4 Connections

#### 2.4.1 Panel Connection

The MR-24 roof panels are permanently seamed together with a full 360 degree Pittsburgh double lock seam to keep moisture out. The type 304 stainless steel clip tab folds tightly into the seam to assure weathertightness. The Butler Manufacturing Company roof clip tab is more than 50% stronger than coated carbon steel standing seam clip tabs.

#### 2.4.2 Spacer Clip to Existing Structural Connection

A 3/8" by 1" Scrubolt™ fastener is provided with the System for attachment of the roof panel to the existing structural member. Due to variable site and existing structural conditions, Butler Manufacturing Company shall not be responsible for the design of the connection of the System to the existing structural. A professional structural engineer should determine whether the supplied Scrubolt fastener is adequate based on existing conditions.

## 3. DESIGN INFORMATION

3.1 The System has been designed in accordance with the latest edition of the American Iron and Steel Institute (AISI) "Cold-Formed Steel Design Manual", and in accordance with reliable engineering methods and practices.

### 3.2 Performance Testing

3.2.1 Underwriters Laboratories - UL Class 90 Rating (U.L. Test 580).

3.2.2 ASTM E 1592

3.2.3 ASTM E 1680-95 Air Infiltration @ 12.0 psf, 0.050 cfm/ft2

ASTM E 1646-95 Water Penetration @ 12.0 psf, no leakage

Factory Mutual FM I-60, FM I-75, FM I-90, FM I-120

3.3 Butler Manufacturing Company will not be responsible for the structural integrity of the existing building due to the additional dead load of the System. A professional structural engineer should review the existing structure to determine the structural integrity.

### QUALITY COMMITMENT - GUARANTEED

Every material, coating part and process that is used in your new building is tested to ensure strict compliance with exacting standards. Every supplier is rigorously tested on an ongoing basis. Butler is the only manufacturer in the industry with that kind of commitment to quality.

Galvalume® is a registered trademark of BIEC International, Inc.  
Kynar 500® is a registered trademark of ATOFINA.  
Hylar 5000® is a registered trademark of Solvay S.A.

Butler® Building products are constantly being improved; therefore, the information contained herein is subject to change without notice. Before finalizing project details, contact your nearest Butler Builder® or Butler Manufacturing Company for the latest information.



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