

TEXAS DEPARTMENT OF INSURANCE

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PRODUCT EVALUATION RC-397

Effective January 1, 2014

*The following product has been evaluated for compliance with the wind loads specified in the **International Residential Code (IRC)** and the **International Building Code (IBC)**. This product shall be subject to reevaluation in **March 2016**.*

This product evaluation is not an endorsement of this product or a recommendation that this product be used. The Texas Department of Insurance has not authorized the use of any information contained in the product evaluation for advertising, or other commercial or promotional purpose.

This product evaluation is intended for use by those individuals who are following the design wind load criteria in Chapter 3 of the IRC and Section 1609 of the IBC. The design loads determined for the building or structure shall not exceed the design load rating specified for the products shown in the limitations section of this product evaluation. This product evaluation does not relieve a Texas licensed engineer of his responsibilities as outlined in the Texas Insurance Code, the Texas Administrative Code, and the Texas Engineering Practice Act.

SMI 1.5 MS 24 Gauge Mechanical Standing Seam Metal Roof Panel Installed Over an Insulated Steel Deck (22 Gauge), manufactured by

Sheffield Metals International
5467 Evergreen Parkway
Sheffield Village, OH 44054
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will be accepted for use in areas along the Texas Gulf Coast when installed in accordance with the manufacturer's installation instructions and this product evaluation.

PRODUCT DESCRIPTION

The SMI 1.5 MS is a mechanically seamed standing seam metal roof system. The panel is 24 gauge galvalume and is installed over a 22 Gauge steel deck with ISO. The vertical leg of the panel measures 1 ½ inches in height and has a maximum panel width of 16". The panel can be formed in continuous lengths and interlocks to adjoining panels by field seaming the panels to a 180 degree seam.

LIMITATIONS

Roof Framing: The metal roofing panels shall be installed over a 22 gauge steel B-deck. The steel deck is secured to 12 gauge, A36 structural steel frame members spaced a maximum of 5'-0".

New Roof Framing Attachment: The roof framing shall meet or exceed the uplift requirements of the International Residential Code or International Building Code and shall be installed as required for resistance to wind loads.

Design Wind Pressures: For installations to 22 gauge steel decks, design wind pressure limitations are specified in Table 1.

Installation over an Existing Roof Covering: Installation over an existing roof covering is not covered in this product evaluation report.

Roof Slope: The metal roof panels may be installed on roofs with a roof slope as low as ½ :12 if sealant is used on the panel side laps. If sealant is not used on the panel side laps, then the minimum roof slope is 2:12.

**Table 1
Attachment of 16" wide minimum 24 gauge Metal Roof Panels
To Steel Deck**

System	Design Pressure (psf)	Panel Seam	Panel Clip	Clip Spacing	Clip Fastener
1	-129.25	SMI 1.5 MS	2-piece Galvanized Steel Clips Comprised of Butterfly Base 1.5", 22 gauge G-90 galvanized steel, (1" x 1.25" x 4.5" long); Clip Assembly Butterfly 1.5", 24 gauge G-90 galvanized steel, (5" x 0.910" with two return flaps 0.40" wide)	18"	(2) #12 Self-drilling PH Dekfast™ fasteners.

INSTALLATION INSTRUCTIONS

General: The metal roofing panels shall be installed in accordance with the manufacturer's recommended installation instructions and this evaluation report.

Deck: 22 gauge steel B-deck attached to 12 gauge steel purlins spaced a maximum of 5'-0" o.c.

Insulation: Minimum 1" thick and a maximum 4" thick 20 psi compressive strength ISO insulation board. The insulation board is cut to size and secured to the B deck using minimum No. 12 self-drilling PH Dekfast screws that are sufficient length to penetrate the steel deck a minimum of 3/16". A 2-7/8" by 2-7/8" steel stress plate is used at each fastener. The fastener spacing shall be required as by the manufacturer or a minimum of five fasteners per 4' x 4' board.

Underlayment: A minimum of one layer of No. 30 (Type II) asphalt felt shall be used. The underlayment used shall comply with one or more of the following: ASTM D 226, ASTM D 4869, or ASTM D 1970. The felt shall be installed with 4 inch laps. The felt shall be fastened to the roof deck with corrosion resistant fasteners in accordance with the manufacturer's installation instructions. Fasteners shall be applied along the overlaps not farther apart than 36 inches on center.

Anchorage to Roof Decking: The metal roof panels shall be fastened in accordance with Table 1. The metal roofing panels shall be secured to the roof deck with the clip specified in Table 1 and are spaced 18 inches on center. The clips are secured with two No. 12 PH Dekfast™ fasteners. The legs are mechanically seamed 180 degrees after the clips are installed.

Trims, Closures, and Accessories: Components, such as the eave trim, rake trim, ridge trim, hip trim, and valley trim shall be installed as required by the manufacturer.

Panel Ends and End Laps: As required by the manufacturer.

Panel Edges: As required by the manufacturer.

Note: The manufacturer's installation instructions shall be available on the job site during the installation. All fasteners shall be corrosion resistant as specified in the International Residential Code (IRC), the International Building Code (IBC), and the Texas Revisions.