

# TEXAS DEPARTMENT OF INSURANCE

Engineering Services Program / MC 103-3A 333 Guadalupe Street P.O. Box 149104 Austin, Texas 78714-9104  
Phone No. (512) 322-2212 Fax No. (512) 463-6693

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## PRODUCT EVALUATION RC-332

Effective Date: June 1, 2012

*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 **January 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.*

**Mechanical Lock Panel 2.0" (ML200) Over Purlins - Open Framing W/ Skylight Panels**, Manufactured by

**Quality Metals**  
**210 W. Peden**  
**San Antonio, Texas 78204**  
**Telephone: (210) 227-7276**

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

**Mechanical Lock 2.0" (ML 200): Over Open Framing W/Skylights:** The mechanical lock panels are No. 24 MSG min gauge coated steel, 16 in. max width. The panels are continuous over two or more spans. End lap to occur over purlins and to include end lap back-up plate. Ends of panels overlapped 6 in. beginning 1 in. from purlin web and extending across purlin upper flange. Side laps to be tightened and crimped with special motorized crimping machine to a minimum 45 degree angle with crimping process to include tabs of panel clips. A bead of sealing compound may be used at panel laps and side joints. For Morin Corp., seams may be 45°, 90°, or 180°.

**Mechanical Lock 2.0" (ML 200): Over Purlins-Open Framing:** The mechanical lock panels are No. 24 MSG min gauge coated steel, 16 in. max width. The panels are continuous over two or more spans. End lap to occur over purlins and to include end lap backup plate. Ends of panels overlap 6 inches. Side laps to be tightened and crimped with a special motorized crimping machine at a minimum 45 degree angle with crimping process to include tabs of panel clips. A bead of sealing compound may be used at a panel end and side laps.

## LIMITATIONS

**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:** The design pressure uplift load resistance 52.5 psf.

**Roof Slope:** Roofing panels may be installed on roofs with a minimum slope of ½:12

## INSTALLATION INSTRUCTIONS

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

- **Panel Clips: Open Framing and Open Framing W/Skylights:** The panel clips are two part assembly with a base, 1 in. wide approximately 1-1/4 in. long with upper segment folded over lower end of tab. The clips are fabricated from 0.050 in. thick coated or stainless steel. Upper tab 3 in. wide, maximum tab height 3-1/2 in. with lower end formed to engage base. Fabricated from 0.023 in. thick coated or stainless steel. Spacing for clip to be 5 ft 0-1/16 in. on center with clips located over purlins.
- **Fasteners (Screws) Open Framing W/Skylights:** The fasteners used to attach the panel clips to purlins-to be 1/4-14 shoulder or stand-off type; self-drilling, self-tapping, hex-head, plated steel screws. The fastener length to vary with thickness of insulation and to be min of 3/4 in. longer than nominal thickness of rigid insulation. One fastener per clip is to be used at each purlin. As an alternate fastener for panel clip to purlin attachment, a No. 12-14 self-drilling, self-tapping, hex-head plated steel screw may be used. The same length detail as for 1/4-14 screws to apply. Fasteners used at end laps to be 1/4-10 by 1 in. long self-drilling, self-tapping, hex-head plated steel screws with 1/2 in. outside diameter metal backed sealing washers, spaced in a 1, 3, 3-1/2, 3-1/2, 3, 1 in. pattern.

For Building Unit-to-Panel side lap connections — No. 18-9 by 1 in. long self-drilling, self-tapping, hex-head plated steel screws with a separate 1/2 in. OD plated steel washer and a neoprene sealing washer. One fastener required at each end and one at midspan of each rib of the Building Units.

For Reinforcing Plate-to-Building Unit end lap connection — No. 18-9 by 1 in. long self-drilling, self-tapping, hex-head plated steel screws with a separate 1/2 in. OD. plated steel washer and a neoprene sealing washer.

- **Fasteners (Screws) Open Framing:** The fasteners used to attach the panel clips to purlins- 1/4 - 14 by 1 in. long shoulder or standoff type, self-drilling, self-tapping, hex-head plated steel screws. One screw per clip to be used. As an alternate fastener for panel clip to purlin attachment a No. 12-14 by 1 in. long self-drilling, self-tapping, hex-head plated steel screw may be used. Fasteners used at end laps-1/4 - 10 by 1 in. long self-drilling, self-tapping, hex-head plated steel screws with 1/2 in. OD metal backed sealing washer, spaced on a 1, 3, 3-1/2, 3-1/2, 3, 1 in. pattern.

For Building Unit-to-Panel side lap connections — No. 18-9 by 1 in. long self-drilling, self-tapping, hex-head plated steel screws with a separate 1/2 in. OD plated steel washer and a neoprene sealing washer. One fastener required at each end and one at midspan of each rib of the Building Units.

For Reinforcing Plate-to-Building Unit end lap connection — No. 18-9 by 1 in. long self-drilling, self-tapping, hex-head plated steel screws with a separate 1/2 in. OD plated steel washer and a neoprene sealing washer.

**Purlins:** The purlins are Z-shaped, 0.056 inches minimum thickness steel (40,000 psi minimum yield strength) or min "H" series open web steel joists. The maximum spacing is 60-1/4 inches.

**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.