



NEMO|etc.

Certificate of Authorization #32455
353 Christian Street, Unit #13
Oxford, CT 06478
(203) 262-9245

ENGINEER

EVALUATE

TEST

CONSULT

P.E. EVALUATION REPORT (PEER)

The Garland Company, Inc.

3800 East 91st Street
Cleveland, OH 44105
(216) 430-3516

PEER-GRL-004.A.R7

FL3723-R9 (NON-HVHZ)

Date of Issuance: 11/19/2004

Revision 7: 12/20/2023

SCOPE:

This P.E. Evaluation Report (henceforth 'PEER') is issued under **F.A.C. Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been evaluated for compliance with the **8th Edition (2023) Florida Building Code** [sections noted herein](#).

DESCRIPTION: R-Mer® Structural Metal Roof Systems (NON-HVHZ)

LABELING: Labeling shall be in accordance with the requirements of the Accredited Quality Assurance Agency noted herein.

CONTINUED COMPLIANCE: This PEER is valid until such time as the named product(s) changes, the referenced Quality Assurance or production facility location(s) changes, or Code provisions that relate to the product(s) change. Acceptance of our PEERs by the named client constitutes agreement to notify NEMO ETC, LLC of any changes to the product(s), the Quality Assurance, or the production facility location(s). NEMO ETC, LLC requires a complete review of its PEER relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Florida Product Approval Number (FL#) preceded by the words "NEMO P.E. Evaluated" may be displayed in advertising literature. If any portion of the PEER is displayed, then it shall be done in its entirety.

INSPECTION: Upon request, a copy of this entire PEER shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This PEER consists of pages 1 through 4, plus a 5-page Appendix.

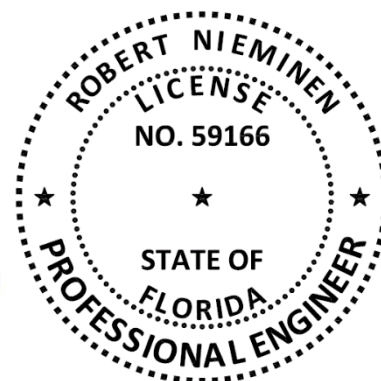
Prepared by:

Digitally signed by
Robert Nieminen
Date: 2023.12.20
'18:23:10 -05'00

This item has been digitally signed and sealed by Robert Nieminen, P.E.

Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.

Robert Nieminen, Florida P.E. 59166, FBC ANE1983
NEMO ETC, LLC, Florida CA #32455



CERTIFICATION OF INDEPENDENCE:

1. NEMO ETC, LLC does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. NEMO ETC, LLC is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the PEERs are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

©2019 NEMO ETC, LLC

STRUCTURAL METAL ROOF SYSTEM EVALUATION

1. SCOPE:

Product Category: Structural Components

Sub-Category: Roof Deck

Product Approval Method: Method 1, Option D: Codified Material, Evaluation by Engineer

Compliance Statement: R-Mer® Structural Metal Roof Systems, as produced by The Garland Company, Inc., have demonstrated compliance with the following sections of the **8th Edition (2023) Florida Building Code** through testing in accordance with the following Standards. Compliance is subject to the [Installation Requirements](#) and [Limitations of Use](#) set forth herein.

2. STANDARDS:

SECTION	PROPERTY	STANDARD
1504.3.2	Wind resistance	UL 580
1504.3.2	Wind resistance	ASTM E1592
1504.6	Physical properties	ASTM G155
1504.7	Impact resistance	FM 4470
1507.4.3, R905.10.3	Material standards	ASTM A653
1507.4.3, R905.10.3	Material standards	ASTM A792
1507.4.3, R905.10.3	Material standards	ASTM B209
1515.1.1	Wind resistance	FM 4471

3. REFERENCES:

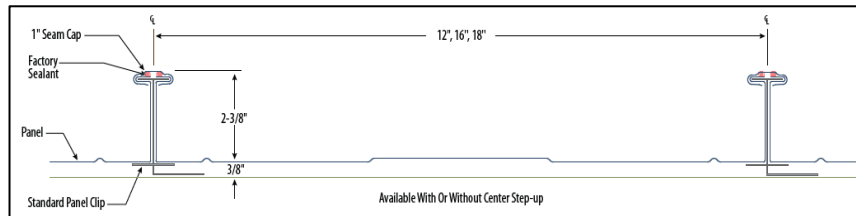
ENTITY	EXAMINATION	REFERENCE	DATE
FM Approvals (TST1867)	FM 4471	3063265	07/29/2019
ITS (TST3892)	ASTM E1592	B3881.04-550-44	11/17/2014
ITS (TST3892)	ASTM E1592	B3881.05-550-44	11/17/2014
ITS (TST3892)	ASTM E1592	E4534.01-550-44	03/30/2015
ITS (TST3892)	ASTM E1592	E4534.02-550-44	03/30/2015
ITS (TST3892)	ASTM E1592	E4534.03-550-44	03/30/2015
ITS (TST3892)	ASTM E1592	E4534.04-550-44	03/30/2015
ITS (TST3892)	ASTM E1592	E4534.05-550-44	03/31/2015
ITS (TST3892)	ASTM E1592	E4534.06-550-44	03/31/2015
ITS (TST3892)	ASTM E1592	E4534.07-550-44	03/31/2015
ITS (TST3892)	ASTM E1592	E4534.08-550-44	03/31/2015
ITS (TST3892)	ASTM E1592	B3881.01-550-44	06/04/2015
ITS (TST3892)	ASTM E1592	B3881.08-550-44	06/04/2015
ITS (TST3892)	ASTM E1592	B3881.13-550-44	06/08/2015
ITS (TST3892)	ASTM E1592	B8116.08-550-44	06/12/2015
ITS (TST3892)	ASTM E1592	B3881.10-550-44	06/22/2015
ITS (TST3892)	ASTM E1592	E8750.01-550-44	08/06/2015
ITS (TST3892)	ASTM E1592	B3881.15-550-44	07/27/2015
ITS (TST3892)	ASTM E1592	B8116.04-550-44	07/27/2015
ITS (TST3892)	ASTM E1592	B3881.14-550-44	07/30/2015
ITS (TST3892)	ASTM E1592	B3881.19-550-44	10/23/2015
ITS (TST3892)	ASTM E1592	E8750.02-550-44	10/23/2015
ITS (TST3892)	ASTM E1592	E8750.03-550-44	10/23/2015
ITS (TST3892)	ASTM E1592	B3881.17-550-44	10/26/2015
ITS (TST3892)	ASTM E1592	E8750.06-550-44	11/04/2015
ITS (TST3892)	ASTM E1592	B3881.20-550-44	11/05/2015
ITS (TST3892)	ASTM E1592	B8116.07-550-44	11/09/2015
ITS (TST3892)	ASTM E1592	B8116.12-550-44	11/09/2015
ITS (TST3892)	ASTM E1592	B3881.23-550-44	11/11/2015
ITS (TST3892)	ASTM E1592	B8116.11-550-44	11/17/2015
ITS (TST3892)	ASTM E1592	B8116.03-550-44	11/18/2015

ENTITY	EXAMINATION	REFERENCE	DATE
ITS (TST3892)	ASTM E1592	B8116.05-550-44	11/19/2015
ITS (TST3892)	ASTM E1592	F8993.04-550-44	07/12/2016
ITS (TST3892)	ASTM E1592	F8993.05-550-44	07/12/2016
ITS (TST3892)	ASTM E1592	F8993.06-550-44	07/13/2016
UL LLC (TST9638)	UL 580	R18494	11/20/1997
UL LLC (QUA9625)	Quality Control	Service Confirmation	01/28/2019
UL LLC (QUA9625)	Quality Control	Florida BCIS	Current

4. PRODUCT DESCRIPTION:

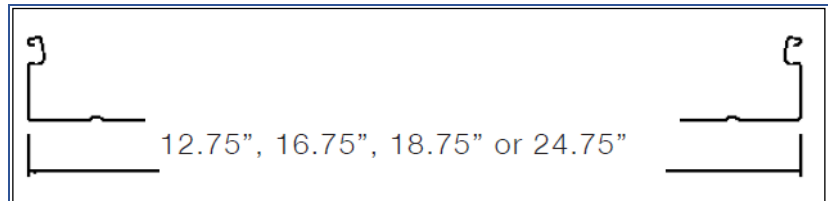
The following structural metal roof panels are mechanically attached to Approved substrate, as outlined in the Limitations / Conditions of Use herein.

- 4.1 R-Mer Span™** is a factory formed, standing seam metal roof panel with a 2-3/8" high vertical seam. This report covers 24 and 22 gauge, 55 ksi yield steel and 0.032 to 0.040-inch, 22 ksi yield aluminum (3105-H14) panels of 12, 16 or 18-inch width.



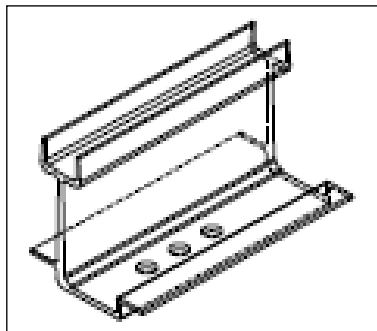
- 4.2 R-Mer Shield™** is a factory formed, architectural standing seam metal roof panel with a 2-1/16" high vertical seam. This report covers 24, 22 and 20 gauge, 50 ksi steel and 0.032, 0.040 and 0.050-inch, 21 ksi aluminum (3105-H14) panels of 12.75, 16.75, 18.75 or 24.75-inch width.

PANEL PROFILE

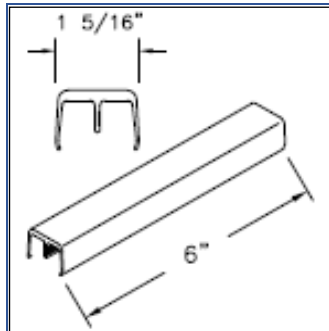


Panels are secured using various combinations of extruded aluminum clips and top rails; namely the R-Mer Shield Standard Clip (4-inch long), R-Mer Shield Alternate Clip (6-inch long) or R-Mer Shield Continuous Clip (20-ft long) with the R-Mer Shield Standard Top Rail (6-inch long) or R-Mer Shield Continuous Top Rail (20 ft lengths). Each type of clip and top rail are of the same aluminum extrusion and cross-sectional profile, and differ only in length. Panel joints are capped with a continuous seam cap of the same material type and thickness as the panel itself.

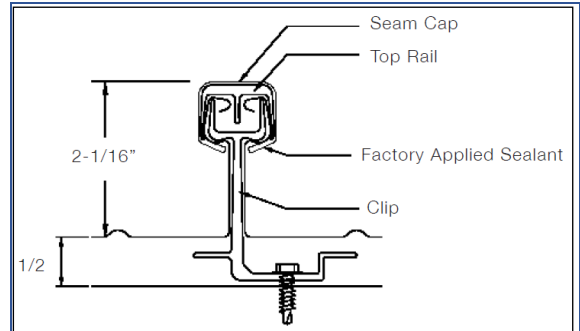
STANDARD CLIP



STANDARD TOP RAIL



SEAM DETAIL



5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither NEMO ETC, LLC nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this PEER, or previous versions thereof, is/was used for permitting or design guidance. PEERs are not to be construed as representing any attributes not specifically listed, nor are PEERs to be construed as an endorsement of the subject, or a recommendation for its use. There is no warranty by NEMO ETC, LLC or Robert Nieminen, P.E., express or implied, as to any finding or other matter in this PEER, or as to any product covered by the PEER.
- 5.2 This PEER is not for use in FBC High Velocity Hurricane Zone jurisdictions, as defined in FBC Chapter 2 (Broward and Miami-Dade Counties).
- 5.3 This PEER pertains to the roof panel and its connecting clips.
- 5.4 This PEER does not include evaluation of fire classification. Refer to **FBC 1505** or **R902** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
- 5.5 This PEER does not include evaluation of roof edge termination.
- 5.6 Refer to **FBC 1511** or **R908** for requirements and limitations regarding recover installations.
- 5.7 Refer to Appendix 1 for span / wind load limitations.
- 5.7.1 Allowable pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to **FBC 1609** for determination of design wind loads.
- 5.7.2 This PEER pertains to the roof panel and its connecting clips. The design professional shall determine the appropriate roof cladding design pressure requirements for comparison to the allowable pressures listed in Appendix 1, and shall analyze the panel fasteners for pullout and pullover for use atop the specified structural elements. The structural framing shall be verified by the Authority Having Jurisdiction.
- 5.8 Minimum slope shall not be less than that set forth in **FBC 1507.4.2** and **The Garland Company** minimum requirements.
- 5.9 Coil metal used to produce the panels shall comply with **FBC 1507.4.3** and **R905.10.3**.
- 5.10 All components in the roof assembly shall have quality assurance audit in accordance with **F.A.C. Rule 61G20-3**. Refer to the Product Approval of the component manufacturer for components listed in Appendix 1 that are produced by a Product Manufacturer other than the report holder on [Page 1](#) of this PEER.

6. INSTALLATION:

Garland Structural Metal Roof Systems shall be installed in accordance with **The Garland Company, Inc.** published installation instructions, subject to the [Limitations of Use](#) noted below.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Norcross, GA

9. QUALITY ASSURANCE ENTITY:

[UL, LLC – QUA9625](#): (360) 817-5512; bsai.inspections@ul.com

- THE FIVE (5) PAGES THAT FOLLOW FORM PART OF THIS PEER -

APPENDIX 1: ATTACHMENT REQUIREMENTS FOR WIND UPLIFT RESISTANCE

The following notes apply to the systems outlined herein:

1. This evaluation is limited to the roof panel and its connecting clips. The design professional shall determine the appropriate roof cladding design pressure requirements for comparison to the allowable pressures listed in Appendix 1, and shall analyze the panel fasteners for pullout and pullover for use atop the specified structural elements. The structural framing shall be verified by the structural plans examiner.
2. This Evaluation Report does not include evaluation of fire classification. Refer to **FBC 1505** for requirements and limitations regarding roof assembly fire classification. Refer to **FBC 2603** for requirements and limitations concerning the use of foam plastic insulation.
 - ✓ Unless otherwise noted, insulation or thermal/fire barrier may be any one layer or combination of FBC Approved (Local or Statewide) board(s) that meet FBC 1505 and, for foam plastic, FBC Chapter 26, when installed with the roof cover.
3. This Evaluation Report does not include evaluation of roof edge termination.
4. Refer to **FBC 1511** for requirements and limitations regarding recover installations.
 - ✓ For mechanically attached components over existing roof decks, fasteners shall be tested in the existing deck for withdrawal resistance. A qualified design professional shall review the data for comparison to the minimum requirements for the system. Testing shall be in accordance with [ANSI/SPRI FX-1](#) or [Testing Application Standard TAS 105](#).
5. Refer the tables herein for system attachment requirements for wind load resistance.
 - ✓ “MDP” = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads, and reflects the ultimate passing pressure divided by 2 (the 2 to 1 margin of safety per FBC 1504.9 has already been applied). Refer to FBC 1609 for determination of design wind pressures.
 - ✓ The MDP for the selected assembly shall meet or exceed the design wind pressure requirements for the project for each pressure zone of the roof. Interpolation between clip-spacing by a qualified design professional is permitted. The maximum listed clip and/or fastener spacing shall not be exceeded.
6. Fasteners shall be corrosion resistant and shall be of sufficient length for minimum ¾-inch penetration through the substrate.
7. As an alternate to bearing plates between clips and insulation board, 15/32-inch thick plywood may be used to cover the entire deck.

TABLE 1: R-MER SPAN STANDING SEAM

Note: 22 ga., 6 x 6 inch steel bearing plates shall be used at each clip location atop insulation.

System No.	Substrate (Note 1)		Roof Cover						MDP (psf)
	Type	Spacing (inch o.c.)	Panel Type	Max. Panel Width (inch)	Clips	Fasteners (Note 4, Note 6)	Max. Spacing (inch o.c.)	Cap	
S-1.	Min. No. 16, 50 ksi steel purlins	48	R-Mer Span 0.032 or 0.040-inch aluminum	18	16 ga. coated steel or stainless steel clips measuring 5-3/8-inch long x 2-5/8-inch high	Two (2) No. 14 corrosion resistant, self-tapping, hex head screws per clip	18 x 48	Continuous min. 0.030-inch aluminum seam cap	-52.5
S-2.	Min. No. 16, 50 ksi steel purlins	60	R-Mer Span 24 or 22 ga. steel	18	16 ga. coated steel or stainless steel clips measuring 5-3/8-inch long x 2-5/8-inch high	Two (2) No. 14 corrosion resistant, self-tapping, hex head screws per clip	18 x 60	Continuous min. 24 ga steel seam cap	-52.5

TABLE 2: R-MER SHIELD STANDING SEAM

Note: 22 ga., 6 x 6 inch steel bearing plates shall be used at each clip location atop insulation (if present).
Panel joints are capped with a continuous seam cap of the same material type and thickness as the panel itself

System No.	Substrate (Note 1)		Roof Cover						MDP (psf)
	Type	Spacing (inch o.c.)	Panel Type	Max. Panel Width (inch)	Clips	Fasteners (Note 4, Note 6)	Max. Spacing (inch o.c.)	Top Rail	
ALUMINUM, 0.032-INCH:									
S-3.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.032-inch aluminum	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x 3/4" T3 Blazer HWH SMS per clip	16.75 x 60	Standard Top Rail (6-inch)	-35.1
S-4.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.032-inch aluminum	16.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x 3/4" T3 Blazer HWH SMS per clip	16.75 x 60	Continuous Top Rail	-45.0
ALUMINUM, 0.040-INCH:									
S-5.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	24.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x 3/4" T3 Blazer HWH SMS per clip	24.75 x 60	Standard Top Rail (6-inch)	-32.0
S-6.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	24.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x 3/4" T3 Blazer HWH SMS per clip	24.75 x 60	Continuous Top Rail	-49.1
S-7.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.040-inch aluminum	24.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x 3/4" T3 Blazer HWH SMS per clip	24.75 x 12	Standard Top Rail (6-inch)	-93.5
S-8.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.040-inch aluminum	24.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x 3/4" T3 Blazer HWH SMS per clip	24.75 x 12	Continuous Top Rail	-112.5
S-9.	Min. 14 ga., 50 ksi steel purlins	64	R-Mer Shield 0.040-inch aluminum	18.75	Standard (4-inch)	Three (3) corrosion resistant 3/4-14 x 1 1/2 HWH per clip	18.75 x 64	Standard Top Rail (6-inch)	-37.5
S-10.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	18.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x 3/4" T3 Blazer HWH SMS per clip	18.75 x 60	Standard Top Rail (6-inch)	-43.8
S-11.	Min. 14 ga., 50 ksi steel purlins	64	R-Mer Shield 0.040-inch aluminum	18.75	Standard (4-inch)	Three (3) corrosion resistant 3/4-14 x 1 1/2 HWH per clip	18.75 x 64	Continuous Top Rail	-60.0

TABLE 2: R-MER SHIELD STANDING SEAM

Note: 22 ga., 6 x 6 inch steel bearing plates shall be used at each clip location atop insulation (if present).
Panel joints are capped with a continuous seam cap of the same material type and thickness as the panel itself

System No.	Substrate (Note 1)		Roof Cover						MDP (psf)
	Type	Spacing (inch o.c.)	Panel Type	Max. Panel Width (inch)	Clips	Fasteners (Note 4, Note 6)	Max. Spacing (inch o.c.)	Top Rail	
S-12.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	18.75	Alternate (6-inch)	Two (2) corrosion resistant ¼-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 60	Continuous Top Rail	-65.0
S-13.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.040-inch aluminum	18.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 12	Continuous Top Rail	-150.8
S-14.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.040-inch aluminum	18.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 12	Standard Top Rail (6-inch)	-157.3
S-15.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 60	Standard Top Rail (6-inch)	-47.5
S-16.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	16.75	Alternate (6-inch)	Two (2) corrosion resistant ¼-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 60	Continuous Top Rail	-72.5
S-17.	Min. 14 ga., 50 ksi steel purlins	64	R-Mer Shield 0.040-inch aluminum	16.75	Continuous (20 ft)	Three (3) corrosion resistant ¼-14 x 1½ HWH per bearing point	16.75 x 64	Continuous Top Rail	-90.0
S-18.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.040-inch aluminum	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 12	Standard Top Rail (6-inch)	-104.2
S-19.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	12.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	12.75 x 60	Standard Top Rail (6-inch)	-72.9
S-20.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 0.040-inch aluminum	12.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	12.75 x 60	Continuous Top Rail	-100.6
S-21.	Min. 14 ga., 50 ksi steel purlins	64	R-Mer Shield 0.040-inch aluminum	12.75	Continuous (20 ft)	Three (3) corrosion resistant ¼-14 x 1½ HWH per bearing point	12.75 x 64	Continuous Top Rail	-105.0
S-22.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.040-inch aluminum	12.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	12.75 x 12	Standard Top Rail (6-inch)	-161.8
S-23.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.040-inch aluminum	12.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	12.75 x 12	Continuous Top Rail	-171.1
ALUMINUM, 0.050-INCH:									
S-24.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.050-inch aluminum	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 12	Standard Top Rail (6-inch)	-148.7
S-25.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 0.050-inch aluminum	16.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 12	Continuous Top Rail	-159.9
STEEL, 24 GA:									

TABLE 2: R-MER SHIELD STANDING SEAM

Note: 22 ga., 6 x 6 inch steel bearing plates shall be used at each clip location atop insulation (if present).
Panel joints are capped with a continuous seam cap of the same material type and thickness as the panel itself

System No.	Substrate (Note 1)		Roof Cover						MDP (psf)
	Type	Spacing (inch o.c.)	Panel Type	Max. Panel Width (inch)	Clips	Fasteners (Note 4, Note 6)	Max. Spacing (inch o.c.)	Top Rail	
S-26.	Min. 14 ga., 50 ksi steel purlins	64	R-Mer Shield 24 ga. steel	18.75	Standard (4-inch)	Three (3) corrosion resistant #12-14 x 1½ HWH per clip	18.75 x 64	Standard Top Rail (6-inch)	-30.0
S-27.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 24 ga. steel	18.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 60	Standard Top Rail (6-inch)	-37.5
S-28.	Min. 14 ga., 50 ksi steel purlins	64	R-Mer Shield 24 ga. steel	18.75	Standard (4-inch)	Three (3) corrosion resistant #12-14 x 1½ HWH per clip	18.75 x 64	Continuous Top Rail	-52.5
S-29.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 24 ga. steel	18.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 60	Continuous Top Rail	-62.0
S-30.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 24 ga. steel	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 60	Standard Top Rail (6-inch)	-41.5
S-31.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 24 ga. steel	16.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 60	Continuous Top Rail	-68.7
S-32.	Min. 14 ga., 50 ksi steel purlins	64	R-Mer Shield 24 ga. steel	16.75	Continuous (20 ft)	Three (3) corrosion resistant #12-14 x 1½ HWH per bearing point	16.75 x 64	Continuous Top Rail	-90.0
S-33.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 24 ga. steel	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 12	Standard Top Rail (6-inch)	-172.5
STEEL, 22 GA:									
S-34.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 22 ga. steel	24.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	24.75 x 60	Standard Top Rail (6-inch)	-39.6
S-35.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 22 ga. steel	24.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	24.75 x 60	Continuous Top Rail	-60.0
S-36.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 22 ga. steel	24.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	24.75 x 12	Standard Top Rail (6-inch)	-104.6
S-37.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 22 ga. steel	24.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	24.75 x 12	Continuous Top Rail	-125.0
S-38.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 22 ga. steel	18.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 60	Standard Top Rail (6-inch)	-51.3
S-39.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 22 ga. steel	18.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 12	Continuous Top Rail	-127.7
S-40.	Min. 12 ga., 50 ksi steel purlins	12	R-Mer Shield 22 ga. steel	18.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	18.75 x 12	Standard Top Rail (6-inch)	-138.0

TABLE 2: R-MER SHIELD STANDING SEAM

Note: 22 ga., 6 x 6 inch steel bearing plates shall be used at each clip location atop insulation (if present).
Panel joints are capped with a continuous seam cap of the same material type and thickness as the panel itself

System No.	Substrate (Note 1)		Roof Cover						MDP (psf)
	Type	Spacing (inch o.c.)	Panel Type	Max. Panel Width (inch)	Clips	Fasteners (Note 4, Note 6)	Max. Spacing (inch o.c.)	Top Rail	
S-41.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 22 ga. steel	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 60	Standard Top Rail (6-inch)	-73.4
S-42.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 22 ga. steel	16.75	Alternate (6-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 60	Continuous Top Rail	-89.5
S-43.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 22 ga. steel	12.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	12.75 x 60	Standard Top Rail (6-inch)	-96.9
S-44.	Min. 12 ga., 50 ksi steel purlins	64	R-Mer Shield 22 ga. steel	12.75	Continuous (20 ft)	Three (3) corrosion resistant ¼-14 x 1½ HWH per bearing point	12.75 x 64	Continuous Top Rail	-105.0
STEEL, 20 GA:									
S-45.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 20 ga. steel	12.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	12.75 x 60	Standard Top Rail (6-inch)	-96.2
S-46.	Min. 12 ga., 50 ksi steel purlins	60	R-Mer Shield 20 ga. steel	16.75	Standard (4-inch)	Two (2) corrosion resistant #12-14 x ¾" T3 Blazer HWH SMS per clip	16.75 x 60	Standard Top Rail (6-inch)	-92.3