Product Evaluation Report

SENTRIGARD METAL ROOFING SYSTEMS ASSOCIATION, INC.,
an NB HANDY COMPANY

Sentrigard ML 100H, 24 Ga. 16 ½” Wide Roof Panel over Plywood

Florida Product Approval # 9860.4 R4
Florida Building Code 2014
Per Rule 61G20-3
Method: 1-D

Category: Roofing
Subcategory: Metal Roofing
Compliance Method: 61G20-3.005(1)(d)
HVHZ

Product Manufacturer:
Sentrigard Metal Roofing Systems Association, Inc.,
an NB Handy Company
65 10th Street
Lynchburg, Virginia 24502

Engineer Evaluator:
Terrence E. Wolfe, P.E. # 44923
Florida Evaluation ANE ID: 1920

Validator:
Locke Bowden, P.E., FL #49704
9450 Alysbury Place
Montgomery, AL 36117

Contents:
Evaluation Report Pages 1 – 4
Compliance Statement: The product as described in this report has demonstrated compliance with the Florida Building Code 2014, Sections 1504.3.2, 1518.9, 1523.6.5.2.4.

Product Description: Sentrigard ML 100H, 1” Mechanical Lock Standing Seam Roof Panel, 24 Ga. Steel, 16 ½” Wide, Roof Panel restrained with steel clips into APA Plywood decking. Non-structural Application.

Panel Material/Standards: Material: 24 Ga. Steel, ASTM A792 unpainted or painted with Valspar Fluropon or ASTM A653 G90 conforming to Florida Building Code 2014 Section 1507.4.3. Yield Strength: Min. 50.0 ksi Corrosion Resistance: Panel Material shall comply with Florida Building Code 2014, Section 1507.4.3

Panel Dimension(s): Thickness: 0.024” Width: 16 1/2” max coverage Rib Height: 1” Panel Seam: 180° Seam, Double Lock w/ mechanical seamer

Roof Panel Clip: Product Name: DMP 1 ML Fixed EZ Seam Type: Fixed, 24 Ga., 2” long Corrosion Resistance: Per Florida Building Code 2014 Section 1506.7

Roof Clip Fastener: (2) #12-11 x 1” Pancake Type A ¾” minimum penetration through plywood Corrosion Resistance: Per Florida Building Code 2014, Section 1506.6, 1517.6

Substrate Description: 1) For HVHZ construction, use 19/32” or greater APA Rated plywood or wood plank. In reroofing applications where the deck is less than 19/32” thick (min. 15/32”) the attachment of the decking in no case shall be less than 8D annual ring shank nails at 6” O.C. Design of plywood and plywood supports are outside the scope of this evaluation. Substrate must be designed in accordance w/ Florida Building Code 2014.

2) For Non-HVHZ applications, use min. 15/32” thick, APA Rated plywood over supports at maximum 24” O.C. Design of plywood and plywood supports are outside the scope of this evaluation. Substrate must be designed in accordance w/ Florida Building Code 2014.
Design Uplift Pressures:

<table>
<thead>
<tr>
<th>Table &quot;A&quot;</th>
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<tbody>
<tr>
<td><strong>Maximum Total Uplift Design Pressure:</strong></td>
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<tr>
<td><strong>Clip Spacing:</strong></td>
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<tr>
<td><strong># Fasteners per Clip:</strong></td>
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</tbody>
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*Design Pressure includes a Safety Factor = 2.0.

Code Compliance:
The product described herein has demonstrated compliance with The Florida Building Code 2014, Section 1504.3.2, 1518.9, 1523.6.5.2.4.

Evaluation Report Scope:
The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2014, as relates to Rule 61G20-3.

Performance Standards:
The product described herein has demonstrated compliance with:
- TAS 125-03
- UL 580-06 - Test for Uplift Resistance of Roof Assemblies
- UL 1897-04 - Uplift Test for Roof Covering Systems
- TAS 100-95 - Test Procedure for Wind and Wind Driven Rain Resistance of Discontinuous Roof Systems
- TAS 110-00 - Accel. Weathering ASTM G 155 / Salt Spray ASTM B 117

Reference Data:
1. TAS 125-03: UL 580-94 / 1897-98 Uplift Test
   Force Engineering & Testing, Inc. (FBC Organization # TST-5328)
2. TAS 100-95
   Farabaugh Engineering & Testing, Inc. (FBC Organization # TST-1654)
3. TAS 110-00: Valspar Fluropon coated metal panel testing
   A) ASTM G 155 by PRI Asphalt Technologies dated 10/31/2012
   B) ASTM B 117 by PRI Asphalt Technologies dated 10/31/2012
4. Certificate of Independence
   By Terrence E. Wolfe, P.E. (No. 44923) @ Force Engineering & Testing, Inc.
   (FBC Organization # ANE ID: 1920)

Test Standard Equivalency:
1. The UL 580-94 test standard is equivalent to the UL 580-06 test standard.
2. The UL 1897-98 test standard is equivalent to the UL 1897-04 test standard.

FL# 9860.4 R4

September 11, 2015
Quality Assurance Entity:
The Report Holder has demonstrated compliance with Florida Building Code and Rule 61G20-3.005 (3) for manufacturing locations audited by an approved quality assurance entity (Keystone Certifications, Inc – FBC OrgID QUA 1824). A listing of manufacturers authorized by the Report Holder to employ the Florida Product Approvals qualified by this report can be found at http://www.keystonecerts.com/qa-assoc/sentrigard or by scanning the following QR Code:

Minimum Slope Range: 2:12. Minimum Slope shall comply with Florida Building Code 2014, including Sections 1515.2.2 and in accordance with Manufacturers recommendations.

Installation:
Install per manufacturer’s recommended details and RAS 133.

Underlayment:
Per Manufacturer’s installation guidelines per Florida Building Code 2014 Section 1518.2, 1518.3, 1518.4.

Fire Barrier:
Any approved fire barrier having a current NOA. Refer to a current fire directory listing for fire ratings of this roofing system assembly as well as the location of the fire barrier within the assembly. Fire classification is not part of this acceptance.

Shear Diaphragm:
Shear diaphragm values are outside the scope of this report.

Design Procedure:
Based on the dimensions of the structure, appropriate wind loads are determined using Chapter 16 of the Florida Building Code 2014 for roof cladding wind loads. These component wind loads for roof cladding are compared to the allowable pressure listed above. The design professional shall select the appropriate erection details to reference in his drawings for proper fastener attachment to his structure and analyze the panel fasteners for pullout and pullover. Support framing must be in compliance with Florida Building Code 2014 Chapter 22 for steel, Chapter 23 for wood and Chapter 16 for structural loading.

*The Test Reports are owned by Metalforming, Inc. Metalforming, Inc. gives the above manufacturer permission to use these test reports.

FL# 9860.4 R4

September 11, 2015
16 1/2" MAX
Pro+Grade Products for The Professional Roofer

PRO+GRADE® Mechanical Lock

DMP 1 ML FIXED EZ Seam

24 GA. STEEL

FARABAUGH
ENGINEERING & TESTING, INC.

PGF T231-07

FEB 16 2015
1"x1-1/8"x1" Z CLOSURE

RAKE TRIM

12-11 x 1" PANCAKE HEAD TYPE A @ 6" O.C.

DMP 1 ML FIXED CLIP

1" MECH LOCK 24 GA. PANEL

15/32" PLYWOOD

12-11 x 1" PANCAKE HEAD TYPE A (2) PER CLIP

18" WIDE ICE & WATER SHIELD AT EAVE & RAKE

30# FELT OVER ENTIRE ROOF

3/32"x1" CONT. TAPE SEALER

FEB 16 2015

SENTRIGARD ML 100H
RAKE TRIM

10-12 x 1" PANHEAD @ 12" O.C.

CLEAT

12-11 x 1" PANCAKE HEAD TYPE A @ 12" O.C.

DMP 1 ML FIXED CLIP
1" MECH LOCK PANEL

15/32" PLYWOOD

12-11 x 1" PANCAKE HEAD TYPE A (2) PER CLIP

18" WIDE ICE & WATER SHIELD AT EAVE & RAKE ONLY
30# FELT OVER REMAINDER OF ROOF
FIELD NOTCH PANEL LEGS AND BEND PAN TO FORM OPEN HEM

OFFSET CLEAT
FILL END OF RIB WITH URETHANE SEALANT (TYP.)

TAPE SEALER

12-11 x 1" PANCAKE @ 12" O.C.
CLEAT

1/2" OVERHANG

PANEL CLIP

12-11 x 1 PANCAKE HEAD 2 PER CLIP

18" WIDE ICE & WATER SHIELD AT EAVE & RAKE 30# FELT OVER ENTIRE ROOF

12-11 x 1 PANCAKE HEAD 4" O.C.

FILL END OF RIB

1" MEC LOCK 24 GA.

12-11 x 1" PANCAKE HEAD

18" WIDE ICE & WATER SHIELD

18" WIDE ICE & WATER SHIELD

STATE OF FLORIDA PROFESSIONAL ENGINEER

TERRENCE E. WOLFE LICENSE No. 44923

SENTRIGARD ML 100H

FLAOTING EAVE

FEB 16 2015
1" MECH LOCK 24 GA. PANEL

15/32" PLYWOOD [MIN.]

18" WIDE ICE & WATER SHIELD AT EAVE & RAKE
30# FELT OVER ENTIRE ROOF

1/4-10 x 1"
(4 PER PANEL)

TUBE SEALANT IN SEAM

DBL-BEAD TAPE SEALER

HIGH EAVE DETAIL

HIGH EAVE TRIM

SENTRIGARD ML 100H