Evaluation Report

"Sentrigard ML200"

Metal Roof Assembly

Manufacturer:

NB Handy Company

65 10th Street

Lynchburg, VA 24504

800-284-6242

for

Florida Product Approval

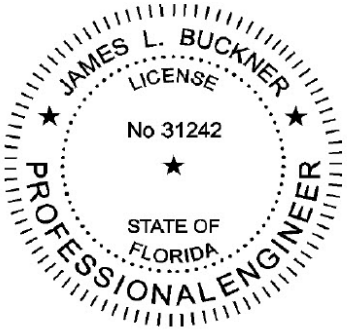
FL 42673.1

Florida Building Code 8th Edition (2023)

Method:	**2 - B**
Category:	**Structural Components**
Sub - Category:	**Roof - Deck**

Product:	"Sentrigard ML200" Roof Panel
Material:	**Steel**
Panel Thickness:	24 ga.
Panel Width:	2" – 16"
Panel Seam:	Double-Lock
Support:	**Steel Purlins**

This item has been digitally signed and sealed by James L. Buckner, P.E., on this date below. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.



James L. Buckner, P.E.
FL31242

Date: 2023.10.11
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Prepared by:
James L. Buckner, P.E., SECB
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Project Manager: Diana Galloway
Report No. 23-541-ML200-S4P16-ER *(New)*
Date: 10/11/2023

Contents:

Manufacturer:
NB Handy Company
65 10th Street
Lynchburg, VA 24504
800-284-6242
http://www.nbhandycom/

Product Name:
"Sentrigard ML200"

Product Category:
Structural Components

Product Sub-Category
Roof - Deck

Compliance Method:
State Product Approval Rule 61G20-3.005 (2)(b)

Product/System Description:
"Sentrigard ML200" Roof Panel
24 ga. Steel roof panel mechanically attached to Steel Purlins with floating panel clips & screws.

Product Assembly as Evaluated:
Refer to Page 4 of this report for product assembly components/materials & standards:

1. Roof Panel
2. Panel Clip
3. Fasteners
4. Insulation (Optional)

Support:
Type:
Steel Purlins
(Design of steel support and its attachment to support framing is outside the scope of this evaluation.)

Description:
- 16 Gauge minimum
- Yield Strength: 50 ksi minimum

Slope:
Minimum slope shall be in compliance with FBC Chapter 15 based on the type of roof covering, applicable code sections and in accordance with manufacturer's recommendations.

Performance:
Wind Uplift Resistance:
- Design Uplift Pressure: **Refer to Table A**
  (Refer to "Table A" attachment details herein)

Performance Standards:

The product described herein has demonstrated compliance with:

- ASTM E 1592-05 (2017) – *Test Method for Structural Performance of Sheet Metal Roof and Siding Systems By Uniform Static Air Pressure Difference*

Code Compliance:

The product(s) described herein have demonstrated compliance with the performance standards listed above as referenced in the: Florida Building Code 8th Edition (2023) Section 1708.2 and International Building Code 2021.

Evaluation Report Scope:

This product evaluation is limited to compliance with the structural requirements of the Florida Building Code, as related to the scope section to Florida Product Approval Rule 61G20-3.001.

Limitations and Conditions of Use:

- Scope of "Limitations and Conditions of Use" for this evaluation:
  This evaluation report for "Optional Statewide Approval" contains technical documentation, specifications and installation method(s) which include "Limitations and Conditions of Use" throughout the report in accordance with Rule 61G20-3.005. Per Rule 61G20-3.004, the Florida Building Commission is the authority to approve products under "Optional Statewide Approval".
- Diaphragm and axial load capacity is outside the scope of this evaluation.
- All metal components and fasteners shall be corrosion resistant in accordance with applicable sections of FBC, including but not limited to Sections 1504.3.2, 1506.6 and 1507.4.4.
- Design of support system is outside the scope of this report. Support shall be designed by others and shall comply with the FBC Chapters 22 for steel and Chapter 16 for structural loading.
- Deck shall be in compliance with applicable building code.
- Fire Classification is outside the scope of Rule 61G20-3 and is therefore not included in this evaluation.
- This evaluation report does not approve the product assembly as described in this report for use in the High Velocity Hurricane Zone (HVHZ) code section. (Dade & Broward Counties)
- Option for application outside "Limitations and Conditions of Use"
  Rule 61G20-3.005(1)(e) allows engineering analysis for "project specific approval by the local authorities having jurisdiction in accordance with the alternate methods and materials authorized in the Code". Any modification of the product as evaluated in this report and approved by the Florida Building Commission is outside the scope of this evaluation and will be the responsibility of others.

Quality Assurance:

The manufacturer has demonstrated compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.0005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through Keystone Certifications, Inc. (FBC Org ID# QUA 1824).

Components/Materials (by Manufacturer):

Roof Panel:	**Sentrigard ML200**
Material:	Steel
Thickness:	24 ga. (min.)
Panel Widths:	2" – 16" (max.) Coverage
Rib Height:	2"
Yield Strength:	40 ksi min.
Material Standards:	Per FBC 1507.4.3
Corrosion Resistance:	Per FBC 1507.4.3(2)
Roof Panel Clip:	**2000 SNS**
Type:	Two-piece, floating clip
Material:	Galvanized Steel
Thickness:	Top: 22 Gauge min. Base: 22 Gauge min.
Yield Strength:	40 ksi min.
Dimensions:	2.41" (tall) x 4.3" (long)
Corrosion Resistance:	Per FBC Section 1506.7
Fastener:	
Type:	Hex-Washer-Head Self-Drilling Screw
Size:	1/4"-14 x penetrate thru support deck 3/4" min.
Corrosion Resistance:	Per FBC 1506.6 & 1507.4.4
Standard:	Per ANSI/ASME B18.6.1

Components & Materials: (by Others)

Insulation (Optional):

<u>Type 1:</u>	
Type:	Rigid Insulation Board
Thickness:	3" (max.)
Properties:	
Density:	20 psi min.
Or Compressive Strength:	2.25 pcf (lbs/ft^3) min.
<u>Type 2:</u>	Compressible Blanket Insulation
Thickness:	6" max. before compression

Insulation Notes:

- Rigid Insulation shall meet minimum density OR compressive strength.
- Insulation shall comply with FBC Section 1508. When insulation is incorporated, fastener length shall conform to penetrate thru bottom of support a minimum of 3/4".

Installation:

Installation Method:
(Refer to **"TABLE A"** below and drawings at the end of this evaluation report.)

- Purlin Spacing: **Refer to "TABLE A" Below**
  (along the length of the panel)
- Two (2) fasteners per clip (at each purlin intersection)
- Rib Interlock: Mechanically seamed 180° (DOUBLE-LOCK)
- Minimum fastener penetration thru bottom of support, 3/4".
- For panel construction at the end of panels, refer to manufacturer's instructions and any site specific design.

TABLE "A" ALLOWABLE LOADS
"Sentrigard ML200" (24 ga. Steel) Roof Panel attached to Steel Purlins With Floating Clips

#	PANEL WIDTH (MAX.)	MAX. SUPPORT SPACING	SPAN CONDITION	CLIP	FASTENER	# OF SCREWS PER ATTACH	PANEL SEAM	DESIGN PRESSURE (PSF)
1	16"	60" (5' - 0")	TRIPLE	4" Floating Clip	2 (1/4") Per Clip	2	Double Lock	**- 36 PSF**
2	16"	24" (2'- 0")	TRIPLE	4" Floating Clip	2 (1/4") Per Clip	2	Double Lock	**- 83.8 PSF**

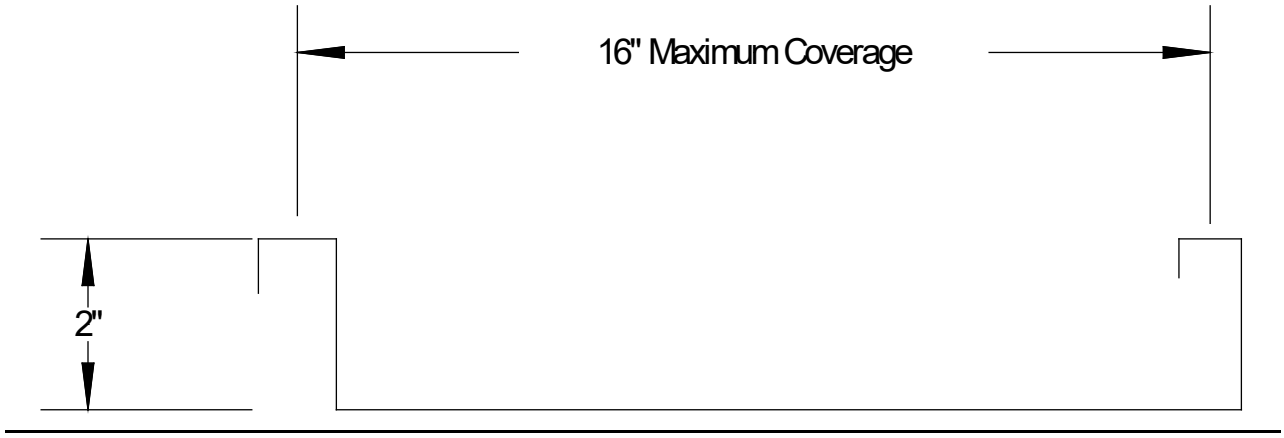
Notes:
1. Allowable design pressure(s) for allowable stress design (ASD).

Install the "Sentrigard ML200" roof panel assembly in compliance with the installation method listed in this report and applicable code sections of FBC 8th Edition (2023). The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

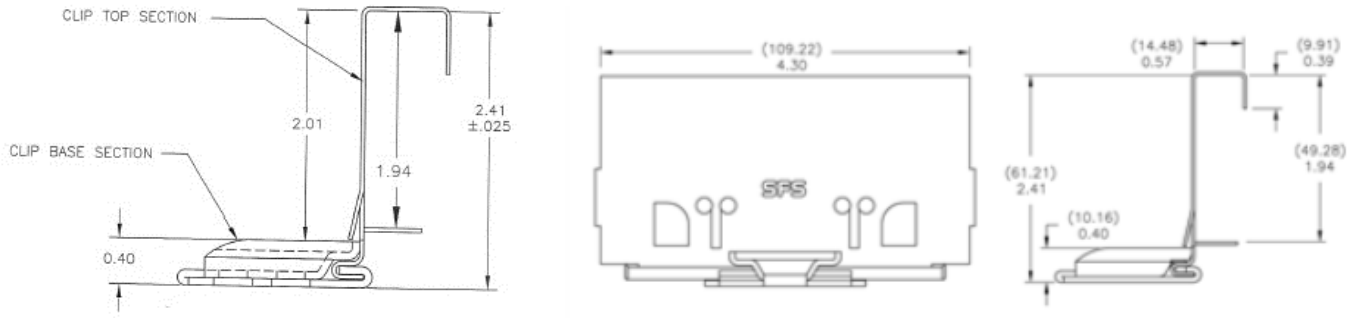
Referenced Data:

1. TAS 125 Uplift Test (Per UL580-06 and UL 1897-12) & ASTM E8
   By Farabaugh Engineering & Testing, Inc. (FBC Organization ID# TST 1654)
   Report No. T234-02, Date: 8/25/02
2. Authorization to Use Test Reports
   By Metalforming, Inc.
3. Quality Assurance
   Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)
   NB Handy Company Licensee #420
4. Certification of Independence
   By James L. Buckner, P.E. @ CBUCK Engineering
   (FBC Organization # ANE 1916)

Installation Method
NB Handy Company
"Sentrigard ML200" (24 ga. Steel) Roof Panel attached to Steel Purlins w/Floating Clips



Typical Panel Profile
(2" – 16" max . width)



Typical Panel Clip
SNS2000 Floating Clip (22 ga. Galv. Steel Top & 16 Ga. Galv. Steel Base)

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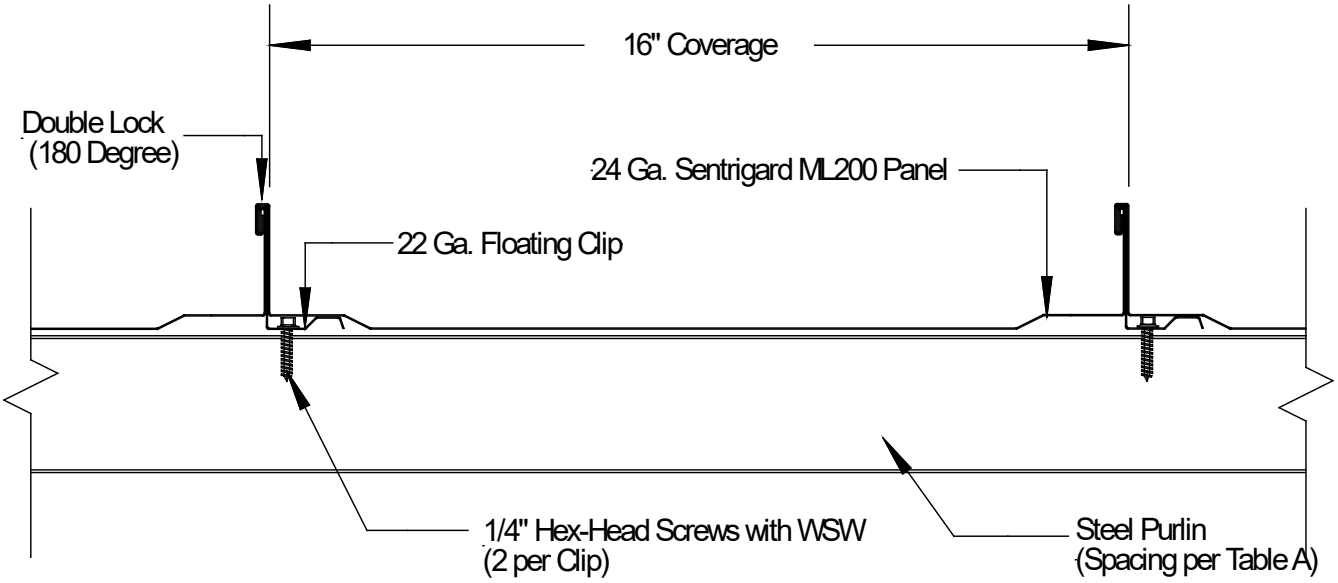

Typical Panel Clip Assembly View

TABLE "A" ALLOWABLE LOADS
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