

**EVALUATION REPORT OF
STEEL AND METAL SYSTEMS, INC.
'275 NEW LOCK PANEL'**

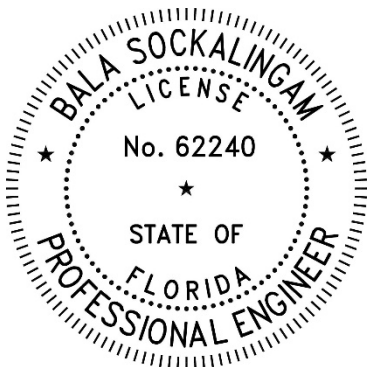
**FLORIDA BUILDING CODE 8TH EDITION (2023)
FLORIDA PRODUCT APPROVAL
FL 39083.1-R1
STRUCTURAL COMPONENTS
ROOF DECK**

Prepared For:
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Prepared By:
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This report consists of
Evaluation Report (3 Pages including cover)
Installation Details (1 Page)
Load Span Tables (1 Page)

Report No. C2703-1
Date: 7.28.2023



This item has been digitally signed and sealed by Bala Sockalingam, PE, on the date indicated.

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

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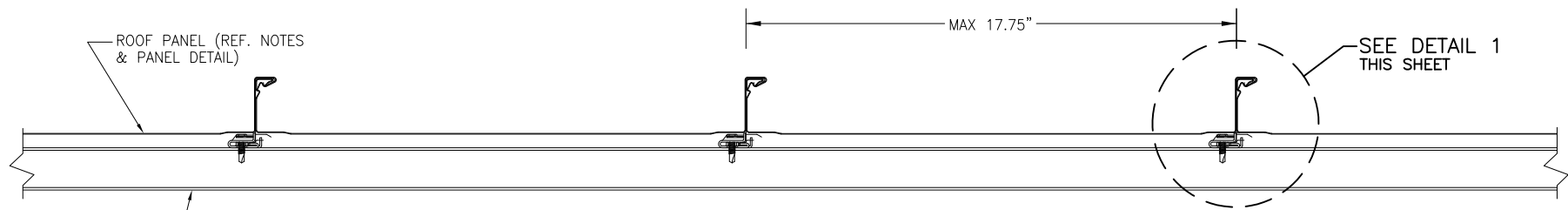
Manufacturer:	Steel and Metal Systems, Inc.
Product Name:	275 New Lock Panel
Panel Description:	Standing seam panel with maximum 17.75" wide coverage and 2" high ribs.
Materials:	24 or 22 ga. with Galvanized coated steel (ASTM A653) or Galvalume coated steel (ASTM A792) or painted steel (ASTM A755). Corrosion resistant as per FBC 2023 Section 1507.4.3.
Support Description:	Min 16 ga., 50 ksi steel section (Must be designed by others)
Slope:	1/4:12 or greater in accordance with FBC 2023 Section 1507.4.2.
Design Uplift Pressure: Factor of Safety = 2	17.5" wide, 24 ga. panel with 90° seam 39.0 psf at clip spacing of 60" o.c. 135.2 psf at clip spacing of 12" o.c. 17.75" wide, 22 ga. panel with 90° seam 52.1 psf at clip spacing of 60" o.c. 165.0 psf at clip spacing of 12" o.c. Clip fastener, purlin, frames and support connections must be designed to resist all loads.
Panel Attachment:	NC33003 sliding clips with (2) 1/4"-14 x 1-1/4" HWH SDS per clip at each support. Clips and fasteners are corrosion resistant as per FBC 2023 Section 1506.7 and 1507.4.4, respectively.
Test Standards:	Roof assembly tested in accordance with ASTM E1592-05 'Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference' and FM 4471 Section 5.5 'Resistance to Foot Traffic'.
Test Equivalency:	The test procedures in ASTM E1592-05 comply with test procedures prescribed in ASTM E1592-05(2017).
Code Compliance:	The product described herein has demonstrated compliance with FBC 2023 Section 1507.4.
Product Limitations:	Design wind loads shall be determined for each project in accordance with FBC 2023 Section 1609 or ASCE 7-22 using allowable stress design. The maximum clip spacing listed herein shall not be exceeded. The design uplift pressure for reduced clip spacing may be computed using rational analysis prepared by a Florida Professional Engineer or

based on Steel and Metal Systems' load span tables. This evaluation report is not applicable in High Velocity Hurricane Zone. Fire classification is not within the scope of this Evaluation Report. Refer to FBC 2023 Section 1505 and current approved roofing materials directory or ASTM E108/UL790 report from an accredited laboratory for fire ratings of this product.

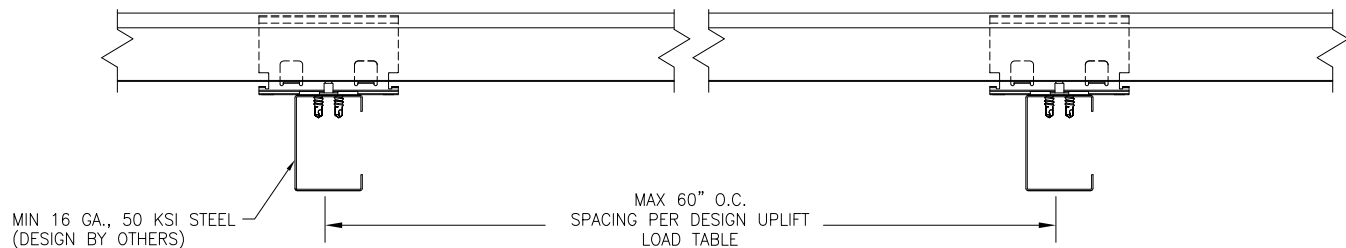
Supporting Documents: ASTM E1592 Test Reports
Force Engineering & Testing, Inc.
78-0260T-12A, B, Reporting Date 12/16/2013
78-0079T-17A, B, Reporting Date 5/25/2017

FM 4471 Test Report
Force Engineering & Testing, Inc.
78-0256T-15B, Reporting Date 10/9/2015

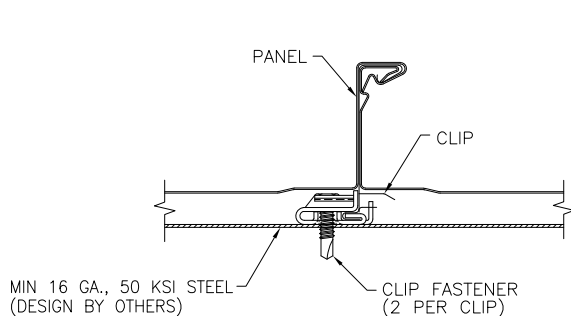
(Steel and Metal Systems, Inc. is authorized to use Karr's Building Supply & Service's Test Reports)



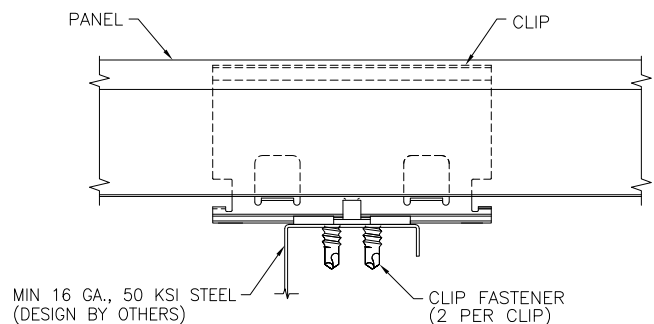
TYPICAL PANEL INSTALLATION X-SECTION



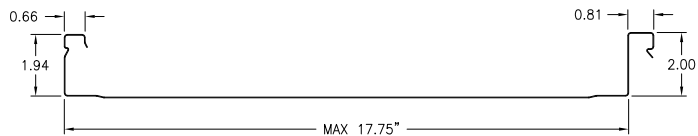
TYPICAL SIDE VIEW



CLIP SECTION VIEW



CLIP SIDE VIEW



PANEL SECTION
(24 OR 22 GA.)

GENERAL NOTES:

1. STRUCTURAL ROOF PANEL HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC).
2. ROOF PANELS SHALL BE 24 OR 22 GA.. MAXIMUM COVERING WIDTH OF PANEL = 17.75".
3. THE ROOF PANELS SHALL BE INSTALLED OVER STRUCTURE AS SPECIFIED ON THIS DRAWING.
4. REQUIRED DESIGN WIND LOADS SHALL BE DETERMINED FOR EACH PROJECT. THIS PANEL SYSTEM MAY NOT BE INSTALLED WHEN THE REQUIRED DESIGN WIND LOADS ARE GREATER THAN THE ALLOWABLE WIND LOADS SPECIFIED ON THIS DRAWING.
5. CLIPS AND FASTENERS MUST BE IN ACCORDANCE WITH THIS DRAWING & FLORIDA BUILDING CODE. IF A DIFFERENCE OCCURS BETWEEN THE MINIMUM REQUIREMENTS OF THIS DRAWING & THE CODE, THE CODE SHALL CONTROL.
6. PURLINS/JOISTS/TRUSSES MUST BE DESIGNED TO WITHSTAND WIND LOADS AS REQUIRED FOR EACH APPLICATION AND ARE THE RESPONSIBILITY OF OTHERS.

DRAWN BY: B.S.	CHECKED BY: S.D.
PLOT:	DATE: 7/23/2021
NO.	DATE
BY	
REVISION DESCRIPTION	
NO.	
DRAWING TITLE 275 NEW LOCK ROOF PANEL	MANUFACTURER STEEL AND METAL SYSTEMS, INC. 505 Main St Blackshear, GA 31516 912 449 9352
CONSULTANTS BALA SOCKALINGAM, PH.D., P.E. 1216 N LANSING AVE SUITE C TULSA OK 74106 PHONE: 918-492-5932 FAX: 866-366-1543	

DRAWING NO. 2703-1	REV.
PAGE NO. 1	OF 1

STEEL AND METAL SYSTEMS, INC.
275 New Lock Panel with 90° Seam
Allowable Uplift Loads

Table 1: Attachment of 24-gauge, 17.5" wide 275 New Lock roof panels to min 16-gauge steel purlins

Panel Clip Spacing	Uplift Pressure (psf)
5' 0" on center	39.0
4' 6" on center	51.0
4' 0" on center	63.0
3' 6" on center	75.1
3' 0" on center	87.1
2' 6" on center	99.1
2' 0" on center	111.1
1' 6" on center	123.1
1' 0" on center	135.2

Table 2: Attachment of 22-gauge, 17.75" wide 275 New Lock roof panels to min 16-gauge steel purlins

Panel Clip Spacing	Uplift Pressure (psf)
5' 0" on center	52.1
4' 6" on center	66.2
4' 0" on center	80.3
3' 6" on center	94.4
3' 0" on center	108.5
2' 6" on center	122.6
2' 0" on center	136.8
1' 6" on center	150.9
1' 0" on center	165.0

Notes:

1. The allowable uplift loads were determined from ASTM E1592 testing and are applicable for the panel and panel to clip connection. Clip fastener, purlin, frames and support connections must be designed to resist all loads imposed on the panel.
2. The factor of safety was 2.0 for all tests.
3. Panels must be installed as per Evaluation Report FL 39083.1 and Steel and Metal Systems, Inc.'s current installation procedure.