

**EVALUATION REPORT OF
METAL SALES MANUFACTURING CORPORATION
'26 GA. IMAGE II PANEL'**

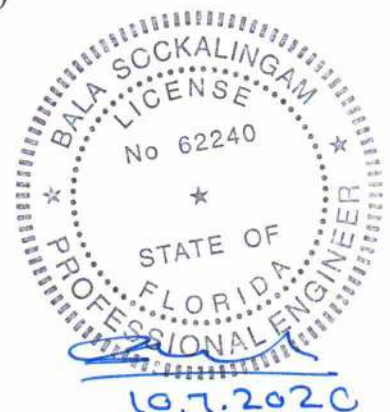
**FLORIDA BUILDING CODE 7TH EDITION (2020)
FLORIDA PRODUCT APPROVAL
FL 14645.11-R4
ROOFING
METAL ROOFING**

**Prepared For:
Metal Sales Manufacturing Corporation
545 South 3rd Street, Suite 200
Louisville, KY 40202
Telephone: (502) 855-4300
Fax: (502) 855-4200**

**Prepared By:
Bala Sockalingam, Ph.D., P.E.
Florida Professional Engineer #62240
1216 N Lansing Ave., Suite C
Tulsa, OK 74106
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**This report consists of
Evaluation Report (3 Pages including cover)
Installation Details (1 Page)
Load Span Table (1 Page)**

**Report No. C2397-11
Date: 10.7.2020**

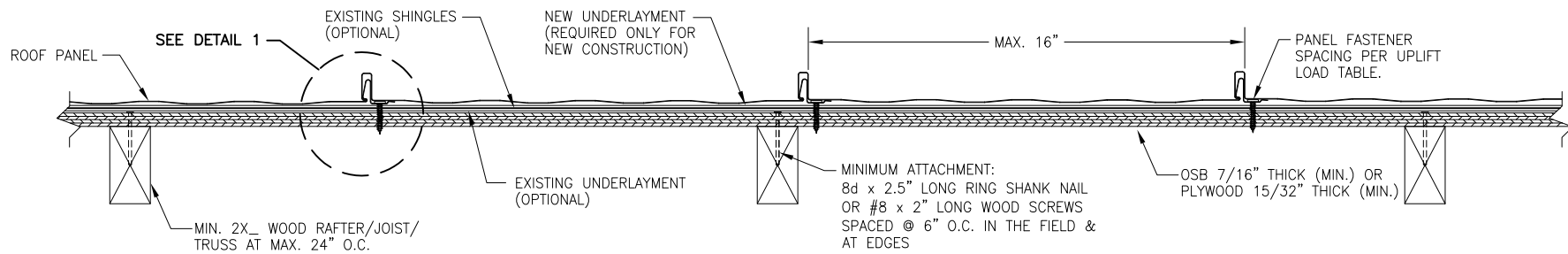


Manufacturer:	Metal Sales Manufacturing Corporation
Product Name:	Image II
Panel Description:	Max. 16" wide coverage with 1" high ribs
Materials:	Min. 26 ga., 50 ksi steel. Galvanized coated steel (ASTM A653) or Galvalume coated steel (ASTM A792) or painted steel (ASTM A755). Corrosion resistant as per FBC 2020 Section 1507.4.3.
Deck Description:	Min. 7/16" thick OSB or min. 15/32" thick Plywood or min. 3/4" thick wood plank (min SG of 0.42) for new and existing constructions. Designed by others and installed as per FBC 2020.
Deck Attachment: (Minimum)	8d x 2.5" long ring shank nails or #8 x 2" long wood screws @ 6" o.c. in the plywood field and edges. Designed as per FBC 2020.
New Underlayment:	Minimum underlayment as per FBC 2020 Section 1507.4.5.1. Required for new construction and optional for reroofing construction.
Existing Underlayment: (Optional)	One layer of asphalt shingles over one layer of #30 felt. For reroofing construction only.
Slope:	1/2:12 or greater in accordance with FBC 2020 Section 1507.4.2. Requires applied lap sealant for roof slopes less than 3:12.
Allowable Uplift Load: (Factor of Safety = 2)	20.8 psf @ fastener spacing of 24" o.c 63.5 psf @ fastener spacing of 6" o.c 86.55 psf @ fastener spacing of 6" o.c with 3/8" bead adhesive in panel sidelap
Fastener Pattern:	#10 pancake head screws along panel seam. Fasteners are corrosion resistant as per FBC 2020 Section 1507.4.4. Fastener shall be of sufficient length to penetrate through the deck a minimum of 1/4".
Sidelap Adhesive:	Schnee-Morehead SM7108 Permthane adhesive
Test Standards:	Roof assembly tested in accordance with UL580-94 (Rev 98) 'Uplift Resistance of Roof Assemblies' & UL1897-98 'Uplift Tests for Roof Covering Systems'.
Test Equivalency:	The test procedures in UL 580-94 comply with test procedures prescribed in UL 580-06. The test procedures in UL 1897-98 comply with test procedures prescribed in UL 1897-12.

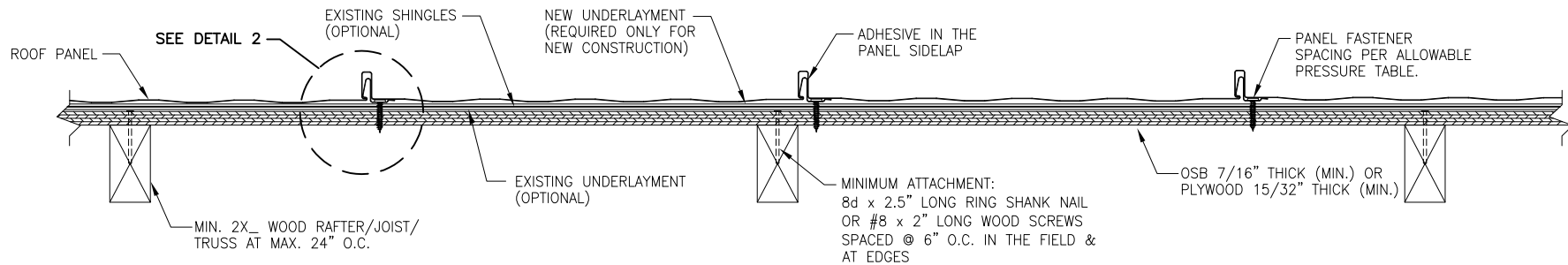
Code Compliance: The product described herein has demonstrated compliance with FBC 2020 Section 1507.4.

Product Limitations: Design wind loads shall be determined for each project in accordance with FBC 2020 Section 1609 or ASCE 7-16 using allowable stress design. The maximum fastener spacing listed herein shall not be exceeded. The design pressure for reduced fastener spacing may be computed using rational analysis prepared by a Florida Professional Engineer or based on Metal Sales load span table. This evaluation report is not applicable in High Velocity Hurricane Zone. Fire classification is not within scope of this Evaluation Report. Refer to FBC 2020 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: UL580/UL1897 Test Reports
Farabaugh Engineering and Testing Inc.
Project No. T176-11, Reporting Date 4/26/11
Project No. T260-11, Reporting Date 8/15/11

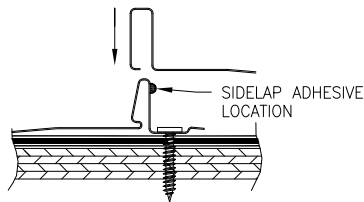
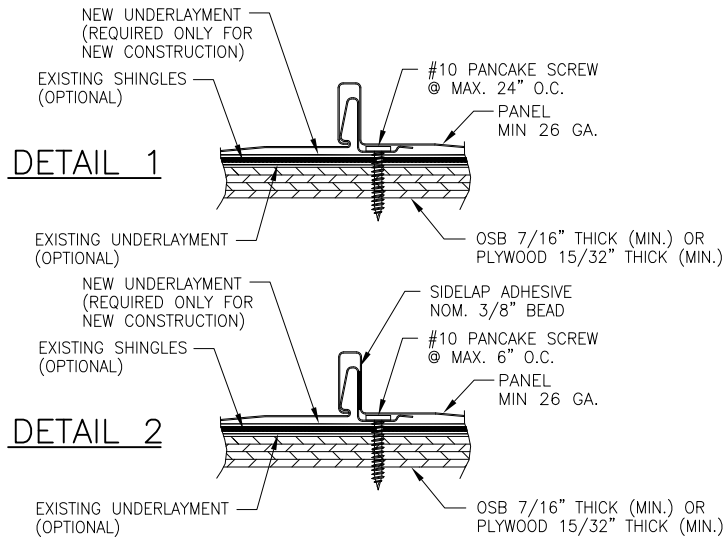


FASTENING PATTERN 1



FASTENING PATTERN 2

TYPICAL PANEL INSTALLATION X-SECTION



GENERAL NOTES:

1. ARCHITECTURAL ROOF PANEL HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC).
2. ROOF PANELS SHALL BE MIN. 26 GA. (t = 0.018"). MAX. EFFECTIVE COVERING WIDTH OF PANEL = 16".
3. THE ROOF PANELS SHALL BE INSTALLED OVER SHEATHING & 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. ALL FASTENERS MUST BE IN ACCORDANCE WITH THIS DRAWING & THE FLORIDA BUILDING CODE. IF A DIFFERENCE OCCURS BETWEEN THE MINIMUM REQUIREMENTS OF THIS DRAWING & THE CODE, THE CODE SHALL CONTROL.
6. RAFTERS/JOISTS/TRUSSES MUST BE DESIGNED TO WITHSTAND WIND LOADS AS REQUIRED FOR EACH APPLICATION AND ARE THE RESPONSIBILITY OF OTHERS.
7. REQUIRES APPLIED LAP SEALANT FOR ROOF SLOPE < 3:12.

DRAWN BY: B.S.		CHECKED BY: D.S.	
PLOT:		DATE: 10/6/20	
NO.	REVISION	DATE	DESCRIPTION
1			
DRAWING TITLE: IMAGE II PANEL			
CONSULTANTS: BALA SOCKALINGAM, PH.D., P.E.			
MANUFACTURER: METAL SALES MANUFACTURING CORP.			
1216 N LANSING AVE, SUITE C			
TULSA, OK 74106			
PHONE: 918-492-5992 FAX: 918-493-3568			
545 SOUTH 3RD ST., SUITE 200			
LOUISVILLE, KY 40202			
502-855-4300			
DRAWING NO. 2397-11		REV. 1	
PAGE NO. 1		OF 1	

METAL SALES MANUFACTURING CORPORATION

Image II Uplift Loads

(Min. 26 ga.)

Description	Fastener Spacing along Panel Length (in)	Allowable Uplift Load (psf)
Coverage width: 16" Panel Fastener: #10-12 pancake head screws	6	63.5
	8	58.8
	10	49.8
	12	41.5
	14	35.6
	16	31.1
	18	27.7
	20	24.9
	22	22.6
	24	20.8
With Sidelap Sealant	6	86.55

Notes:

1. The bold numbers indicate design loads calculated from test data with safety factor of 2.
2. Panels must be installed as per Evaluation Report FL 14645.11 and Metal Sales current installation procedure.
3. Three or more spans condition.



1216 N Lansing Ave., Suite C
Tulsa, Ok 74106
918 492 5992

Bala Sockalingam, Ph.D., P.E.
FL 62240

Evaluation Report "Ultra HT Wind & Water Seal™" Roof Underlayment

Manufacturer:
MFM Building Products Corp.

525 Orange Street
Coshocton, Ohio 43812
(740) 622-2645

for

Florida Product Approval

FL 11842.3 R8

Florida Building Code 7th Edition (2020)

Method: 1 - D

Category: Roofing

Sub - Category: Underlayment

Product: "Ultra HT Wind & Water Seal™"
Description: Self-Adhered Underlayment

Prepared by:

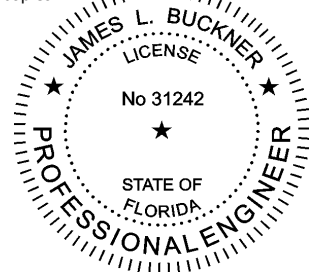
James L. Buckner, P.E., SECB
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Project Manager: Diana Galloway
Report No. 20-229-UHT-ER
(Revises 17-131-UHT-ER, FL11842.5 R4)
Date: 08 / 28 / 20

Contents:

Evaluation Report

Pages 1 – 5

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



A handwritten signature in blue ink, appearing to read "James L. Buckner".

2020.09.17 13:23:17 -04'00'

Manufacturer:	MFM Building Products Corp. 525 Orange Street Coshocton, Ohio 43812 (740) 622-2645 www.mfmbp.com
Product Name:	"Ultra HT Wind & Water Seal™"
Product Category:	Roofing
Product Sub-Category	Underlayment
Compliance Method:	State Product Approval Rule 61G20-3.005 (1) (d)
Product Description:	"Ultra HT Wind & Water Seal™" is self-adhering membrane composed of a white, non-slip cross-laminated polymer film, laminated to a rubberized asphalt adhesive with a split release liner designed for use as a roof underlayment in high temperature conditions.
Product Material / Standards:	Material Type: Styrene Butadiene Styrene (SBS) Material shall comply with ASTM D 1970 per Florida Building Code FBC 7th Edition (2020), Chapter 15.
Product Dimension(s)	Roll Size: 36 in. x 67 ft. rolls Thickness: 45 mils (nominal)
Substrate(s):	"Ultra HT Wind & Water Seal™" has been evaluated for application to the following substrates (Design of support is outside the scope of this evaluation): <ul style="list-style-type: none">• Plywood• Dens Deck
Installation:	General Installation Instructions: "Ultra HT Wind & Water Seal™" shall be installed in accordance with the attached installation method and in compliance with applicable code sections of the FBC 7th Edition (2020), subject to the Limitations and Conditions of Use listed in this Evaluation Report. Refer to installation details at the end of this report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

- Performance Standards:** The product described herein has demonstrated compliance with:
- **ASTM D 1970-15a** – *Specification Self-adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roof Underlayment for Ice Dam Protection*
- Standards Equivalency:** The ASTM D 1970-01 standard version used to test the product meets the prescribed standards in ASTM D 1970-15a standard version adopted by the Florida Building Code 6+th Edition (2020) for use as evaluated in this report.
- Code Compliance:** The product(s) described herein have demonstrated compliance with the performance standards listed above as referenced in the current Florida Building Code.
- Evaluation Report Scope:** This product has been evaluated in compliance with the building envelope requirements of the Florida Building Code, as related to the scope section to Florida Product Approval Rule 61G20-3.001.
- Product Limitations and Conditions of Use:**
- Deck shall be in compliance with applicable building code.
 - Minimum slope shall be 2:12 or greater.
 - Evaluated for use with approved roof coverings that are mechanically fastened through the underlayment and is attached to the sheathing or rafters. Installation shall comply with FBC Section 1507.1.1.
 - Not to be applied over active solvents or sealants, EPDM rubber or products containing silicone.
 - Do not expose product to direct sunlight for more than 60 days.
- General 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".
 - 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.
 - This report is a building code product evaluation per FLPE rule (FAC) 61G15-36 to comply with Florida product approval rule (FAC) 61G20-3. This evaluation report is part of the Florida Building Commission approval for the listed code related criteria. This report by James Buckner, P.E. and CBUCK Engineering is

not a design certification of code compliance construction submittal documentation, per FBC section 107, for any individual structure, site specific or permit design.

- Design of support system is outside the scope of this report.
- Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation.
- This evaluation report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade & Broward Counties)

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 Organization ID# QUA 1824).

Referenced Data:

1. ASTM D 1970-01 Test
By PRI Construction Materials Technologies, Inc.
(FBC Organization ID# TST 1556)
Report No. MFM-039-02-01, Date: 8/15/13
2. Equivalency of Test Standard Certification
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)
3. Quality Assurance
Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)
MFM Building Products Corp. Licensee #335
4. Certification of Independence
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)

MFM Building Products Corp.
Ultra HT Wind & Water Seal
Self-Adhered Roofing Underlayment

General Installation Instructions:

- Product to be applied directly to a clean dry surface.
- Prime any weathered surfaces. Dens Deck must be primed with asphalt base primer.
- Starting at the low point of the deck, peel back 12" of the release liner, align the membrane and press into place onto roof deck.
- Adhesive is pressure-activated, so press firmly into place using uniform pressure with a 2-3" heavy steel or rubber roller to seams and overlap.
- Overlap end laps a minimum of 6". Side laps must be a minimum of 3".
- Store product in the carton in a dry place until ready to use. Keep product out of direct sunlight.
- Apply membrane only in fair weather when the air, surface and membrane are at a minimum temperature of: 50° F
- Not to be applied over active solvents or sealants, EPDM rubber or products containing silicone.
- Do not expose product to direct sunlight for more than 60 days.

"Ultra HT Wind & Water Seal™" shall be installed in accordance with the attached installation method and in compliance with applicable code sections of the FBC 7th Edition (2020), subject to the Limitations and Conditions of Use listed in this Evaluation Report.

Refer to installation details at the end of this report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

Product Illustrations

