Force Engineering & Testing
19530 Ramblewood Drive
Humble, Texas 77338
Phone: (281) 540-6603 FAX: (281) 540-9966
Website: www.forceengineeringtesting.com

Product Evaluation Report
ROOFHUGGER

22 Ga. PBR over Roof Hugger Retrofit Framing Systems

Florida Product Approval # 9352.4 R5

Florida Building Code 2020
Per Rule 61G20-3
Method: 1 –D

Category: Structural Components
Subcategory: Roof Deck
Compliance Method: 61G20-3.005(1)(d)
NON HVHZ

Product Manufacturer:
Roofhugger
P.O. Box 1027
Odessa, Florida 33556

Engineer Evaluator:
Johnathan Green, P.E. # 88223
Florida Evaluation ANE ID: 1920

Validator:
Brian Jaks P.E. #70159

Contents:

MAR 05 2021

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Compliance Statement: The product as described in this report has demonstrated compliance with the Florida Building Code 2020, Sections 1504.3.2, 1504.7.

Product Description: Retro Sub-Purlin Roof System for the purpose of re-roofing over an existing roof without removing existing panels. 22 Ga. PBR roof panel over Roof Hugger over existing PBR roof panel.

Existing Roof Panel: Min. 26 Ga. PBR through fastened panel, 36" wide, 1 ¼" tall major rib at 12" O.C.
Roof Hugger: Gusseted Model C, Min. 16 Ga., Min. 1.830" tall
Roof Hugger Spacing: 5'-0" O.C., 2'-6" O.C.. For 2'-6" Roof Hugger spacings, 16 Ga. Integral Sub-Rafters at 24" O.C. are used (See Details).
New Roof Panel: Min. 22 Ga. PBR through fastened roof panel, 36" wide, 1 ¼" tall major rib at 12" O.C. manufacturer by manufacturer MBCI, L.P., a division of NCI, L.P. or approved equal meeting the PBR minimum properties stated below.

Roof System	New Roof Panel	New Roof Panel Fastener Pattern	Roof Hugger Spacing	Integral Sub-Rafters	Existing Roof Panel
1	22 Ga. PBR	12"-12"-12"	5'-0"	NA	26 Ga. PBR
2	22 Ga. PBR	7"-5"-7"-5"-7"	5'-0"	NA	26 Ga. PBR
3	22 Ga. PBR	7"-5"-7"-5"-7"	2'-6"	24" O.C.	26 Ga. PBR

Panel Material/Standards: Material: Steel conforming to Florida Building Code 2020 Section 1507.4.3. Paint finish optional.

Existing PBR:	Min. 26 Ga. steel, 0.0185" thick
New PBR:	Min. 22 Ga. steel, 0.0295" thick
Roof Hugger:	Min. 16 Ga. steel, 0.0600" thick
16 Ga. Integral Sub-Rafters:	Min. 16 Ga. steel, 0.0600" thick

Corrosion Resistance: Panel Material shall comply with Florida Building Code 2020, Section 1507.4.3.

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PBR Panel Minimum Properties:

SECTION PROPERTIES								
			NEGATIVE MOMENT			POSITIVE MOMENT		
PANEL	Fy	WEIGHT	Ixe	Sxe	Maxo	Ixe	Sxe	Maxo
GAUGE	(KSI)	(PSF)	(IN.4/FT.)	(IN.3/FT.)	(KIP-IN.)	(IN.4/FT.)	(IN.3/FT.)	(KIP-IN.)
26 (0.0185")	80	0.94	0.0305	0.051	1.6297	0.0375	0.0376	1.3500
22 (0.0295")	50	1.44	0.0567	0.0739	2.2119	0.0754	0.0787	2.3553

Allowable Design Uplift Pressures:

MAXIMUM ALLOWABLE PRESSURES (PSF)

Roof System	Allowable Design Pressure (psf)	Based on Panel Deflections		
		L / 120	L / 180	L / 240
1	48.1	48.1	46.0	35.2
2	88.5	58.1	40.6	32.7
3	124.9	124.9	124.9	124.9

*Design Pressure includes a Safety Factor = 2.0.

Panel Fastener: Corrosion Resistance: Per Florida Building Code 2020, Section 1507.4.4.

Substrate Description: Min. 16 Ga. Steel Framing at 5'-0" O.C.. Framing must be designed for additional loads of the new roof panel and Roof Hugger system and in accordance w/ Florida Building Code 2020.

Code Compliance: The product described herein has demonstrated compliance with The Florida Building Code 2020, Section 1504.3.2, 1504.7.

Evaluation Report Scope: The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2020, as relates to Rule 61G20-3.

Performance Standards: The product described herein has demonstrated compliance with:

- ASTM E 1592-05(2012) Test method for structural performance of sheet metal roof and siding systems by uniform static air pressure difference.

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Reference Data:

1. ASTM E 1592-05
   Force Engineering & Testing, Inc. (FBC Organization # TST-5328)
   Report No. 193-0187T-14
2. Certificate of Independence
   By Johnathan Green, P.E. (No. 88223) @ Force Engineering & Testing (FBC Organization # ANE ID: 1920)

Test Standard Equivalency: The ASTM E 1592-05 test standard is equivalent to the ASTM E 1592-05 (2012) test standard.

Quality Assurance Entity: The manufacturer has established compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity.

Minimum Slope Range: Minimum Slope shall comply with Florida Building Code 2020, including Section 1507.4.2 and in accordance with Manufacturers recommendations.

Installation: Install per manufacturer's recommended details.

Insulation: Manufacturer's approved product (Optional)

Roof Panel Fire Classification: Fire classification is not part of this evaluation.

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 2020 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. Support framing must be in compliance with Florida Building Code 2020 Chapter 22 for steel, and Chapter 16 for structural loading.

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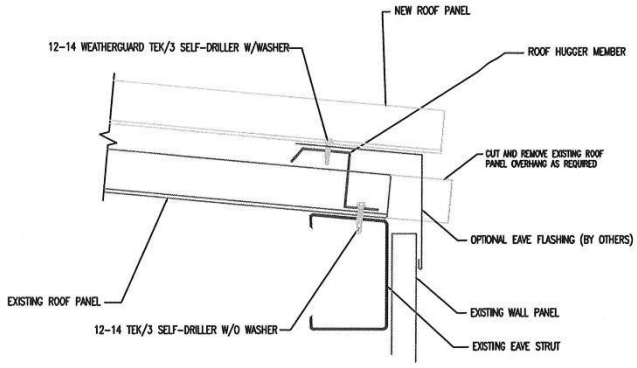
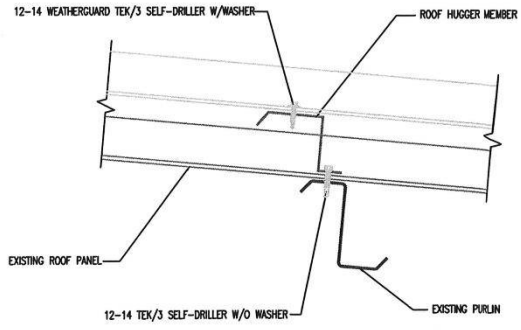
ROOF HUGGER
INSTALLATION GUIDE
-SYSTEM 1-



CONNECTION AT EAVE



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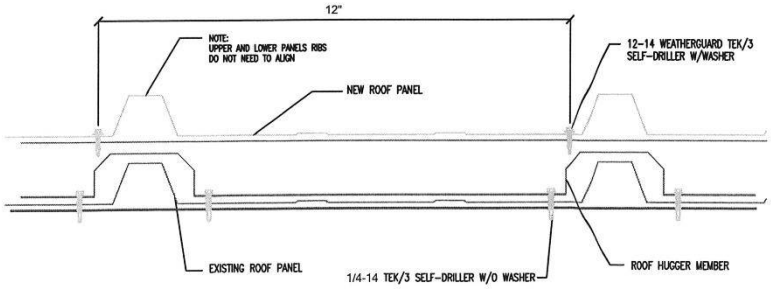

CROSS SECTION

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FL# 9352.4 R4

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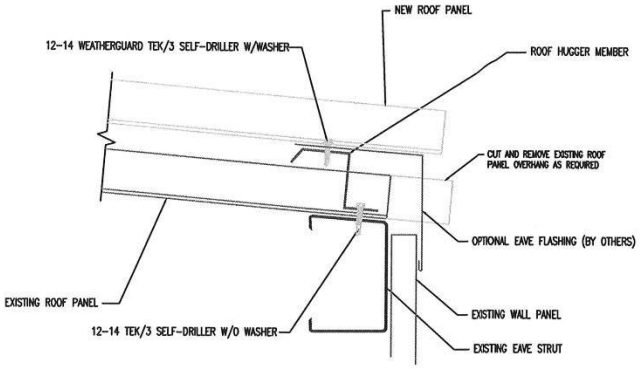
ROOF HUGGER
INSTALLATION GUIDE
-SYSTEM 2-



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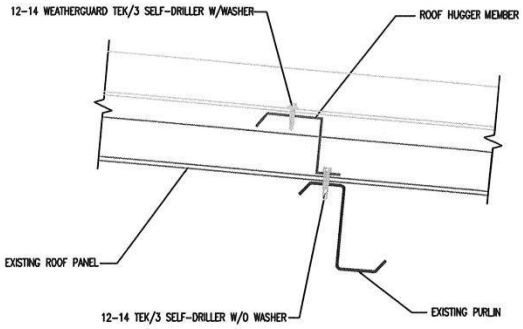

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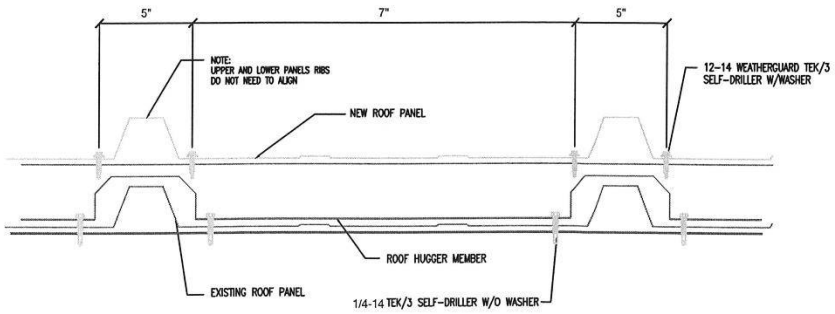

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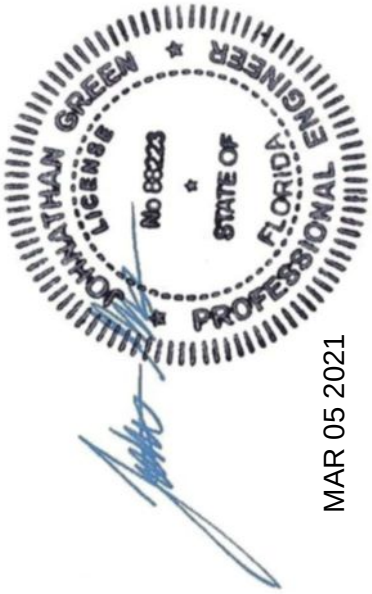

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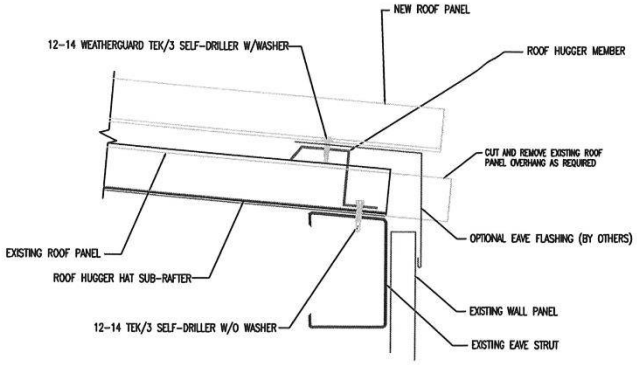
ROOF HUGGER
INSTALLATION GUIDE
-SYSTEM 3-



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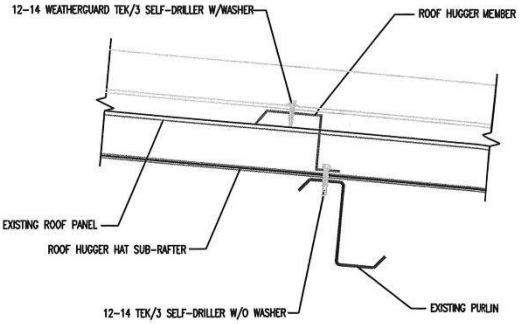

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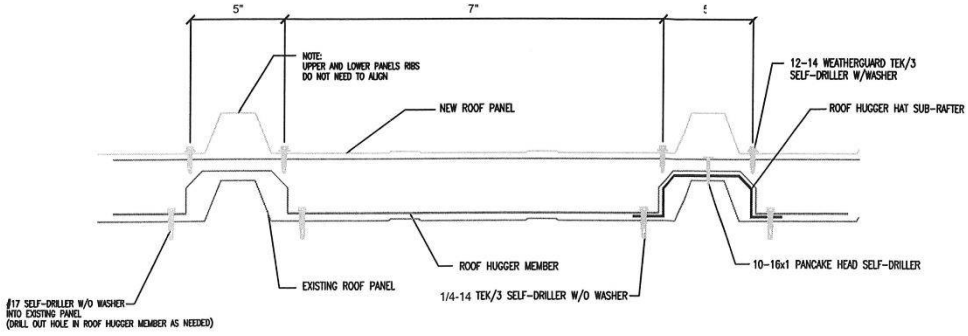

CROSS SECTION-MEMBER BETWEEN PURLINS

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