Florida Product Approvals

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ROOF HUGGER is the leading manufacturer of structural pre-notched sub-purlins for existing sloped metal roofs. As an innovator in "Metal-over-Metal" reroofing systems, Roof Hugger has made numerous product and technological contributions to the industry and continues to due extensive testing to offer the latest technology for retrofitting over existing sloped metal roofs. Roof Hugger is a Member Company of LSI Group, Inc. – Logansport, IN.

The following are the current approvals using several recognized national metal roof manufacturer panel systems. Roof Hugger is continually testing additional assemblies with additional metal roof manufacturers. For up-to-date information, please contact us or visit our website.

APPROVALS WITH NEW THRU-FASTENED/SCREW-DOWN METAL ROOFING – 2020 Master 9352-R5

Product Approval – FL 9352.2
This product approval is for buildings with an existing 12" O.C. "PBR" panel 26 Ga. or heavier through-fastened roof with a new roof panel 12" O.C. "PBR" 26 Ga. as provided by MBCI of Houston, TX (Panels with equivalent properties are acceptable). The Product Approval includes a table outlining several retrofit framing options and sub-purlin spacings. Each assembly having varying capacities from -40 PSF to -140 PSF at the noted deflection levels.

SYSTEM NO. **	MAXIMUM ALLOWABLE UPLIFT PRESSURES (PSF)*			
	ALLOWABLE TEST VALUE	CONTROLLED BY PANEL DEFLECTIONS		
		L/120	L/180	L/240
1	40.0	40.0	40.0	38.8
2	65.0	65.0	45.7	33.8
3	110.0	110.0	110.0	110.0
4	140.0	140.0	140.0	116.7

*Design Pressure includes a Safety Factor = 2.0
** See www.roofhugger.com for System 1-4 details

Product Approval – FL 9352.3
This product approval is for buildings with an existing 12" O.C. "PBR" panel 26 Ga. or heavier through-fastened roof with a new roof panel 12" O.C. "PBR" 24 Ga. as provided by MBCI of Houston, TX (Panels with equivalent properties are acceptable). The Product Approval includes a table outlining several retrofit framing options and sub-purlin spacings. Each assembly having varying capacities from -40 PSF to -145 PSF at the noted deflection levels.

SYSTEM NO. **	MAXIMUM ALLOWABLE UPLIFT PRESSURES (PSF)*			
	ALLOWABLE TEST VALUE	CONTROLLED BY PANEL DEFLECTIONS		
		L/120	L/180	L/240
1	35.0	35.0	31.44	26.42
2	60.0	60.0	60.00	58.14
3	116.0	116.0	111.77	85.14
4	145.0	145.0	120.41	92.24

*Design Pressure includes a Safety Factor = 2.0
** See www.roofhugger.com for System 1-4 details

Product Approval – FL 9352.4
This product approval is for buildings with an existing 12" O.C. "PBR" panel 26 Ga. or heavier through-fastened roof with a new roof panel 12" O.C. "PBR" 22 Ga. as provided by MBCI of Houston, TX (Panels with equivalent properties are acceptable). The Product Approval includes a table outlining several retrofit framing options and sub-purlin spacings. Each assembly having varying capacities from -48.1 PSF to -124.9 PSF at the noted deflection levels.

SYSTEM NO. **	MAXIMUM ALLOWABLE UPLIFT PRESSURES (PSF)*			
	ALLOWABLE TEST VALUE	CONTROLLED BY 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
** See www.roofhugger.com for System 1-3 details

APPROVALS WITH NEW STANDING SEAM METAL ROOFING

Product Approval - FL 9352.1
This product approval is for buildings with an existing 12" O.C. "PBR" panel 26 Ga. Or heavier through-fastened roof with a new 238-T 18" O.C., 22 Ga., vertical rib standing seam roof as provided by McElroy Metals of Bossier City, LA. The Product Approval includes a table outlining several retrofit framing options and sub-purlin spacings. Each assembly having varying capacities from -55 PSF to -125 PSF at differing sub-purlin spacing's.

SYSTEM NO. **	MAXIMUM ALLOWABLE UPLIFT PRESSURES (PSF)*			
	ALLOWABLE TEST VALUE	CONTROLLED BY PANEL DEFLECTIONS		
		L/120	L/180	L/240
1	40.0	40.0	40.0	38.8
2	65.0	65.0	45.7	33.8
3	110.0	110.0	110.0	110.0
4	140.0	140.0	140.0	116.7

*Design Pressure includes a Safety Factor = 2.0
** See www.roofhugger.com for System 1-4 details

Design Uplift Pressures
Table "A"

238T Panel Clip:	16 Ga Fixed Clip	24 Ga. Continuous Clip	22 Ga. Continuous Clip
Maximum Design Pressure:*	-55.0 PSF	-100.0 PSF	-125.0 PSF
Roof Hugger:	Standard Model C	Standard Model C	Standard Model C
Roof Hugger Spacing:	5'-0" O.C.	5'-0" O.C.	5'-0" O.C.
Roof Hugger # of Fasteners:	(2) per foot	(2) per foot	(4) per foot

*Design Pressure includes a Safety Factor = 2.0

Product Approval - FL 9352.5
This product approval is for buildings with an existing 12" O.C. "PBR" panel 26 GA. or heavier through-fastened roof with a new 16" SuperLok, vertical rib standing seam roof as provided by MBCI of Houston, TX. The Product Approval includes a table outlining several retrofit framing options and sub-purlin spacings. Each assembly having varying capacities from -47.5 PSF to -80 PSF at differing sub-purlin spacing's.

NEGATIVE DESIGN LOADS (PSF)*		
ROOF HUGGER SPACING	E-1592 LOAD	ALLOWABLE DESIGN LOAD
2.50 FT	160.0	80.0
5.00 FT	95.0	47.5

*Design Pressure includes a Safety Factor = 2.0

Product Approval - FL 17626
This product approval is for buildings with an existing 12" O.C. "PBR" panel 26 GA. or heavier through-fastened roof with a new 24 ga. 18" x 2" vertical rib 238-T standing seam roof as provided by McElroy of Bosier City, LA. The Product Approval includes a table outlining several retrofit framing options and sub-purlin spacings. Each assembly having varying capacities from -123.5 PSF to -161 PSF at differing sub-purlin spacing's over structural steel decking.

Design Uplift Pressures
Table "A"

Maximum Design Pressure:*	-123.5 psf	-161.0 psf
Roof Hugger Spacing	4'-0" O.C.	2'-0" O.C.
Roof Hugger # of Fasteners	(3) #14-13 per 16"	(3) #14-13 per 16"

*Design Pressure includes a Safety Factor = 2.0

NOTES FOR LISTED APPROVALS:
All Existing Purlin Spacing = 5'-0" O.C. max
All New PBR Panel is 36" wide with 1¼" tall rib
- 26 GA = 80 KSI
- 24 GA = 50 KSI

Hats = Special Hugger Sub-rafters

ROOF HUGGER COMPOSITION & MATERIALS
Roof Hugger Sub-Purlin System's base materials is G-90 galvanized finished steel sheet per ASTM A-446 or A-570 with 50 ksi minimum yield strength. Material thickness as specified to meet design loads in 16 and 14 gauges.

PROFILES AND CHARACTERISTICS
The profile used for Florida Product Approval is the Roof Hugger standard roll-formed Type "C" model, manufactured to accommodate existing ribbed metal roofing with maximum 1½" high major ribs spaced at 12" on center. In addition, other standard types include Hugger profiles manufactured to accommodate the following popular panel types:

12" to 24" O.C. Trapezoidal Rib SSR
12" to 20" O.C. Vertical Rib SSR
6"-10" O.C. Ribbed Panel
2.5", 2.67", 2.75" and 4.2" Corrugated
7.2" Industrial Rib

All Roof Hugger Sub-purlins are zee shaped steel members with 1.06" minimum bottom flange and 2.0" minimum top flange plus a .25" minimum lip. The web depth varies based on the existing panel profile dimension or desired insulation thickness. The die-stamped web window that allows nesting over the existing roof system ribs also may vary per job application and requirements. All are shipped in 10'-0" to 12'-0" lengths, plus or minus, to fit existing panel rib or seam modules.

Roof Hugger Sub-purlins are intended to attach directly above and into the existing building secondary support members. These members are most commonly zee shaped purlins, steel bar joist or other types of framing. When these members exceed the maximum spacing as dictated by the new roof panel system, the Roof Hugger Sub-purlins must employ "sub-rafter" hats and/or "struts" that span over the existing purlin. By doing this, the Roof Hugger Sub-Purlins can be installed at mid-span conditions (between existing purlins).

OTHER ROOF HUGGER TESTING
Many other metal roof panel manufacturers have tested their systems in accordance with ASTM E-1592 Standard Test Method for Structural Performance of Metal Roof and Siding Systems by Uniform Static Air Pressure Difference. Please visit our website for the most current reports on these tests.

BUILDING CODES
Current data on building code requirements and product compliance may be obtained from ROOF HUGGER technical support specialists. Installation must comply with the requirements of Chapters 15, 16 and 22 of the FBC 2017 Code.

FLORIDA PRODUCT APPROVAL LIMITATIONS AND CONDITIONS OF USE FOR NON-HIGH VELOCITY HURRICANE ZONES (NON-HVHZ)
DESIGN PROCEDURE: Based on the dimensions of the structure, appropriate loads are determined using Chapter 16 of the Florida Building Code (FBC) for roof cladding wind loads. These component wind loads for roof cladding are compared to the allowable negative/positive pressures listed in the load table. The design professional shall select the appropriate erection details to reference in his/her drawings for proper fastener attachment to the structure and analyze the panel fasteners for pullout and pullover. Support framing must be in compliance with FBC Chapter 22 for steel and Chapter 16 for structural loading.

OTHER CONDITIONS:
Minimum Roof Slope Limitation: ½:12
Existing Purlin Spacing: Maximum 5'-0" O.C. designed by a Florida P.E.
Existing Roof Panel: Based on 26 GA R-Panel or PBR , 80 KSI with 12" O.C. x 1¼" tall ribs and 36" coverage
Substrate Attachment: Designed by a Florida P.E.
Fire Barrier: Class B fire exposure rating in accordance with FBC Section 1505.3

Underlayment: Vinyl or reflective foil faced fiberglass batt insulations that have a flame spread rating of no more than 25 and a smoke development rating of not more than 450 assumed under the existing roof
Shear Diaphragm: Shear diaphragm values were outside the scope of the Approval reports

INSTALLATION REQUIREMENTS:
Please contact Roof Hugger to obtain specific FL Product Approval erection details.

FLORIDA PRODUCT APPROVAL LISTINGS:
https://www.floridabuilding.org/pr/pr_app_srch.aspx

Patented Retrofit Sub-Framing Solutions