

Evaluation Report

"Grandrib 3®"

Metal Roof Assembly

Manufacturer:

Fabral, Inc.

3449 Hempland Road
Lancaster, Pennsylvania 17601
(800) 884-4484

for

Florida Product Approval

FL 13732.1 R5

Florida Building Code 8th Edition (2023)

Method: 1 - D

Category: Roofing

Sub - Category: Metal Roofing

Product: "Grandrib 3" Roof Panel

Material: Steel

Panel Thickness: 29 gauge (min.)

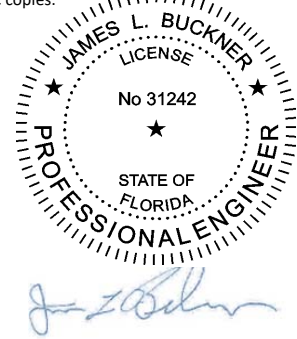
Panel Width: 36" (max.)

Support: Wood Deck

Prepared by:

James L. Buckner, P.E., S.E.C.B.
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Project Manager: Diana Galloway
Report No. 22-527-GR5-S9W-ER
(Revises 20-249-GR5-S9W-ER, FL13732.1 R4)
Date: 08/16/2023

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.



Contents:

Evaluation Report

Pages 1 – 10

Date: 2023.08.16
'10:53:44 -04'00

Manufacturer:	Fabral, Inc. 3449 Hempland Road Lancaster, Pennsylvania 17601 (800) 884-4484 http://www.fabral.com/
Product Name:	"Grandrib 3"
Product Category:	Roofing
Product Sub-Category	Metal Roofing
Compliance Method:	State Product Approval Rule 61G20-3.005 (1) (d)
Product/System Description:	"Grandrib 3®" 3/4" Rib Height, 36" wide, 29 gauge Steel roof panel mechanically attached to Wood Deck with screws.
Product Assembly as Evaluated:	Refer to Page 4 of this report for product assembly components/materials & standards: 1. Roof Panel: 2. Fasteners: 3. Underlayment: 4. Insulation (Optional): 5. Barrier (Optional):
Support:	Type: Wood Deck (Design of support and its attachment to support framing is outside the scope of this evaluation.) Description: • 15/32" or greater Plywood , or • Wood plank deck (based on minimum density/specific gravity of 0.42)
Slope:	Minimum slope shall be in compliance with FBC Chapter 15 Section 1507.4.2, applicable code sections and in accordance with manufacturer's recommendations.
Performance:	Wind Uplift Resistance: • Design Uplift Pressure: (Refer to "Table A" attachment details herein) METHOD 1: - 52.5 PSF METHOD 2: - 105 PSF

- Performance Standards:** The product described herein has demonstrated compliance with:
- UL580-06 – *Test for Uplift Resistance of Roof Assemblies*
 - UL 1897-15 – *Uplift test for roof covering systems*
- Standards Equivalency:** The UL 580-94, UL 1897-98 standard version used to test the evaluated product assembly is equivalent with the prescribed standards in UL 580-06, UL 1897-15 adopted by the Florida Building Code 8th Edition (2023) 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 Florida Building Code 8th Edition (2023).
- 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”.
 - 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.
 - All metal components and fasteners shall be corrosion resistant in accordance with applicable sections of FBC, including but limited to Sections 1504.3.2, 1506.6 and 1507.4.4.
 - 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 UL, LLC (FBC Organization ID# QUA 9625).

**Components/
Materials & Standards
(By Manufacturer):**

Roof Panel:
Material: Steel
Thickness: 29 Gauge (min.)
Panel Width: 36" (max.) Coverage
Rib Height: 3/4"
Yield Strength: 50 ksi (min.)
Corrosion Resistance: Per FBC Section 1507.4.3

Fastener: (Panel to Deck)

Type: Hex-Head Wood Screw with WSW
Size : #9 x 1-1/2"
Corrosion Resistance: Per FBC Section 1506.6 and 1507.4.4
Standard: Per FBC 1507.4.4 and ANSI/ASME B18.6.1

Underlayment:

Material and application shall be in compliance with FBC Section 1507.1.1 and in accordance with applicable code sections and manufacturer's recommendations.

**Components/
Materials & Standards
(By Others):**

Insulation (Optional):

Type: Rigid Insulation Board
Thickness: 3" (max.)
Properties:
Density: 2.25 pcf (lbs/ft³) min.
Or Compressive Strength: 20 psi min.

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 3/16".

Barrier (Optional):

Barrier Board: Approved Barrier, up to 1/2" thick

Installation:

Installation Method:

(Refer to "TABLE A" below and drawings at the end of this report.)

- Fastener Spacing: **Refer to "TABLE A" Below**
METHOD 1: Along the row, with a fastener on **one** side of panel ribs)
METHOD 2: Along the row, with a fastener on **each** side of panel ribs)
- Row Spacing: **Refer to "TABLE A" Below**
(along the length of the panel and nominally within 3" from all ends)
- Rib Interlock: Lapped
- Minimum fastener penetration thru bottom of support, 3/16".
- For panel construction at the end of panels, refer to manufacturer's instructions and any site specific design.

TABLE "A" ALLOWABLE LOADS		
	METHOD 1:	METHOD 2:
Design Pressure:	- 52.5 PSF	- 105 PSF
Fastener Spacing (Nominal):	9" (Refer to Dwg Pg 7)	5-1/2", 3-1/2" Pattern (Refer to Dwg Pg 8)
Row Spacing:	24" o.c.	18" o.c.
Notes: • Allowable design pressure(s) for allowable stress design (ASD).		

Install the "Grandrib 3" 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.

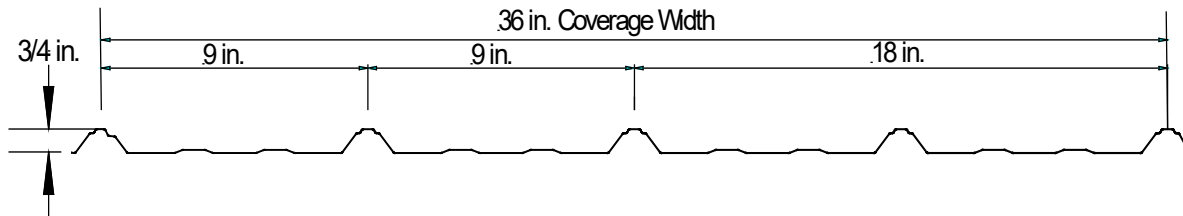
Referenced Data:

1. UL580 /TAS125 Uplift Test
By Architectural Testing, Inc. (FBC Organization ID# TST 1558)
Report #: 97654.01-109-44-R0, Dated: 05 / 05 / 10
2. Equivalency of Test Standard Certification
By James L. Buckner, P.E. @ CBLUE Engineering (FBC Organization #ANE 1916)
3. Quality Assurance
UL, LLC (FBC Organization ID# QUA 9625)
4. Certification of Independence
By James L. Buckner, P.E. @ CBLUE Engineering

Installation Method

Fabral, Inc.

“Grandrib 3®” (29 ga. min.) Roof Panel attached to 1/2” Plywood Deck

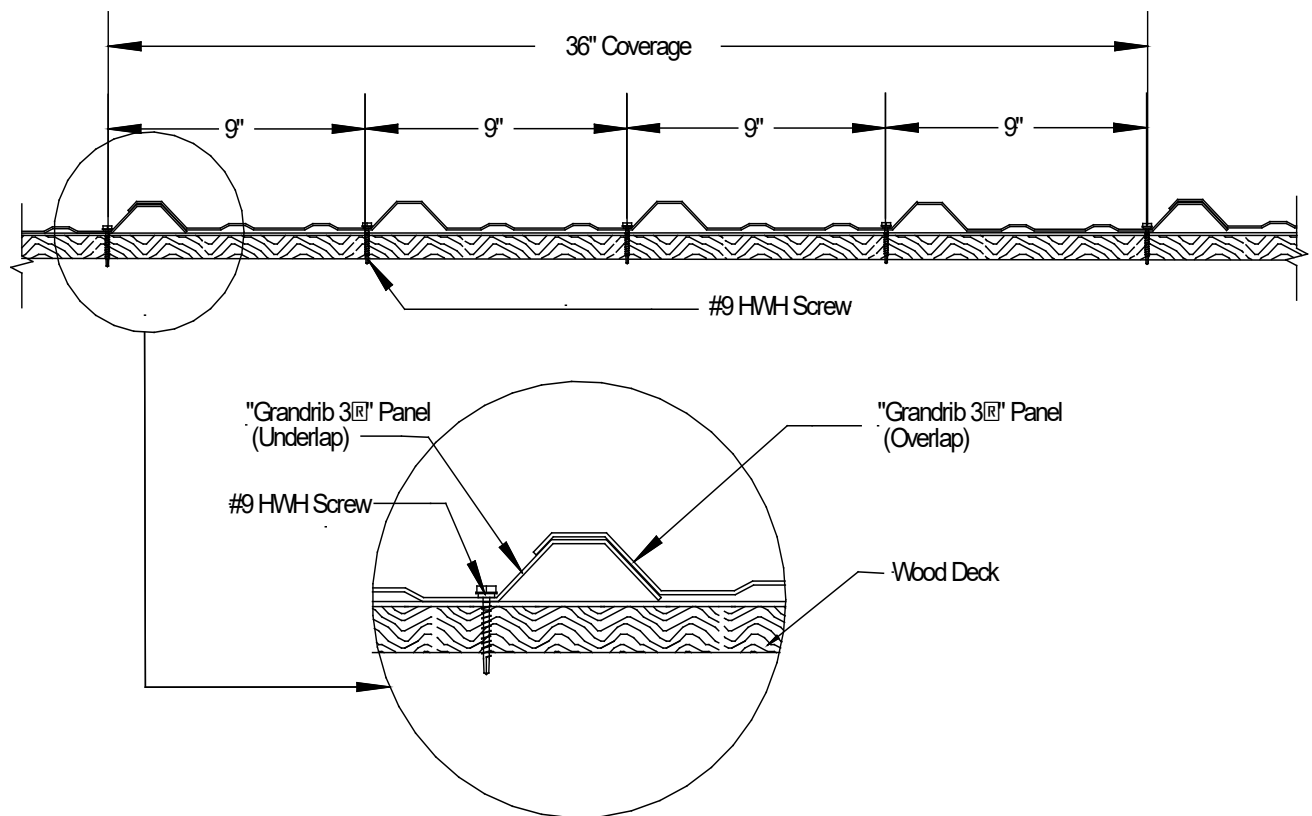


Typical Panel Profile

Installation Method

Fabral, Inc.

"Grandrib 3®" (29 ga. min.) Roof Panel attached to 1/2" Plywood Deck

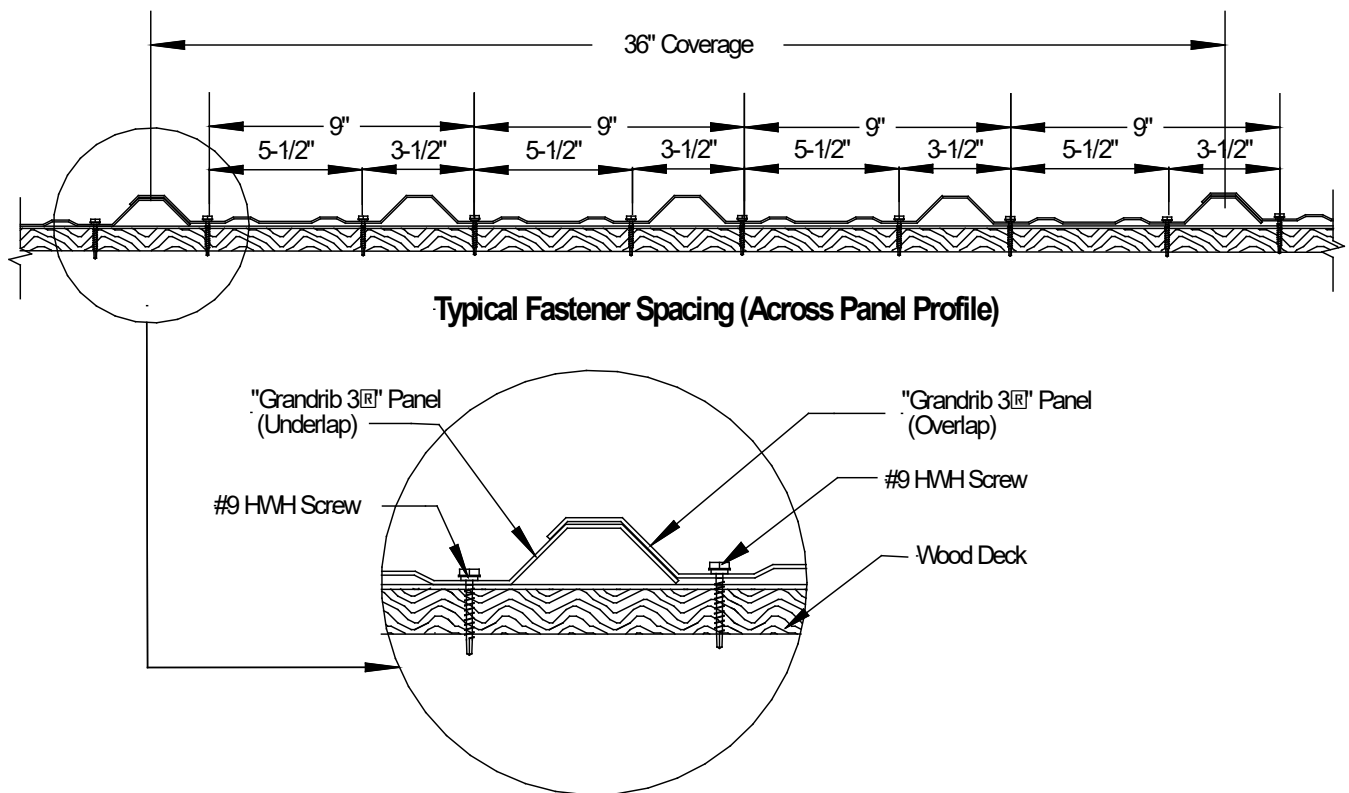


METHOD 1: Typical Panel Assembly Section View

Installation Method

Fabral, Inc.

"Grandrib 3®" (29 ga. min.) Roof Panel attached to 1/2" Plywood Deck



METHOD 2:

Typical Panel Assembly
Section View

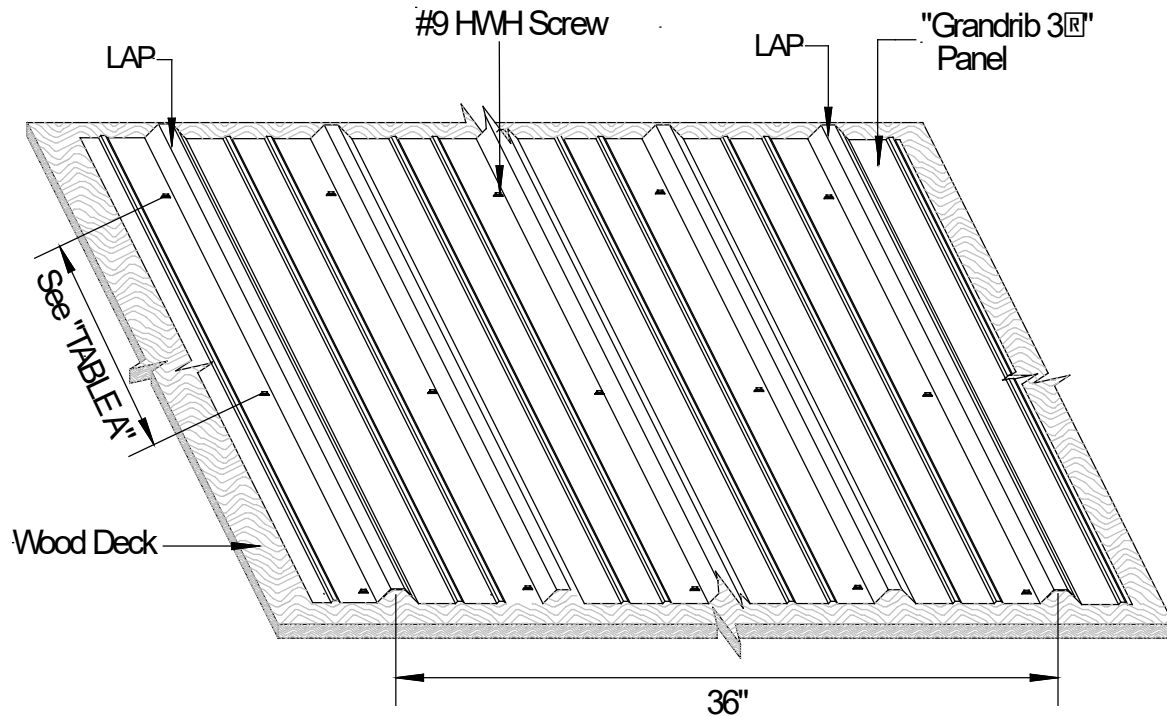
Installation Method**Fabral, Inc.****"Grandrib 3®" (29 ga. min.) Roof Panel attached to 1/2" Plywood Deck****METHOD 1:****Typical Roof Assembly
Isometric View**

TABLE "A"		
	METHOD 1:	METHOD 2:
Design Pressure:	- 52.5 PSF	- 105 PSF
Fastener Spacing (Nominal):	9" (Refer to Dwg Pg 7)	5-1/2", 3-1/2" Pattern (Refer to Dwg Pg 8)
Row Spacing:	24" o.c.	18" o.c.

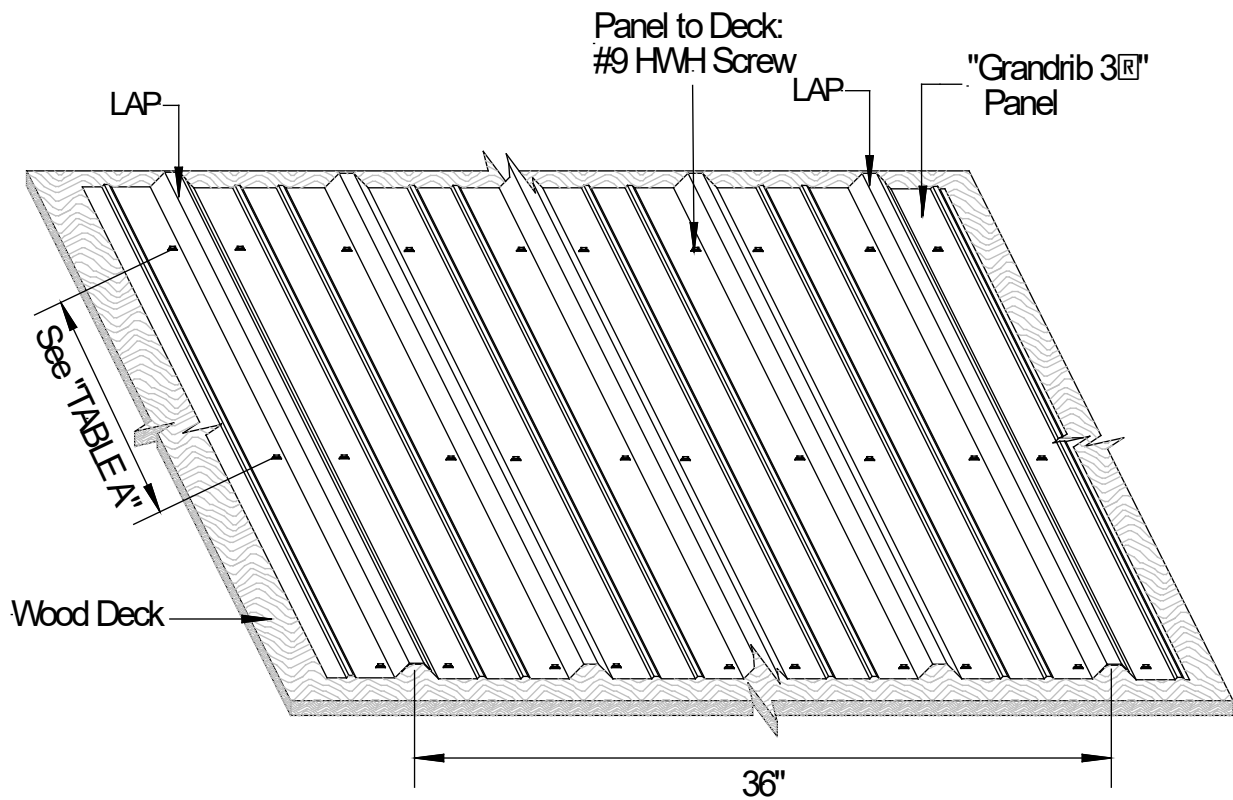
Installation Method**Fabral, Inc.****"Grandrib 3®" (29 ga. min.) Roof Panel attached to 1/2" Plywood Deck****METHOD 2:****Typical Roof Assembly
Isometric View**

TABLE "A"		
	METHOD 1:	METHOD 2:
Design Pressure:	- 52.5 PSF	- 105 PSF
Fastener Spacing (Nominal):	9" (Refer to Dwg Pg 7)	5-1/2", 3-1/2" Pattern (Refer to Dwg Pg 8)
Row Spacing:	24" o.c.	18" o.c.