

Product Evaluation Report
GULF COAST SUPPLY & MANUFACTURING, LLC.

26 Ga. Tuff Rib Roof Panel over 15/32" Plywood

Florida Product Approval # 11651.22 R1

Florida Building Code 2010

Per Rule 9N-3

Method: 1 -D

Category: Roofing

Subcategory: Metal Roofing

Compliance Method: 9N-3.005(1)(d)

NON HVHZ

Product Manufacturer:

GULF COAST SUPPLY & MANUFACTURING, LLC.

4020 S.W. 449th Street

Horseshoe Beach, Florida 32648

Engineer Evaluator:

Terrence E. Wolfe, P.E. # 44923

Florida Evaluation ANE ID: 1920

Validator:

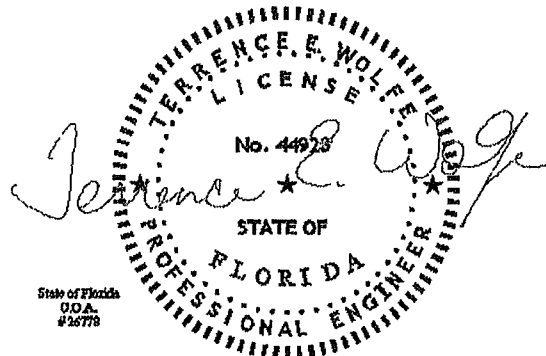
Locke Bowden, P.E., FL #49704

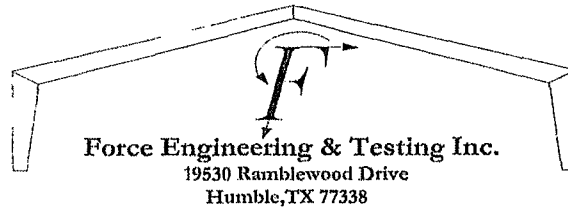
9450 Alysburry Place

Montgomery, AL 36117

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Compliance Statement: The product as described in this report has demonstrated compliance with the Florida Building Code 2010, Sections 1504.3.2.

Product Description: Tuff Rib, $\frac{3}{4}$ " Rib Roof Panel, Min. 26 Ga. Steel, 36" Wide, through fastened roof panel over 15/32" Plywood decking. Non-Structural Application.

Panel Material/Standards: Material: Minimum 26 Ga. Steel, ASTM A792 or ASTM A653 G90 conforming to Florida Building Code 2010 Section 1507.4.3. Paint finish optional
Yield Strength: Min. 80.0 ksi
Corrosion Resistance: Panel Material shall comply with Florida Building Code 2010, Section 1507.4.3.

Panel Dimension(s): Thickness: 0.0185" min.
Width: 36"
Rib Height: $\frac{3}{4}$ " major rib at 9" O.C.
Panel Rollformer: MRS Metal Rollforming Systems

Panel Fastener: #9-15 x 1-1/2" HWH Woodgrip with sealing washing or approved equal
 $\frac{1}{4}$ " minimum penetration through plywood
Corrosion Resistance: Per Florida Building Code 2010, Section 1506.6, 1507.4.4

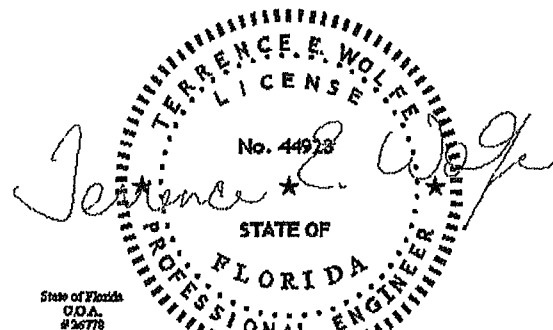
Substrate Description: Min. 15/32" thick, APA Rated plywood over supports at maximum 24" O.C.
Design of plywood and plywood supports are outside the scope of this evaluation. Must be designed in accordance w/ Florida Building Code 2010.

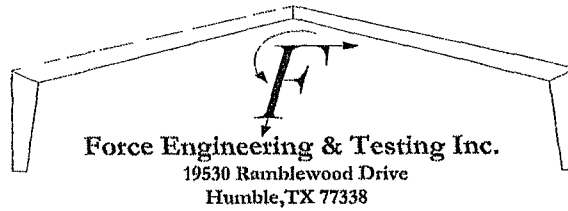
Design Uplift Pressures:

Table "A"

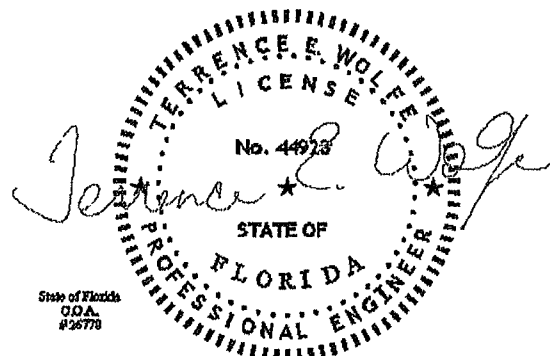
| | | |
|---------------------------------------|-------------|------------------------------------|
| Maximum Total Uplift Design Pressure: | 69.25 psf | 159.25 psf |
| Fastener Pattern: | 9"-9"-9"-9" | 6.5"-2.5"-6.5"-2.5"-6.5"-2.5"-6.5" |
| Fastener Spacing: | 24" O.C. | 12" O.C. |

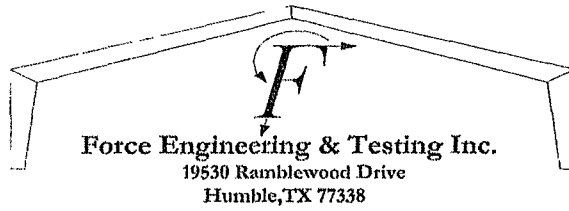
*Design Pressure includes a Safety Factor = 2.0.





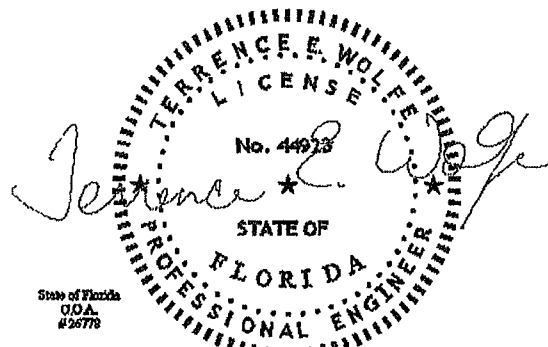
| | |
|--|--|
| Code Compliance: | The product described herein has demonstrated compliance with The Florida Building Code 2010, Section 1504.3.2. |
| Evaluation Report Scope: | The product evaluation is limited to compliance with the structural wind load requirements of the Florida Building Code 2010, as relates to Rule 9N-3. |
| Performance Standards: | The product described herein has demonstrated compliance with: <ul style="list-style-type: none">UL 580-06 - Test for Uplift Resistance of Roof AssembliesUL 1897-04 - Uplift Test for Roof Covering Systems |
| Reference Data: | <ol style="list-style-type: none">UL 580-94 / 1897-98 Uplift Test Force Engineering & Testing, Inc. (FBC Organization # TST-5328) Report No. 117-0062T-07A, B, Dated 02/19/2007Certificate of Independence By Terrence E. Wolfe, P.E. (No. 44923) @ Force Engineering & Testing, Inc. (FBC Organization # ANE ID: 1920) |
| Test Standard Equivalency: | <ol style="list-style-type: none">The UL 580-94 test standard is equivalent to the UL 580-06 test standard.The UL 1897-98 test standard is equivalent to the UL 1897-04 test standard. |
| Quality Assurance Entity: | The manufacturer has established compliance of roof panel products in accordance with the Florida Building Code and Rule 9N-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 2010, including Section 1507.4.2 and in accordance with Manufacturers recommendations. For slopes less than 3:12, lap sealant must be used in the panel side laps. |
| Installation: | Install per manufacturer's recommended details. |
| Underlayment: | Per Manufacturer's installation guidelines per Florida Building Code 2010 Section 1507.4.5. |
| Roof Panel Fire Classification: | Fire classification is not part of this acceptance. |
| 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 2010 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 and pullover. Support framing must be in compliance with Florida Building Code 2010 Chapter 22 for steel, Chapter 23 for wood and Chapter 16 for structural loading.





Gulf Coast Tuff-Rib® Roofing Panels

| SECTION PROPERTIES | | | | | | | | | | | ALLOWABLE LOADS (PSF) | | | | | | | | | | | | | | |
|--------------------|--------|---------------|--------|------|------------|-----------|------------------|------------------|--------|--------|-----------------------|------|----|----|------|--------------------|------|----|----|------|------------------------|------|----|----|----|
| Panel Gauge | Fy KSI | Thickness In. | Fb KSI | | Weight PSF | Girth In. | Ix In. | Sx In. | Ix In. | Sx In. | Wind Load | | | | | Live Load (Stress) | | | | | Live Load (Deflection) | | | | |
| | | | Pos. | Neg. | | | Positive Bending | Negative Bending | 2' | 2'6" | 3' | 3'6" | 4' | 2' | 2'6" | 3' | 3'6" | 4' | 2' | 2'6" | 3' | 3'6" | 4' | | |
| 26 ga. | 80 | .0187 | 36 | 36 | .91 | 42 | .0288 | .0482 | .0288 | .1892 | 170 | 109 | 76 | 56 | 42 | 128 | 82 | 57 | 42 | 32 | 102 | 52 | 30 | 19 | 13 |
| 29 ga. | 80 | .0142 | 36 | 36 | .69 | 40.875 | .0232 | .0374 | .0232 | .1786 | 133 | 85 | 59 | 43 | 33 | 100 | 64 | 44 | 33 | 25 | 82 | 42 | 25 | 15 | 10 |

Fastening Schedule for Various Wind Speeds

| | | | | Wind Speed Zone | | | |
|-----------|-----------------------|---------------|------------------|------------------|------------------|------------------|------------------|
| | | | | 110 MPH | 120 MPH | 130 MPH | 140 MPH |
| Roof Zone | Fastener Type | Fastener Size | Attaching to: | OnCenter Spacing | OnCenter Spacing | OnCenter Spacing | OnCenter Spacing |
| Zone 1 | Woodgrip® or WoodZac® | #9-15 x 1½ | 1x4 wood purlins | 24" | 24" | 24" | 24" |
| Zone 2 | Woodgrip® or WoodZac® | #9-15 x 1½ | 1x4 wood purlins | 24" | 24" | 24" | 12" |
| Zone 3 | Woodgrip® or WoodZac® | #9-15 x 1½ | 1x4 wood purlins | 24" | 12" | 12" | 12" |

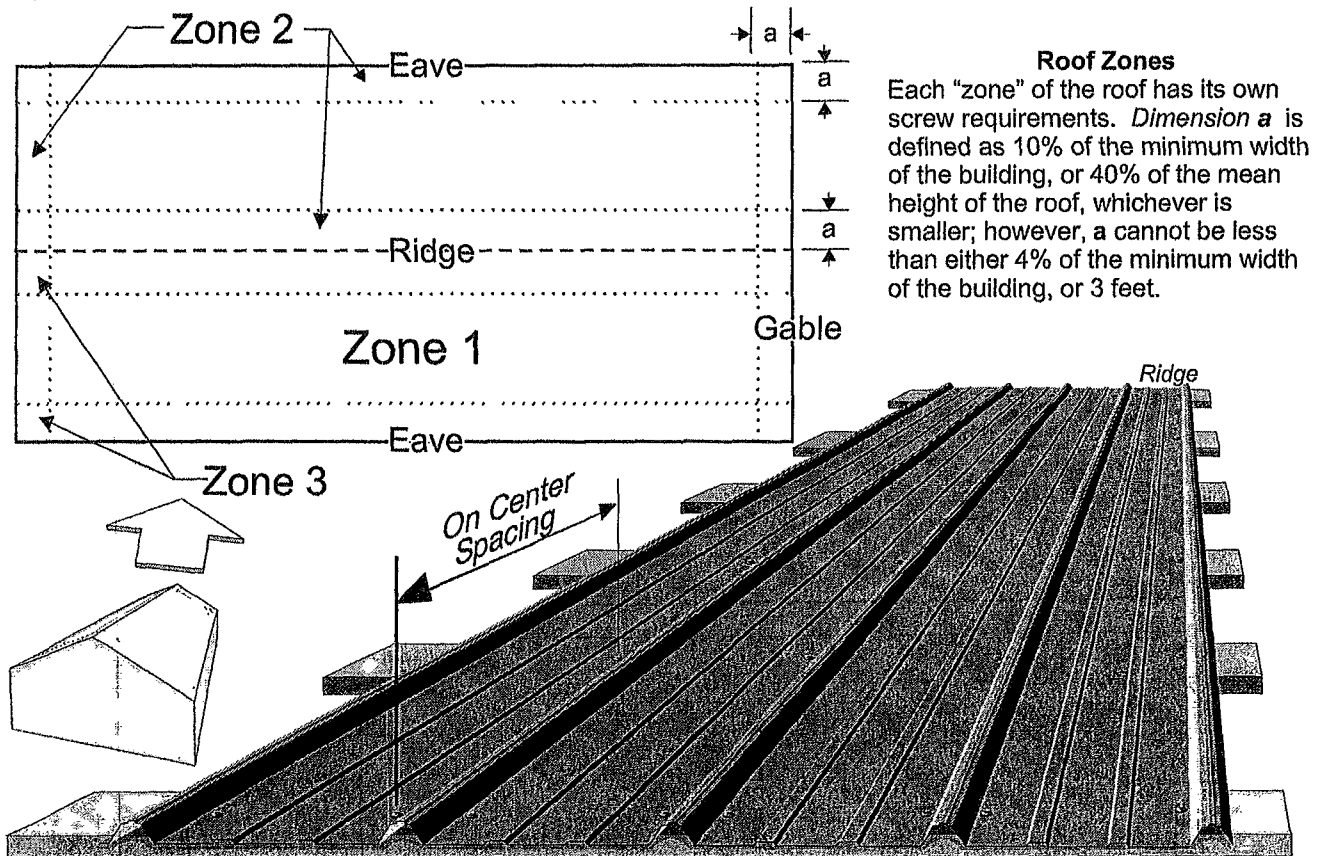
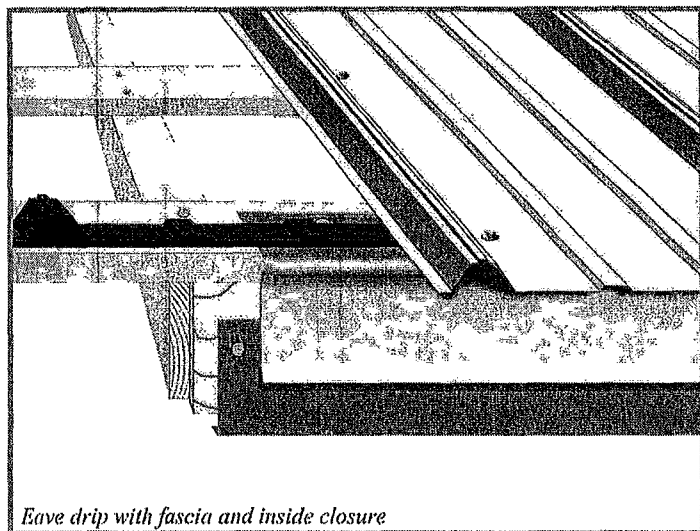
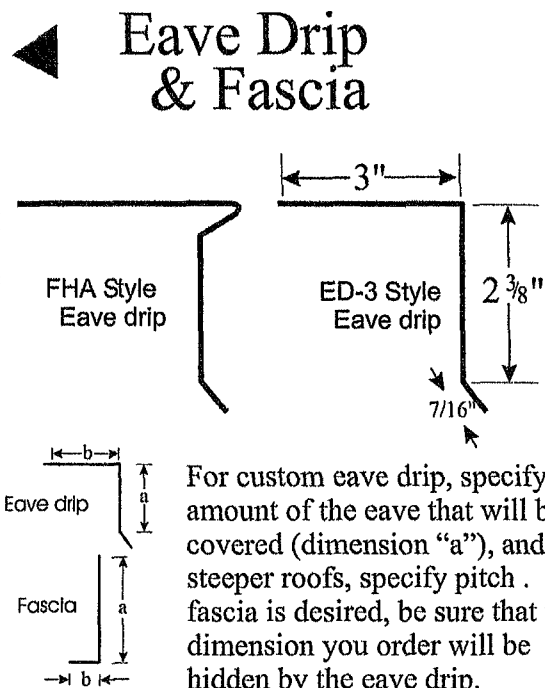


Figure 7 Screws should be placed on both sides of the ribs at both eave and ridge, and on the overlap side of the panel lap.



Eave drip with fascia and inside closure

Figure 8 Eave drip and fascia give a finished look along the drip eave of the house, as well as providing protection for the materials they cover. The eave drip should completely cover the top edge of the fascia. Inside closures, which seal off the open ribs of the panels, are optional.



For custom eave drip, specify the amount of the eave that will be covered (dimension "a"), and, for steeper roofs, specify pitch. If fascia is desired, be sure that the dimension you order will be hidden by the eave drip.

Summary of Stock Trims and Flashings

| <i>item</i> | <i>special order information</i> |
|-----------------------|---|
| Ridge caps (RC-2) | specify pitch if less than 3/12 or greater than 6/12. Also available in larger widths. Closures recommended. |
| Eave drip (FHA, ED-3) | 2 common styles. FHA style is pre-pitched for 3/12 to 6/12 roofs. For appearance or ease of application, order by either specific pitch or as gable trim (90°). |
| Gable flashings | Residential (EF-1), large (GR-2), and small (GR-1) rakes available. Use butyl sealant between rake and panel. |
| Valleys (PV-1) | specify pitch if greater than 7/12. Seal with universal foam closure material. Open-hemmed valleys (PV-2) aid water-tightness. |
| Sidewall (SW-1) | Use butyl sealant between sidewall flashing and panel. |
| Endwall (EW-1) | Specify pitch if greater than 5/12. Seal with outside closures. |
| Transition flashing | Specify pitches of both roofs. Seal lower slope using outside closures and, if desired, inside closures on upper slope. |