

## Evaluation Report "Englert® Series 500" Metal Roof Assembly

### Manufacturer:

**Englert, Inc.**

1200 Amboy Avenue  
Perth Amboy, NJ 08862

*for*

### Florida Product Approval

**# FL 11698.2 R4**

### Florida Building Code 6th Edition (2017)

**Method: 1 - D**

**Category: Roofing**

**Sub - Category: Metal Roofing**

**Product: "Series 500" Roof Panel**

**Material: Aluminum**

**Panel Thickness: 0.032"**

**Panel Width: 21" (Nominal)**

**Panel Seam: Lapped**

**Support: Wood Deck**

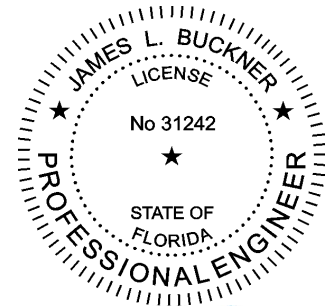
### Prepared by:

James L. Buckner, P.E., SECB  
Florida Professional Engineer # 31242  
Florida Evaluation ANE ID: 1916  
Project Manager: Diana Galloway  
Report No. 17-135-S500-A3W-ER  
(Revises 16-122-S500-A3W-ER, FL11698. R3)  
Date: 9 / 16 / 17

### Contents:

Evaluation Report                      Pages 1 – 7

Facsimile of digital copy signed by  
James L. Buckner, P.E.  
Electronically signed and sealed documents shall  
comply with the provisions of FAC Rule 61G15-23.



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

2017.10.11 13:33:36 -04'00'

<b>Manufacturer:</b>	<b>Englert, Inc.</b> 1200 Amboy Avenue Perth Amboy, NJ 08862 (732) 826-8614 <a href="http://www.englertinc.com/">http://www.englertinc.com/</a>
<b>Product Name:</b>	<b>"Series 500"</b>
<b>Product Category:</b>	Roofing
<b>Product Sub-Category</b>	Metal Roofing
<b>Compliance Method:</b>	State Product Approval Rule 61G20-3.005 (1) (d)
<b>Product/System Description:</b>	"Series 500" Standing Seam Roof Panel 0.032" Aluminum, 5V roof panel mechanically attached to Wood Deck with screws.
<b>Product Assembly as Evaluated:</b>	Refer to Page 4 of this report for product assembly components/materials & standards: <ol style="list-style-type: none"><li>1. Roof Panel</li><li>2. Fasteners</li><li>3. Underlayment</li><li>4. Insulation (Optional)</li></ol>
<b>Support:</b>	<b>Type:</b> Wood Deck (Design of support and its attachment to support framing is outside the scope of this evaluation.)  <b>Description:</b> <ul style="list-style-type: none"><li>• 19/32" or greater plywood,</li><li>• or Wood plank (min. specific gravity of 0.42)</li></ul>
<b>Slope:</b>	Minimum slope shall be: 3 : 12 or greater Minimum slope shall be in compliance with FBC Chapter 15 Section 1507.4.2, applicable code sections and in accordance with manufacturer's recommendations.
<b>Performance:</b>	Wind Uplift Resistance: <ul style="list-style-type: none"><li>• Design Uplift Pressure: <b>- 84 PSF</b> (Refer to "Table A" attachment details herein)</li></ul>

- Performance Standards:** The product described herein has demonstrated compliance with:
- **UL580-06** – *Test for Uplift Resistance of Roof Assemblies*
  - **UL 1897-12** – *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 1897-12 adopted by the Florida Building Code 6th Edition (2017).
- 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 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:**
- 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.
  - Deck shall be in compliance with applicable building code.
  - 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).

**Components/Materials  
(by Manufacturer):**

**Roof Panel:** Englert Series 500  
Material: Aluminum  
Thickness: 0.032" (min.)  
Panel Widths: 21-5/8" (max.) Coverage  
Rib Height: 7/8"  
Alloy Type: 3105-H14  
Corrosion Resistance: Per FBC Section 1507.4.3

**Fastener:**

Type: Hex-Head Wood Screw  
with weather-sealing washer  
Size : #10 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:  
(by Others)**

**Insulation (Optional):**

Type: Rigid Insulation Board  
Thickness: 3" (max.)  
Properties:  
Density: 2.25 pcf (lbs/ft<sup>3</sup>) 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".

**Installation:**

**Installation Method:**

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

- **Fastener Spacing: Refer to "TABLE A" Below**  
(attached to the tops of the V's for a total of 3 screws across the width of the panel.)
- **Row Spacing: Refer to "TABLE A" Below**  
(along the row, across the panel profile)
- **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.

<b>TABLE "A"</b> <b>"Series 500" (.032 Alum) 21" Wide Roof Panel Attached to Wood Deck</b> <b>ALLOWABLE LOADS</b>						
#	Deck Thickness (min.)	Fastener Spacing (max.)	Row Spacing (max.)	Fastener	Fastener Placement	Design Pressure (ASD)*
1	19/32" min.	10.5"	18"	#10	Corrugation Peaks <i>(Refer to Dwgs Pg 7)</i>	- 84 PSF
<i>* Allowable design pressure(s) for allowable stress design (ASD) with a margin of safety of 2 to 1.</i>						

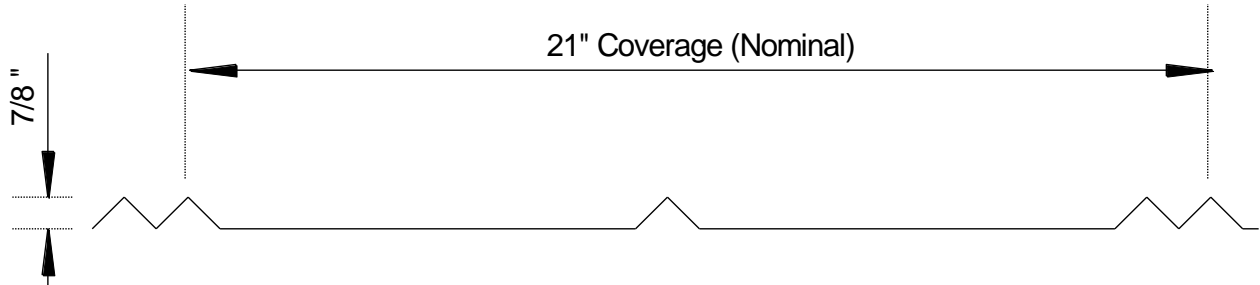
Install the "Series 500" roof panel assembly in compliance with the installation method listed in this report and applicable code sections of FBC 6th Edition (2017). The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

**Referenced Data:**

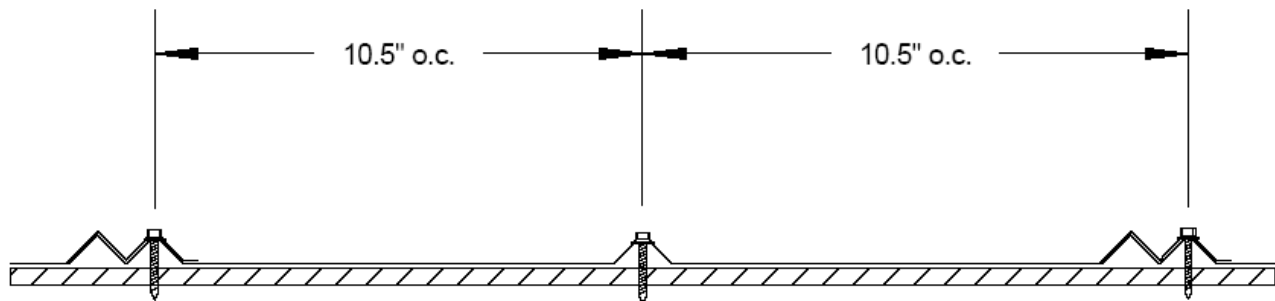
1. UL580-94 (with 1998 Revisions) & UL 1897  
By Hurricane Test Laboratories, Inc. (FBC Organization #TST ID: 1527)  
Report #0155-1207-04, Specimen #2 Date: 2/18/05
2. Quality Assurance  
Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)  
Englert, Inc. Licensee #420
3. Equivalency of Test Standard Certification  
By James L. Buckner, P.E. @ CBUCK Engineering  
(FBC Organization # ANE 1916)
4. Certification of Independence  
By James L. Buckner, P.E. @ CBUCK Engineering  
(FBC Organization # ANE 1916)

**Installation Method  
Englert, Inc.  
"Series 500" (0.032" Aluminum) Roof Panel attached to Wood Deck**

Drawings

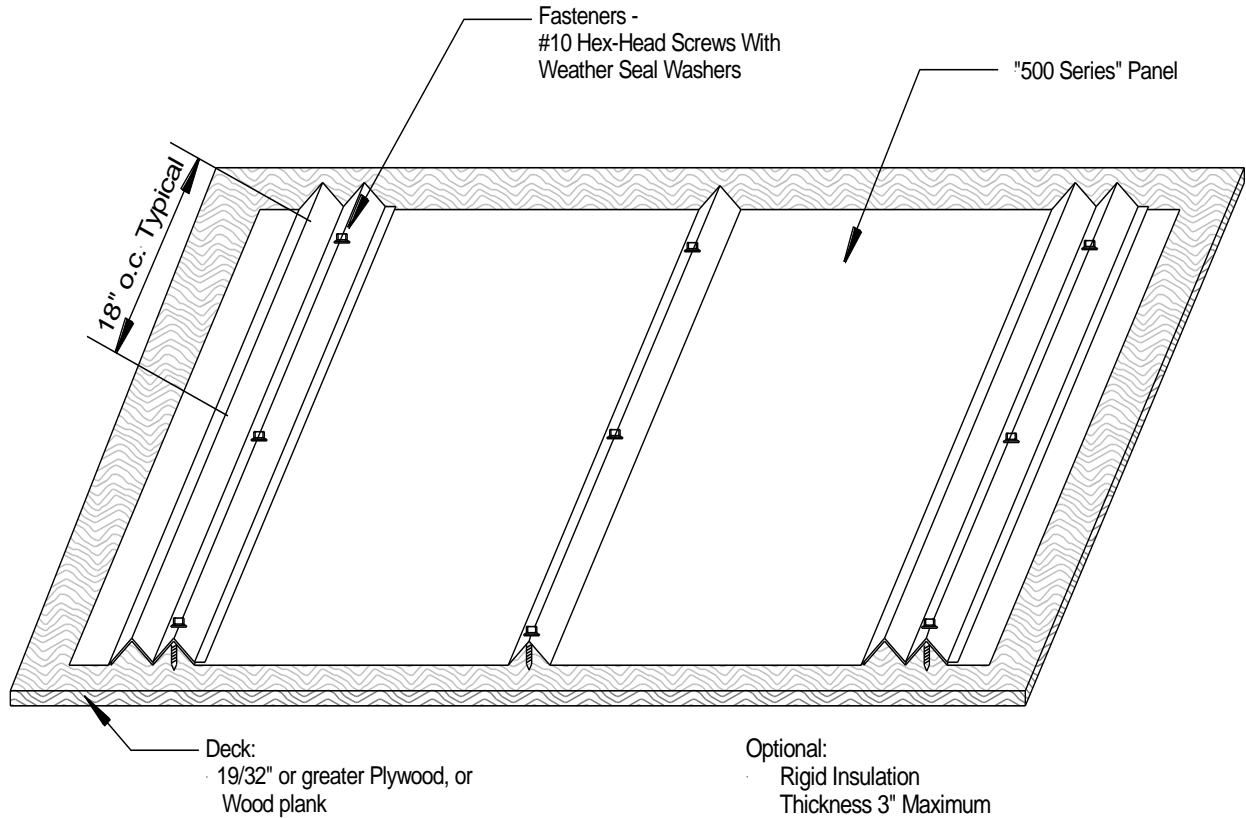


**Panel Profile**



**Typical Assembly Profile View  
(Typical Fastening Pattern Across Width - Interior)**

## Installation Method Englert, Inc. "Series 500" (0.032" Aluminum) Roof Panel attached to Wood Deck



### Typical Roof Assembly Isometric View

TABLE "A"						
"Series 500" (.032 Alum) 21" Wide Roof Panel Attached to Wood Deck						
ALLOWABLE LOADS						
#	Deck Thickness (min.)	Fastener Spacing (max.)	Row Spacing (max.)	Fastener	Fastener Placement	Design Pressure (ASD)*
1	19/32" min.	10.5"	18"	#10	Corrugation Peaks <i>(Refer to Dwgs Pg 7)</i>	- 84 PSF
* Allowable design pressure(s) for allowable stress design (ASD) with a margin of safety of 2 to 1.						