

## Evaluation Report "Englert® Series 2500" Metal Roof Assembly

### Manufacturer:

**Englert, Inc.**

1200 Amboy Avenue  
Perth Amboy, NJ 08862  
(732) 826-8614

*for*

### Florida Product Approval

**# FL 14668.2 R6**

### Florida Building Code 8th Edition (2023)

**Method: 1 - D**

**Category: Structural Components**

**Sub - Category: Roof Deck**

**Product: "Series 2500" Roof Panel**

**Material: Aluminum**

**Panel Thickness: 0.040"**

**Panel Width: 16"**

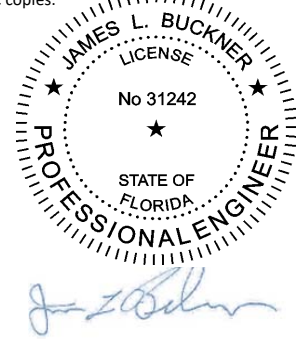
**Panel Seam: Double Lock**

**Support: Steel Purlins**

### Prepared by:

James L. Buckner, P.E., SECB  
Florida Professional Engineer # 31242  
Florida Evaluation ANE ID: 1916  
Project Manager: Diana Galloway  
Report No. 23-555-S2500-A4P-ER  
(Revises 21-436-S2500-A4P-ER, FL14668.2 R5)  
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 – 8

Date: 2023.08.16  
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|                                |                                                                                                                                                                                                                                          |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Manufacturer:                  | Englert, Inc.<br>1200 Amboy Avenue<br>Perth Amboy, NJ 08862<br>(732) 826-8614<br><a href="http://www.englertinc.com/">http://www.englertinc.com/</a>                                                                                     |
| Product Name:                  | "Series 2500"                                                                                                                                                                                                                            |
| Product Category:              | Structural Components                                                                                                                                                                                                                    |
| Product Sub-Category           | Roof Deck                                                                                                                                                                                                                                |
| Compliance Method:             | State Product Approval Rule 61G20-3.005 (1) (d)                                                                                                                                                                                          |
| Product/System Description:    | "Series 2500" Standing Seam Roof Panel<br>0.040" Aluminum roof panel attached to 16 gauge Steel Purlins mechanically seamed with two-piece floating panel clips.                                                                         |
| Product Assembly as Evaluated: | Refer to Page 4 of this report for product assembly components/materials & standards:<br><ol style="list-style-type: none"><li>1. Roof Panel</li><li>2. Roof Panel Clips</li><li>3. Fasteners</li><li>4. Insulation</li></ol>            |
| Support:                       | Type:<br>Steel Purlins<br>(Design of support system is outside the scope of this evaluation.)<br>Description: <ul style="list-style-type: none"><li>• Steel Purlins, 16 Gauge minimum</li><li>• Yield Strength: 50 ksi minimum</li></ul> |
| Slope:                         | Minimum slope shall be: 1/2 : 12 or greater<br>Minimum slope shall be in compliance with FBC Chapter 15 based on the type of roof covering, applicable code sections and in accordance with manufacturer's recommendations.              |
| Performance:                   | Wind Uplift Resistance: <ul style="list-style-type: none"><li>• Design Uplift Pressure:<br/>(Refer to "Table A" attachment details herein)</li></ul>                                                                                     |

See Table A

- Performance Standards:** The product described herein has demonstrated compliance with:
- ASTM E 1592-05 – *Test Method for Structural Performance of Sheet Metal Roof and Siding Systems By Uniform Static Air Pressure Difference*
  - TAS 125-03 – *Standard Requirements for Metal Roofing Systems*
- Standards Equivalency:** The ASTM E 1592-01 standard version used to test the product meets the prescribed standards in ASTM E 1592-05 standard version 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 8<sup>th</sup> 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.
  - Design of support system is outside the scope of this report. Support shall be structural framing members complying with the FBC Chapter 22 for steel and Chapter 16 for structural loading and shall be designed by others.
  - Diaphragm and axial load capacity is outside the scope of this evaluation.
  - 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:**

Material: Englert Series 2500  
Aluminum  
Thickness: 0.040" (min.)  
Panel Widths: 16" (max.) Coverage  
Rib Height: 2"  
Alloy Type: 3105-H14  
Corrosion Resistance: Per FBC Section 1507.4.3

**Roof Panel Clips:**

Product Name: Englert "Series 2500 Floating Clip"  
Englert Part #s: Clip Top: 05082H  
Clip Base: 05082I  
Type: Two-piece, floating clip  
Material: Clip Top: 24 Gauge Stainless Steel  
Clip Base: 18 Gauge Galvanized Steel  
Yield Strength: 40 ksi min.  
Dimensions: Clip Top: 2-1/4" x 6"  
Clip Base: 1-1/4" x 3-5/8"  
Corrosion Resistance: Per FBC Section 1506.7

**Fastener:**

Type: Truss-Head Self-Drilling Sheet Metal Screw  
Size: #14 x 1-1/4"  
Corrosion Resistance: Per FBC Section 1506.6 and 1507.4.4  
Standard: Per FBC 1507.4.4 and SAE J78-1979

**Components &  
Materials:  
(by Others)****Insulation (Optional):**Type 1:

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

Type 2:

Thickness: Compressible Blanket Insulation  
6" max. before compression

**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 3/4".

**Installation:**

**Installation Method:**

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

- Clip/Purlin Spacing: **Refer to "TABLE A" Below**
- Two (2) fasteners per Clip (at each purlin intersection)
- Rib Interlock: Mechanically Seamed 180° (Double-Lock)
- Minimum fastener penetration thru bottom of supports, 3/4".

| TABLE "A"<br>ALLOWABLE LOADS                                                                                                                                                                                                                                                                                                                                                     |             |             |             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|-------------|
|                                                                                                                                                                                                                                                                                                                                                                                  | METHOD 1:   | METHOD 2:   | METHOD 3:   |
| Design Pressure:<br>16" Panel:                                                                                                                                                                                                                                                                                                                                                   | - 47 PSF    | - 78 PSF    | - 120 PSF   |
| # of Fasteners<br>per Clip:                                                                                                                                                                                                                                                                                                                                                      | 2           | 2           | 2           |
| Panel Seam:                                                                                                                                                                                                                                                                                                                                                                      | Double Lock | Double Lock | Double Lock |
| Clip/Purlin<br>Spacing:                                                                                                                                                                                                                                                                                                                                                          | 60"         | 30"         | 12"         |
| Span Condition:                                                                                                                                                                                                                                                                                                                                                                  | 3 or more   | 3 or more   | 3 or more   |
| Notes: <ul style="list-style-type: none"><li>• Allowable design pressure(s) for allowable stress design (AD).</li><li>• Fastener Attachment to Steel Supports May Be Designed By A Qualified Design Professional As Required By The Florida Building Code For Site Specific Projects.</li><li>• Diaphragm and axial load capacity are not included in this evaluation.</li></ul> |             |             |             |

Install the "Series 2500" 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:**

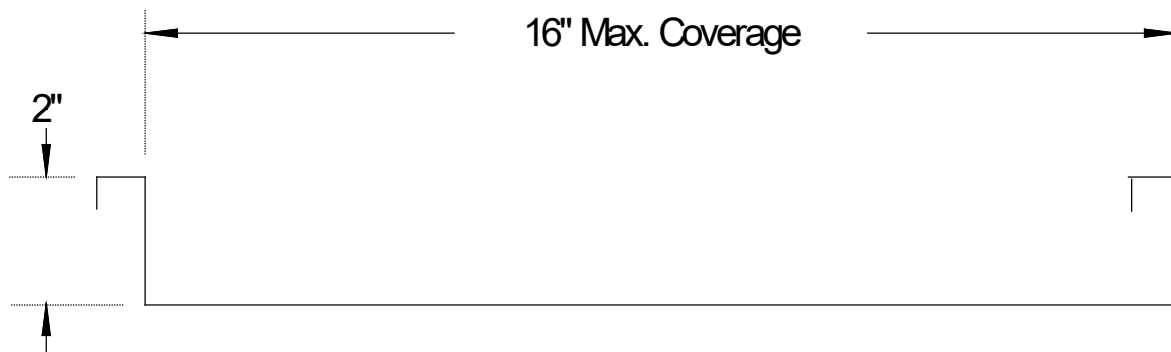
1. ASTM E 1592-01 Uplift Test  
By ENCON Technology, Inc.  
Report No. C969, Date: 10/05/00
2. ASTM E 1592-05 Uplift Test  
By Intertek  
Report No. M4602.01-109-44, Date: 9/30/21
3. Quality Assurance  
Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)  
Englert, Inc. Licensee #420
4. Equivalency of Test Standard Certification  
By James L. Buckner, P.E. @ CBUCK Engineering
5. Certification of Independence  
By James L. Buckner, P.E. @ CBUCK Engineering  
(FBC Organization # ANE 1916)

## Installation Method

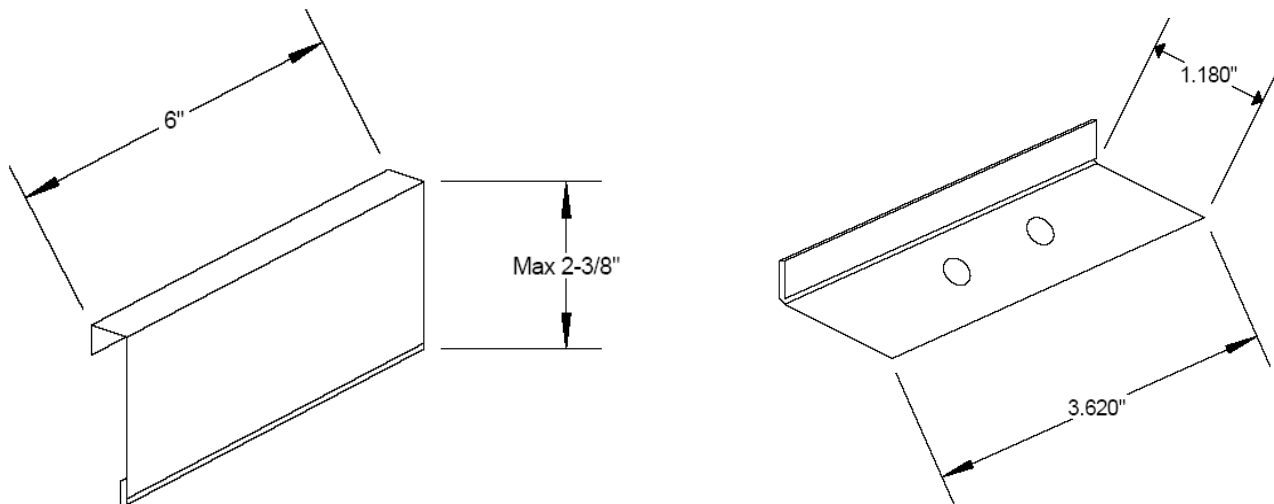
Englert, Inc.

**"Series 2500" (.040 Aluminum) Roof Panel attached to Steel Purlins**

### Drawings



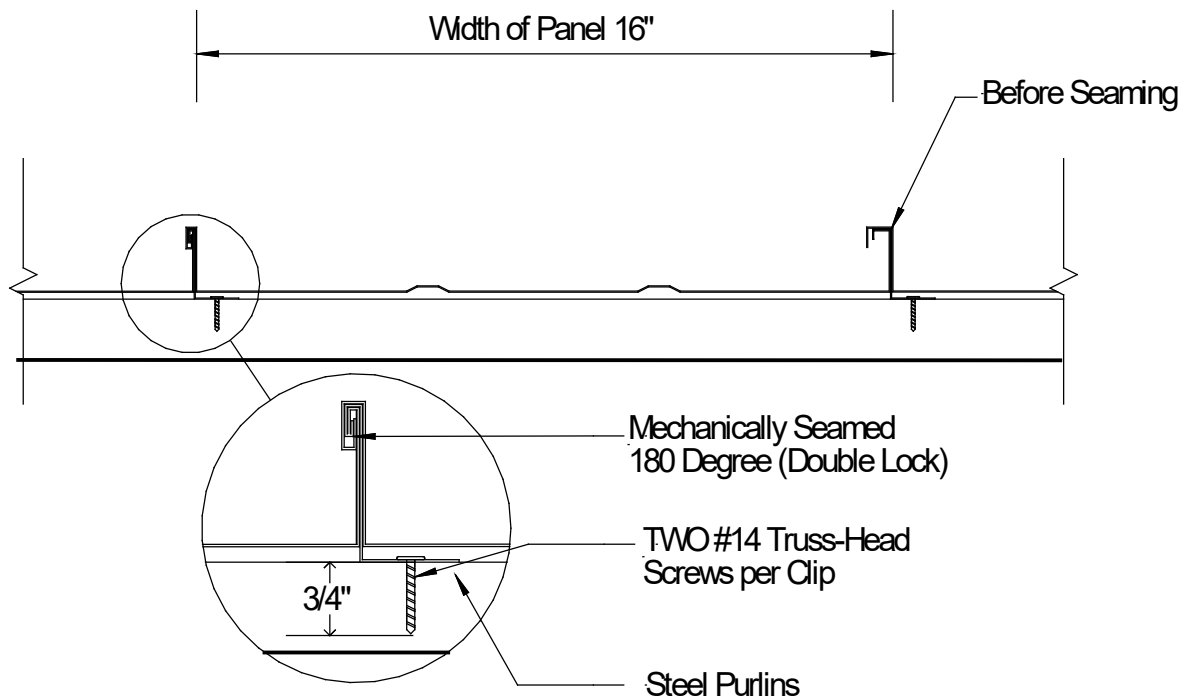
**Panel Profile**



### **Panel Clip**

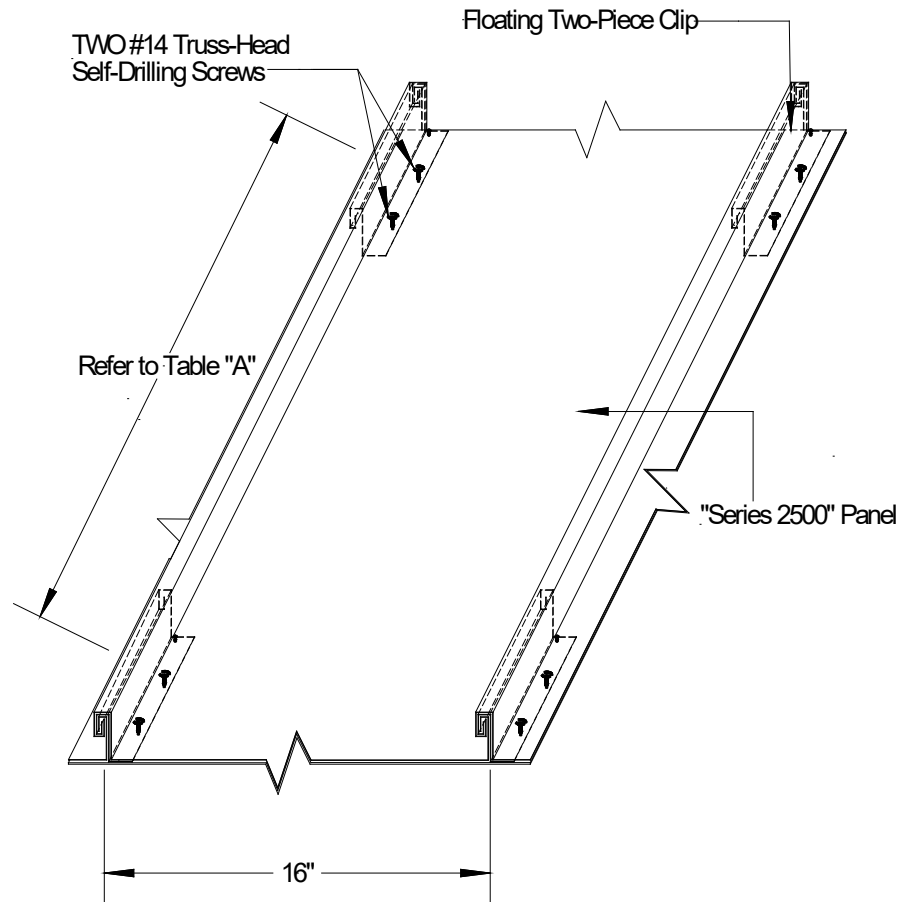
Englert "Series 2500 Floating Clip" (Top & Base)  
(Part # 05082H & 05082I)

**Installation Method**  
**Englert, Inc.**  
**"Series 2500" (.040 Aluminum) Roof Panel attached to Steel Purlins**



**Typical Panel Assembly**  
**Section View**

## Installation Method Englert, Inc. "Series 2500" (.040 Aluminum) Roof Panel attached to Steel Purlins



**Typical Roof Assembly  
Isometric View**

**(Optional)** Rigid Insulation Board or compressible blanket insulation per Page 4 of this report

| TABLE "A"<br>ALLOWABLE LOADS |             |             |             |
|------------------------------|-------------|-------------|-------------|
|                              | METHOD 1:   | METHOD 2:   | METHOD 3:   |
| Design Pressure:             | - 47 PSF    | - 78 PSF    | - 120 PSF   |
| # of Fasteners per Clip:     | 2           | 2           | 2           |
| Panel Seam:                  | Double Lock | Double Lock | Double Lock |
| Clip/Purlin Spacing:         | 60"         | 30"         | 12"         |
| Span Condition:              | 3 or more   | 3 or more   | 3 or more   |