

Evaluation Report "Englert® Series 1300" Metal Roof Assembly

Manufacturer:

Englert, Inc.

1200 Amboy Avenue
Perth Amboy, NJ 08862

(732) 826-8614

for

Florida Product Approval

FL 11727.7 R15

Florida Building Code 7th Edition (2020)

Method: 1 - D

Category: Roofing

Sub - Category: Metal Roofing

Product: "Series 1300" Roof Panel

Material: Steel

Panel Thickness: 24 gauge

Panel Width: 16"

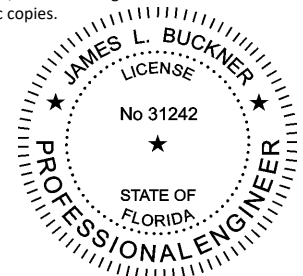
Panel Seam: Single-Lock

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. 21-444-S1300-S4W-HZ-ER
(New Eval)
Date: 12 / 16 / 21

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.



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

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Evaluation Report

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CBUCK, Inc. dba CBUCK Engineering

Phone: (561) 491-9927 · Email: cbuck@cbuckinc.net · Website: www.cbuckinc.net

Business: 1374 Community Dr., Jupiter, FL 33458 · Corp/Mailing: 2637 E. Atlantic Blvd, #34069, Pompano Beach, FL 33062

Manufacturer:	Englert, Inc. 1200 Amboy Avenue Perth Amboy, NJ 08862 (732) 826-8614 http://www.englertinc.com/
Product Name:	“Series 1300”
Product Category:	Roofing
Product Sub-Category	Metal Roofing
Compliance Method:	State Product Approval Rule 61G20-3.005 (1) (d)
Product/System Description:	“Series 1300” Roof Panel 24 gauge steel standing seam roof panel mechanically attached to Wood Deck with clips and screws.
Product Assembly as Evaluated:	Refer to Page 4 of this report for product assembly components/materials & standards: <ol style="list-style-type: none">1. Roof Panel2. Panel Clip3. Fasteners4. Adhesive5. Underlayment6. Barrier Board
Support:	Type: Wood Deck (Design of support system is outside the scope of this evaluation.) Description: <ul style="list-style-type: none">• 15/32” or greater plywood,• or Wood plank (min. specific gravity of 0.42) Deck attached with 8d ring shank nails per current FBC with fasteners spaced 6” o.c. over 2x wood rafters 24” o.c.
Slope:	Minimum slope: 1:12 (HVHZ) Per FBC 1515.2 Roof 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">• Design Uplift Pressure: Refer to Table A (Refer to “Table A” attachment details herein)

Performance Standards:

The product described herein has demonstrated compliance with:

- **TAS 125-03** – *Standard Requirements for Metal Roofing Systems*
- **TAS 100-95** – *Test Procedure for Wind and Wind Driven Rain Resistance of Discontinuous Roof Systems*
- **FM 4471-92** - Approval Standard for Class I Roof Panels, Appendix G

Code Compliance:

The product(s) described herein have demonstrated compliance with the performance standards listed above as referenced in the Florida Building Code 7th Edition (2020).

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".
- All metal components and fasteners shall be corrosion resistant in accordance with applicable sections of FBC, including but not limited to Sections 1504.3.2, 1506.6 and 1507.4.4. For HVHZ areas, all roofing accessories shall comply with FBC Sections 1517.5 and 1517.6.
- All insulation fasteners, membrane fasteners and stress plates shall comply with FBC Section 1520.4 as applicable.
- The design pressures listed herein is applicable to all roof pressure zones. Rational analysis or extrapolation to enhance pressure is not permitted in HVHZ zones.
- Maximum panel lengths, valleys & panel accessories shall comply with Roofing Application Standard RAS 133 as applicable in HVHZ areas.
- Deck shall be in compliance with applicable building code.
- Fire Classification is outside the scope of Rule 61G20-3 and is therefore not included in this evaluation.
- All panels shall be permanently labeled with the manufacturer's name and/or logo.
- This evaluation report approves the product assembly as described in this report for use in the High Velocity Hurricane Zone (HVHZ) code section. (Dade & Broward Counties)
- 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.

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: Steel
Thickness: 24 gauge (min.)
Panel Widths: 16" (max.) Coverage
Rib Height: 1"
Material Standards: Per FBC 1507.4.3 (Non-HVHZ), 1518.9 (HVHZ)
Corrosion Resistance: Per FBC 1507.4.3(2) (Non-HVHZ), 1518.9 (HVHZ)

Englert Series 1300

Roof Panel Clips:

Clip Option 1: Englert "Series 1300 Fixed 3" Clip"
Englert Part #: 05828J (Galv. Steel) or 05828K (Stainless Steel)
Type: One-piece, fixed clip
Dimensions: 3"(long) x 1-5/8"(tall) x 1-3/16"(wide)
Clip Option 2: Englert "Series 1300 Fixed 6" Clip"
Englert Part #: 05084D (Galv.) or 05084E (Stainless Steel)
Type: One-piece, fixed clip
Dimensions: 1-5/8" (tall) x 1-1/2" (long) x 6-1/4" (wide)

Roof Panel Clips shall comply with the following:

Material: Galvanized Steel or Stainless Steel
Thickness: 24 Gauge Steel
Yield Strength: 40 ksi min.
Corrosion Resistance: Per FBC Section 1506.7

Fastener:

Type: Low Profile Pancake-Head Wood Screw
Size: #10 x 1"
Corrosion Resistance: Per FBC 1506.6 & 1507.4.4 (Non-HVHZ), 1518.9 (HVHZ)
Standard: Per ANSI/ASME B18.6.1 (Non-HVHZ), 1517.5 (HVHZ)

Seam Adhesive/Sealant:

Product Name: Bostik 915
Type: One component, polyurethane adhesive
Application Size: 3/8" continuous bead
Application Location: along male flange the full length of panel
(Design of adhesive is outside the scope of this evaluation.)

**Components &
Materials:
(by Others)**

Underlayment:

One of the following per FBC 7th Edition (2020), Section 1518.4. Installation shall comply with FBC including Sections 1518.2, Section 1518.3 when applicable and in accordance with roof manufacturer's recommendations:

- Any HVHZ approved underlayment
- Or one of the following as a minimum:
(all with minimum 6" endlaps)
 - o Double layer - Compliant with ASTM D 226, Type I with a 19" headlap
 - o Single layer - Compliant with ASTM D 226, Type II with a 4" headlap
 - o Single layer - Compliant with ASTM D 2626 with with a 4" headlap

Underlayment shall be anchored with min. 12 Ga. X 1-1/4" galvanized annular ring shank roofing nails with 32 ga. tin tags spaced 6" o.c. in rows at perimeter and overlaps, and two intermediate staggered rows at 12" o.c.

Components & Materials:
 (by Others) Cont:

Barrier Board:

Any approved barrier with current approval.
 (Fire classification is outside the scope of this evaluation. Refer to current fire listings for installation of fire barrier & fire rating of this system.)

Installation:

Installation Method:

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

- Clip Spacing: **Refer to "TABLE A" Below**
 (along the length of the panel)
- # of fasteners per Clip: **Refer to "TABLE A" Below**
- Rib Interlock: Single-Lock
 (Panel ribs shall be mechanically seamed per below.)
- Seam Adhesive: Apply along male flange the full length of the panel.
- 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			
Series 1300" (24 gauge) (16") Roof Panel attached to Wood Deck			
	METHOD 1	METHOD 2	METHOD 3
Design Pressure:	- 93.5 PSF	- 123 PSF	172.5 PSF
Clip Spacing:	24"	12"	12"
Clip Type:	3" Fixed	3" Fixed	6" Fixed
# Fasteners per Clip:	2	2	4
Panel Seam:	90° (Single-Lock)	90° (Single-Lock)	90° (Single-Lock)
Adhesive:	No	Yes	Yes
Notes:			
1. Allowable design pressure(s) for allowable stress design (ASD).			
2. The design pressures listed herein is applicable to all roof pressure zones. Rational analysis or extrapolation to enhance pressure is not permitted in HVHZ zones.			

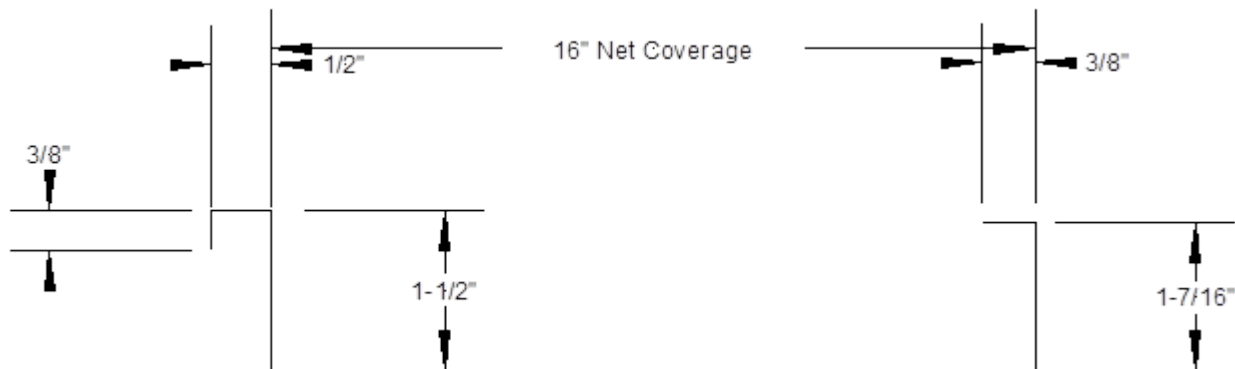
Install the "Series 1300" roof panel assembly in compliance with the installation method listed in this report and applicable code sections of FBC 7th Edition (2020). The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer's installation instructions as a supplemental guide for attachment.

Referenced Data:

1. TAS 125 Uplift Test & ASTM E8
By Intertek Testing, Inc. (FBC Organization ID# TST 3892)
Report No. m5004.01-450-18-r0, Specimens #1-2, Date: 10/11/21
2. TAS 125 Uplift Test
By Architectural Testing, Inc.(FBC Organization ID# TST 1558)
Report #92270.04-109-18, Spec #1, Date: 10/5/09
3. TAS 100-95 Wind Driven Rain Test
By Architectural Testing, Inc.
Report No. 01-32797.01 Date: 11/5/08
4. TAS 114, App G Test
By Intertek Testing, Inc.
Report No. G5733.01-106-18 Date: 1/5/17
5. Quality Assurance
Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)
Englert, Inc. Licensee #420
6. Certification of Independence
By James L. Buckner, P.E. @ CBLUE Engineering

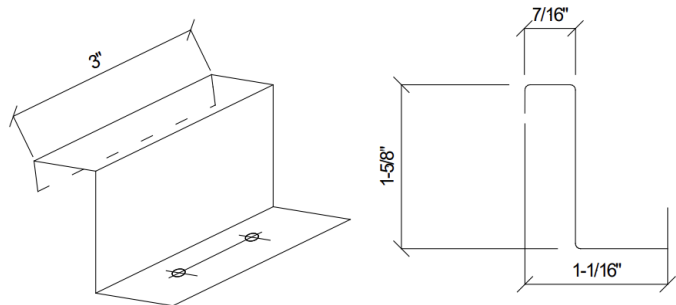
Installation Method Englert, Inc. "Series 1300" (24 gauge Steel) Roof Panel attached to Wood Deck

Drawings

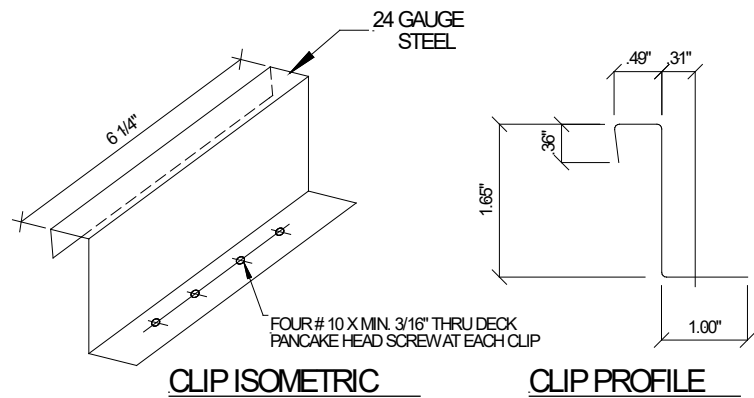


Panel Profile

Panel Clip
 Englert "Series 1300"
3" Fixed Clip
 (Part #05828J – Galvanized) or
 (Part #05828K – Stainless Steel)



Panel Clip #1
 Englert "Series 1300"
Fixed Clip
 (Part #05084D – Galvanized) or
 (Part #05084E – Stainless Steel)

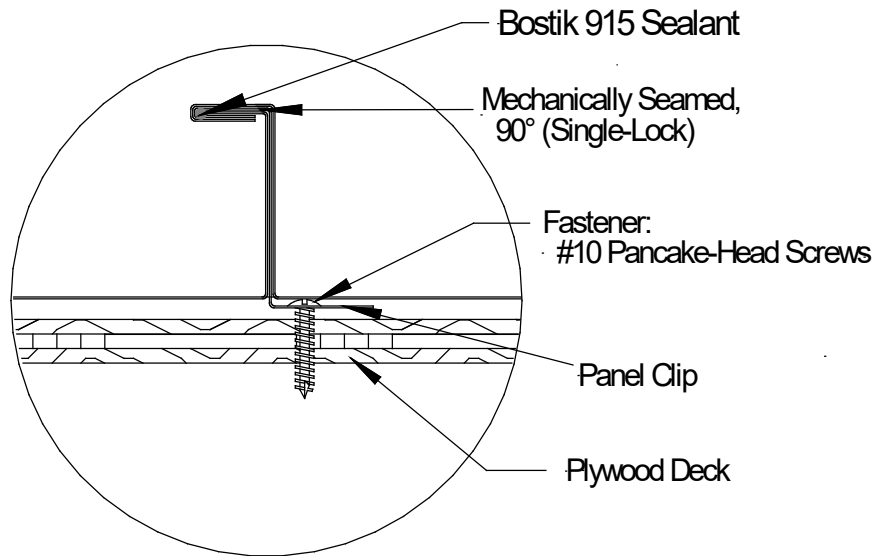


Series 1300 Panel Clips

Installation Method

Englert, Inc.

“Series 1300” (24 gauge Steel) Roof Panel attached to Wood Deck



Typical Assembly Profile View

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