CBUCK Engineering

Specialty Structural Engineering

CBUCK, Inc. Certificate of Authorization #8064

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 11727.1 R17

Florida Building Code 8th Edition (2023)

Method: **1 - D**

Category: **Roofing**

Sub - Category: **Metal Roofing**

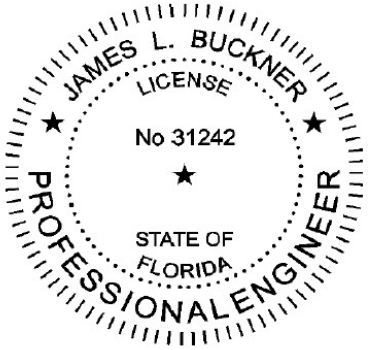
Product: "Series 1300" Roof Panel

Material: Steel

Panel Thickness: 24 gauge

Support: Wood Deck

This item has been digitally signed and sealed by James L. Buckner, P.E., on this date below. Printed copies of this document are not considered signed and sealed, and the signature must be verified on any electronic copies.



James L. Buckner, P.E.
FL31242

Date: 2023.08.21 '12:16:51 -04'00

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-S1300-S4W-ER
(Revises 20-234-S1300-S4W-ER, FL11727.1 R13, R16)
Date: 08/16/2023

Contents:

Evaluation Report Pages 1 – 9

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 panel clips & screws.

Product Assembly as Evaluated:
Refer to Page 4 of this report for product assembly components/materials & standards:

1. Roof Panel
2. Panel Clip
3. Fasteners
4. Seam Adhesive
5. Underlayment
6. Insulation (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 19/32"or greater plywood (Per Table A),
- or Wood plank (min. specific gravity of 0.42)

Slope:
Minimum slope shall be: **1/2 : 12** or greater
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:

- Design Uplift Pressure: **Refer to TABLE "A"**
  (Refer to "Table A" details herein)

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*
- TAS 125-03 – *Standard Requirements for Metal Roofing 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).

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.
- 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 1300
Material:	Steel
Thickness:	24 gauge (min.)
Panel Widths:	16” (max.) or 20” (max.) Coverage
Rib Height:	1-1/2”
Yield Strength:	40 ksi min.
Corrosion Resistance:	Per FBC Section 1507.4.3
Roof Panel Clips:	
CLIP 1:	6” Clip
Product Name:	Englert “Series 1300 Fixed Clip”
Englert Part #:	05084D (Galv.) or 05084E (Stainless)
Type:	One-piece, fixed clip
Material:	Galvanized Steel or Stainless Steel
Thickness:	24 gauge
Yield Strength:	40 ksi min.
Dimensions:	1-5/8” (tall) x 1-1/2” (long) x 6-1/4” (wide)
Corrosion Resistance:	Per FBC Section 1506.7
CLIP 2:	2” Clip
Product Name:	Englert “Series 1300 Fixed Clip”
Englert Part #:	05872A (Galv.) or 05837A (Stainless)
Type:	One-piece, fixed clip
Material:	Galvanized Steel or Stainless Steel
Thickness:	26 gauge
Yield Strength:	40 ksi min.
Dimensions:	1-9/16” (tall) x 1” (long) x 2” (wide)
Corrosion Resistance:	Per FBC Section 1506.7
Fastener:	
Type:	Pancake-Head Wood Screw
Size :	#10 x 1”
Corrosion Resistance:	Per FBC Section 1506.6 and 1507.4.4
Standard:	Per ANSI/ASME B18.6.1
Seam Adhesive/Sealant:	
Product Name:	Bostik Chem-Caulk 915
Type:	One component, polyurethane adhesive
Application Size:	3/8” bead
Application Location:	along male flange the full length of panel (Refer to drawing Page 8)

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^3) 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.)

- Clip Spacing: **Refer to “TABLE A” Below**
  (along the length of the panel)
- Rib Interlock: **Refer to “TABLE A” Below**
  (Panel ribs shall be mechanically seamed per below**.**)
- Seam Adhesive: Refer to Table “A” & Drawing Page 8.
  (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”
“Series 1300” (24 gauge Steel) Roof Panel attached to Wood Deck
ALLOWABLE LOADS

	Panel Width (max.)	**Deck Thickness** (min.)	**Panel Clip**	**Clip Spacing** (max.)	**# of Fasteners per Clip**	**Seam Adhesive**	**Panel Seam** (min.)	**Design Pressure**
1	16”	15/32”	6”	12”	4	YES	90°or180°	**- 165 PSF**
2	16”	19/32”	6”	48”	4	NO	90°or 180°	**- 52.5 PSF**
3	16”	19/32”	6”	8”	4	NO	90°or 180°	**- 114 PSF**
4	16”	19/32”	2”	24”	2	NO	90°or 180°	**- 69 PSF**
5	16”	19/32”	2”	12”	2	NO	90°or 180°	**- 107 PSF**
6	20”	19/32”	6”	18”	4	NO	90°or 180°	**- 60 PSF**
7	20”	19/32”	6”	8”	4	NO	180°	**- 99 PSF**

Notes:

- Allowable design pressure(s) for allowable stress design (ASD).

Install the “Series 1300” 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 TAS 125 Uplift Test
By Architectural Testing, Inc.(FBC Organization ID# TST 1558)
Report #92270.04-109-18, Date: 10/5/09

2. Class 90 Based on UL580 Uplift Test
By Underwriter's Laboratories, Inc. (FBC Organization ID# TST 1740)
File R18970, Proj 98NK32745, Test Sample #2, Date: 6/6/00

3. TAS 125 Uplift Test
By Hurricane Test Laboratory, LLC (FBC Organization ID# TST 1527)
Report #0155-0214-06, Date: 5/4/06

4. TAS 125 Uplift Test
By Hurricane Test Laboratory, LLC (FBC Organization ID# TST 1527)
Report #0155-0615-05, Date: 2/3/06, Sp #1-3

5. TAS 125 Uplift Test
By Architectural Testing, Inc. (FBC Organization ID# TST 1558)
Report No. 01-38069.01 Date: 12/18/00

6. TAS 125 Uplift Test
By Hurricane Test Laboratory, LLC (FBC Organization ID# TST 1527)
Report #0155-0215-06, Test Date: 2/13/06-2/14/06

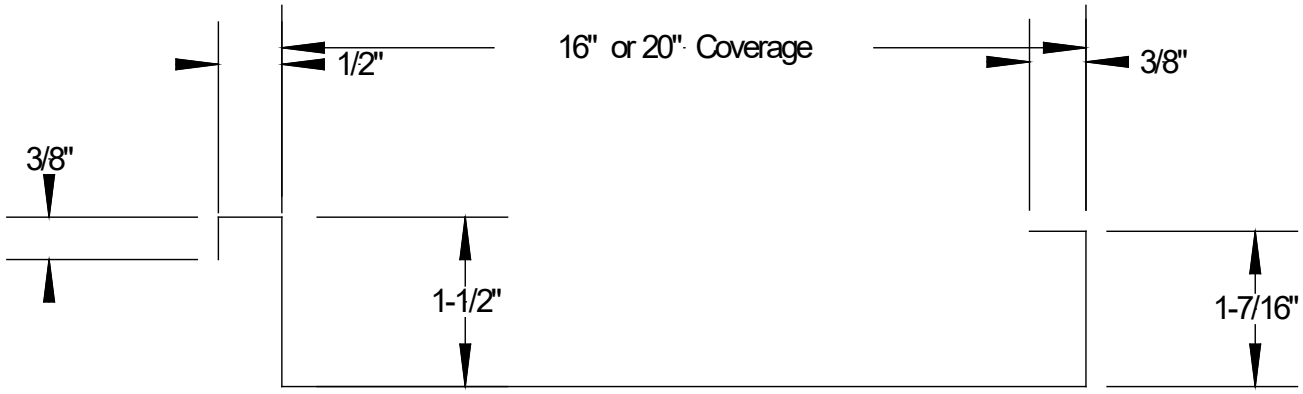
7. Quality Assurance
Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)
Englert, Inc. Licensee #420

8. Equivalency of Test Standard Certification
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)

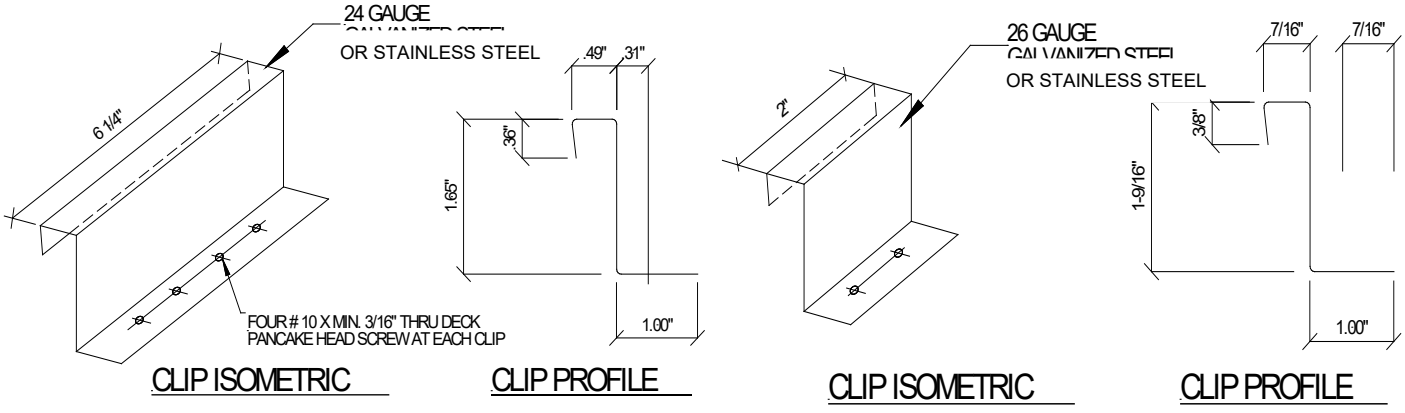
9. Engineering Analysis
By James L. Buckner, P.E. @ CBUCK Engineering
(FBC Organization # ANE 1916)

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

Drawings



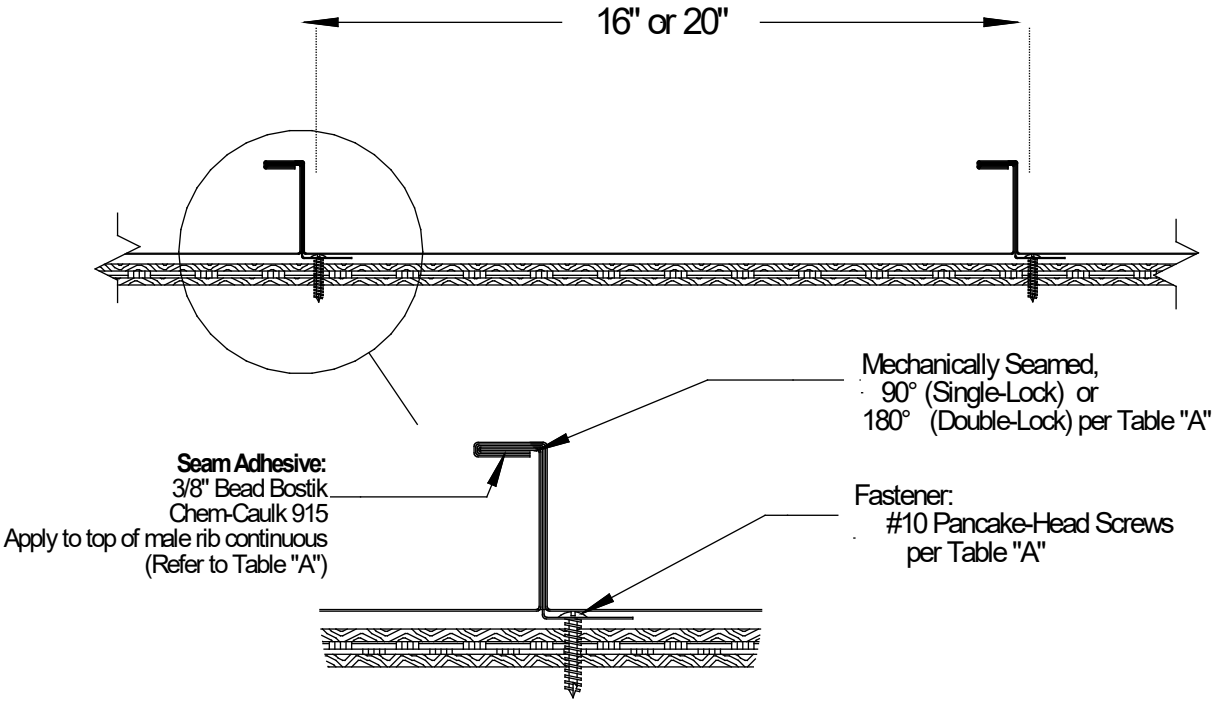
Panel Profile



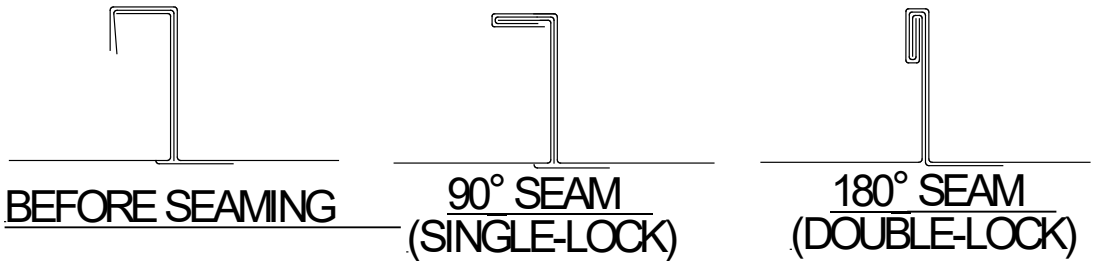
6" Panel Clip Profile
"Series 1300 Fixed Clip"
(Galv. Part # 05084D)
(Stainless Part # 05084E)

2" Panel Clip Profile
"Series 1300 Fixed Clip"
(Galv. Part # 05872A)
(Stainless Part # 05837A)

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

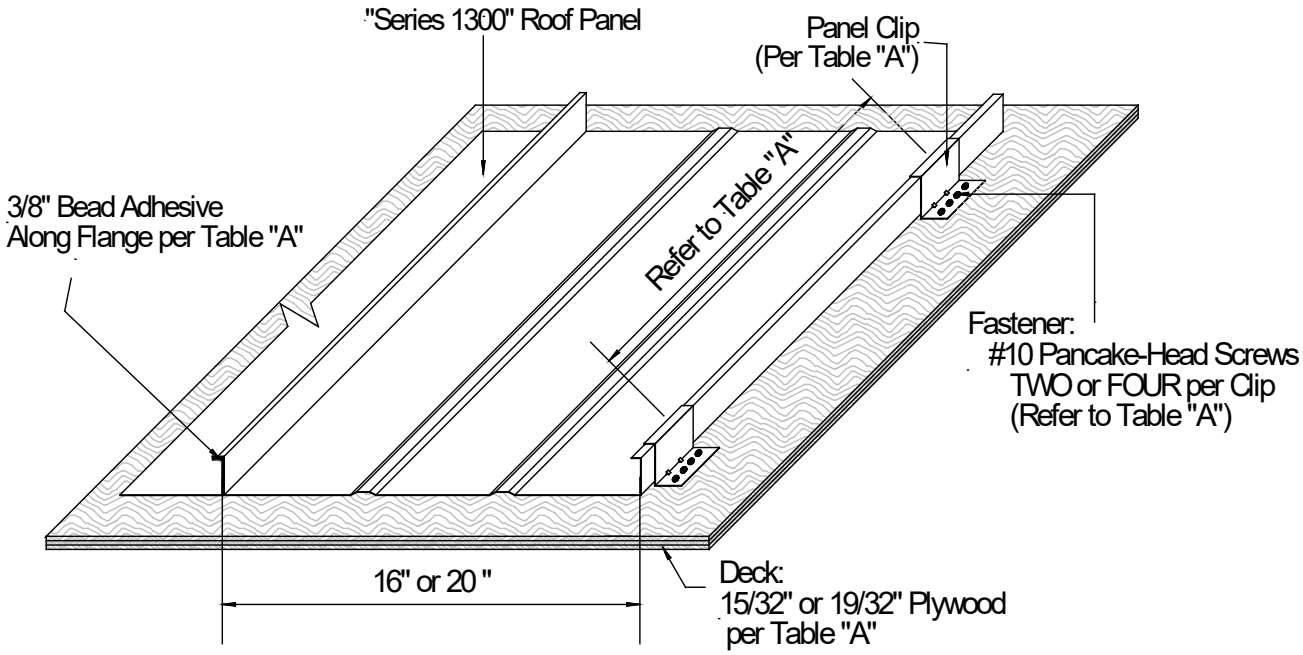


Typical Assembly Profile View
(Typical Fastening Pattern Across Width)



Typical Panel Seams

Installation Method
Englert, Inc.
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Typical Roof Assembly
Isometric View

(Optional) Rigid Insulation Board per Page 4 of this report

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