

## Evaluation Report

### “Self-Flashing Solar Powered Attic Fan” with Dome Mounted Solar Panel

#### Manufacturer

#### U.S. Sunlight Corporation

923 Tahoe Blvd., Suite 110  
Incline Village, NV 89451  
(866) 446-0966

*For*

#### Florida Product Approval

**# FL 14561.1 R2**

Florida Building Code 2010

Per Rule 61G20-3

Method: 2 - B

Category: Roofing

Sub - Category: Roofing Accessories that are an Integral  
Part of the Roofing System

Product Name: *Solar Powered Attic Fan*

Product Description: *Self-Flashing Series  
with Dome Mounted Solar Panel*

#### Prepared by:

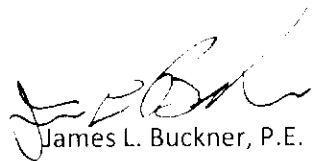
James L. Buckner, P.E., SECB  
Florida Professional Engineer # 31242  
Florida Evaluation ANE ID: 1916  
Project Manager: Youry Demosthenes  
Report No. 13-142- SPAF-Flush-S4W-ER  
Date: 6 / 25 / 13

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James L. Buckner, P.E.  
Florida P.E. # 31242  
6/28/13

**Manufacturer:** U.S. Sunlight Corporation

**Product Name:** Self- Flashing Solar Powered Attic Fan w/ Dome Mounted Solar Panel

**Product Category:** Roofing

**Product Sub-Category:** Roofing Accessories that are an Integral part of the Roofing System

**Compliance Method:** State Product Approval Rule 61G20-3.005 (2) (b)

**Product Description:** The Solar Powered Attic Fan is a self-flashing, roof mounted unit that is powered by a solar panel. The solar panel is attached directly to the fan shroud cover.

**Product Assembly as Evaluated:** Self-Flashing Solar Powered Attic Fans with dome mounted solar panel  
Fan Base Component Mechanically Attached to Deck

<b>Models:</b>	<b>1010 TR</b>	<b>9910 TR</b>	<b>9915 TR</b>	<b>9925 TR</b>	<b>9920 TR</b>	<b>9930 TR</b>
	HD1410	HD1210	HD1415	OC1125	1020TR	1030TR
	LW1410	LW1210	LW1415	OC9925	AV2000	AV3000
	BM2010	BM0010	BM9915	OC125025	US1120	US1130
	US1110	US0010	US1115	HD1425	GB1320	GB1330
	TR1310	TR9912	TR1315	LW125025	HD1320	HD1330
	BJ1310	9912TR	BJ1315	BM9925	BJ1120TR	BJ1130TR
		BJ9912	BM9915	TR1325	SC1320	SC1330
				8825TR	TR1320	TR1330
				US1125	BJ1320	BJ1330
					BM9920	BM9930

**Fan Unit Base Support:** **Type:** Wood Deck  
(Design of support system is outside the scope of this evaluation)

- Description:**
- 15/32" or greater Plywood , or
  - Wood plank deck (based on minimum density/specific gravity of 0.42)

**Roof Slope:** Slope shall be in compliance with FBC 2010, Chapter 15 based on the type of roof covering.

**Performance:** Structural Wind Resistance:

- Positive Design Pressure: **+ 150.4 PSF**
- Negative Design Pressure: **- 150.4 PSF**

<b>Performance Standards:</b>	Test protocol, <b>ASTM E330-02</b> – <i>Standard Test Method for Structural Performance by Uniform Static Air Pressure Difference</i> was performed to demonstrate compliance with the intent of the code as this product is not addressed specifically in the code.
<b>Code Compliance:</b>	The product described herein has demonstrated compliance with the Florida Building Code 2010, Section 1714.2.
<b>Evaluation Report Scope:</b>	This product evaluation demonstrates compliance of this product with the structural wind load requirements of the Florida Building Code, as related to Florida Product Approval Rule 61G20-3.001.
<b>Limits of Use:</b>	<ul style="list-style-type: none"><li>• The Solar Powered Attic Fan including solar panel and electrical wiring shall be installed in compliance with U.S. Sunlight Corporation’s installation instructions and in accordance with applicable Building Codes</li><li>• <u>Scope of “Limitations and Conditions of Use” for this evaluation:</u> 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”.</li><li>• <u>Option for application outside “Limitations and Conditions of Use”</u> 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.</li><li>• Fire Classification is outside the scope of Rule 61G20-3, and is therefore not included in this evaluation.</li><li>• This evaluation report does not evaluate the use of this product for use in the High Velocity Hurricane Zone code section. (Dade &amp; Broward Counties)</li></ul>
<b>Quality Assurance:</b>	The manufacturer has demonstrated compliance of roof panel products in accordance with the Florida Building Code and Rule 61G20-3.005 (3) for manufacturing under a quality assurance program audited by an approved quality assurance entity through <b>Keystone Certification, Inc.</b> (FBC Organization #: QUA 1824)

**Component(s)**

**Solar Attic Fan**

**Material Standards:**

**Fan Unit**

- Model Numbers:
 

<b>1010 TR</b>	<b>9910 TR</b>	<b>9915 TR</b>	<b>9925 TR</b>	<b>9920 TR</b>	<b>9930 TR</b>
HD 1410	HD 1210	HW 1415	OC 1125	1020TR	1030TR
LW 1410	LW 1210	LW 1415	OC 9925	AV2000	AV3000
BM 2010	BM 0010	BB 9915	OC 125025	US1120	US1130
US 1110	US 0010	US 1115	HD 1425	GB1320	GB1330
TR1310	TR9912	TR1315	LW 125025	HD1320	HD1330
BJ1310	9912TR	BJ1315	BM 9925	BJ1120TR	BJ1130TR
	BJ9912	BM9915	TR1325	SC1320	SC1330
			8825TR	TR1320	TR1330
			US1125	BJ1320	BJ1330
				BM9920	BM9930
  
- Nominal Dimensions
 

Fan Base:	24" × 24"	23" × 24"	24" × 24"	24" × 24"	24" × 24"	24" × 24"
Shroud Cover:	23-7/8" Dia	20-5/8" Dia	23-7/8" Dia	23-7/8" Dia	23-7/8" Dia	23-7/8" Dia
Fan Overall Height:	10-1/2"	10"	11-1/4"	11-1/4"	11-1/4"	11-1/4"
  
- Fan Base Material:
  - Type: Steel
  - Thickness: 20 Ga.
  - Corrosion Resistance: Material shall comply with the Florida Building Code (FBC), 2010 Section 1507.4.3.
  
- Shroud Material:
  - Type: ABS Thermoplastic
  - Thickness: 0.1" Nominal
  - Tensile Strength: 5,530 psi (Typical Average)
  - Standard: ASTM D638
  
- Solar Panel
  - Frame Material: Steel
  - Frame Thickness: 18 Ga.
  - Min. Dimensions: 16-7/8" × 14-1/2"
  - Max. Dimensions: 23" × 21"

**Fastener**

- Option #1
  - Use: Attaches Fan Unit Base to Plywood Deck
  - Type: Pan Head Wood Screw
  - Size : #10 × 2 in. Minimum
  - Standard: Per ANSIASME B18.6.1
  - Corrosion Resistance: Per FBC Section 1506.6
  
- Option #2
  - Use: Attaches Fan Unit Base to Plywood Deck
  - Type: Hex-Head Wood Screw
  - Size : #10 × 2 in. Minimum
  - Standard: Per ANSIASME B18.6.1
  - Corrosion Resistance: Per FBC Section 1506.6

**Installation:**

**Installation Method:**

(Refer to Page 6 of this evaluation report.)

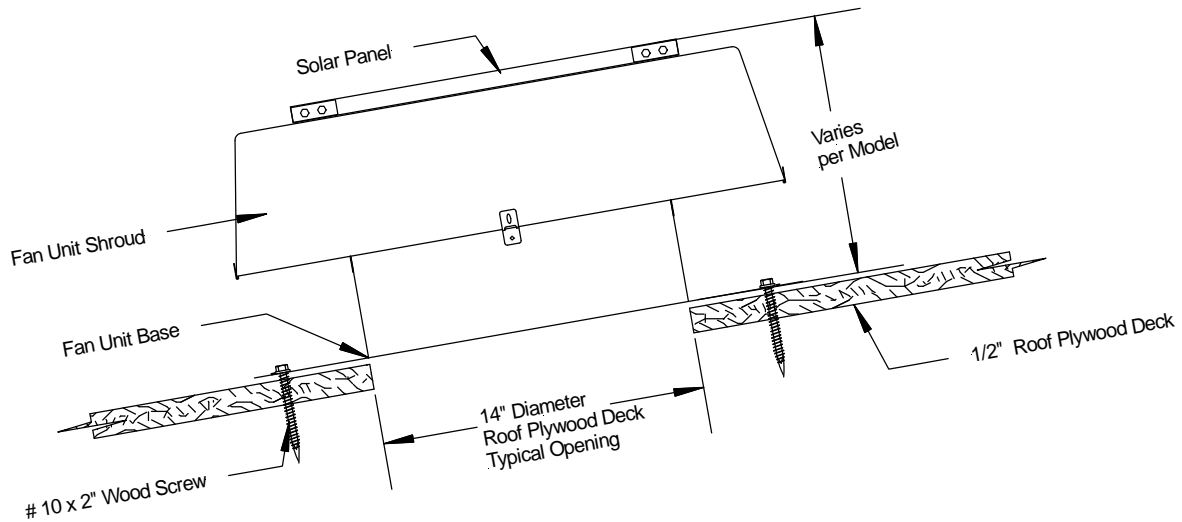
“The Self-Flashing Solar Powered Attic Fan” shall be installed in compliance with the installation method listed in this report. The installation method described herein is in accordance with the scope of this evaluation report. Refer to manufacturer’s installation instructions as a supplemental guide for attachment.

**Evaluated Referenced Data:**

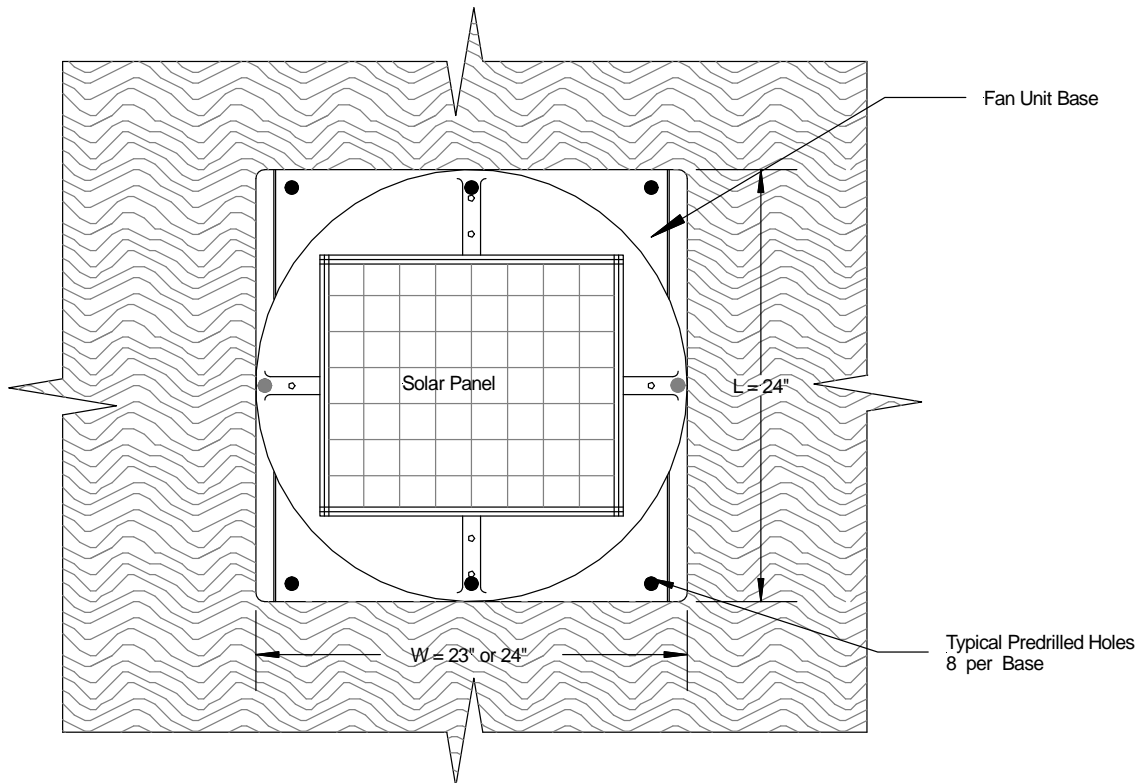
1. ASTM E330-02 Uniform Static Air Pressure Difference Test  
By Architectural Testing, Inc. - California (FBC Organization ID# TST 2609)  
Project #: 09066.01-301-44, Dated: 08/28/11
2. Quality Assurance  
By Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)  
US Sunlight Corporation Licensee #852
3. Certification of Independence  
By James L. Buckner, P.E. @ CBUCK Engineering  
(FBC Organization # ANE 1916)
4. Engineering Analysis  
By CBUCK Engineering  
Report #C13-142, Dated: 6 / 24 / 13

## Installation Method U.S. Sunlight Corporation Self-Flashing Roof Mounted Fan Unit Attachment Assembly

### Typical Fan Unit Assembly



Section View (Schematic)



Plan View (Schematic)