

Evaluation Report "Self-Flashing Solar Powered Attic Fan" w/ Dome Mounted Solar Panel

Manufacturer

U.S. Sunlight Corporation

5625-B Brisa Street

Livermore, CA 94550

925-271-7614

for

Florida Product Approval

FL 14561.1

Florida Building Code 2007

Per Rule 9N-3

Method: 2 - B

Category: Roofing

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

Product Name: *Flush Mount Solar Powered Attic Fan
w/ Dome Mounted Solar Panel*

Prepared by:

James L. Buckner, P.E., SECB

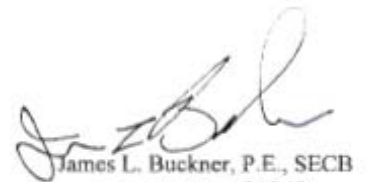
Florida Professional Engineer # 31242

Florida Evaluation ANE ID: 1916

Project Manager: Youry Demosthenes

Report No. 11-125- SPAF-Flush-S4W-ER

Date: 4 / 20 / 11



James L. Buckner, P.E., SECB
Florida P.E. # 31242
4/ZB/11

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CBUCK, Inc.

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CBUCK Engineering

Specialty Structural Engineering

CBUCK, Inc. Florida Certificate of Authorization # 8064

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 9N-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 with dome mounted solar panel Fan Base Component Mechanically Attached to Deck
Models:	1010 TR 9910 TR 9915 TR
Fan Base 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 deck (based on minimum density/specific gravity of 0.42)
Roof Slope:	Slope shall be in compliance with FBC 2007, Chapter 15 based on the type of roof covering.
Performance:	Structural Wind Resistance: <ul style="list-style-type: none">• Positive Design Pressure: + 150.4 PSF• Negative Design Pressure: - 150.4 PSF

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Performance Standards: Test protocol, **ASTM E330-02** – *Standard Test Method for Structural Performance by Uniform Static Air Pressure Difference* was performed to demonstrate compliance with the intent of the code as this product is not addressed specifically in the code.

Code Compliance: The product described herein has demonstrated compliance with the Florida Building Code 2007, Section 1713.2.

Evaluation Report Scope: 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 9N-3.001.

- Limits of Use:**
- 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
 - 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 9N-3.005. Per Rule 9N-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 9N-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.
 - Fire Classification is outside the scope of Rule 9N-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 9N-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)

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Components

Material Standards:

Solar Powered Attic Fan

Fan Unit

Model 1010 TR

Model 9910 TR

Model 9915 TR

- Nominal Dimensions

Fan Base:	24" × 24"	23" × 24"	24" × 24"
Shroud Cover:	23-7/8" Dia.	20-5/8" Dia.	23-7/8" Dia.
Fan Overall Height:	10-1/2"	10"	11-1/4"

- Fan Base Material:

Type:	Steel
Thickness:	20 Ga.
Corrosion Resistance:	G-90 Galvanized

- Shroud Material:

Type:	ABS Thermoplastic
Thickness:	0.1" Nominal
Tensile Strength:	5,530 psi (Typical Average)
Standard:	ASTM D638

- Solar Panel

Nominal Dimensions:	16-7/8" × 14-1/2"
Frame Material:	Steel
Frame Thickness:	18 Ga.

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

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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:

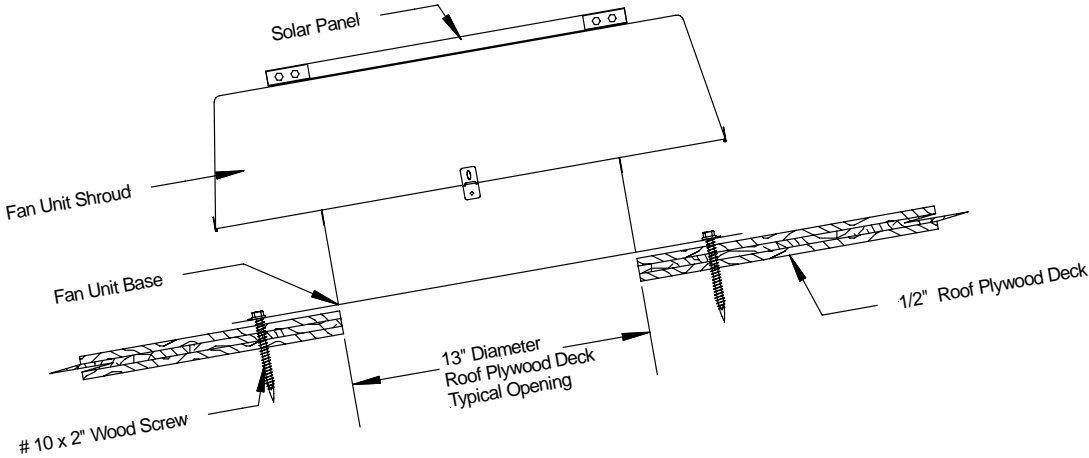
1. ASTM E330-02 Uniform Static Air Pressure Difference Test
By Architectural Testing, Inc. - California (FBC Organization ID# TST 2609)
Project #: 09066.01-301-44, Dated: 08/28/11
2. Quality Assurance
By Keystone Certifications, Inc. (FBC Organization ID# QUA 1824)
US Sunlight Corporation Licensee #852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

CBUCK Engineering

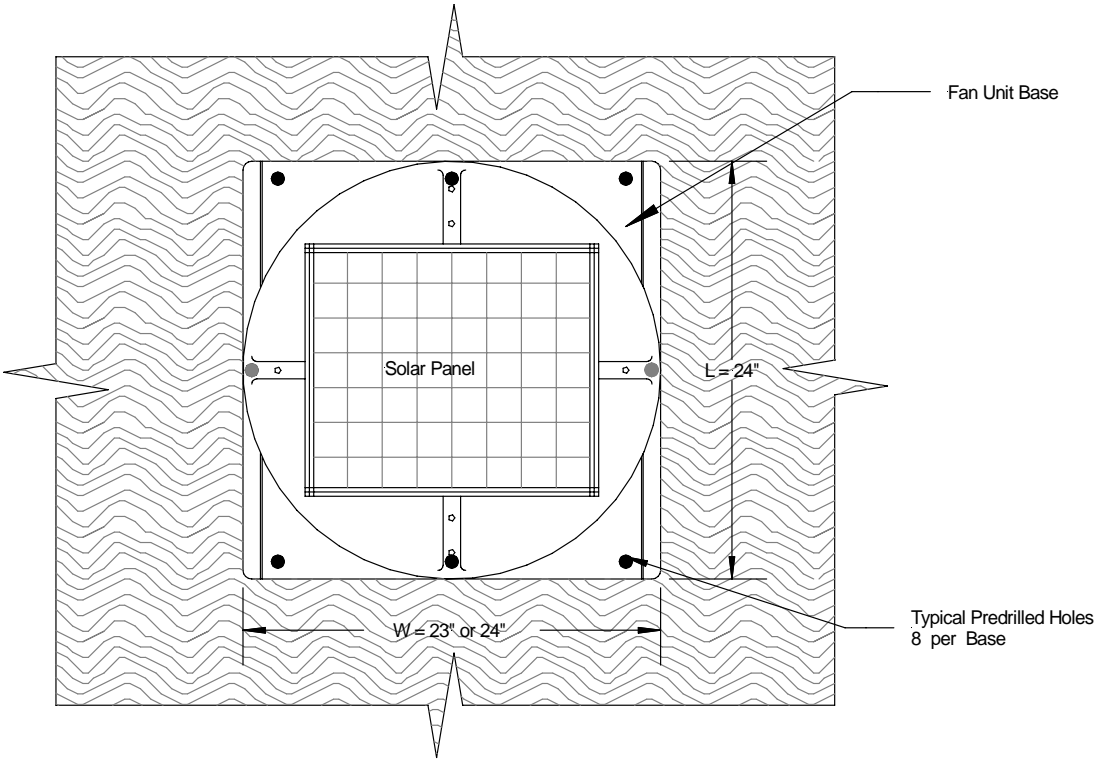
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Installation Method U.S. Sunlight Corporation Self-Flashing Roof Mounted Fan Unit Attachment Assembly



Fan Unit Assembly Section View



Fan Unit Assembly Plan View