Evaluation Report

"Solar Attic Fans"
Self-Flashing Series
with Inclined Remote Mounted Solar Panel

Manufacturer

Attic Breeze, LLC.
1370 FM 116
Gatesville, Texas 76528
(877) 288-4234
for

Florida Product Approval

FL 13339.3

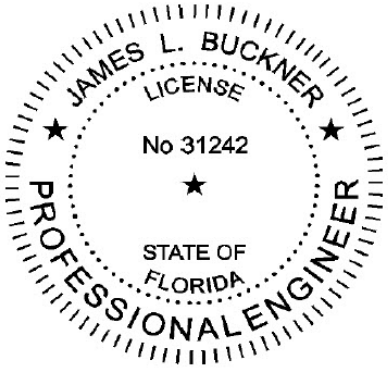
Florida Building Code 8th Edition (2023)
Per Rule 61G20-3
Method: 2 - B
Category: Roofing
Sub - Category: Roofing Accessories that are an Integral Part of the Roofing System

Product: *Solar Attic Fans*
Product Description: *Self-Flashing Series*
with Remote Inclined Mounted Solar Panel
Attachments to Plywood Deck & Rafter

Prepared by:
James L. Buckner, P.E., SECB
Florida Professional Engineer # 31242
Florida Evaluation ANE ID: 1916
Report No. 23-546.03.2-SPAF-RemInc-S4W-ER
(Revises 21-416.03-SPAF-RemInc-S4W-ER, FL13339.3 R9)
Date: 10/17/2023

Contents:

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
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Product Name: **Solar Attic Fans**

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 Attic Fans are roof mounted ventilation system powered by one or two solar panels. The unit consists of a 14 inch diameter fan, enclosed in a self-flashing fan house base vent, with corrosion resistant zincalume alloy steel housing, including a thermal switch, and a rodent guard. Solar panel is remotely mounted from the fan house unit shroud/dome.

Product Assembly as Evaluated: Self-flashing solar attic fan with inclined remote mounted solar panel

- Fan house base unit component mechanically attached to deck with wood screws
- Solar panel remotely attached to one (1) universal mounting bracket with machine bolts
- Inclined universal mounting bracket attached through roof deck to roof rafter/truss top chord with lag screws

Model Numbers:

GEN2	GEN3
AB-2022D	AB-2523D
AB-3022D	AB-3523D
AB-4022D	AB-4523D

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)

Solar Panel Support: Roof Rafter/Truss Top Chord

Type:	Dimensional Lumber (Designed by Others)
Density/Specific Gravity:	0.42 Minimum
Nominal Size:	2 × 4 Minimum

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

Performance: Allowable Wind Resistance:
* Positive Design Pressure: **+ 115 PSF**
* Negative Design Pressure: **- 115 PSF**

** Allowable design pressures for allowable stress design (ASD).*

Performance Standards:

The following test protocol was performed to demonstrate compliance with the intent of the code as this product is not specifically addressed in the performance standards listed in the code.

- ASTM E330-14 – *Standard Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors and by Uniform Static Air Pressure Difference*

Code Compliance:

The product described herein has demonstrated compliance with the Florida Building Code 8th Edition (2023), Section 1708.2.

Evaluation Report Scope:

This product evaluation demonstrates compliance of this product with the structural wind load requirements of the Florida Building Code 8th Edition (2023), as related to Florida Product Approval Rule 61G20-3.001.

Limits of Use:

- The Solar Attic Fan including solar panel and electrical wiring shall be installed in compliance with Attic Breeze'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 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.
- Refer to applicable building code section for ventilation requirements.
- 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 vent 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 **Keystone Certification, Inc.** (FBC Organization #: QUA 1824)

Component(s)
Material Standards:

Fan Unit

- Nominal Dimensions

Fan House Base:	28" × 28"
Fan House Shroud/ Dome:	21-1/2" × 21-1/2"
Overall Height:	10-3/4"

- Fan House Base & Shroud/Dome Material:

Material:	Steel
Thickness:	22 ga.
Yield Strength:	33 ksi Minimum
Corrosion Resistance:	Galvalume or Zincalume per ASTM A792 AZ 50 or in compliance with the FBC, Section 1507.4.3.

Solar Panel : Various Sizes

Nominal Length:	38" maximum
Nominal Width:	22" maximum
Nominal Height:	2" maximum
Frame Material:	Aluminum
Frame Alloy	5052-H32

Universal Mounting Bracket *(One per Panel)*

Material:	Aluminum
Alloy:	5052-H32
Thickness:	0.090 in

Fastener (A) *(Fan House Base to Roof Deck)*

Type:	Pancake Head Wood Screw
Size:	#10 × 1 in. Minimum
Standard:	Per ANSI/ASME B18.6.1
Corrosion Resistance:	Per FBC Section 1506.6

Fastener (B) *(Panel to Bracket)*

Type:	Hex-Head Machine Bolts and Nuts
Size	1/4 in. – 20 × 3/4 in. Minimum
Washer:	1/4 in. Flat Washer & Lock Washer
Material:	18-8 Stainless Steel

Fastener (C) *(Mounting Bracket to Dimensional Lumber)*

Type:	Hex-Head Lag Screw
Size	1/4 in.
Embedment	1-1/2 in.
Standard:	Per ANSI/ASME B18.6.1
Corrosion Resistance:	Per FBC Section 1506.6 AND 1507.4.4

Installation:

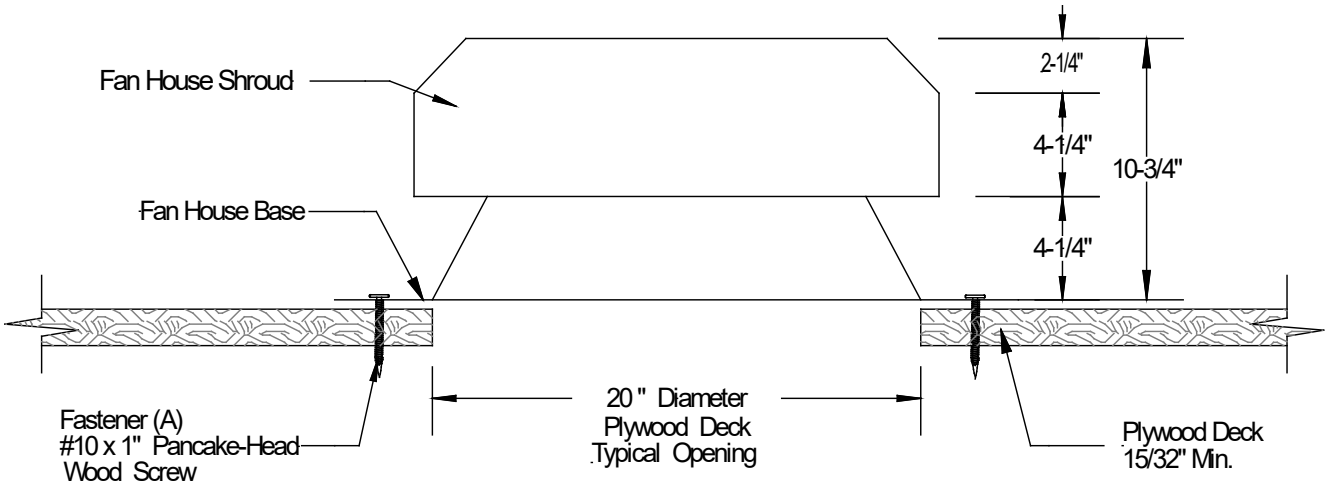
Installation Method:
(Refer to Pages 6 through 8 of this evaluation report.)

"The Solar Attic Fans" 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.

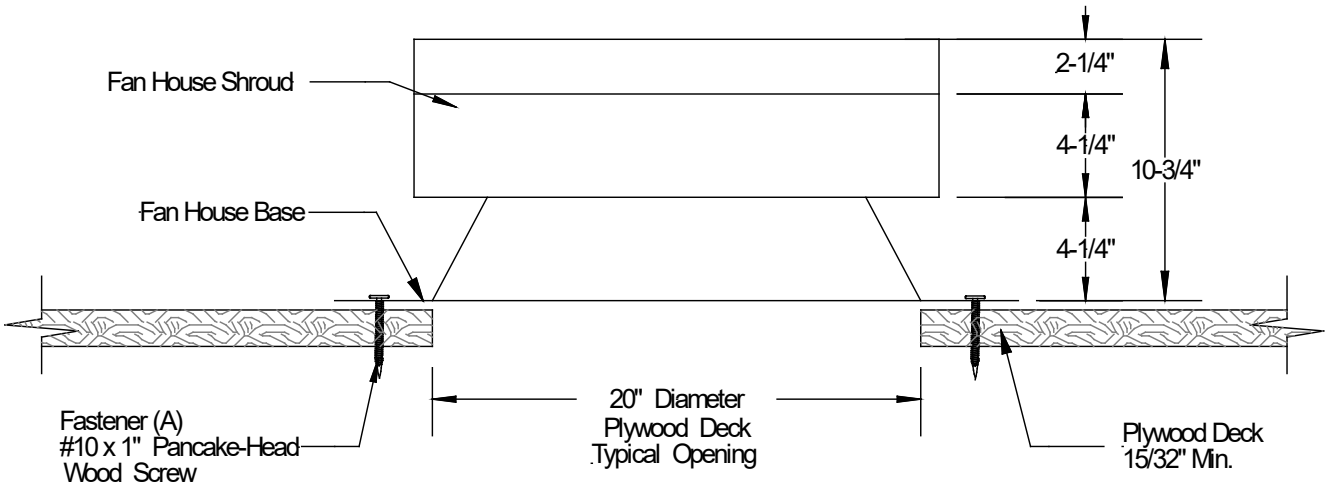
Evaluated Referenced Data:

1. ASTM E330-02 – Uniform Static Air Pressure Difference Test
   By Certified Testing Laboratories, Inc. (FBC Organization ID# TST 1577)
   Project #: CTLA 2002W, Dated: 11 / 20 / 09
2. Quality Assurance
   By Keystone Certification, Inc. (FBC Organization ID# QUA 1824)
   Attic Breeze, LLC. Licensee #740
3. Certification of Independence
   By James L. Buckner, P.E. @ CBUCK Engineering
   (FBC Organization # ANE 1916)
4. Engineering Analysis
   By CBUCK Engineering
   Report #C09-194, Dated: 12 / 1 / 09
   Report #C16-164, Dated: 10 / 20 / 16

Installation Method
Attic Breeze, LLC.
Solar Attic Fan Attachment Assembly

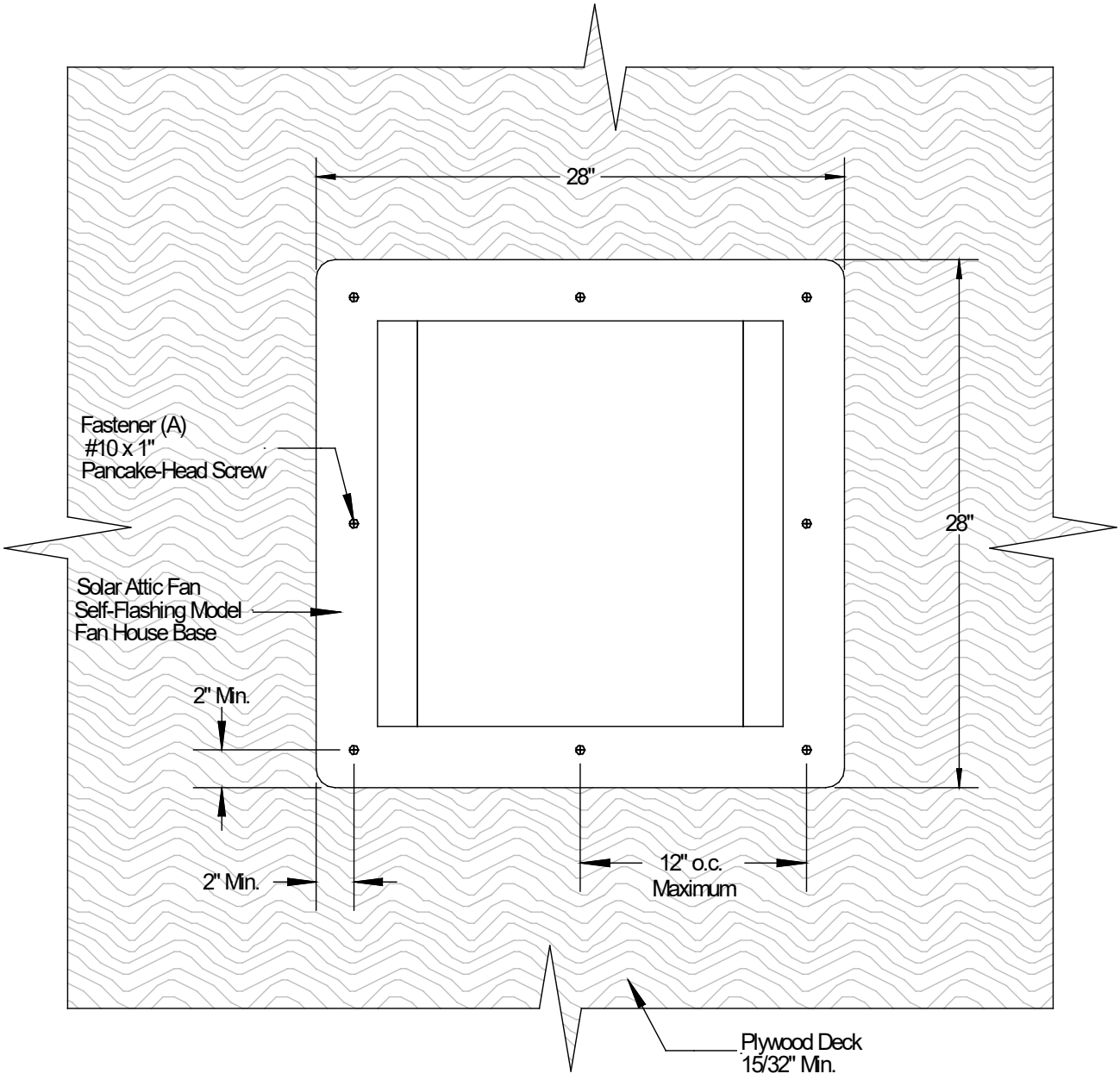


Assembly Front Section View



Assembly Side Section View

Installation Method
Attic Breeze, LLC.
Solar Attic Fan Attachment Assembly

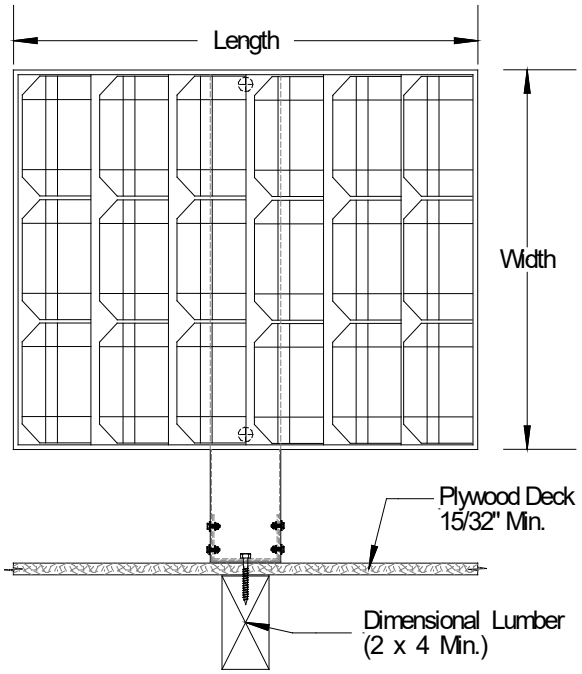


Assembly Top Plan View

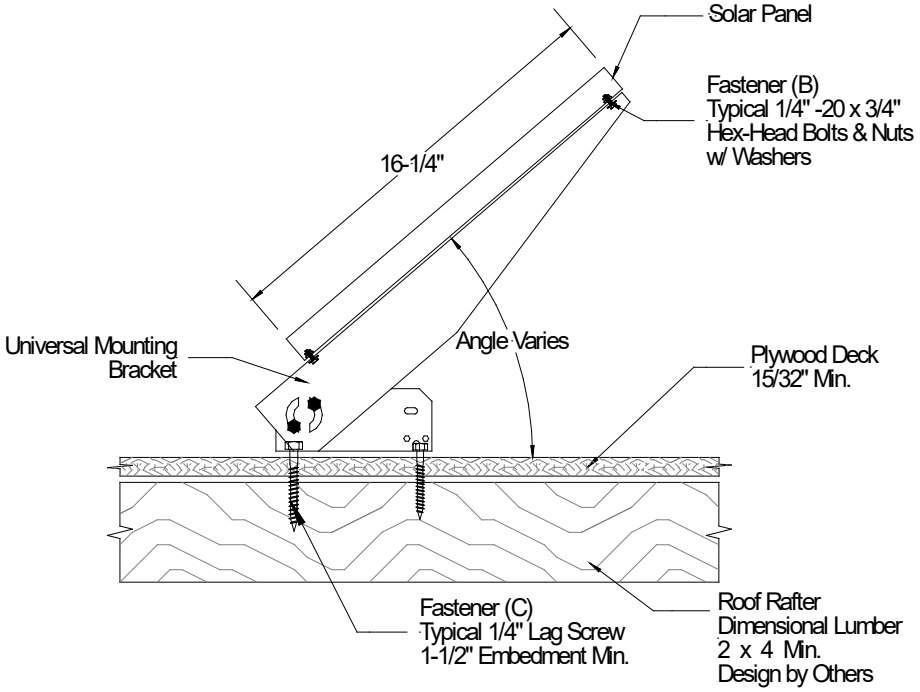
Installation Method

Attic Breeze, LLC.

Inclined Remote Mounted Solar Panel Attached Assembly



Front View



Section View & Attachment Detail