

PRODUCT EVALUATION REPORT	
Project No.: ACE-2026-139	Report No.: ACE-PER-1160, Rev. 1

Product Description: Solatube Solar Attic Fan, Models RM-1500 & RM-2400 - HVHZ

Product Manufacturer: Solatube International, Inc., 2210 Oak Ridge Way, Vista, CA 92081

Code Compliance Statement: This report evaluates the product(s) listed above to the requirements of FAC Product Approval Rule 61G20-3.005. This product complies with the requirements of the 8th Edition (2023) Florida Building Code including the High Velocity Hurricane Zone (HVHZ) per the product testing standards listed below.

Compliance Method: Product Approval Rule 61G20-3.005(1)(d) – Product Evaluation Report by a Licensed Professional Engineer

Documentation:

1. Installation Drawings
 - a. SOLA0006, Rev. F, dated 5/20/26, Solatube Solar Attic Fan High Profile RM-1500 Roof Fan – Installation Anchorage Details, signed and sealed by Robert J. Amoruso, PE.
 - b. SOLA0007, Rev. D, dated 5/20/26, S Solatube Solar Attic Fan High Profile RM-2400 Roof Fan – Installation Anchorage Details, signed and sealed by Robert J. Amoruso, PE.
2. Testing
 - a. Intertek Test Report No. S4852.01-109-18, dated 7/8/25, Signed and Sealed by Tanya A. Dolby, FL PE No. 93536, TAS 100(A)-23 testing of Solatube RM-2400 HVHZ High Profile Solar Powered Attic Roof Fan.
 - b. Architectural Testing Inc. Test Report No. C1439.01-109-18-R1, dated 8/23/12, Solatube Solar Attic Fan to TAS-100(A)-95, signed and sealed by Michael D. Stremmel, FL P.E.
 - c. Architectural Testing Inc. Test Report No. C1439.02-109-18-R1, dated 8/23/12, Solatube Solar Attic Fan to TAS-202-94, signed and sealed by Michael D. Stremmel, FL P.E.
 - d. Architectural Testing Inc. Test Report No. A6443.01-106-31, dated 8/23/11, Solatube Solar Attic Fan Grill testing to ASTM G155 and D638.
 - e. SGS U.S. Testing Company Inc., Test Report No. 2228540-3, dated 12/1/10, Solatube Solar Attic Fan Grill testing to ASTM D1929.
 - f. SGS U.S. Testing Company Inc., Test Report No. 2228540-1, dated 12/1/10, Solatube Solar Attic Fan Grill testing to ASTM E84.
 - g. SGS U.S. Testing Company Inc., Test Report No. 2228540-2, dated 12/6/10, Solatube Solar Attic Fan Grill testing to ASTM D635.
3. Reports
 - a. ACE Report No. ACE-CALC-1160, Rev. 0, Solatube Solar Attic Fan, Models RM-1500 & RM-2400 – HVHZ, Anchorage Engineering, signed and sealed by Robert J. Amoruso, P.E.
4. 8th Edition (2023) Florida Building Code – Building Volume
 - a. Testing Requirements
 - i. Section 1523.6.5.2.13
 - ii. Section 1523.4
 - b. Material Requirements

- i. Table 1503.2 Metal Flashing Material
 - ii. Section 1507.2.9 Flashings - asphalt shingles
 - iii. Section 1518.9 Metal panels/shingles
 - c. Plastics Requirements
 - i. Section 2615.2 Definitions: Approved Plastics
 - ii. Section 2606.4, Light-Transmitting Plastics / Specifications
- 5. Intertek/ATI Letter dated 1/15/18 from Timothy J. McGill/Manager of Product Testing Intertek/ATI to Todd Anderson/Solatube related to substitution of new solar panels for those tested in Reference 2.a and 2.b. See Appendix A for this letter.

Installation: Fenestration units shall be installed according to installation drawing SOLA0006 (RM-1500) or SOLA0007 (RM-2400).

Performance and Testing Standards:

- 1) TAS-100(A)-95 and 23, *Test Procedure for Wind and Wind Driven Rain Resistance and/or Increased Windspeed Resistance of Soffit Ventilation Strip and Continuous or Intermittent Ventilation System Installed at the Ridge Area*
- 2) TAS-202-94, *Criteria for Testing Impact & Nonimpact Resistant Building Envelope Components Using Uniform Static Air Pressure*
- 3) ASTM G 155-04, *Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials*
- 4) ASTM D 638-03, *Standard Test Method for Tensile Properties of Plastics.*
- 5) ASTM D 1929 - 96(2001)e1, *Standard Test Method for Determining Ignition Temperature of Plastics*
- 6) ASTM E 84 - 09a, *Standard Test Method for Surface Burning Characteristics of Building Materials*
- 7) ASTM D 635 - 06, *Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position*

Comparative Evaluation and Analysis:

The fan blade has been replaced with a new aluminum fan blade and aluminum shaft hub.

The fan blade and shaft hub are internal components of the roof fan and do not contribute to the structural capacity of the fan or its installation requirements. The fan blade and shaft hub are aluminum and not plastic.

This substitution is deemed acceptable for Models RM-1500 & RM-2400 Solar Powered Attic Fans.

Code Conformance – Structural Performance:

The following structural and system performance criteria have been met. As required by TAS-100(A) for increased wind resistance of vents exceeding the dimensional limitations of Section 10.4.1 of TAS-100(A), a uniform static air test in accordance with TAS-202 was performed. Testing to TAS 202 satisfies Section 10.4.1 & Section 10.4.8 of TAS-100(A) thus allowing installations to heights not to exceed 75 feet.

Requirement	FBC Code Reference	Evaluation
TAS 100(A) test. Roof height limitations must be shown in drawing.	Section 1523.6.5.2.13	TAS 100(A) testing conducted. See Reference 2.a and 2.b for results.
Metal thickness must comply with Chapter 15.	Table 1503.2 Metal Flashing Material. Section 1507.2.9 Flashings - asphalt shingles. Section 1518.9 Metal panels/shingles	Metal flashing and housing comprised of Aluminized Steel EDDS T1-25 (Type 1) meeting ASTM A463 (Aluminum-coated sheet steel). Thickness is 0.028" which exceeds both galvanized steel and aluminum thickness requirements.
Impact to TAS 201, Optional	n/a	Optional impact testing was not performed.
Uniform Static Air Test to TAS 202. Safety Factor of 2 applied to results.	Required by TAS 100(A) to obtain increased wind speed testing to maximum height of 75 feet. Section 1523.4	TAS 202 testing conducted. See Reference 2.c for results. Safety Factor of 2 applied to results (see below).
Wind Driven Rain to TAS 100(A) – Optional	Section 1523.6.5.2.13	TAS 100(A) testing conducted. See Reference 2.a and 2.b for results.

The following installation restrictions are also applicable.

- 1) Installation anchors match the test conditions.
 - a. Anchor same size.
 - i. No. 10 Tapping Screws
 - b. Same quantity of anchors as tested.
 - i. Eight screws minimum required by testing. Anchor calculations (Reference 3.a) performed.
- 2) State type of roof surface that must be used with the vent/fan.
 - a. Asphalt shingles per Reference 2.b and 2.c testing.
 - b. High-Profile roof tiles not to exceed three inches (3") in height per Reference 2.b and 2.c testing.

- c. Metal Roofing per Reference 2.a and 2.c testing.
 - i. Reference 2.a testing was for the RM-2400 unit only. RM-1500 unit is fundamentally the same physical dimensioning and same materials so is therefore enveloped by RM-2400 testing.

3) The following shall be placed on the installation instructions.

- a. This approval is for structural performance only. Impact resistance was not tested. Interior mechanism and/or electrical circuitry are outside the scope of this approval.

Design Pressure Limitations

- From Reference 2.c, Uniform Load Structural Test Pressures where +100/-340 psf.
- In accordance with the 8th Edition (2023) FBC, Section 1523.4 a Safety Factor of 2 is applied to arrive at Design Pressures of +50/-170 psf.

This evaluator has also reviewed the changes and arrives at the same conclusions.

Note that Solatube has revised the series identification of the attic fans from RM-1200 to RM-1500 and RM-1500 to RM-2400 respectively as identified in Reference 2.b and 2.c test reports.

Solar Panel Substitution Evaluation

Intertek/Architectural Testing; the testing laboratory that tested the original fan versions in Reference 2.a and 2.b has reviewed (Reference 5) changes requested by the manufacturer for substituting a newly designed solar panel and offered the determination that the changes do not affect the results of the TAS 100(A) and TAS 202 testing conducted in Reference 2.a and 2.b respectively.

Code Conformance – Plastics:

The 8th Edition (2023) FBC, Section 2615.2 Definitions: Approved Plastics and Section 2606.4, Light-Transmitting Plastics / Specifications require plastics to meet certain fire-related and outdoor exposure requirements. The fan grill is comprised of Polypropylene.

Based on outdoor exposure testing and fire-related testing to ASTM D 1929, E 84 and D 635, the product described herein has demonstrated compliance with the 8th Edition (2023) Florida Building Code.

Solatube Solar Attic Fan Plastic Component: Polypropylene Fan Grill

Code-Compliance is as follows:

1. Outdoor Exposure Testing (Reference 2.d) per Sections 2615.2, Approved Plastics
 - a. Documented Characteristics (from Reference 2.d): Architectural Testing, Inc. was contracted by Solatube International, Inc. to evaluate the tensile strength of their Solar Attic Fan Fan Grill before and after 4500 hours of Xenon Arc weathering for compliance with

the FBC. The average tensile strength change was determined to be -5.9%, which meets the FBC criterion of $\pm 10\%$.

- b. Code Compliance: Sections 2615.2 is met.
2. ASTM D 1929 testing (Reference 2.e)
 - a. Documented Characteristics: A self-ignition temperature of 880°F
 - b. Code Compliance: A self-ignition temperature of 650°F (343°C) or greater was met.
3. ASTM E 84 testing (Reference 2.f)
 - a. Documented Characteristics (tested in manner to be used): Smoke Developed (Smoke Density Index) 250
 - b. Code Compliance: Smoke Developed (Smoke Density Index) not greater than 450 was met.
4. ASTM D 635 testing (Reference 2.g)
 - a. Documented Characteristics: A CC2 Combustibility classification was received.
 - b. Code Compliance: Combustibility classification of either CC1 or CC2 was met.

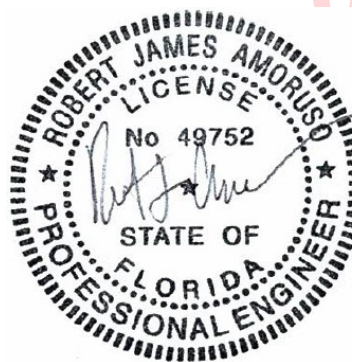
Limitations & Conditions of Use:

- Shall be used in the configurations and product sizes as indicated in KENN0010-FPA.
- This product may be used in the High Velocity Hurricane Zone.
- This product has not been tested for impact resistance.
- Site conditions not covered in this product evaluation document are subject to additional engineering analysis by a licensed professional engineer or registered architect as required by the authority having jurisdiction.
- Adequacy of the existing structural substrates as a main wind force resisting system capable of withstanding and transferring applied product loads to the foundation is the responsibility of the licensed professional engineer or registered architect acting as the design professional of record for the project of installation.

Certificate of Independence per Product Approval Rule 61G20-3.009

Robert J. Amoruso, P.E., does not have, nor will he acquire, any financial interest in the company manufacturing or distributing product(s) covered by this Product Evaluation Report.

Robert J. Amoruso, P.E., does not have, nor will he acquire any financial interest in any other entity involved in the approval process or testing of the product(s) covered by this Product Evaluation Report.



Digitally
signed by
Robert J
Amoruso

Date:
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Evaluated by:
Robert J. Amoruso, P.E.
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APPENDIX A:



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January 15, 2018

Mr. Todd Anderson
Solatube International, Inc. ("Customer")
2210 Oak Ridge Way
Vista, California 92081

RE: LETTER OF EQUIVALENCY
SOLAR STAR HVHZ HIGH PROFILE EVALUATED TO THE SOLAR STAR HVHZ RM 1500 HIGH (16W)
SOLAR STAR HVHZ RM 1600 HIGH EVALUATED TO THE SOLAR STAR HVHZ RM 2400 HIGH (35W)

Dear Mr. Anderson:

Pursuant to your request, Intertek Building & Construction (B&C) was contracted to review modifications to the as tested products (C1439.01-109-18 and C1439.02-109-18). The testing for the products included TAS 202 and TAS 100(A). The changes for the purpose of this letter from the tested products to the new designed solar panels are limited to:

PRODUCT	TESTED	DRAWING NO.	WIDTH (INCHES)	LENGTH (INCHES)
Solar Star HVHZ High Profile	Yes	900830	10.32	16.14
Solar Star HVHZ RM 1500 High (16W)	No	122290	10.39	16.21

NOTE: THE ONLY CHANGE WAS TO THE SOLAR PANEL AND THE FASTENING METHOD WAS THE SAME FOR BOTH UNITS.

PRODUCT	TESTED	DRAWING NO.	DIAMETER (INCHES)	THICKNESS (INCHES)
Solar Star HVHZ RM 1600 High	Yes	900835	20.47	0.78
Solar Star HVHZ RM 2400 High (35W)	No	122440	20.47	0.59

NOTE: THE ONLY CHANGE WAS TO THE SOLAR PANEL AND THE FASTENING METHOD WAS THE SAME FOR BOTH UNITS.

Based on the drawings provided by Mr. Anderson from Solatube International, Inc. it is my professional opinion that the above changes would not alter any results of the physical testing specified and therefore the evaluated products are equivalent as it relates to the physical testing referenced above.

For ARCHITECTURAL TESTING, INC.

Timothy J. McGill
Manager - Product Testing

TJM:vjm
cc: H8971.01-109-18, C1439.01-109-18, C1439.02-109-18

