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APPROVAL REPORT

Project No: PR457696
Class: 4430, 4431
Product Name: ¹Model S-FMSV2D, ¹Model A-FMSV2D and ²Model A-FMS
Product Type: ¹Heat and Smoke Vent
²Skylight
Name of Listing Company: Acralight Solar LLC
Address of Listing Company: 4940 S Alvernon Way
Tucson AZ 85706
United States
Customer ID: 154234-1
Customer website: <http://acralightsolar.com/>

Prepared by

Reviewed by

Sean Gillis
Advanced Engineer

R Scott Holmes
Operations VP, Group Manager,
Materials

Phillip J. Smith
VP, Manager of Materials

2/2/2022

Date of Approval

1 INTRODUCTION

1.1 Acralight Solar LLC requested Approval of their Model S-FMSV2D and Model A-FMSVSD heat and smoke vents and Model A-FMS Skylights listed in Section 1.4 to determine if they meet the Approval requirements of the respective standards listed in Section 1.3.

1.2 This report may be freely reproduced only in its entirety and without modification.

1.3 Standards

Title	Number	Issue Date
Approval Standard for Heat and Smoke Vents	4430	May 2012
Approval Standard for Skylights	4431	September 2006

1.4 Listing

The products will appear in the Approval Guide, an on-line resource of FM Approvals, as follows:

Heat and Smoke Vents for Roofs (FM Approval Class Number 4430) Automatic Vents (Class Number 4430) Fusible Link Type (Class Number 4430)

Product	Listing Country	Width (ft in)	Width (m)	Length (ft in)	Length (m)	Lid Type	Snow Load (lbs/ft ²)	Snow Load (kgs/m ²)	Wind Uplift (psf)	Wind Uplift (kPa)	Certification Type
S-FMSV2D, A-FMSV2D	United States of America	4 - 5	1.2 - 1.52	4 - 8	1.2 - 2.4	Polycarbonate outer, Acrylic inner	10	48.8	105	5.03	FM Approved

Model S-FMSV2D and Model A-FMSV2D are curb mounted or self-flashing double leaf heat and smoke vents that are manufactured with either steel or aluminum framing. The vents are available in sizes of 48 in. x 48 in. (1.22 m x 1.22 m), 48 in. x 72 in. (1.22 m x 1.83 m), 48 in. x 96 in. (1.22 m x 2.44 m), 60 in. x 60 in. (1.52 m x 1.52 m) and 60 in. x 72 in. (1.52 m x 1.83 m). Both model vents are available with single dome or double dome options with the single/outer dome consisting of minimum nominal 0.118 in. (3 mm) thick polycarbonate and the inner dome consisting of minimum nominal 0.118 in. (3 mm) thick acrylic. The heat and smoke vents are activated by a 360°F fusible link. Approved heat and smoke vent units are listed below:

- | | |
|-------------------|----------------------|
| Model S-FMSV2D-CM | Model S-FMSV2D-DD-CM |
| Model S-FMSV2D-SF | Model S-FMSV2D-DD-SF |
| Model A-FMSV2D-CM | Model A-FMSV2D-DD-CM |
| Model A-FMSV2D-SF | Model A-FMSV2D-DD-SF |

- S- = Steel
- A- = Aluminum
- DD = Double Dome
- SF = Self-flashing
- CM = Curb mounted

Model S-FMSV2D and model A-FMSV2D heat and smoke vents are considered FM Approved when fastened to the curb at maximum 14 in. (355.6 mm) on center along the

width of the unit and maximum 15 in. (381 mm) on center along the length of the unit. Unit must be installed with a 360°F rated fusible link.

☐ Skylights for Roofs (FM Approval Class Number 4431)

Product	Listing Country	Width (ft in)	Width (m)	Length (ft in)	Length (m)	Glazing Type	Wind Uplift (psf)	Wind Uplift (kPa)	Spread of Flame Rating	Hail Rating	Certification Type
A-FMS	United States	4 - 5	1.2 - 1.52	4 - 8	1.2 - 2.4	Polycarbonate outer, Acrylic inner	195	9.3	Class A 5/12	SH with 2.0 in. (51 mm) diameter ice balls	FM Approved

Model A-FMS are curb mounted skylights that are manufactured with aluminum framing. The skylights are available in sizes of 48 in. x 48 in. (1.22 m x 1.22 m), 48 in. x 96 in. (1.22 m x 2.44 m) and 60 in. x 72 in. (1.52 m x 1.83 m). The units incorporate a single dome or double dome option with the single/outer dome consisting of minimum nominal 0.118 in. (3 mm) thick polycarbonate and the inner dome consisting of minimum nominal 0.118 in. (3 mm) thick acrylic. Model A-FMS skylights are also available with a thermal break. Approved skylights units are listed below:

Model A-FMS-CM Model A-FMS-DD-CM
 Model A-FMS(TB)-CM Model A-FMS(TB)-DD-CM

-DD = Double dome
 A- = Aluminum
 -CM = Curb mounted
 (TB) = Thermal break

Model A-FMS skylights are considered FM Approved when fastened to the curb at maximum 10 in. (24 mm) on center around the entire unit.

All other products are Approved as described in the Approval Guide. Formulations, drawings, and specifications are on file at FM Approvals.

2 DESCRIPTION

See section 1.4 for a description of the Model S-FMSV2D and Model A-FMSV2D heat and smoke vents and Model A-FMS skylight.

3 EXAMINATIONS AND TESTS

3.1 Sample production was witnessed by an FM Approvals representative and samples were submitted for examination and testing. The samples were considered to be representative of standard production and were examined or tested as indicated below. All data is on file at FM Approvals along with other documents and correspondence applicable to this program.

3.2 All testing and analysis considered appropriate was conducted and verified to be in compliance with the Standards defined in Section 1.3.

3.3 See Table 1 and Table 2 below for details.

Table 1

Standard Number	Section	Test Name	Justification/Comments
4430	4.1	Simulated Wind Uplift Resistance Test for Heat and Smoke Vents	Conducted successfully, Class 1-105 PSF
4430	4.2	Simulated Wind Load Resistance for Heat and Smoke Vents	Conducted successfully, 5 psf simulated wind load
4430	4.3	Simulated Live Load Test for Heat and Smoke Vents	Conducted successfully, 10 psf
4430	4.4	Fire Exposure Test	Conducted successfully
4430	4.5	Operational Test	Conducted successfully
4430	4.6	Simulated Impact Test for Heat and Smoke Vents	Conducted successfully
4430	4.7	Simulated Hail Resistance Test Using Freezer Ice Balls	Waived – conducted on skylight sample
4430	4.8	Windborne Debris Rating (Optional)	Optional, not conducted

Table 2

Standard Number	Section	Test Name	Justification/Comments
4431	4.1	Spread of Flame Test for Skylights from an Exterior Ignition Source	Conducted successfully, Class A at 5/12
4431	4.2	Simulated Hail Resistance Test Using Freezer Ice Balls	Conducted successfully, SH with 2.0 in. ice balls
4431	4.3	Simulated Impact Test for Skylights	Conducted successfully
4431	4.4	Simulated Wind Uplift Resistance Test for Skylights	Conducted successfully, Class 1-195 PSF
4431	4.5	Windborne Debris Rating (Optional)	Optional, not conducted

4 MARKING

4.1 Marking on the product or label accompanying the product shall include the following information:

- name and address of the manufacturer or marking traceable to the manufacturer;
- date of manufacture or code traceable to date of manufacture or lot identification;
- model number or designation and applicable ratings, as appropriate;
- when the products are provided with a safety cage, a note that the safety cage meets the requirements of OSHA Regulation 29 CFR 1910.23(e)(8) and 1926.501.

4.2 The model or type identification shall correspond with the manufacturer’s catalog designation and shall uniquely identify the product as FM Approved. The manufacturer

shall not place this model or type identification on any other product unless covered by a separate agreement.

- 4.3 The Approval Mark shall be displayed visibly and permanently on the product and/or packaging as appropriate. The manufacturer shall not use this mark on any other product unless such product is covered by a separate report.
- 4.4 All markings shall be legible and durable.

5 REMARKS

- 5.1 Continued Approval is based upon fabrication and construction of Model S-FMSV2D and Model A-FMSVSD heat and smoke vents and Model A-FMS Skylights in accordance with this Approval Report, satisfactory field experience and continued use of acceptable quality control procedures as determined by Surveillance Audits.

6 SURVEILLANCE AUDIT

The manufacturing facilities at the following location shall be visited on a routine basis. The facility processes and quality control procedures in place have been determined to be satisfactory to manufacture products identical to that tested and Approved. An FM Approved Products/Specification Tested Revision Request Form shall be submitted to FM Approvals for requesting to manufacture products at any additional or alternate manufacturing facilities which are not listed below.

Audit Location

Acralight Solar LLC
4940 S Alvernon Way
Tucson AZ 85706
United States

7 MANUFACTURER'S RESPONSIBILITIES

- 7.1 Documentation that is applicable to this approval is on file at FM Approvals and listed in the Documentation File, Section 8, of this report. No changes of any nature shall be made unless notice of the proposed change has been given and written authorization obtained from FM Approvals. The FM Approved Products/Specification Tested Revision Request Form shall be forwarded to FM Approvals as notice of proposed changes.
- 7.2 The manufacturer shall supply all instructions, materials, equipment, and assistance necessary for the complete, proper and satisfactory erection and testing of the Model S-FMSV2D and Model A-FMSVSD heat and smoke vents and Model A-FMS Skylights. Complete erection drawings shall be furnished and shall pertain to the specific Model S-FMSV2D and Model A-FMSVSD heat and smoke vents and Model A-FMS Skylights supplied.
- 7.3 In accordance with the Master Agreement, the manufacturer shall make full and immediate disclosure to FM Approvals of all information concerning any defect in, or potential hazard of, the product or service manufactured or provided by the Customer which is Approved by, or being examined by, FM Approvals. The manufacturer shall make all necessary

arrangements for the investigation of complaints / anomalies applicable to this approval and shall keep records of all complaints / anomalies including actions taken.

8 DOCUMENTATION

The following document describes the Model S-FMSV2D and Model A-FMSVSD heat and smoke vents and Model A-FMS Skylights and is on file at FM Approvals.

Document Title	Issue Date
Surveillance Audit Manual, Tucson, Arizona	February 2022

9 CONCLUSION

The products described in section 1.4 meet FM Approvals requirements. Since a duly signed Master Agreement is on file for this manufacturer, Approval is effective the date of this report.

PROJECT DATA RECORD: PR457696