



EXTERIOR RESEARCH & DESIGN, LLC.

Certificate of Authorization #9503

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EVALUATION REPORT

Firestone Building Products

525 Congressional Blvd.

Carmel, IN 46032

(317) 575-7017

Evaluation Report F33710.10.10-R4

FL14199-R4

Date of Issuance: 11/08/2010

Revision 4: 10/03/2017

SCOPE:

This Evaluation Report is issued under **Rule 61G20-3** and the applicable rules and regulations governing the use of construction materials in the State of Florida. The documentation submitted has been reviewed by Robert Nieminen, P.E. for use of the product under the Florida Building Code. The product described herein has been evaluated for compliance with the **6th Edition (2017) Florida Building Code** sections noted herein.

DESCRIPTION: SunWave™ Daylight System

LABELING: Labeling shall be in accordance with the requirements the Accredited Quality Assurance Agency noted herein and the minimum requirements of **FBC 2405.5**.

CONTINUED COMPLIANCE: This Evaluation Report is valid until such time as the named product(s) changes, the referenced Quality Assurance documentation changes, or provisions of the Code that relate to the product change. Acceptance of this Evaluation Report by the named client constitutes agreement to notify Robert Nieminen, P.E. if the product changes or the referenced Quality Assurance documentation changes. Trinity|ERD requires a complete review of this Evaluation Report relative to updated Code requirements with each Code Cycle.

ADVERTISEMENT: The Evaluation Report number preceded by the words “Trinity | ERD Evaluated” may be displayed in advertising literature. If any portion of the Evaluation Report is displayed, then it shall be done in its entirety.

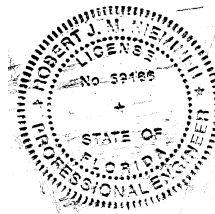
INSPECTION: Upon request, a copy of this entire Evaluation Report shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This Evaluation Report consists of pages 1 through 3, plus a 2 page Appendix.

Prepared by:

Robert J.M. Nieminen, P.E.

Florida Registration No. 59166, Florida DCA ANE1983



The facsimile seal appearing was authorized by Robert Nieminen, P.E. on 10/03/2017. This does not serve as an electronically signed document.

CERTIFICATION OF INDEPENDENCE:

1. Exterior Research & Design, LLC. d/b/a Trinity | ERD does not have, nor does it intend to acquire or will it acquire, a financial interest in any company manufacturing or distributing products it evaluates.
2. Exterior Research & Design, LLC. d/b/a Trinity | ERD is not owned, operated or controlled by any company manufacturing or distributing products it evaluates.
3. Robert Nieminen, P.E. does not have nor will acquire, a financial interest in any company manufacturing or distributing products for which the evaluation reports are being issued.
4. Robert Nieminen, P.E. does not have, nor will acquire, a financial interest in any other entity involved in the approval process of the product.
5. This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.

SKYLIGHT EVALUATION:

1. SCOPE:

Product Category: Sky Lights
Sub-Category: Skylight

Compliance Statement: SunWave™ Daylight System, as produced by Firestone Building Products Company, LLC, has demonstrated compliance with the following sections of the 6th Edition (2017) Florida Building Code through testing in accordance with the following Standards. Compliance is subject to the Installation Requirements and Limitations / Conditions of Use set forth herein.

2. STANDARDS:

<u>Section</u>	<u>Property</u>	<u>Standard</u>	<u>Year</u>
1609.1.2	Impact Resistance	TAS 201	1994
1609.1.2	Static Air Pressure	TAS 202	1994
1609.1.2	Cyclic Wind Pressure	TAS 203	1994

3. REFERENCES:

<u>Entity</u>	<u>Examination</u>	<u>Reference</u>	<u>Date</u>
ATI (TST 1558)	TAS 201, 202, 203	A1728.01-301-18	08/06/2010
ERD (TST6049)	Anchor Shear – ASTM E488	F33710.11.10	11/05/2010
ICC-ES (EVL2396)	Glazing – Ch. 26	ESR-1653	06/01/2017
Miami-Dade (CER1592)	Glazing – Ch. 26	15-1223.08	05/05/2016
Miami-Dade (CER1592)	Glazing – Ch. 26	15-0915.08	12/10/2015
UL, LLC (CER9626)	Insulation – Ch. 26	UL File No. R3573	07/12/2010
ATI (QUA 1844)	Quality Control	Inspection Report	08/24/2017

4. PRODUCT DESCRIPTION:

SUNWAVE™ DAYLIGHT SYSTEM consists of a double-glazed dome, fixed industrial skylight with an extruded aluminum frame that includes thermal insulation and is weather tight. Dimensions noted herein are considered maximum dimensions based on testing submitted.

5. LIMITATIONS:

- 5.1 This is a building code evaluation. Neither Trinity|ERD nor Robert Nieminen, P.E. are, in any way, the Designer of Record for any project on which this Evaluation Report, or previous versions thereof, is/was used for permitting or design guidance unless retained specifically for that purpose.
- 5.2 This product is evaluated for compliance with Florida Building Code (FBC) requirements, including HVHZ, at the maximum design pressure(s) stated herein. “MDP” = Maximum Design Pressure is the result of testing for wind load resistance based on allowable wind loads. Refer to **FBC 1609 (non-HVHZ) / TAS 202, Section 1 (HVHZ)** for determination of design wind pressures.
- 5.2.1 This Evaluation Report is not intended to address **FBC 2603.4** with respect to a thermal barrier between insulation within the product and the building interior.
- 5.3 Adequacy of the existing structural framing curb mount to withstand and transfer the applied loads to the structure is outside the scope of this evaluation. If existing curb mount is less than minimum 2.25-inch horizontally, curb mount shall be supplemented to include additional nominal 1 x 4 inch wood blocking at interior per Appendix 1.
- 5.4 The optional safety-security screen depicted in Appendix 1 is outside the scope of this evaluation.
- 5.5 In areas where wind-borne debris protection is required, use of an approved impact protective system is not required.
- 5.6 Frame and retainer material: 6063-T6.

5.7 Glazing:

5.7.1 Exterior 0.185-inch thick polycarbonate glazing by SABIC Innovative Plastics US LLC meeting M-D NOA 15-0915.08. Interior 0.133-inch thick white prismatic acrylic glazing by Arkema, Inc. meeting ICC-ESR 1653 and M-D NOA 15-1223.08.

- **Weathering:** FBC 2614, M-D Checklist #0445, ASTM G155, 4500 hrs & D638, Max. \pm 10%
- **Smoke Density:** FBC 2606.4 / M-D Checklist #0445, ASTM D2843 < 75.
- **Rate of Burning:** FBC 2606.4 / M-D Checklist #0445, ASTM D635, Class CC1 or CC2.
- **Self-Ignition:** FBC 2606.4 / M-D Checklist #0445, ASTM D1929 \geq 650°F.

5.8 Insulation:

- Styrofoam Brand Insulation by Dow Chemical Company (NOA 17-0503.03).
- **Flame Spread Index:** FBC 2603.3, ASTM E84 < 75.
- **Smoke Density Index:** FBC 2603.3, ASTM E84 < 450.

6. INSTALLATION:

6.1 Aluminium retainer for dome securement (Appendix 1, Page 2) shall be set in silicone sealant with serrations that engage the aluminium frame and fixed with minimum eight #8 x ¼-inch hex head, self-drilling screws located 1.5-inch from each corner on the side of the retainer.

6.2 If existing curb mount is less than minimum 2.25-inch horizontally, curb mount shall be supplemented to include additional nominal 1 x 4 inch wood blocking at interior per Appendix 1.

6.3 Aluminum frame shall be secured to curb using fasteners and spacing detailed in Appendix 1.

6.3.1 The number of installation anchors depicted is the minimum number of anchors to be used for product installation at the size shown in Appendix 1. For smaller units, fewer curb mounting installation anchors are permitted provided the stated edge distance and maximum on-center spacing requirements are maintained.

6.4 For installation into wood curb, fasteners shall be #12 hex head galvanized steel screws with minimum 0.156" root diameter, minimum 0.218" thread diameter, minimum 0.4" head diameter of sufficient length for minimum 1.75-inch embedment into the curb. While the Appendix shows a 2-inch fastener length, the length shall be such that the minimum 1.75-inch embedment into the curb is maintained.

6.4.1 The edge distance from the anchor to the top of the curb shall be minimum 0.75-inch.

6.4.2 The C-channel at the base of the vertical leg that receives the weather sweep shall be flush against the underlying substrate (flashing or other curb finish).

6.4.3 Minimum embedment and edge distance excludes curb finishes (e.g., flashings); minimum embedment and edge distance requirements relate to the anchor embedment into and position relative to the top of the wood curb.

6.5 Assembly performance limitations herein are based upon anchor capacities for installation into the following roof curb material:

- Wood – Pressure Treated Spruce-Pine-Fir with minimum specific gravity of 0.42.

7. BUILDING PERMIT REQUIREMENTS:

As required by the Building Official or Authority Having Jurisdiction in order to properly evaluate the installation of this product.

8. MANUFACTURING PLANTS:

Sacramento, CA

9. QUALITY ASSURANCE ENTITY:

Architectural Testing, Inc. – QUA1844; (717) 764-7700

- THE TWO (2) PAGE APPENDIX FORMS PART OF THIS EVALUATION REPORT -