



TEST REPORT

Report No.: F8966.02-109-44

Rendered to:

VELUX America LLC
Greenwood, South Carolina

PRODUCT TYPE: Skylight

SERIES/MODEL: Dynamic Single Dome Skylight Polycarbonate Smooth (6' x 6') (0.150 thickness)

SPECIFICATION(S): Occupational Safety and Health Administration/U.S. Department of
Labor Regulations (Standards- 29 CFR) - 1910.23(e) (8)

California Code of Regulations, Title 8, Section 3212

Test Date(s): 09/07/16

Report Date: 01/09/18

Test Record Retention Date: 09/07/20

- 1.0 Report Issued To:** VELUX America LLC
1418 Evans Pond Road
P.O. Box 5001
Greenwood, South Carolina 29648-5001
- 2.0 Test Laboratory:** Architectural Testing, Inc., an Intertek company ("Intertek-ATI")
130 Derry Court
York, Pennsylvania 17406-8405
717-764-7700
- 3.0 Project Summary:**
- 3.1 Product Type:** Skylight
- 3.2 Series/Model:** Dynamic Single Dome Skylight Polycarbonate Smooth (6' x 6') (0.150 thickness)
- 3.3 Compliance Statement:** Results obtained are tested values and were secured by using test method(s) intended to address the designated performance specifications.
- 3.4 Test Date(s):** 09/07/16
- 3.5 Test Record Retention End Date:** All test records for this report will be retained until September 7, 2020.
- 3.6 Test Location:** Intertek-ATI test facility in York, Pennsylvania.
- 3.7 Test Specimen Source:** The test specimen(s) was provided by the client. Representative samples of the test specimen(s) will be retained by Intertek-ATI for a minimum of two years from the test completion date.
- 3.8 Drawing Reference:** The test specimen drawings have been reviewed by Intertek-ATI and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek-ATI per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.
- 3.9 List of Official Observers:**

<u>Name</u>	<u>Company</u>
Timothy J. McGill	Intertek-ATI
Joel Chronister	Intertek-ATI

4.0 Test Method (intended to address listed specification(s)):

Occupational Safety and Health Administration/U.S. Department of Labor Regulations (Standards- 29 CFR) - 1910.23(e) (8)

California Code of Regulations, Title 8, Section 3212

A 400 lb. weight, fabricated from a bag filled with lead shot, was placed on the center of the dome for a minimum of 60 seconds. The bag was removed and the test unit was inspected for any signs of damage or failure.

Additional Loading:

The specimen was taken to failure using sandbags placed on the center of the dome for a minimum of 60 seconds. The highest load causing penetration or damage was recorded.

5.0 Evaluation Scope:

Intertek Building & Construction (B&C) was contracted by VELUX America LLC, 1418 Evans Pond Road on December 4, 2017 to evaluate the OSHA fall protection testing to the most recent referenced document. Occupational Safety and Health Administration (OSHA)/U.S. Department of Labor Regulations Standard 29 CFR §1910.29 – Fall protection systems and falling object protection-criteria and practices. Section 1910.29(e)(1) requires a cover to be capable of supporting without failure at least twice the maximum intended load that may be imposed on the cover at any one time.

Intertek Building & Construction (B&C) was contracted by VELUX America LLC, 1418 Evans Pond Road on December 4, 2017 to evaluate the Cal/OSHA fall protection testing to the most recent referenced document. California Code of Regulations, Title 8, Section 3212 §(b), which states, "covers shall be capable of safely supporting the greater of 400 lbs or twice the weight of the employees, equipment and materials that may be imposed on any one square foot area of the cover at any time."

6.0 Test Specimen Description:

6.1 Product Sizes:

Overall Area: 42.1 ft ²	Width (inches)	Height (inches)
Overall size	77-7/8	77-7/8

6.2 Frame Construction:

Frame Member	Material	Description
Inner frame	Aluminum	Extruded
Dome clamp cover	Aluminum	Extruded

	Joinery Type	Detail
All corners	Mitered	Miter cut and welded

6.3 Reinforcement: No reinforcement was utilized

6.4 Weatherstripping:

Description	Quantity	Location
Custom-shaped gasket	1 row	Located around the interior perimeter of the inner frame
Gasket wick	1 per corner	Located at each mitered corner of the custom-shaped gasket

6.0 Test Specimen Description: (Continued)

6.5 Glazing: No conclusions of any kind regarding the adequacy or inadequacy of the poly smooth in any glazed test specimen(s) can be made.

Glazing Type	Glazing Method
5/32" poly smooth	The glazing was set from the exterior onto a custom-shaped gasket against the extruded aluminum frame. The glazing was secured using an aluminum extruded dome clamp cover with a bead of sealant on the glazing. The dome clamp cover was secured using spring clips and #10 x 5/8" self-tapping screws located 2" from all corners and 12" on center.

Location	Quantity	Daylight Opening (inches)	Glazing Bite (inches)
Dome	1	72-1/2 x 72-1/2	7/8

7.0 Installation: The specimen was installed into a Spruce-Pine-Fir wood buck.

Location	Anchor Description	Anchor Location
Aluminum frame	#10 x 1-1/2" pan head screw	8-1/2" from corners, 12" on center

8.0 Test Results: The results are tabulated as follows:

8.1 California (and OSHA) minimum loading:

Test Load	Load Location	Results
400 lbf	Center of dome	No visible damage

***Note:** The 400 lbf weight was gently applied perpendicular to the center of the dome. After 60 seconds of rest time, there was no visible damage to the glazing.*

8.2 Additional loading (applied on the same unit in the listed order):

Test Load	Load Location	Results
501 lbf at rest	Center of dome	No visible damage
604 lbf at rest	Center of dome	No visible damage
706 lbf at rest	Center of dome	No visible damage
807 lbf at rest	Center of dome	No visible damage
909 lbf at rest	Center of dome	No visible damage
1009 lbf at rest	Center of dome	No visible damage
1112 lbf at rest	Center of dome	No visible damage
1215 lbf at rest	Center of dome	Corner welds cracked
1317 lbf at rest	Center of dome	No visible damage
1418 lbf at rest	Center of dome	No visible damage
1520 lbf at rest	Center of dome	No visible damage
1622 lbf at rest	Center of dome	Deglazing around corners
1723 lbf at rest	Center of dome	See Note #1

***Note #1:** At 1723 lbf, the load created an opening larger than one square foot.*

9.0 Conclusion:

The specimen was evaluated in accordance with Occupational Safety and Health Administration (OSHA)/U.S. Department of Labor Regulations Standard 29 CFR §1910.29(e)(1) to be capable of supporting twice the maximum intended load, up to (760) ft-lb.

The specimen was evaluated in accordance with California Code of Regulations, Title 8, Section 3212 §(b) to be capable of safely supporting loads exceeding 400 ft-lb.

Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For ARCHITECTURAL TESTING, Inc.



Digitally Signed by: Joel Chronister

Joel Chronister
Technician



Digitally Signed by: Timothy J. McGill

Timothy J. McGill
Manager – Product Testing

JC:asm/abo

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Photograph(s) (1)

Appendix-B: Drawing(s) (16)

Appendix A
Photograph(s)



Photo No. 1
View of Tested Specimen

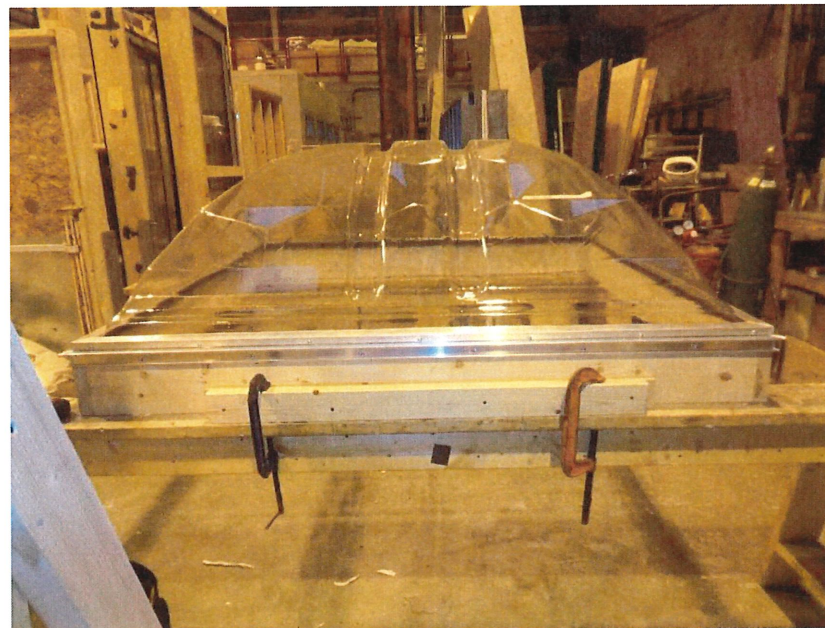


Photo No. 2
View of Tested Specimen