OSHA FALL PROTECTION TEST REPORT

Rendered to:

VELUX AMERICA INC.

SERIES/MODEL: CAP-1
PRODUCT TYPE: Fixed Polycarbonate/Acrylic Glazed Skylight

Report No: 90199.01-109-44
Test Date: 04/01/09
Report Date: 10/20/09
Record Retention Date: 04/01/13
OSHA FALL PROTECTION TEST REPORT

Rendered to:

VELUX AMERICA INC.
P.O. Box 5001
(1418 Evans Pond Road)
Greenwood, South Carolina 29648-5001

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Project Summary: Architectural Testing, Inc. was contracted by VELUX America Inc. to perform testing on a Series/Model CAP-1, fixed polycarbonate/acrylic glazed skylight. The test specimen description and results are reported herein. The test specimen was provided by the client.

Test Specification: The test specimen was tested to assess compliance with Occupational Safety and Health Administration/U.S. Department of Labor Regulations (Standards- 29 CFR)-1910.23(e)(8). A 200 lbf weight, fabricated from a bag filled with sand, was placed on the center of the dome for a minimum of 60 seconds and then dropped from varying heights above the dome of the skylight starting at 2' until permanent visible damage was noted. The highest impact load resulting in damage was recorded.

Test Specimen Description:

Series/Model: CAP-1
Product Type: Fixed Polycarbonate/Acrylic Glazed Skylight
Overall Size: 72" wide by 72" long
Curb Size: 69-1/2" wide by 69-1/2" long
Overall Area: 36 ft²
Finish: All aluminum was anodized.
Weatherstripping: No weatherstripping was utilized.
**Test Specimen Description**: (Continued)

**Glazing Detail**: The skylight dome was constructed of two free blown sheets; an interior acrylic dome measuring 0.120" thick and an exterior polycarbonate dome measuring 0.140" thick all measured at the center of the dome. The edges of the two sheets were secured to each other with a layer of double-sided adhesive foam tape. The assembled dome was set against the aluminum main frame, resting on double-sided adhesive foam tape and secured with an "L" shaped aluminum cover frame. Double-sided adhesive foam tape was utilized between the cover frame and the dome. The cover frame was secured to the main frame with #12 x 1/4" hex head screws, located 5" from each corner and spaced 16" on center.

**Frame Construction**: The frame was constructed of extruded aluminum members. The corners were mitered and welded. The frame was set onto a factory applied aluminum curb. The frame was secured to the curb with #12 x 3/8" long sheet metal screws. The curb was constructed of two sheets of 0.030" thick roll-formed aluminum with a nominal 1" thick foam core and a 1" wide by 3/4" tall wood block at the base of the curb. The interior sheet of aluminum was secured to the wood block with staples spaced 1" on center. The corners of the curb were welded. The base of the curb utilized a 3" wide flange, for attaching the curb to the roof deck.

**Installation**: The skylight was set onto saw horses and leveled before testing. The skylight did not utilize any wood buck.

**Test Results**: The results are tabulated as follows:

**OSHA Safety Test**

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Load Location</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 lbf</td>
<td>Center of dome</td>
<td>No visible damage</td>
</tr>
</tbody>
</table>

*Note*: The 200 lbf weight was gently applied perpendicular to the center of the dome. After 60 seconds of rest time, the weight was removed and there was no visible damage to the skylight.

**OSHA Safety Drop Test**

<table>
<thead>
<tr>
<th>Test Method</th>
<th>Load Location</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 lbf at rest</td>
<td>Center of dome</td>
<td>No visible damage</td>
</tr>
<tr>
<td>400 lbf-ft (2' drop height)</td>
<td>Center of dome</td>
<td>See Note #1</td>
</tr>
</tbody>
</table>

*Note #1*: At the 2' drop height, the exterior dome permanently deformed and the interior dome broke. The weight did not fall through the skylight.
Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of four years from the original test date. At the end of the retention period, Architectural Testing shall discard such material without further notice. Architectural Testing shall service the test report for the full retention period.

Results obtained are tested values and were secured by using the designated test methods. 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 Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC:

Jeremy R. Bender  Michael D. Stremmel, P.E.
Technician  Senior Project Engineer

JRB:dem

Attachments (pages): This report is complete only when all attachments listed are included.
   Appendix-A: Test Equipment (1)
   Appendix-B: Photographs (1)
   Appendix-C: Drawing (1) Complete drawings packet on file with Architectural Testing, Inc.
### Revision Log

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<th>Page(s)</th>
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<td>0</td>
<td>10/20/09</td>
<td>N/A</td>
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This report produced from controlled document template ATI 00205, issued 03/05/09.
Appendix A

Test Equipment

<table>
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<tr>
<th>Instrument</th>
<th>Manufacturer</th>
<th>Asset #</th>
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<tr>
<td>200 lb sand filled sack</td>
<td>Architectural Testing, Inc.</td>
<td>N/A</td>
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</table>
Appendix B

Photographs

Photo No. 1
CAP-1 (72 x 72) Test Set-Up

Photo No. 2
CAP-1 (72 x 72) Failure
Appendix C

Drawing

Note: Complete drawings packet on file with Architectural Testing, Inc.
Test sample complies with these details. Deviations are noted.

Report # 90199.01
Date 6/3/09 Tech JPP