



NATIONAL CERTIFIED TESTING LABORATORIES

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AAMA/WDMA/CSA 101/I.S.2/A440-08 STRUCTURAL TEST REPORT

310-2338_{E0A0}

REPORT TO:

CUSTOM DESIGNED SYSTEMS
18315 PORTLAND AVENUE
GLADSTONE, OR 97027

ORIGINAL REPORT NUMBER: 310-2338
ORIGINAL REPORT DATE: 01/05/2012

MODEL/TYPE:

**3100 SERIES 2489 X 1264 (98 X 50)
SLOPE GLAZED SKYLIGHT**

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AAMA/WDMA/CSA 101/I.S.2/A440-08 STRUCTURAL TEST REPORT SUMMARY

RENDERED TO:

CUSTOM DESIGNED SYSTEMS
1831SPORTLAND AVENUE
GLADSTONE, OR 97027

MODEL/TYPE: 3100 SERIES SLOPE GLAZED SKYLIGHT

TITLE	SUMMARY OF RESULTS
Primary Product Designator	Class CW – PG70 2489 x 1264 (98 x 50) – Type SKG
Air Infiltration/Exfiltration	0.02 L/s/m ² (< 0.01 cfm/ft ²) – Infiltration < 0.01 L/s/m ² (< 0.01 cfm/ft ²) – Exfiltration
Water Penetration Resistance	720 Pa (20.00 psf)
Design Pressure	3360 Pa (70.0 psf)
Uniform Load Structural Test	5030 Pa (105.0 psf)

Test Completion Date: 12/30/2011

Reference must be made to NCTL Report Number 310-2338_{E0A0} dated 01/05/2012 for complete test sample description and data.

For National Certified Testing Laboratories:

Jim Clarke
Structural Performance Technician

REPORT TO: Custom Designed Systems
18315 Portland Avenue
Gladstone, OR 97027

STARTING TEST DATE: 12/29/2011
ENDING TEST DATE: 12/30/2011

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-08
NAFS-North American Fenestration Standard/Specification for Windows, Doors and Skylights.

PERFORMANCE CLASS: Class CW – PG70 2489 x 1264 (98 x 50) – Type SKG

DESCRIPTION OF SAMPLE TESTED

MODEL/TYPE: 3100 Series Slope Glazed Skylight.

CONFIGURATION: OO

FRAME SIZE: 2489 mm (98”) wide by 1264 mm (49 3/4”) high.

FIXED DAYLIGHT OPENING: Each fixed lite opening measured 1175 mm (46 1/4”) wide by 1175 mm (46 1/4”) high when measured from the interior.

FRAME TYPE: Extruded anodized aluminum.

JOINT CONSTRUCTION: All corners were mitered, sealed and multiple screw-connected with aluminum angle.. The intermediate vertical member was butt joined, sealed and multiple screw-connected to the head and sill extrusions via aluminum angle. A U-shaped aluminum extrusion was attached to the exterior face of the head, sill and jambs near the exterior-most edge. Self adhesive flashing tape was applied to the outer edge face of each main frame member.

GLAZING COMPONENTS:

OVERALL: 30 mm (1 3/16”) nominal.
GLASS THICKNESS: One exterior pane of 8.0 mm nominal annealed.
One interior pane of 6.0 mm nominal annealed.
SPACER TYPE/SIZE: 16 mm (5/8”) nominal aluminum.

GLAZING SYSTEM: All glass was set on blocks, bedded against a preset glazing gasket on the interior side of the glazing pocket and retained on the exterior with an aluminum pressure bar with an anodized aluminum cover.

WEATHERSTRIP: None.

WEEP SLOTS: None.

INSTALLATION DESCRIPTION: The skylight was installed in a 51 x 203 mm (2x8) wood buck, built tight around the perimeter. A 32 x 19 mm (1 1/4” x 3/4”) wood stop was screw-connected around the perimeter of the interior and exterior of the buck at approximately 203 mm (8”) on center using #8 x 32 mm (1 1/4”) washer head screws. The exterior face of the skylight was sealed with silicone sealant to the test buck.

TEST RESULTS

5.3.2 AIR LEAKAGE RESISTANCE AT 75 PA (1.6 PSF).

ASTM E283-04

The Tested Specimen Meets Or Exceeds the Performance Levels Specified in

$ft^2 = 33.86$

AAMA/WDMA/CSA 101/I.S.2/A440-08 for Air Leakage Resistance.

$M^2 = 3.15$

Maximum Allowable.	1.5 L/s/m ²	0.3 CFM/ft ²
Infiltration		
Optional Information at 1.6 psf		
Total L/S (CFM)	0.06 L/S	0.13 CFM
Infiltration Rate	0.02 L/s/m ²	< 0.01 CFM/ft ²
<hr/>		
Exfiltration		
Optional Information at 1.6 psf		
Total L/S (CFM)	< 0.01 L/S	< 0.01 CFM
Infiltration Rate	< 0.01 L/s/m ²	< 0.01 CFM/ft ²

5.3.3 WATER RESISTANCE TEST.

ASTM E 547-00

No Leakage after 4 cycles of 5 minutes at	720 pa	15.00 psf
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5.3.4.2 UNIFORM LOAD DEFLECTION AT DESIGN PRESSURE.

ASTM E330-02

No Damage After Positive	3360 pa	70.0 psf
No Damage After Negative	3360 pa	70.0 psf
Measured Deflection Positive	2 mm	0.063 inches
Measured Deflection Negative	2 mm	0.061 inches
Maximum Allowed (L/175)	7 mm	0.284 inches

5.3.4.3 UNIFORM LOAD STRUCTURAL TEST.

ASTM E330-02

No Damage After Positive	5030 pa	105.0 psf
No Damage After Negative	5030 pa	105.0 psf
Maximum Permanent Set	< 1 mm	0.002 inches
Maximum Allowed	1 mm	0.024 inches

0.3% for CW Rating.

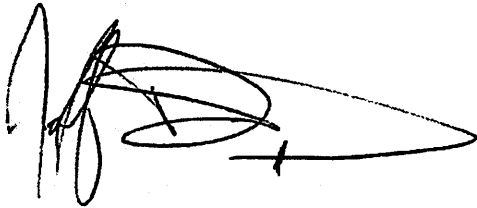
Note: Deflection and Permanent Set Measurements taken on the intermediate vertical member with a 1264 mm (49 3/4") span.

All tests were conducted at NCTL, 3310 Hill Avenue, Everett, WA 98201.

Detailed assembly drawings showing wall thickness of all members, corner construction and hardware application have been compared to the sample submitted and are attached to this report.

The results were secured by using the designated test methods and they indicate compliance with the performance requirements of the referenced specification. A copy of this report has been forwarded to the Administrator of the Certification Program. This report does not constitute certification of this product, which may only be granted by the Administrator.

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A handwritten signature in black ink, appearing to read 'Jeffrey M. Douglas', with a long horizontal stroke extending to the right.

Jeffrey M. Douglas
Lab Manager

A handwritten signature in black ink, appearing to read 'Jim Clarke', with a long horizontal stroke extending to the right.

Jim Clarke
Structural Performance Technician