

**AAMA/NWWDA 101/I.S.2-97
TEST REPORT SUMMARY**

Rendered to:


FOUR SEASONS SUNROOMS

**TYPE: Aluminum Horizontal Sliding Window
RATING: HS-LC25 72 x 58**

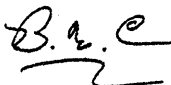
Title of Test	Results
Overall Design Pressure	+25 psf
Operating Force	13 lb max.
Air Infiltration	0.11 cfm/ft ²
Water Resistance	3.75 psf
Structural Test Pressure	+70.5 psf
Deglazing	Passed
Forced Entry Resistance	Grade 10

Reference should be made to Report No. 01-35844.01 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.


Benjamin E. Myers, Project Manager

BEM:dln



AAMA/NWWDA 101/I.S.2-97 TEST REPORT

Rendered to:

FOUR SEASONS SUNROOMS
5005 Veterans Memorial Highway
Holbrook, New York 11741

Report No: 01-35844.01
Test Dates: 10/07/99
And: 10/13/99
And: 10/21/99
Report Date: 11/16/99
Expiration Date: 10/21/03

Project Summary: Architectural Testing, Inc. (ATI) was contracted to perform tests on an aluminum horizontal sliding window. The sample tested successfully met the performance requirements for an HS-LC25 72 x 58 rating. Test specimen description and results are reported herein.

Test Specification: The test specimen was evaluated in accordance with the following: AAMA/NWWDA 101/I.S.2-97, *Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors.*

Test Specimen Description:

Type: Thermally Improved Aluminum Horizontal Sliding Window (XO)

Overall Size: 6' 0-3/8" wide by 4' 10" high

Operable Sash Size: 3' 0-3/8" wide by 4' 7-1/4" high

Fixed Daylight Opening Size: 2' 9-1/2" wide by 4' 4-1/2" high

Screen Size: 2' 11-1/2" wide by 4' 4-7/8" high

Finish: All aluminum was painted white.

Glazing Type: Both sash utilized 0.750" thick sealed insulating glass fabricated from two sheets of 0.123" thick clear tempered glass and a desiccant filled metal spacer system.

Glazing Details: The insulating glass was interior glazed against silicone back bedding and trimmed on the interior with plastic glazing beads.

Test Specimen Description: (Continued)**Weatherstripping:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.250" high by 0.187" backed polypile with center fin	1 Row	Exterior face of sash

Frame Construction: The frame was constructed of extruded aluminum members that employed a poured-in-place urethane thermal break with an average debridged width of 0.152". All corners were coped, butted, gasketed and fastened with two screws per corner. The fixed meeting stile was constructed of an extruded member that was coped, butted, sealed and fastened to the frame with one plastic shear block per end. The shear block was fastened to the frame and meeting stile with one screw each.

Sash Construction: The sash was constructed of extruded aluminum members with coped and butted corners, fastened with one screw per corner. The rails employed a poured-in-place urethane thermal break with an average debridged width of 0.145".

Screen Construction: The screen frame was constructed of formed aluminum members with pressure fit plastic corner keys. The fiberglass screen was fastened to the frame with a roll in place screen spline.

Hardware:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Metal hook lock	1	Midspan of operable meeting stile
Plastic spring loaded lock handle	1	Midspan of jamb stile
Plastic guide blocks	2	Interior leg of rails
Plastic tandem rollers in plastic housing	2 Sets	Ends of bottom rail

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
1.00" wide by 0.25" high weepslot	7	Center leg of sill spaced 10-1/2" on center
1.00" wide by 0.25" weepslot with hinged weep covers	3	Exterior leg of sill, 5" from ends and midspan

Test Specimen Description: (Continued)

Reinforcement: No reinforcement was used.

Installation: The window was installed into a 2" x 6" wood test buck. The jambs and head were fastened to the test buck with wood screws spaced 12" on center. The sill was secured with wood blind stops on the exterior and interior. The exterior perimeter was sealed with silicone.

Test Results:

The results are tabulated as follows:

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
2.2.2.5.1	Operating Force	13 lbs	25 lbs max.
2.1.2	Air Infiltration per ASTM E 283 (See Note #1) @ 1.57 psf (25 mph)	0.11 cfm/ft ²	0.3 cfm/ft ² max.
<i>Note #1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration.</i>			
2.1.3	Water Resistance per ASTM E 547-96 (with and without screen) WTP = 3.75 psf	No leakage	No leakage
2.1.4.2	Uniform Load Structural per ASTM E 330-97 (Measurements reported were taken on the meeting stile) @ 37.5 psf (exterior) @ 37.5 psf (interior)	0.005" 0.005"	0.221" max. 0.221" max.
2.2.2.5.2	Deglazing Test per ASTM E 987 In operating direction at 70 lbs		
	Jamb stile	0.063"/12.6%	0.500"/100%
	Meeting stile	0.063"/12.6%	0.500"/100%
	In remaining direction at 50 lbs		
	Top rail	0.063"/12.6%	0.500"/100%
	Bottom rail	0.063"/12.6%	0.500"/100%

Test Results: (Continued)

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
2.1.8	Forced Entry Resistance per ASTM F 588-97		
	Type: A		
	Grade: 10		
	Lock Manipulation Test	No entry	No entry
	Tests A1 thru A5	No entry	No entry
	Test A7	No entry	No entry
	Lock Manipulation Test	No entry	No entry

Optional Performance

4.4.2	Uniform Load Structural per ASTM E 330-97 (Measurements reported were taken on the fixed meeting stile)		
	@ 70.5 psf (exterior)	0.155"	0.221" max.
	@ 70.5 psf (interior)	0.133"	0.221" max.
	Additional Uniform Structural Loads per ASTM E 330-97 (held for 33 seconds)		
	@ 50.0 psf (exterior)	No damage	
	@ 50.0 psf (interior)	No damage	

Detailed drawings, representative samples of the test specimen, and a copy of this report will be retained by ATI for a period of four years. The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specification. This report does not constitute certification of this product which may only be granted by the certification program administrator.

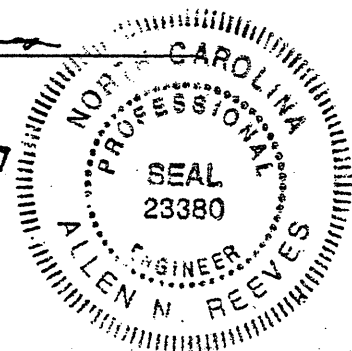
For ARCHITECTURAL TESTING, INC:

Benjamin E. Myers
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Project Manager

B.E.M.
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01-35844.01

Allen N. Reeves
Allen N. Reeves, P.E.
Director of Engineering
16 NOVEMBER 1997



DOCUMENT CONTROL ADDENDUM #01-35844.00

Current Issue Date: 11/16/99

Report No.: 01-35844.01

Requested by: Joe Esposito, Four Seasons Sunrooms

Purpose: AAMA/NWWDA 101/I.S.2-97 testing on an aluminum horizontal sliding window.

Issued Date: 11/16/99

Comments: Copies to be sent to John Smith at Associated Laboratories, Inc. for certification.
North Carolina P. E. seal required on report.