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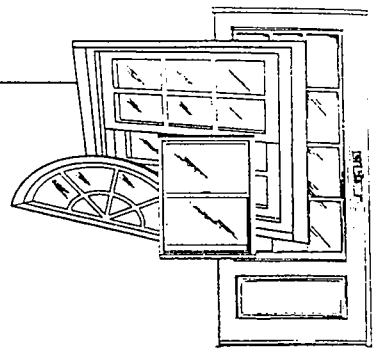
CERTIFIED TESTING LABORATORIES

Architectural Division • 7252 Narcoossee Rd. • Orlando, FL 32822
(407) 384-7744 • Fax (407) 384-7751
Web Site: www.ctlarch.com
E-mail: ctlarch.com



Report Number: CTLA-821W
Report Date: July 26, 2002

STRUCTURAL PERFORMANCE TEST REPORT

Client: SEASONSHIELD INCORPORATED
355 CENTER COURT
VENICE, FLORIDA 34292

Product Type and Series: **7500 Series Vinyl Horizontal Sliding Fin Frame Window HS-R30 (96"x 62")**

Test Specifications: AAMA/NWWDA 101/I.S.2-97 "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors"

Frame: Vinyl horizontal sliding fin frame window measured 96" x 62" overall. Mitered corner weld construction. Frame consisted of two (2) tracks and one (1) screen track.

Configuration: XXX

Ventilator: Two (2) panels measuring 24.50" x 60" with a clear lite of 22" x 57". One (1) panel measured 47.75" x 60" with a clear lite of45" x 57". Mitered corner weld construction.

Weather Stripping:

Quantity	Description	Location
One (1) strip	Woolpile .250" high w/ integral plastic fin	Frame head, sill and jambs interior
Two (2) strips	Woolpile .250" high w/ integral plastic fin	Sash top, bottom rails
One (1) strip	Woolpile .370" high w/ double plastic fin	Lock stile exterior
One (1) strip	Vinyl fin .400" high w/ double plastic fin	Interlock interior
One (1) strip	Vinyl bulb .400" high	Pull stile exterior

Hardware & Location:

Quantity	Description	Location
Two (2)	Metallic cam locks	Each sash lock stile
Two (2)	Metallic keepers	Interlock
One (1)	Dust plug	Interlock
Two (2)	Metallic rollers inside Plastic housing	Each sash bottom rail corners

Glazing: 3/16" annealed glass, exterior glazed with an adhesive backbedding compound and vinyl snap in glazing bead.

8/7/02

Sealant: N/A

Weep System Two (2) 1" x .1875" high weep, located in each corner of the sill track weeping into sill can. Sill notched 3" from each end of sill and at mid-span. Notch is 1.00" long x .1875" high.

Muntins: N/A

Screen: Roll formed aluminum frame, fiberglass mesh with vinyl spline measuring 23.50" x 58.50". Two (2) metallic springs and two (2) plastic pull tabs. Corners secured with plastic corner keys.

Reinforcement: Both the pull stile and interlock stile have an aluminum reinforcement bar inside measuring .195" x length.

Additional Description: N/A

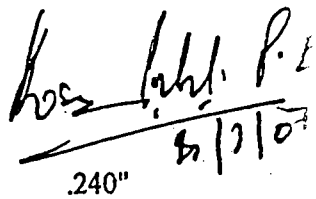
Installation: The test specimen was installed and secured into wooden test buck with 10d x 1" roofing nails located 5" from each corner and 11" o.c. there after.

Surface Finish: White vinyl

Comment: Nominal 2 mil polyethylene film was used to seal against air leakage during structural loads. The film was used in a manner that did not influence the test results.

Performance Test Results

Paragraph No.	Title of Test	Method	Measured	Allowed
2.1.2	Air Infiltration @1.57 psf	ASTM E283-91	.3 cfm/ft²	.34 cfmft²
	The tested specimen meets or exceeds the performance levels specified in AAMA/NWWDA 101/I.S.2-97. Results recorded in two (2) decimals at the clients request.			
2.1.3	Water Resistance 5.0 gph/ft² WTP= 5.25 psf	ASTM E547-93 Four (4) five minute cycles	No Entry	No Entry
	Unit passed with 1" hole for drain cut in center.			
2.1.3	Water Resistance 5.0 gph/ft²	ASTM E547-93 Four (4) five minute cycles	No Entry	No Entry
	WTP= 7.5 psf	Fifteen (15) minute cycle	No Entry	No Entry
	Unit passed with 1" add on sill riser.			
2.1.4.2	Uniform Load Structural Permanent Deformation	ASTM E330-90		
	@45 psf positive		.002"	.240"
	@45 psf negative		.017"	.240"



Performance Test Results (continued)

Paragraph No.	Title of Test		Method	Measured	Allowed
2.1.8	Forced Entry Resistance		AAMA 1302.5-76		
	Test A			0"	½"
	Test B			0"	½"
	Test C			0"	½"
	Test D,E and F			0"	½"
	Test G			0"	½"
2.2.2.5.1	Operating Force		AAMA/NWWDA 101/I.S.2-97		
	Left panel			5lbs.	20lbs.
	Right panel			5lbs.	20lbs.
	Center panel			13lbs.	20lbs.
2.2.2.5.2	Deglazing		ASTM E987-88		
	Top Rail	50 lbs.		.036"= 7.2%	<100%
	Bottom Rail	50 lbs.		.022"= 4.4%	<100%
	Left Side	70 lbs.		.029"= 5.8%	<100%
	Right Side	70 lbs.		.043"= 8.6%	<100%
2.1.7	Welded Corner Test		AAMA/NWWDA 101/I.S. 2-97		Passed

Test Date: January 15, 2002

Test Completion Date: January 15, 2002

Remarks: Detailed drawings were available for laboratory records and comparison to the test specimen at the time of this report. A copy of this report along with representative sections of the test specimen will be retained by CTL for a period of four (4) years. The results obtained apply only to the specimen tested.

This test report does not constitute certification of this product, but only that the above test results were obtained using the designated test methods and they indicate compliance with the performance requirements (paragraphs as listed) of the above referenced specifications.

Certified Testing Laboratories assumes that all information provided by the client is accurate and that the physical and chemical properties of the components are as stated by the manufacturer.

Certified Testing Laboratories, Inc.

Walter Williams
Lab Technician
Architectural Division

cc: Seasonshield Inc. (2)
A.L.I. (2)
Ramesh Patel P.E. (1)
File (1)

Ramesh Patel
Florida Reg# 20224