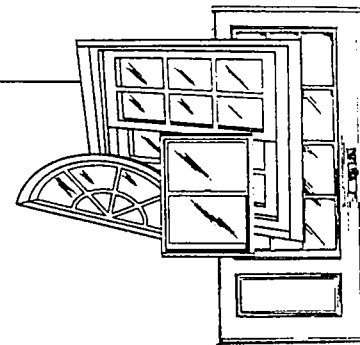


CERTIFIED TESTING LABORATORIES

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-751W-AR
 Report Date: September 17, 2001

STRUCTURAL PERFORMANCE TEST REPORT

Client: SEASONSIELD INCORPORATED
 355 CENTER COURT
 VENICE, FLORIDA 34292

Product Type and Series: 7400 Vinyl Double Hung Fin Frame Window Downsize H-R50
 (37" x 73")

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

Test Specimen

Frame: Extruded vinyl fin frame measured 36.5" X 72.5". Mitered corner construction. Each corner secured by vinyl weld.

Configuration: X
 X

Ventilator: Extruded vinyl sash measured 34.5" x 35.5" overall. Mitered. Each corner secured by vinyl weld. Clear lite opening 31.25"x 32.5". Top sash measured 33.062"x 35.25. Top clear lite opening 30.25"x 32.5"

<u>Weather Stripping:</u>	<u>Quantity</u>	<u>Description</u>	<u>Location</u>
	Two (2) Strips	Woolpile with integral plastic fin .250" high	Top sash stile frame side
	Two (2) Strips	Woolpile with integral plastic fin .250" high	Bottom sash stile frame side
	Two (2) Strips	Woolpile with integral plastic fin .250" high	Top sash stile exterior
	Two (2) Strips	Woolpile with integral plastic fin .250" high	Bottom sash stile exterior
	One (1) Strip	Woolpile with integral plastic fin .250" high	Top sash top rail exterior
	One (1) Strip	Woolpile with double plastic fin .370" high	Bottom sash top rail exterior
	One (1) Strip	Bulb in vinyl .300" high	Top sash bottom rail interior
	* One (1) Strip	Bulb in vinyl .300" high	Bottom sash bottom rail exterior

Cont. Weather Stripping:	<u>Quantity</u>	<u>Description</u>	<u>Location</u>
	Two (2) Blocks	Woolpile .250" high	Top sash bottom rail interior corner
	One (1) Strip	Woolpile with integral plastic fin .250" high	Frame header mid-span
	One (1) Strip	Woolpile with integral plastic fin .250" high	Frame sill interior

Hardware & Location:	<u>Quantity</u>	<u>Description</u>	<u>Location</u>
	Two (2)	Metallic cam lock	Bottom sash top rail
	Two (2)	Metallic keepers	Top sash bottom rail
	Four (4)	Tilt latches	Top and bottom sash top rail corners
	Four (4)	Pivot bars	Top and bottom sash Bottom rail corners
	Four (4)	Balance shoe	Two in each jamb
	Four (4)	Spiral balance	Two in each jamb

Glazing: 3/16" annealed glass secured in place by a silicone type seam sealant.

Sealant: N/A

Weep System: Two (2) Weep slots in frame sill face .75"x .125" measuring from left jamb 4" and 34.5". Two (2) slots .75"x .125" located in frame interior leg of sill measuring from left jamb 4" and 34.5". Two (2) slots on surface of interior sill .500"x .200" measuring from left jamb 2" and 32". Two (2) slots .200"x .400" located on each bottom rail of top and bottom sash measuring from left stile 2.75" and 30.31".

Reinforcement: One(1) extruded aluminum reinforcement measuring .125"x .875" located inside bottom rail of top sash and top and bottom rail of bottom sash. One(1) extruded aluminum reinforcement measuring .093"x .437"x .812" located inside each stile of both top and bottom sash.

Additional Description: N/A

Screen: The aluminum screen frame measured 32.25"x 69.5" with butt corner construction. Each corner secured with plastic corner keys. An aluminum support centered horizontally measuring 34.5" from head. Fiberglass mesh and vinyl wrap around glazing gasket were utilized with two (2) spring clips and two (2) plastic pull tabs.

Installation: Thirteen (13) 6D x 1" fasteners were used to secure the specimen to the wooden test buck. Three (3) located on head face measuring from left jamb to right jamb 7", 20" and 33". Five (5) located on each jamb face measuring from head to sill 3.5", 16.5", 36", 52.5" and 68.5". A silicone type sealant was used to secure the main frame to the wooden test buck.

Surface Finish: White

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

<u>Paragraph No</u>	<u>Title of Test</u>	<u>Method</u>	<u>Measured</u>	<u>Allowed</u>
2.1.2	Air Infiltration @1.57 psf	ASTM E283-91	.19 cfm/ft ²	0.3 cfm/ft ²

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/ft ²	ASTM E547-93 Four (4) five minute cycles	No Entry	No Entry
	WTP= 7.5 psf	ASTM E 331-93 One (1) fifteen (15) minute cycle	No Entry	No entry

Unit tested with and without insect screen.

2.1.4.2/4.4.2	Uniform Load Structural Permanent Deformation @ 75 psf positive @ 75 psf negative Unit tested with reinforced sashes	ASTM E330-90 Ten (10) second loading	.001" .030"	.136" .136"
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*2.1.7.	Weld Corner Test	AAMA 101/I.S. 2-97		Passed
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*2.1.8	Forced Entry Resistance	AAMA 1302.5-76		
	Test A		0"	1/2"
	Test B		0"	1/2"
	Test C		0"	1/2"
	Test D.E.F		0"	1/2"
	Test G		0"	1/2"

*2.2.2.5.1	Operating Force	AAMA/NWWDA 101/I.S. 2-97		
		Measured to open/to keep in motion	Allowable to open/to keep in motion	
	Top sash	12 lbs 10 lbs	30 lbs	20 lbs.
	Bottom sash	15 lbs 10 lbs	30 lbs	20 lbs.

*2.2.2.5.2	Deglazing Test	ASTM E987-88		
	Top Rail 50lbs		.012" = 2.4%	<100%
	Bottom Rail 50lbs		.014" = 2.8%	<100%
	Left Stile 75lbs		.017" = 3.4%	<100%
	Right Stile 75lbs		.018" = 3.6%	<100%

* Test results obtained from report number CTLA-751W

