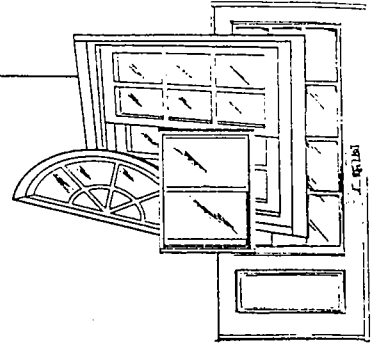


# CERTIFIED TESTING LABORATORIES

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(407) 384-7744 • Fax (407) 384-7751  
Web Site: www.ctlarch.com  
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Report Number: CTLA-886W-4  
Report Date: July 27, 2002

## STRUCTURAL PERFORMANCE TEST REPORT

**Client:** SEASONSHIELD INCORPORATED  
355 CENTER COURT  
VENICE, FLORIDA 34292

**Product Type and Series:** Series 7100 Vinyl Single Hung with Reinforced Sash and Meeting Rail  
H-R50 (37" x 74")

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

**Frame:** The vinyl flange frame measured 37" x 73.50" overall. The main frame corners were mitered and secured by corner weld construction. The fixed meeting rail was coped and fastened to the main frame with one (1) #8 x 2.50" PH., PH. Screw in the jamb.

**Configuration:** 0  
X

**Ventilator:** One (1) active sash measuring 34" wide x 35" high with a clear lite measuring 31.25" x 32.50". One (1) fixed lite measuring 31.25" wide x 32.50" high, corners were mitered and secured by corner weld construction.

### Weatherstripping:

<u>Quality</u>	<u>Description</u>	<u>Location</u>
One (1) strip	Woolpile .250" high w/ integral plastic fin	Frame sill Interior
One (1) strip	Woolpile .400" high w/ double plastic fin	Sash top rail exterior
One (1) strip	Woolpile .250" high w/ integral plastic fin	Each sash stile exterior
One (1) strip	Woolpile .250" high w/ integral plastic fin	Each sash stile jamb side
One (1) strip	Bulb vinyl .400" high	Sash bottom rail exterior

### Hardware & Location:

Two (2)	Spiral balances	Jamb interior
Two (2)	Locking tilt shoes	Jamb interior
One (1)	Sash pivot bar	Each end sash bottom rail
One (1)	Plastic tilt latch	Each end sash top rail
One (1)	Metallic cam latch	Sash top rail 8" from each end
One (1)	Vinyl sash stop	Each upper interior jamb.

*[Handwritten signature]*  
8/7/02

- Glazing:** 1/8" Tempered glass; sash exterior glazed with an adhesive backbedding compound and vinyl glazing bead. Fixed lite interior glazed with an adhesive backbedding compound and vinyl glazing bead.
- Sealant:** A narrow joint sealant was used to seal specimen to wooden test buck.
- Weep-system:** One (1) 1.00" x .250" weep, located in sill face 4.5" from each jamb weeping to exterior.
- Muntins:** N/A
- Reinforcements:** Sash members have an aluminum reinforcement insert. Sash bottom rails .787" x .433" x length. Sash interlock and pull stile .580" x .895" x length. Fixed meeting rail .655" x .755" x length.
- Additional Description:** N/A
- Screen:** Roll formed aluminum screen measuring 32" x 34.25" with fiberglass mesh, vinyl spline and plastic corner keys. Two (2) plastic pull tabs. Two (2) spring clips.
- Installation:** Sixteen (16) #8 x 1.25", PH., PH. were used to secure specimen into the wooden test buck. Five (5) located in head and sill measuring 8", 22.50", 36.50", 51" and 65" from head. Three (3) located in head and sill measuring 8" from corners and mid-span.
- 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 E 283-91	.27 cfm/ft <sup>2</sup>	.34 cfm/ft <sup>2</sup>

Unit tested exceeds the performance levels specified in AAMA/NWWDA 101/I.S. 2-97

2.1.3/4.3	Water Resistance 5.0 gph/ft <sup>2</sup> WTP=7.5 psf	ASTM E547-93 Four (4) five minute cycles	No Entry	No Entry
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Unit was tested with and without insect screen

2.1.4.2/4.4.2	Uniform Load Structural	ASTM E330-90		
	Permanent Deformation @75 psf Positive	Ten (10) Second Duration	.048"	.136"
	@75 psf Negative		.029"	.136"

Unit was tested with reinforcement

*Handwritten signature*  
8/31/02

Performance Test Results (continued)

<u>Paragraph No.</u>	<u>Title of Test</u>	<u>Method</u>	<u>Measured</u>	<u>Allowed</u>
2.1.7	Corner Weld Test	AAMA/NWWDA 101/I.S. 2-97		PASSED
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	15 lbs.	30 lbs.
2.2.2.5.2	Deglazing	ASTM E 987-88		
	Top Rail 70 lbs		.030=	6.0 % < 100%
	Bottom Rail 70 lbs		.029=	5.8 % < 100%
	Left Stile 50 lbs		.020=	4.0 % < 100%
	Right Stile 50 lbs		.023=	4.6 % < 100%

Test Date: April 22, 2002

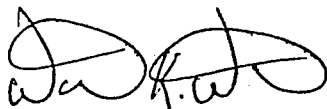
Test Completion Date: May 28, 2002

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.

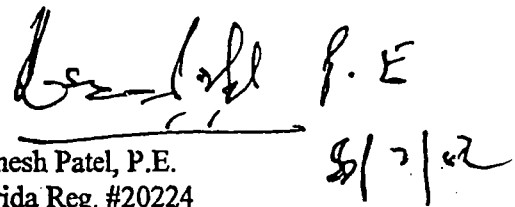
Certified Testing Laboratories assumes that all information provided by the client is accurate and that the physical and chemical properties of the components are as stated by the manufacturer.

Certified Testing Laboratories, Inc.



Walter Williams  
Lab Technician  
Architectural Division

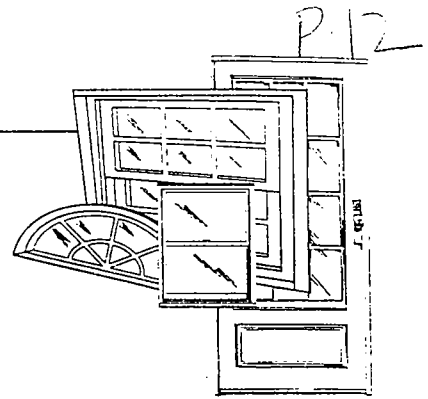
cc: Seasonshield Inc. (2)  
A.L.I. (2)  
Ramesh Patel, P.E. (1)  
File (1)



Ramesh Patel, P.E.  
Florida Reg. #20224

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Report Number: CTLA-886W-1  
 Report Date: July 27, 2002

## STRUCTURAL PERFORMANCE TEST REPORT

Client: SEASONSIELD INCORPORATED  
 355 CENTER COURT  
 VENICE, FLORIDA 34292

Product Type and Series: Series 7100 Vinyl Single Hung with Reinforced Sash and Meeting Rail  
 H-R25 (53" x 74")

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

Frame: The vinyl flange frame measured 53.125" x 73.50" overall. The main frame corners were mitered and secured by corner weld construction. The fixed meeting rail was coped and fastened to the main frame with one (1) #8 x 2.50" PH., PH. Screw in the jamb.

Configuration: 0  
 X

Ventilator: One (1) active sash measuring 50" wide x 35" high with a clear lite measuring 47.25" x 32.50". One (1) fixed lite measuring 47.25" wide x 32.50" high, corners were mitered and secured by corner weld construction.

### Weatherstripping:

Quality	Description	Location
One (1) strip	Woolpile .250" high w/ integral plastic fin	Frame sill Interior
One (1) strip	Woolpile .400" high w/ double plastic fin	Sash top rail exterior
One (1) strip	Woolpile .250" high w/ integral plastic fin	Each sash stile exterior
One (1) strip	Woolpile .250" high w/ integral plastic fin	Each sash stile jamb side
One (1) strip	Bulb vinyl .400" high	Sash bottom rail exterior

### Hardware & Location:

Two (2)	Spiral balances	Jamb interior
Two (2)	Locking tilt shoes	Jamb interior
One (1)	Sash pivot bar	Each end sash bottom rail
One (1)	Plastic tilt latch	Each end sash top rail
One (1)	Metallic cam latch	Sash top rail 8" from each end
One (1)	Vinyl sash stop	Each upper interior jamb

*Handwritten signature and date:*  
 8/12/02

- Glazing:** 3/16" Annealed glass, sash exterior glazed with an adhesive backbedding compound and vinyl glazing bead. Fixed lite interior glazed with an adhesive backbedding compound and vinyl glazing bead.
- Sealant:** A narrow joint sealant was used to seal specimen to wooden test buck.
- Weep-system:** One (1) 1.00" x .250" weep, located in sill face 4.5" from each jamb weeping to exterior.
- Muntins:** N/A
- Reinforcements:** All sash members have an aluminum reinforcement insert. Sash top and bottom rails .787" x .433" x length. Sash interlock and pull stile .580" x .895" x length. Fixed meeting rail .655" x .755" x length.
- Additional Description:** N/A
- Screen:** Roll formed aluminum screen measuring 28.25" x 34.25" with fiberglass mesh, vinyl spline and plastic corner keys. Two (2) plastic pull tabs. Two (2) spring clips.
- Installation:** Sixteen (16) #8 x 1.25", PH., PH. were used to secure specimen into the wooden test buck. Five (5) located in head and sill measuring 8", 22.50", 36.50", 51" and 65" from left jamb. Three (3) located in each jamb measuring 8", 25" and 42" from head.
- 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 E 283-91	.29 cfm/ft <sup>2</sup>	.34 cfm/ft <sup>2</sup>

Unit tested exceeds the performance levels specified in AAMA/NWWDA 101/I.S. 2-97

2.1.3/4.3	Water Resistance 5.0 gph/ft <sup>2</sup> WTP=5.25 psf	ASTM E547-93 Four (4) five minute cycles	No Entry	No Entry
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Unit was tested with and without insect screen

2.1.4.2/4.4.2	Uniform Load Structural  Permanent Deformation @37.5 psf Positive @37.5 psf Negative	ASTM E330-90  Ten (10) Second Duration	.017" .003"	.200" .200"
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Unit was tested with reinforcement

*Wesley J. Fahl* P.E.  
8/7/02

Performance Test Results (continued)

<u>Paragraph No.</u>	<u>Title of Test</u>	<u>Method</u>	<u>Measured</u>	<u>Allowed</u>
2.1.7	Corner Weld Test	AAMA/NWWDA 101/I.S. 2-97		PASSED
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	28 lbs.	30 lbs.
2.2.2.5.2	Deglazing	ASTM E 987-88		
	Top Rail 70 lbs		.030=	6.0 % < 100%
	Bottom Rail 70 lbs		.029=	5.8 % < 100%
	Left Stile 50 lbs		.019=	3.8 % < 100%
	Right Stile 50 lbs		.022=	4.4 % < 100%

Test Date: May 28, 2002

Test Completion Date: May 28, 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.

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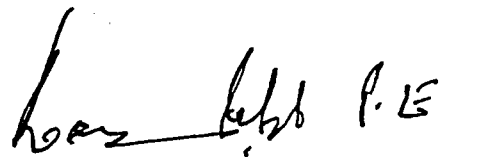
Certified Testing Laboratories assumes that all information provided by the client is accurate and that the physical and chemical properties of the components are as stated by the manufacturer.

Certified Testing Laboratories, Inc.



Walter Williams  
Lab Technician  
Architectural Division

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

  
Ramesh Patel, P.E.  
Florida Reg. #20224  
8/17/02