

Quality Accuracy Assurance

Fenestration Testing Laboratory, Inc.

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Cert. No. 01-0328.01
Auth. No. FTL 02033
Lab. Number 3423
May 7, 2002
Report Number 2
File Number 02-303
Page 1 of 6
A-4866

OFFICIAL TEST REPORT

MANUFACTURER: Seasonshield, Inc.
ADDRESS: 355 Center Court
Venice, Florida 34292

SPECIFICATIONS: Metro Dade County
Protocol PA 201, 202 &
203

DESCRIPTION OF UNIT

Model Designation: Series: 6500; Aluminum Horizontal Sliding Window
Overall Size: 6' 2" (74") by 5' 3" (63") high by 3.043" deep
Configuration: XX
No. & Size of Vents: Two extruded aluminum vents, 3' 5/8" (36 5/8") by 4' 11 1/4" (59 1/4") high.

MATERIAL CHARACTERISTICS

Frame Construction: Test units have a flange type frame, butt joints and a white coated finish. Aluminum alloy is 6063-T5, except where noted. Upper frame corners were fastened with two No. 8 by 5/8" pan head sheet metal screws. Lower frame corners were fastened with four No. 8 by 1" pan head sheet metal screws. Test unit has an applied sill riser making overall interior sill flange 2 3/4" high. Size of frame members are as follows: frame head 1.612" by 1.112" by 2.773"; frame sill 2.955" by 2.773" by 2.455" by 0.060" wall thickness; frame jambs 1.572" by 3.043" by 1.337". Frame members are solid extrusions, except where noted. Extrusions have typical wall thicknesses of 0.050 except where indicated.

Vent Construction: Vents have butt joints and a white coated finish. Aluminum alloy is 6063-T6. Vent corners were fastened with two No. 8 by 1" pan head sheet metal screws. Size of rails are as follows: interior vent meeting rail 0.937" by 1.199" by 2.005" by 1.130"; exterior vent meeting rail 1.088" by 2.005" by 0.937" by 1.199"; vent jamb rails 0.937" by 2.325" by 1.785" by 1.199"; vent top and bottom rails (solid extrusions) 0.937" by 0.919" by 1.725". Vent rails are hollow extrusions, except where noted. Vent members have various wall thicknesses.

Glazing:

Material: Units A-1 and A-3, *0.334" overall laminated glass using two lites of 1/8" *(0.122) annealed glass with an 0.090" inner layer film, Dupont Butacite PVB, between the two lites of glass laminated by Arch Aluminum.

Material: Units A-2 and A-4, *0.334" overall laminated glass using two lites of 1/8" *(0.122) annealed glass with an 0.090" inner layer film, Saflex/Keepsafe, between the two lites of glass laminated by HGP.

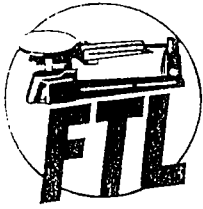
Method: Units are interior glazed with 0.745" glazing penetration using a vinyl wedge and a black colored silicone with an extruded aluminum snap on glazing bead with a vinyl wedge between the bead and glass.

Daylight Opening: Clear opening of vents, 32" by 55 1/2" high.

Weatherstripping:

Quantity	Description	Location
Single row	pile with integral plastic fin	at frame jambs, vent top and bottom rails on the exterior and interior
Single row	pile with integral plastic fin	at vent meeting rails

Note: "*" designates measurements by laboratory



Cert. No. 01-0328.01
 Auth. No. FTL 02033
 Lab. Number 3423
 May 7, 2002
 Report Number 2
 File Number 02-303
 Page 2 of 6
 A-4866

MATERIAL CHARACTERISTICS

Hardware:

<i>Quantity</i>	<i>Description</i>	<i>Location</i>
Two	tandem brass wheels in plastic housing, with no ID marks	one at each end of vent bottom rail
Two	surface mount metallic cam lock, with no I.D. marks	at right vent meeting rail, 7" and 52 1/4" from bottom
Two	adjustable spring loaded aluminum hook lock, with no I.D. marks	at left vent jamb rail, 6" from each end

Weepholes:

<i>Quantity</i>	<i>Description</i>	<i>Location</i>
Two	3/4" by 3/8" weephole, with plastic baffle	at exterior sill flange, 2" and 72" from left
Eight	3/16" drain hole	four at frame sill at each end
One	1/4" diameter drain hole	at the intermediate sill flange on the exterior, 37" from left
One	3/16" diameter drain hole	at exterior frame sill track, 37" from left

Muntins: None

Mullions: None

Reinforcement: One 1/2" by 5/8" by 1/2" by 57 1/2" long steel reinforcement inside exterior vent meeting rail.

Sealants: Frame corners were sealed with a white colored sealant. Vent corners were sealed with a clear colored silicone.

Pads: One 1/2" by 1/2" by 3/4" long open cell foam pad in frame sill on the interior track at each drain hole location, total of two.

Screen: Water resistance tests were conducted with and without fiberglass mesh screen installed. Size of screen, 71 1/2" by 59 7/8" high.

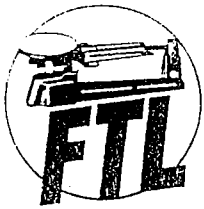
Additional Description: One 3 1/2" long plastic filler at top and bottom of right frame jamb at each end. One 5/8" by 1/8" by 2 5/16" long aluminum shim space between bottom rail and plastic housing. One 1/2" by 3/4" by 1/16" by 7/8" long aluminum angle end cap at each end of top rail, (total of eight), fastened with same assembly screws.

Unit Installation: Test units installed in a 2 x 12 wood test buck using a 2 x 4 pressure treated buck strip. Frame installed with a single row of No. 10 by 1 1/2" wood screws in frame head and frame jambs. Location of installation screws are as follows: frame head from the left, 4 1/2", 17 3/4", 30 3/4", 44", 57" and 69 3/4"; frame jambs from the bottom, 5", 18 1/4", 32", 45 3/4" and 58 3/4". Frame sill was not fastened to test buck.

Product Markings: None

OFFICIAL TEST RESULTS

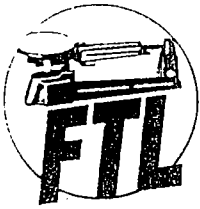
Title of Test	Measured	Allowed
Unit A - 2: (Temperature: 74.0 F; Barometer: 30.22)		
Air Infiltration Test: (ASTM E283) at 1.57 psf	0.25 cfm/ft.	Passed
1/2 Structural Load Test:		
Positive Load	45.0 psf	Passed
	Deflection	Permanent Set
Reading from meeting rail	1.192"	0.015"
Reading from frame sill	0.111"	None
Reading from frame jamb	0.090"	None



Cert. No. 01-0328.01
 Auth. No. FTL 02033
 Lab. Number 3423
 May 7, 2002
 Report Number 2
 File Number 02-303
 Page 3 of 6
 A-4866

OFFICIAL TEST RESULTS

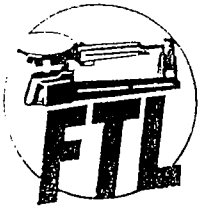
Title of Test	Measured	Allowed
Unit A - 2: (continued)		
½ Structural Load Test:		
Negative Load	45.0 psf	Passed
	Deflection	Permanent Set
Reading from meeting rail	1.221"	0.017"
Reading from frame sill	0.118"	None
Reading from frame jamb	0.103"	None
Uniform Design Load Test (ASTM E330)		
Positive Load	60.0 psf	Passed
Reading from meeting rail	1.465"	0.020"
Reading from frame sill	0.148"	None
Reading from frame jamb	0.117"	None
Uniform Design Load Test: (ASTM E330)		
Negative Load	60.0 psf	Passed
Reading from meeting rail	1.490"	0.027"
Reading from frame sill	0.157"	None
Reading from frame jamb	0.124"	None
Water Resistance Test: (ASTM E547/E331)		
With and without screen, no leakage at	8.30 psf	Passed
Water Resistance Test: (ASTM E547/E331)		
Unit tested with an applied sill riser, 2 3/4" high.		
Without screen, no leakage at	9.00 psf	Passed
Uniform Structural Load Test: (ASTM E330)		
Positive Load	90.0 psf	Passed
Reading from meeting rail	1.980"	0.038"
Reading from frame sill	0.170"	None
Reading from frame jamb	0.157"	None
Uniform Structural Load Test: (ASTM E330)		
Negative Load	90.0 psf	Passed
Reading from meeting rail	2.015"	0.045"
Reading from frame sill	0.185"	None
Reading from frame jamb	0.169"	None
Forced Entry Resistance:		
AAMA 1302.5-1976, Paragraph 3.1.1 Test A through 3.1.5 Test G	No entry	Passed
		None Allowed
<i>(Interior vent)</i>		
Operating Force - Opening	5 pounds	Passed
Operating Force - Closing	9 pounds	Passed



Cert. No. 01-0328.01
 Auth. No. FTL 02033
 Lab. Number 3-423
 May 7, 2002
 Report Number 2
 File Number 02-303
 Page 4 of 6
 A-4866

OFFICIAL TEST RESULTS

Title of Test	Measured	Allowed
Unit A - 2: (continued)		
<i>(Exterior vent)</i>		
Operating Force - Opening	13 pounds	Passed
Operating Force - Closing	16 pounds	Passed
Deglazing Test, no disengagement of: (ASTM E987)		
Vertical Rails at	- 70 pounds	Passed
Horizontal Rails at	50 pounds	
Percent Deglazement	1 percent	99 maximum
Unit A - 1: (Temperature: 74.0 F; Barometer: 30.22)		
Large Missile Impact Test:		
Center of glass of left vent	49.6 ft./sec	Passed
Lower corner of glass of left vent	49.3 ft./sec	Passed
Cyclic Wind Load Test: Passed		
Positive Pressure		
Range	Cycles	Duration
(Pmax=60.0 psf)	(seconds)	
0.2 to 0.5	3500	1.0
0.0 to 0.6	300	1.0
0.5 to 0.8	600	1.0
0.3 to 1.0	100	1.0
Deflection at meeting rail		1.534"
Deflection at frame jamb		0.130"
Deflection at frame sill		0.270"
Permanent set at meeting rail		0.019"
Permanent set at frame jamb		0.002"
Permanent set at frame sill		0.004"
Cyclic Wind Load Test: Passed		
Negative Pressure		
Range	Cycles	Duration
(Pmax=60.0 psf)	(seconds)	
0.3 to 1.0	50	1.0
0.5 to 0.8	1050	1.0
0.0 to 0.6	50	1.0
0.2 to 0.5	3350	1.0
Deflection at meeting rail		1.718"
Deflection at frame jamb		0.243"
Deflection at frame sill		0.375"
Permanent set at meeting rail		0.021"
Permanent set at frame jamb		0.003"
Permanent set at frame sill		0.005"
Unit A - 3: (Temperature: 74.0 F; Barometer: 30.22)		
Large Missile Impact Test:		
Center of glass of left vent	49.9 ft./sec	Passed
Lower corner of glass of left vent	49.5 ft./sec	Passed
Cyclic Wind Load Test: Passed		
Positive Pressure		
Range	Cycles	Duration
(Pmax=60.0 psf)	(seconds)	
0.2 to 0.5	3500	1.0
0.0 to 0.6	300	1.0
0.5 to 0.8	600	1.0
0.3 to 1.0	100	1.0
Deflection at meeting rail		1.075"
Deflection at frame jamb		0.108"
Deflection at frame sill		0.220"
Permanent set at meeting rail		0.019"
Permanent set at frame jamb		None
Permanent set at frame sill		0.003"



Cert. No. 01-0328-04
 Auth. No. FTL 02033
 Lab. Number 3423
 May 7, 2002
 Report Number 2
 File Number 02-303
 Page 5 of 6
 A-4866

OFFICIAL TEST RESULTS

Title of Test			Measured	Allowed
Unit A - 3: (continued)				
Cyclic Wind Load Test:				Passed
Negative Pressure				
Range	Cycles	Duration	Deflection at meeting rail	1.231"
(P _{max} =60.0 psf)		(seconds)	Deflection at frame jamb	0.153"
0.3 to 1.0	50	1.0	Deflection at frame sill	0.283"
0.5 to 0.8	1050	1.0	Permanent set at meeting rail	0.021"
0.0 to 0.6	50	1.0	Permanent set at frame jamb	0.001"
0.2 to 0.5	3350	1.0	Permanent set at frame sill	0.004"
Unit A - 4: (Temperature: 74.0 F; Barometer: 30.22)				
Large Missile Impact Test:				
Center of glass of left vent			49.7 ft./sec	Passed
Lower corner of glass of left vent			49.7 ft./sec	Passed
Cyclic Wind Load Test:				Passed
Positive Pressure				
Range	Cycles	Duration	Deflection at meeting rail	1.159"
(P _{max} =60.0 psf)		(seconds)	Deflection at frame jamb	0.120"
0.2 to 0.5	3500	1.0	Deflection at frame sill	0.233"
0.0 to 0.6	300	1.0	Permanent set at meeting rail	0.023"
0.5 to 0.8	600	1.0	Permanent set at frame jamb	0.001"
0.3 to 1.0	100	1.0	Permanent set at frame sill	0.002"
Cyclic Wind Load Test:				Passed
Negative Pressure				
Range	Cycles	Duration	Deflection at meeting rail	1.315"
(P _{max} =60.0 psf)		(seconds)	Deflection at frame jamb	0.158"
0.3 to 1.0	50	1.0	Deflection at frame sill	0.287"
0.5 to 0.8	1050	1.0	Permanent set at meeting rail	0.026"
0.0 to 0.6	50	1.0	Permanent set at frame jamb	0.002"
0.2 to 0.5	3350	1.0	Permanent set at frame sill	0.005"

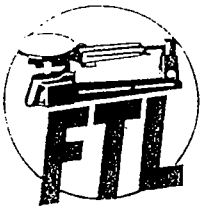
Note: At conclusion of above tests, there was no apparent damage to unit or fasteners and the glass remained intact.

Test Completed - May 1, 2002

Report Expires - May 1, 2006

Remarks: 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 tested in accordance with Metro Dade County Protocol PA 201, 202 and 203, with no deviations.

Detailed assembly drawings showing wall thickness of all members, corner construction and hardware application are on file and have been compared to the sample submitted. A test sample will be retained at the test laboratory.



Cert. No. 01-0328.01
Auth. No. FTL 02033
Lab. Number 3423
May 7, 2002
Report Number 2
File Number 02-303
Page 6 of 6
A-4866

continued:

Note: Test specimens were covered with a 1.5 mil plastic sheeting to seal from air leakage when load test were performed, however this had no effect on the above test results. Large missile impact test conducted with 75" long 2 X 4 (#2SP) wood, weight of missile is 9 ½ pounds.

Witnessed by:
Mr. Luis Figueredo, P. E.

FENESTRATION TESTING LABORATORY, INC.

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Author of Report:
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