

Fenestration Testing Laboratory, Inc.

10235 8th Street, Rancho Cucamonga, CA 91730

Report #: T18-041

REPORT SUMMARY:

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T18-041

TESTED FOR:

International Window Corporation
1551 Orangethorpe Ave.
Fullerton, CA 92831

SERIES & PRODUCT TYPE:

6920 - ALUMINUM SLIDING GLASS DOOR

CONFIGURATION:

XO

FRAME SIZE:

3048.00 mm x 2438.40 mm (120.00" x 96.00")

SPECIFICATION:

NAFS - North American Fenestration Standard/specification for windows, doors, and skylights
AAMA/WDMA/CSA 101/I.S.2/A440-11 and A440-17

PRIMARY DESIGNATOR:

CLASS R-PG15 3048.00 x 2438.40 mm (120.00 x 96.00 in) Type: SD

TEST COMPLETION DATE: April 27, 2018

REPORT DATE: May 8, 2018

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1.0 Tested For: International Window Corporation
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2.0 Purpose:

The purpose of this report is to present the testing methods employed and the test results obtained during the performance testing of one (1) ALUMINUM SLIDING GLASS DOOR described in paragraph 4.0 of this report.

3.0 Test References:

- 3.1** NAFS - North American Fenestration Standard/specification for windows, doors, and skylights AAMA/WDMA/CSA 101/I.S.2/A440-11 and A440-17
- 3.2** ASTM F 842-17 Forced Entry Resistance Tests for Windows
- 3.3** CAWM 300-96 Forced Entry Test for Sliding Glass Doors

4.0 Compliance Statement: The test results in paragraph 6.0 indicate that the test sample described in paragraph 5.0 of this report met the performance requirements of the above specifications for the performance grade shown in 4.1 below.

4.1 CLASS R-PG15 3048.00 x 2438.40 mm (120.00 x 96.00 in) Type: SD

5.0 Sample Submitted:

- 5.1 Product Type:** ALUMINUM SLIDING GLASS DOOR
- 5.2 Series:** 6920
- 5.3 Configuration:** XO
- 5.4 Product Dimensions:**

	Millimeters	Inches
Total Frame:	3048.00 x 2438.40	120.00 x 96.00
Fixed Panel:	1517.65 x 2403.60	59.75 x 94.63
Active Panel:	1552.70 x 2403.60	61.13 x 94.63

5.5 Glass and Glazing: Applies to fixed and active panels

<i>IGU Thickness</i>	<i>Spacer Type</i>	<i>Interior Lite</i>	<i>Exterior Lite</i>	<i>Glazing method</i>
0.75" overall wide	Metal "U" shaped	3/16" Tempered	3/16" Tempered	Channel glazed with wrap around vinyl gasket;

5.6 Weepage:

<i>Drainage Method</i>	<i>Size</i>	<i>Quantity</i>	<i>Location</i>
Rectangular weep	1.68" x 0.18"	Eight (8)	Sill screen leg - at the following locations from each end: 6.5", 11.5", 34.5", and 39.5"
Rectangular weep	1.68" x 0.18"	Eight (8)	Sill fixed channel outside leg - at the following locations from each end: 6.5", 11.5", 34.5", and 39.5"
Rectangular weep	1.0" x 0.18"	Four (4)	Sill parting leg between fixed and active channels at the following locations from each end: 9.5" and 37"

5.7 Pressure balancing: None

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5.8 Weather-stripping:

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
0.230" overall high polypile with center fin	Two (2) strips full perimeter	Frame active channel – one strip faced out and the other faced in.
0.260" high two finger vinyl	One (1) strip	Frame fixed channel – one strip facing out.
0.220" overall high polypile with center fin	One (1) strip	Active interlock – facing out
0.160" high finger vinyl	One (1) strip	Fixed interlock – facing in

5.9 Sealants:

Sealant was applied at the following locations:

- 1) Frame corners full profile
- 2) Sill was set in a bed of sealant
- 3) Fixed panel to the frame head, jamb, and sill on inside and outside
- 4) Screws used to fasten fixed panel "L" to the head and sill respectively
- 5) All fasteners applied through the frame and into the rough opening were sealed

5.10 Hardware:

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
Single mortise lock and handle set	One (1)	Active panel lock stile – The lock was located 39" from the bottom of the panel to the center. The lock box was fastened with a pair of #6 x 0.38" PFH screws to a metal support with integral face-plate. The metal handle was fastened from the inside with a pair of screws that went through the metal support plate and into the exterior pull. The metal support with lock box fit into an opening made through the stile wall and the integral faceplate was fastened to the stile wall with a pair of #10 x 0.63" PFH screws. When locked, the lock hook engaged a steel keeper fastened to the lock jamb with a pair of #8 x 3.5" PPH screws.
Adjustable tandem steel rollers	Two (2)	Active panel bottom rail – one tandem steel roller at each end. The roller was fastened in place with the adjacent stile to bottom rail corner screw.

5.11 Construction:

<i>Location</i>	<i>Joinery Type</i>	<i>Number of Fasteners</i>	<i>Fastener Size</i>
Frame corners	Mechanically joined	Two (2)	#8 x 0.63" PPH screws
All active panel corners and fixed panel interlock to top and bottom rail corners	Mechanically joined	One (1)	#8 x 3" Phillips washer head screw
Fixed panel jamb stile to top and bottom rail corner	Mechanically joined	One (1)	#8 x 2" Phillips washer head screw
The fixed panel was supported in the frame with a metal 'L' anchor clip at each. The vertical leg of each clip fit snugly into the interlock hollow and was fastened to the stile with a #8 x 1" PPH screw. The horizontal leg of each 'L' anchor clip was fastened to the head and sill respectively with a pair of #8 x 1" PPH screws.			
A snap-in sill fixed channel cover was set applied between the lock jamb and the fixed interlock.			

5.12 Reinforcement: None

5.13 Installation:

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<i>Location on frame</i>	<i>Anchor type</i>	<i>Spacing</i>
Both jambs and head – Nail-on fin to rough opening	#8 x 1.5" PFH	3" from each end and 10" on center; Wood furring applied over the nail-on fins and fastened with screws to the rough opening.
Eight (8) #8 x 1.5" PPH screws were also set through each side of the frame. A pair of screws, one through the active channel and one through the fixed channel, were set 12" from the ends and at quarter points in the field. Sealant was applied over each fastener.		
At the lock jamb, an additional screw was placed in the active channel 2.5" above and 2.5" below the keeper.		
The sill was set on a bed of sealant.		

6.0 - Test procedures and results: All testing procedures were performed in accordance with the performance requirements of the test specifications referenced in paragraph 3.0 of this report. The number preceding each test listed below refers to the corresponding sections in the NAFS.

9.3.1 - Operation Force (ASTM E2068-00(2016))

Test Description	Results	Allowed	Comments
Maximum force to initiate motion	87.62 N (19.70 lbf)	135 N (30.35 lbf)	
Maximum force to maintain motion	68.05 N (15.30 lbf)	90 N (20.23 lbf)	Per A440-11
	68.05 N (15.30 lbf)	110 N (24.73 lbf)	Per A440-17
Latching device force	26.68 N (6.00 lbf)	100 N (22.48 lbf)	

9.3.2 - Air Infiltration (ASTM E283-04(2012))

Test Description	Results	Allowed	Comments
75 Pa differential pressure	1.15 L/s*m ²	1.5 L/s*m ²	
1.57 psf differential pressure	0.23 cfm/ft ²	0.30 cfm/ft ²	
The tested specimen meets the performance levels specified in AAMA/WDMA/CSA 101/1.S.2/A440 for air leakage resistance.			

9.3.3 - Water Penetration (ASTM E547-00(2016))

Test Description	Results	Allowed	Comments
DP20 - 150 Pa (3.13 psf)	No water penetration	No water penetration	1

9.3.4.2 - Uniform Load Deflection at Design Pressure (ASTM E330-14)

Test Description	Results	Allowed	Comments
DP15 - 720 Pa (15.04 psf) Pos	58.17 mm (2.29")	Report only	2
DP15 - 720 Pa (15.04 psf) Neg	57.40 mm (2.26")	Report only	2

9.3.4.3 - Uniform Load Structural at 1.5 x Design Pressure (ASTM E330-14)

Test Description	Results	Allowed	Comments
OL for DP15 - 1080 Pa (22.56 psf) Pos	0.51 mm (0.02")	9.65 mm (0.38")	2
OL for DP15 - 1080 Pa (22.56 psf) Neg	1.52 mm (0.06")	9.65 mm (0.38")	2

9.3.5 - Forced Entry Resistance (ASTM F842-17 & CAWM 300-96)

Test Description	Results	Allowed	Comments
ASTM F842 Type A and CAWM 300 Type I	No entry	No entry	3

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9.3.6.3 - Deglazing Test

Test Description	Results	Allowed	Comments
Active Sash Pull Stile - 320 N (71.94 lbf)	10%	Less than 90% of glazing bite	
Active Sash Rail - 230 N (51.71 lbf)	6%	Less than 90% of glazing bite	

Comment #1 - Tested with and without insect screen in place. Also, water penetration passed at a level above the products overall PG rating.

Comment #2 - Deflection measurement taken from interlocks.

Comment #3 - ASTM F842 Type A passed at Grade 10.

Testing was witnessed by: Jim Cruz of FTL and Abe Peralta of International Window Corporation.

For a complete description of the tested sample, refer to the attached twelve (12) pages consisting of a bill of materials, cross section drawings, and individual die drawings. This report is complete only when all the above referenced bill of materials and drawings are attached.

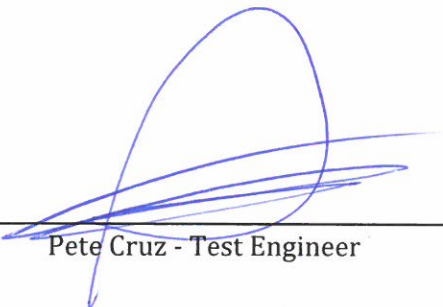
The bill of materials, cross section drawings, and die drawings of frame and sash members are on file and have been compared to the sample submitted. Test sample sections, bill of materials, drawings and a copy of this report will be retained at the test laboratory for four years.

This test report may not be modified in any way without the written consent of Fenestration Testing Laboratory, Inc (FTL).

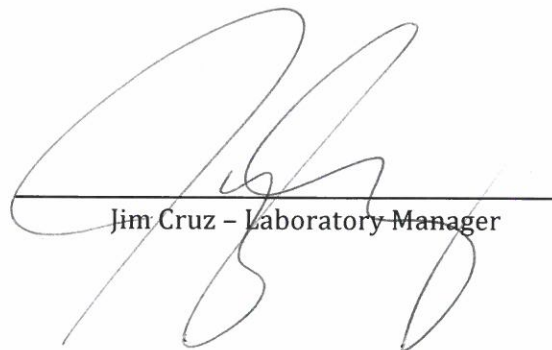
The preceding test results relate only to the tested specimen and were obtained by using the applicable test methods listed in section 3.0 and 6.0 above. This report does not constitute certification of this product or an endorsement by this laboratory. It is the property of the client named in section 1.0 above. Certification can only be granted by an approved administrator and/or validator.

Test Completion Date: April 27, 2018

Report Completion Date: May 8, 2018



Pete Cruz - Test Engineer



Jim Cruz - Laboratory Manager