

Fenestration Testing Laboratory, Inc.

10235 8th Street, Rancho Cucamonga, CA 91730

Report #: T23-103

REPORT SUMMARY

REPORT #

T23-103

TESTED FOR:

Interntional Window Corp.
2455 Wardlow Rd.
Corona, CA 92880

SERIES & PRODUCT TYPE

8920 - THERMALLY BROKEN ALUMINUM SLIDING GLASS DOOR

CONFIGURATION

XO

FRAME SIZE

2425.70 mm x 3035.30 mm (95.50" x 119.50")

SPECIFICATION

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

PRIMARY DESIGNATOR

CLASS R-PG20 2425.70 x 3035.30 mm (95.50 x 119.50 in) Type: SD

TEST COMPLETION DATE

November 27, 2023

REPORT DATE

November 29, 2023

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1.0 Tested For: Interntional Window Corp.
2455 Wardlow Rd.
Corona, CA 92880

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) THERMALLY BROKEN ALUMINUM SLIDING GLASS DOOR described in paragraph 5.0 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/A440-17
- 3.2** ASTM F 842-17 Forced Entry Resistance Tests for Sliding Door Assemblies

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-PG20 2425.70 x 3035.30 mm (95.50 x 119.50 in) Type: SD

5.0 Sample Submitted:

5.1 Product Type: THERMALLY BROKEN ALUMINUM SLIDING GLASS DOOR

5.2 Series: 8920

5.3 Configuration: XO

5.4 Product Dimensions:

	Millimeters	Inches
Total Frame:	2425.70 x 3035.30	95.50 x 119.50
Fixed Panel:	1216.15 x 2986.02	47.88 x 117.56
Active Panel:	1244.60 x 2986.02	49.00 x 117.56

5.5 Glass and Glazing: Applies to both panels

IGU Thickness	Spacer Size	Interior Lite	Exterior Lite	Glazing method
0.97" overall wide	0.59"	3/16" Tempered	3/16" Tempered	Both panels were channel glazed with wrap around gasket.

5.6 Weepage:

Drainage Method	Size	Quantity	Location
Rectangular weep	1.75" x 0.19"	Eight (8)	Sill screen track leg and through fixed channel outside leg. One at 6.5", 9.25", 36" and 39" from each end.
Rectangular weep	1.75" x 0.19"	Eight (8)	Sill center leg between fixed and active channels had a weep at 4.5", 7", 33.75", and 36.75" from each end.

5.7 Pressure balancing: None

Fenestration Testing Laboratory, Inc.

10235 8th Street, Rancho Cucamonga, CA 91730

Report #: T23-103

5.8 Weather-stripping:

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
0.220" overall high polypile with center fin	Three (2)	Frame active channel full perimeter – one strip facing in and one strip facing out. Active interlock – one strip facing out.
0.270" overall high two finger vinyl	One (1) strip	-The frame fixed channel contained one strip full perimeter facing out.
0.370" two hollow bulb vinyl	One (1) strip	-Active interlock- Pushed into the interlock.
Flap vinyl	One (1) strip	Applied to the fixed panel PVC interlock insert.
Finger vinyl	One (1) strip	Applied to the fixed panel PVC interlock insert.

5.9 Sealants: None other than what is described under "Glass and Glazing"

5.10 Hardware:

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
Metal mortise lock, lock face plate/housing, handle, and strike set	One (1)	Active panel lock stile – 38.5" from the bottom. The lock box was fastened to a faceplate/housing with a pair of #6 x 3/8" screws. The lock handle was fastened with a pair of #8 screws applied from the inside. The screws went through the lock faceplate/housing and into the exterior handle screw races. The mortise hook was locked with a cam lever. When locked, the mortise hook engaged a metal strike. The metal strike was fastened to the lock jamb with a pair of #8 x 3" PPH screws that went into the wooden rough opening.
Metal adjustable tandem rollers.	Two (2)	The active panel bottom rail contained a roller assembly at each end. Each was fastened with a roller assembly screw to its respective stile.

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) per corner	#8 x 1" PPH screws
Panel corners	Mechanically joined	One (1) per corner	#8 x 3" PPH screws
<p>The fixed panel was anchored to the frame and rough opening as follows: Each aluminum "L" shaped anchor clip had one leg that fit into fixed interlock hollow; one was applied to the top and one to the bottom. Each was fastened to the fixed interlock with a single #8 x 2" PPH screw. The exposed leg of each clip was anchored with to the door sill or head with a single #8 x 2" screw.</p> <p>Note that a flat vinyl cover was placed inside the fixed channel prior to setting the fixed panel into the fixed channel on top of the vinyl cover.</p>			
<p>The fixed panel was anchored to the fixed jamb with three #8 x 1" screws applied from the inside through the jamb center leg and into the fixed panel stile; one 6" from each end and one at midspan.</p>			
<p>The sill fixed channel received a snap-in aluminum cover that fit between the lock jamb and the fixed interlock.</p>			
<p>The center leg of the head, sill, and each jamb each had a slide-in PVC thermos isolator that serve as the weather-strip retainers on the scenter leg. The jamb and sill isolators also contained a dual durometer flexible fin.</p> <p>The active bottom rail had a slide in thermal isolator in the channel where rollers installed.</p>			

5.12 Reinforcement: None

The active interlock contained 2.25" strips of solid aluminum bar (part# 50589) in an extrusion pocket adjacent to the thermal break strut. One strip 6" from each end and one 24" on center in the field.

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10235 8th Street, Rancho Cucamonga, CA 91730

Report #: T23-103

5.13 Installation:

<i>Location on frame</i>	<i>Anchor type</i>	<i>Spacing</i>
The jambs and head were fastened with screws applied through integral nail-on fins to the wooden rough opening.	#10 x 1.75" PPH	3" from each end and 12" on center in the field.
The sill was anchored to the rough opening with screws through the sill fixed channel.	#10 x 2" PPH screws	6" from each end and 16.5" on center in the field.

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 section in the NAFS.

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

Test Description	Results	Allowed	Comments
Maximum force to initiate or maintain motion	123.2 N (27.70 lbf)	155 N (35.0 lbf)	
Latching device force	27.57 N (6.20 lbf)	100 N (22.48 lbf)	

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

Test Description	Results	Allowed	Comments
75 Pa differential pressure	PASS	1.5 L/s*m ²	
1.57 psf differential pressure	PASS	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.			

8.3.2 - Air Exfiltration (ASTM E283-04(2012))

Test Description	Results	Allowed	Comments
75 Pa differential pressure	PASS	1.5 L/s*m ²	
1.57 psf differential pressure	PASS	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.			

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

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

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

Test Description	Results	Allowed	Comments
DP20 - 960 Pa (20.05 psf)Pos	43.94 mm (1.73")	Report only	2
DP20 - 960 Pa (20.05 psf)Neg	47.50 mm (1.87")	Report only	2

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

Test Description	Results	Allowed	Comments
OL for DP20 - 1440 Pa (30.08 psf)Pos	4.32 mm (0.17")	11.94 mm (0.47")	2
OL for DP20 - 1440 Pa (30.08 psf)Neg	5.08 mm (0.20")	11.94 mm (0.47")	2

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

Test Description	Results	Allowed	Comments
ASTM F842 - Grade 10	No Entry	No Entry	

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8.3.6.2 - Deglazing Test

Test Description	Results	Allowed	Comments
Active Sash Pull Stile - 320 N (71.94 lbf)	18%	Less than 90% of glazing bite	
Active Sash Rail - 230 N (51.71 lbf)	11%	Less than 90% of glazing bite	

Comment #1 - Tested with and without insect screen in place.

Comment #2 - Deflection measurement taken from interlocks.

Testing was witnessed by: Jim Cruz with FTL.

For a complete description of the tested sample, refer to the attached thirty-five (35) pages consisting of a bill of materials, cross section drawings, individual die drawings, and a page containing four photographs. This report is complete only when all the above referenced bill of materials, drawings and photographs are attached.

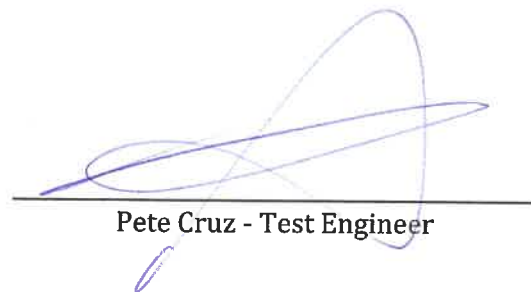
The bill of materials, cross section drawings, die drawings, and photographs of frame and sash members are on file and have been compared to the sample submitted. Test sample sections, bill of materials, drawings, photographs, and a copy of this report will be retained at the test laboratory for four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

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

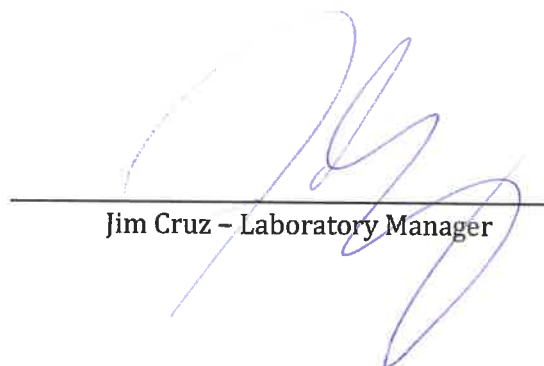
The preceding test results relate only to the tested specimen and were obtained by using the applicable test methods listed in section 3.0 and 6.0 above. This report does not constitute certification of this product or an endorsement by this laboratory. It is the property of the client named in section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

Test Completion Date: November 27, 2023

Report Completion Date: November 29, 2023



Pete Cruz - Test Engineer



Jim Cruz - Laboratory Manager