

# INTERNATIONAL WINDOW TEST REPORT

**SCOPE OF WORK**

AAMA/WDMA/CSA 101/I.S.2/A440-08 AND -11 TESTING ON 5420 PICTURE WINDOW

**REPORT NUMBER**

H2432.01-301-44 R0

**TEST DATES**

06/26/17 - 07/05/17

**ISSUE DATE**

09/18/17

**RECORD RETENTION END DATE**

07/05/22

**PAGES**

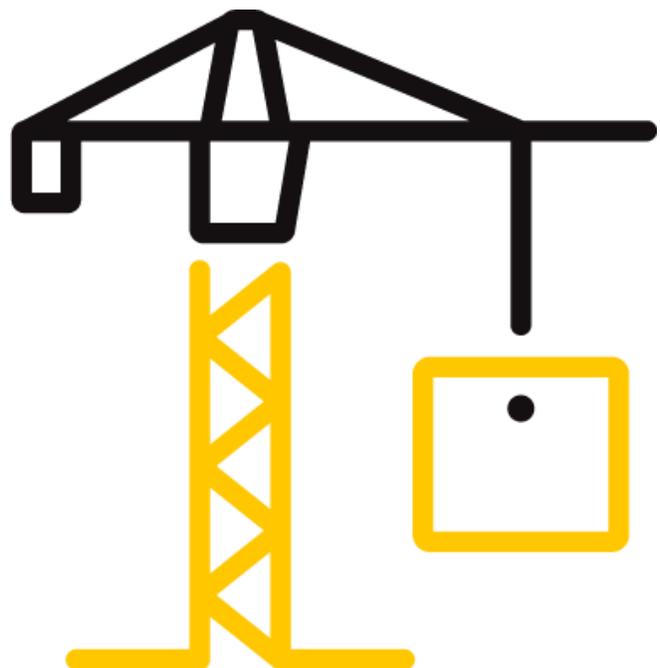
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**DOCUMENT CONTROL NUMBER**

ATI 00438 (07/24/17)

RT-R-AMER-Test-2804

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## TEST REPORT FOR INTERNATIONAL WINDOW

Report No.: H2432.01-301-44 R0

Date: 09/18/17

### REPORT ISSUED TO INTERNATIONAL WINDOW

1551 E. Orangethorpe Ave.  
Fullerton, California 92831

### SECTION 1 SCOPE

Intertek Building & Construction (B&C) was contracted by International Window, Address to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11, *NAFS 2008 and 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*, on their 5420PW, fixed window. Results obtained are tested values and were secured by using the designated test methods. Testing was conducted at Intertek-ATI test facility in Fresno, California, where testing was completed. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory.

### SECTION 2 SUMMARY OF TEST RESULTS

TITLE	RESULTS
AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11	Class CW - PG35: Size Tested 1830 x 1830 (72 x 72) - FW
Design Pressure	±1800 Pa (±37.59 psf)
Uniform Structural Pressure	±2520 Pa (±52.63 psf)
Air Infiltration	0.1 L/s/m <sup>2</sup> (0.01 cfm/ft <sup>2</sup> )
Canadian Air Infiltration/Exfiltration Level	Fixed
Water Penetration Resistance Test Pressure	360 Pa (7.52 psf)

For INTERTEK B&C:

<b>COMPLETED BY:</b>	William Jay Ratliff	<b>REVIEWED BY:</b>	Tyler Westerling, P.E.
<b>TITLE:</b>	Technician III – Structural	<b>TITLE:</b>	Senior Project Engineer
<b>SIGNATURE:</b>		<b>SIGNATURE:</b>	
<b>DATE:</b>	09/18/17	<b>DATE:</b>	09/18/17

WJR:ss

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### SECTION 3

#### TEST METHODS

The specimens were evaluated in accordance with the following:

**AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11, NAFS 2008 and 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights**

**AND**

**CAWM 301-90, Forced Entry Tests for Windows**

### SECTION 4

#### MATERIAL SOURCE/INSTALLATION

Test specimen was provided by the client. Representative samples of the test specimen will be retained by Intertek B&C for a minimum of five years from the test completion date.

The specimen was installed into a wood buck. The rough opening allowed for a 1/4" shim space. The exterior perimeter of the door was sealed with silicone.

LOCATION	ANCHOR DESCRIPTION	ANCHOR LOCATION
Nail fin	#10 x 3" self-drilling drywall screws	4" from corners; 16" on center through a 2 x 2 wood strip.

### SECTION 5

#### EQUIPMENT

Type	Manufacturer	Asset Number
Control Panel	Intertek-ATI	005724
Lab conditions monitor	Comet	63304
Spray Rack – Lab	Intertek-ATI	004047
Linear Transducer	Celeco	003430, 004483, 004485

### SECTION 6

#### LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
William Jay Ratliff	Intertek B&C
Erick Caldera	Intertek B&C

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### SECTION 7

#### TEST SPECIMEN DESCRIPTION

**Product Type:** Fixed Window

**Series/Model:** 5420 PW O

**Product Size:** 1830 x 1829 (72 x 72)

OVERALL AREA:	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
3.3 m <sup>2</sup> (36.0 ft <sup>2</sup> )				
Overall Size	1830	72	1830	72

#### Frame Construction:

FRAME MEMBER	MATERIAL	DESCRIPTION
All members	PVC	Extruded; white.
	JOINERY TYPE	DETAIL
All Corners	Mitered	Fully welded.

**Reinforcement:** *No reinforcement was utilized.*

**Weatherstripping:** *No weatherstripping was utilized.*

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**Glazing:** *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

GLASS TYPE	SPACER TYPE	INTERIOR LITE	EXTERIOR LITE	GLAZING METHOD
1" IG	Aluminum	3/16" Annealed	3/16" Annealed	Exterior glazed onto one row of 1/16" x 1/2" glazing tape and secured with a snap in PVC glazing bead. The corners of the glazing tape were sealed.

LOCATION	QUANTITY	DAYLIGHT OPENING		GLASS BITE
		millimeters	inches	
Fixed lite	1	1750 x 1750	68-7/8 x 68-7/8	5/8"

### Drainage:

DRAINAGE METHOD	SIZE	QUANTITY	LOCATION
Weephole with cover	1-1/4" wide by 1/4" high	2	3-5/8" from each end through exterior sill face and first layer of internal webbing.
Weephole	1/8" round	2	2-7/8" from each end through glazing track.

**Hardware:** *No hardware was utilized.*

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**SECTION 8**

**TEST RESULTS**

The temperature during testing was 21°C (69°F). The results are tabulated as follows:

TITLE OF TEST	RESULTS	ALLOWED	NOTE
<b>Air Leakage,</b> Infiltration per ASTM E283 at 75 Pa (1.57 psf)	0.1 L/s/m <sup>2</sup> (0.01 cfm/ft <sup>2</sup> )	1.5 L/s/m <sup>2</sup> (0.3 cfm/ft <sup>2</sup> ) max.	1, 2
<b>Canadian Air Infiltration/Exfiltration Level</b>	Fixed	N/A	1, 2
<b>Water Penetration,</b> per ASTM E547 at 220 Pa (4.59 psf)	N/A	N/A	3
<b>Uniform Load Deflection,</b> per ASTM E330 Deflections taken at frame between anchors +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	N/A	N/A	3
<b>Uniform Load Structural,</b> per ASTM E330 Permanent set taken at frame between anchors +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	N/A	N/A	3
<b>Forced Entry Resistance,</b> per ASTM F588, Type: A - Grade: 10	Pass	No entry	
<b>Forced Entry Resistance,</b> per CAWM 301-90, Type: V	Pass	No entry	
<b>Thermoplastic Corner Weld</b>	Pass	Meets as stated	

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TITLE OF TEST	RESULTS	ALLOWED	NOTE
<b>OPTIONAL PERFORMANCE</b>			
<b>Water Penetration,</b> per ASTM E547 at 360 Pa (7.52 psf)	Pass	No leakage	
<b>Uniform Load Deflection,</b> per ASTM E330 Deflections taken at frame between anchors +1800 Pa (+37.59 psf) -1800 Pa (-37.59 psf)	0.3 mm (0.01") 0.5 mm (0.02")	2.3 mm (0.09") 2.3 mm (0.09")	4, 5,
<b>Uniform Load Structural,</b> per ASTM E330 Permanent set taken at frame between anchors +2520 Pa (+52.63 psf) -2520 Pa (52.63 psf)	0.3 mm (0.01") <0.1 mm (<0.01")	1.3 mm (0.05") max. 1.3 mm (0.05") max.	4,5

*Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.*

*Note 2: Test Date 06/26/17 10:17 AM*

*Note 3: The client opted to start at a pressure higher than the minimum required. Test results are reported under Optional Performance.*

*Note 4: Loads were held for 10 seconds.*

*Note 5: Tape and film were not used to seal against air leakage during structural testing.*



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### SECTION 9 ALTERATIONS

**Alteration #1:**      Date - 07/05/17  
Cause for alteration – Unit deglazed.  
Remedial action taken – Re-glazed the unit.

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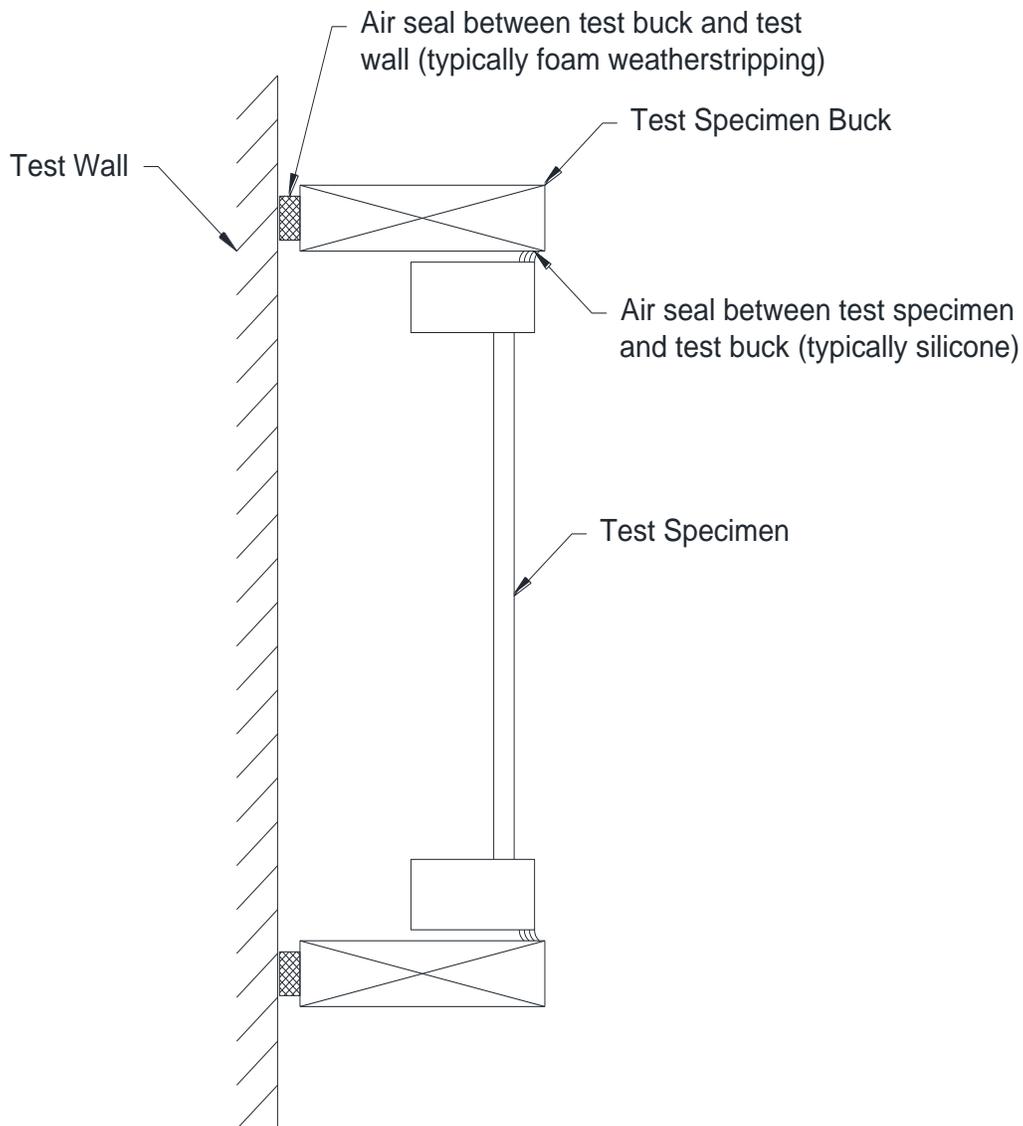
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### SECTION 10

#### LOCATION OF AIR SEAL

The air seal between the test specimen and the test wall is detailed below. The seal is made of foam weatherstripping and is attached to the edge of the test specimen buck. The test specimen buck is placed against the test wall and clamped in place, compressing the weatherstripping and creating a seal.





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### SECTION 11

#### CONCLUSION

The specimen tested successfully met the performance requirements for the following rating:

**Class CW – PG35: Sized Tested 1830 x 1829 (72 x 72) – FW**



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#### DRAWINGS

The test specimen drawings have been reviewed by Intertek B&C and are representative of the test specimen reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.

**Note:** Complete drawings packet on file with Intertek B&C.



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### SECTION 13

#### REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	09/18/17	N/A	Original Report Issue