

# INTERNATIONAL WINDOW TEST REPORT

**SCOPE OF WORK**

AAMA/WDMA/CSA 101/I.S.2/A440-11 TESTING ON 5420 HORIZONTAL SLIDING WINDOW (XO)

**REPORT NUMBER**

H2430.01-301-44 R0

**TEST DATES**

06/27/17 - 06/28/17

**ISSUE DATE**

10/19/17

**RECORD RETENTION END DATE**

06/28/22

**PAGES**

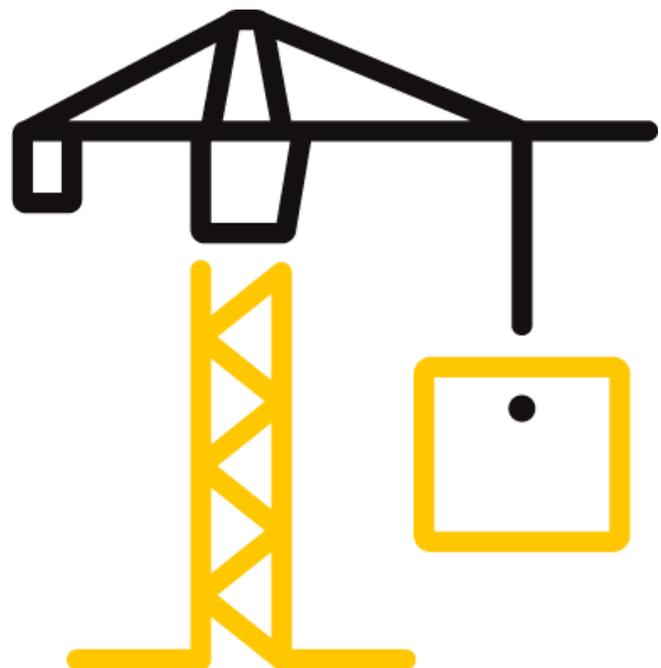
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## TEST REPORT FOR INTERNATIONAL WINDOW

Report No.: H2430.01-301-44 R0

Date: 10/19/17

### 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 to perform testing in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*, on their 5420 Horizontal Sliding Window (XO). Results obtained are tested values and were secured by using the designated test methods. Testing was conducted at Intertek B&C test facility in Fresno, California. 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
Primary Designator	Class LC – PG35: Size Tested 1829 x 1829 mm (72 x 72 in) - HS
Design Pressure	±1800 Pa (±37.59 psf)
Air Infiltration	1.0 L/s/m <sup>2</sup> (0.20 cfm/ft <sup>2</sup> )
Canadian Air Leakage	Level A2
Water Penetration	Test Pressure: 260 Pa (5.43 psf)

For INTERTEK B&C:

<b>COMPLETED BY:</b>	William Jay Ratliff	<b>REVIEWED BY:</b>	Tyler Westerling, P.E.
<b>TITLE:</b>	Technician – Structural	<b>TITLE:</b>	Senior Project Engineer
<b>SIGNATURE:</b>		<b>SIGNATURE:</b>	
<b>DATE:</b>	10/19/17	<b>DATE:</b>	10/19/17

WJR:ms

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### SECTION 3

#### TEST METHODS

The specimens were evaluated in accordance with the following:

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

**CSA A440S1-09**, Canadian Supplement to **AAMA/WDMA/CSA 101/I.S.2/A440**, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

**CAWM 301-90**, *Forced entry resistance 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 wood test buck. The rough opening allowed for a 1/4" shim space. The exterior perimeter of the door was sealed with silicone.

ANCHOR LOCATION	ANCHOR DESCRIPTION	ANCHOR SPACING
Nail fin	#10 x 3" Philips flat head screw	4" from corners and 16" on center through a 1x2 wood strip over fin.

### SECTION 5

#### EQUIPMENT

Type	Manufacturer	Asset Number
Control Panel	Intertek-ATI	005724, 005062
Micro MULE	Intertek-ATI	005722
Lab Conditions Monitor	Comet	63304
Deglazing fixture	Intertek-ATI	005264
Load Cell – 1k	Interface	63196,005135
Load Cell – 3k	Interface	65472
Digital Force Gauge	Wagner	65863
Spray Rack – Lab	Intertek-ATI	004047
Linear Transducer	Celesco	004485, 63346, 63349

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#### LIST OF OFFICIAL OBSERVERS

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

### SECTION 7

#### TEST SPECIMEN DESCRIPTION

**Product Type:** Horizontal Sliding Window (XO)

**Series/Model:** 5420

#### Product Sizes:

OVERALL AREA:	WIDTH		HEIGHT	
	millimeters	inches	millimeters	inches
3.35 m <sup>2</sup> (36.0 ft <sup>2</sup> )				
Overall Size	1829	72	1829	72
Sash	911	35-7/8	1765	69-1/2
Screen	877	34-1/2	1780	70-1/2

#### Frame Construction:

FRAME MEMBER	MATERIAL	DESCRIPTION
Head, Sill, and Jambs	PVC	Extruded; white.
Fixed Meeting Stile	PVC	Extruded; white.
Roller Track	PVC	Extruded, white.
Siteline Adapter	PVC	Extruded, white.
JOINT LOCATION	JOINERY TYPE	DETAIL
Head, Sill, and Jambs	Mitered	Fully welded.
Exterior Meeting Stile	Coped	Secured through the frame with #8 x 3" Phillips flat head screws.
Roller Track	Snap in	Snap fit into sill.
Siteline Adapter	Snap in	Secured to the frame with #6 x 1/2" Phillips pan head screws 4-5/8" from each end and mid-span.

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### Sash Construction:

SASH MEMBER	MATERIAL	DESCRIPTION
All Members	PVC	Extruded; white.
JOINT LOCATION	JOINERY TYPE	DETAIL
All Corners	Mitered	Fully welded.

### Reinforcement:

DRAWING NUMBER	LOCATION	MATERIALS
C1499	Fixed meeting stile	Extruded aluminum.
C1500	Sash meeting stile	Extruded aluminum.
IW-155	Sill at exterior meeting stile	Extruded aluminum, 8" long.

### Weatherstripping:

DESCRIPTION	QUANTITY	LOCATION
0.310" high polypile with center fin	1 Row	All members of panel.
0.450" high polypile with center fin	1 Row	Exterior meeting stile.

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

TYPE	SPACER TYPE	GLASS	GLAZING METHOD	
1" IG	U Shaped Coated Steel	1/8" Annealed Interior & Exterior	Exterior glazed onto a 3/8" wide x 1/16 high glazing tape and secured with a snap in PVC glazing bead.	
LOCATION	QUANTITY	DAYLIGHT OPENING		GLASS BITE
		millimeters	inches	
Fixed Lite	1	830 x 1685	32-11/16 x 66-5/16	1/2"
Sash	1	830 x 1685	32-11/16 x 66-5/16	1/2"

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**Drainage:**

METHOD	SIZE	QUANTITY	LOCATION
Weephole with Cover	1-3/4" x 1/4"	4	3-5/8" and 29-1/4" from each end through exterior sill face.
Weephole	1/4" round	8	2-1/8" and 32-3/8" from each end through sill screen track. 1" from each end through sill siteline adapter. 1-1/4" from each end through bottom rail.
Weephole	1/2" round	4	5" and 30-5/8" from each end through sill track and internal webbing.
Weepnotch	1" x 1/8"	4	Through sill track at each sill track weephole.

**Hardware:**

DESCRIPTION	QUANTITY	LOCATION
Auto Lock	1	Midspan on interior meeting stile. The faceplate was secured to the lock with two #6 x 1/2" Phillips flat head screws.
Keeper	1	Opposite lock on exterior meeting stile secured with two #8 x 3/4" Phillips flat head self-drilling screws into reinforcement.
Plastic Roller with Housing	2	3-1/4" from each end on bottom rail.
Secondary Lock	1	Bottom of interior meeting stile secured with two 8-32 x 5/8" Phillips pan head screws into reinforcement.
Secondary Lock Keeper	1	33-1/2" from lock jamb secured through roller track and sill with two #6 x 1/2" Phillips pan head screws.

**Screen Construction:**

FRAME MATERIAL	CORNERS	MESH TYPE	MESH ATTACHMENT
Roll-Formed Aluminum	Keyed	Fiberglass	Hollow spine

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**SECTION 8**  
**TEST RESULTS**

The temperature during testing was 23°C (73°F). The results are tabulated as follows:

TITLE OF TEST	RESULTS	ALLOWED	NOTE
<b>Operating Force</b> per ASTM E2068 Initiate Motion Maintain Motion Latches Locks	32 N (7.25 lbf) 22 N (5.0 lbf) 19 N (4.25 lbf) 18 N (4 lbf)	<u>Maximum</u> Report only 180 N (40.47 lbf) 100 N (22.48 lbf) 100 N (22.48 lbf)	
<b>Air Leakage</b> per ASTM E283 75 Pa (1.57 psf) Infiltration 75 Pa (1.57 psf) Exfiltration	1.0 L/s/m <sup>2</sup> (0.20 cfm/ft <sup>2</sup> ) 1.0 L/s/m <sup>2</sup> (0.20 cfm/ft <sup>2</sup> )	<u>Maximum</u> 1.5 L/s/m <sup>2</sup> (0.30 cfm/ft <sup>2</sup> ) N/A	1, 2
<b>Water Penetration</b> per ASTM E547	Pass 260 Pa (5.43 psf)	No leakage	3, 4
<b>Uniform Load Deflection</b> per ASTM E330 <u>Deflections</u> +1800 Pa (+37.59 psf) -1800 Pa (-37.59 psf)	<u>Meeting Stile</u> 15.2 mm (0.60") 14.8 mm (0.57")	Report only	4, 5, 6, 7
<b>Uniform Load Structural</b> per ASTM E330 <u>Permanent sets</u> +2520 Pa (+52.63 psf) -2520 Pa (-52.63 psf)	<u>Meeting Stile</u> 0.5 mm (0.02") 0.5 mm (0.02")	5.3 mm (0.21") max. 5.3 mm (0.21") max.	4, 6, 7
<b>Forced Entry Resistance</b> per ASTM F588 Type A per CAWM 301 Type I	Pass Grade: 10 Pass	No entry	
<b>Thermoplastic Corner Weld</b>	Pass	Meets as stated	
<b>Deglazing</b> per ASTM E987 Stiles at 320 N (70 lbf) Rails at 230 N (50 lbf)	Pass Pass	Meets as stated Meets as stated	

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**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 06/27/17 / Time: 03:00 PM

**Note 3:** *With and without insect screen.*

**Note 4:** *For Optional Performance, the client opted to start at a pressure higher than the minimum required for this product designation.*

**Note 5:** *The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.*

**Note 6:** *Loads were held for 10 seconds.*

**Note 7:** *The use of tape and film to seal against extraneous air leakage during uniform load testing did not, in the opinion of the Intertek B&C technician, affect test results.*

## SECTION 9 ALTERATIONS

*No alterations were required.*

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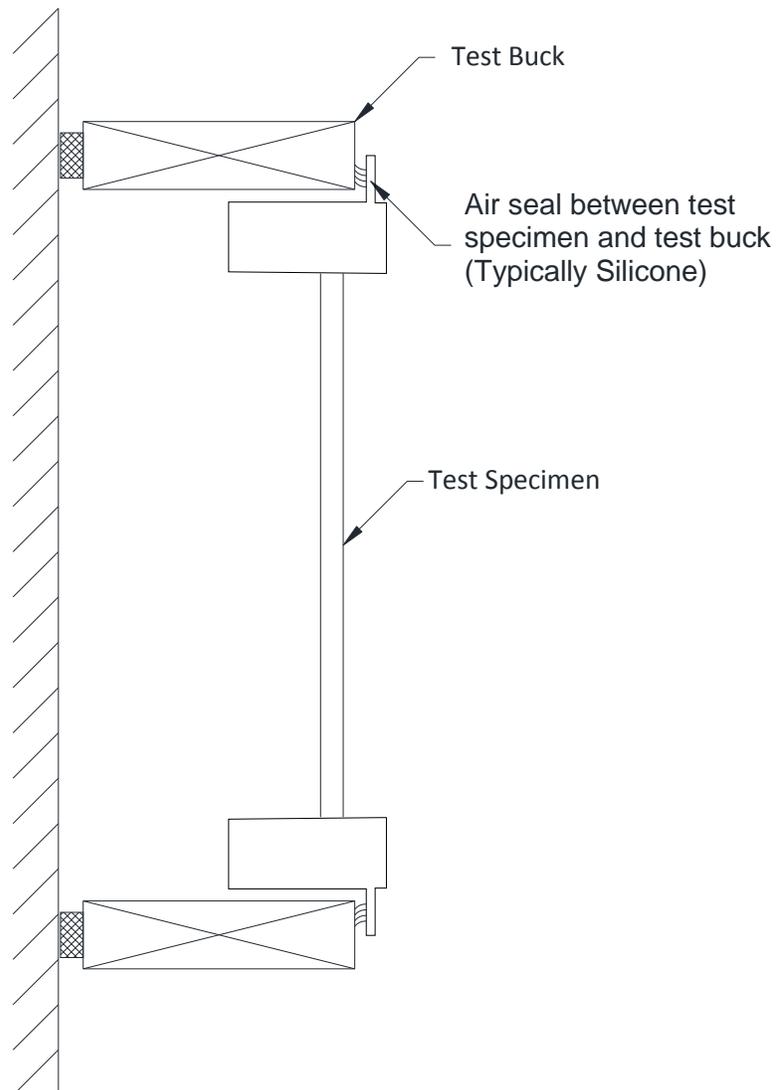
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### SECTION 10

#### LOCATION OF AIR SEAL

The air seal between the test specimen and the test buck is detailed below. The seal is made of sealant, typically silicone, between the mounting fin and the exterior face of the rough opening.



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### SECTION 11

#### CONCLUSION

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

**Class LC – PG35: Size Tested: 1829 x 1829 mm (72 x 72 in) – Type HS.**

### SECTION 12

#### 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	10/19/17	N/A	Original Report Issue