



**TEST REPORT**

**Report No.:** E6161.01-301-44-R0

**Rendered to:**

INTERNATIONAL WINDOW  
Fullerton, California

**PRODUCT TYPE:** Polyvinyl Chloride (PVC) XO Horizontal Sliding Window  
**SERIES/MODEL:** 9320

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

<b>Title</b>	<b>Summary of Results</b>
AAMA/WDMA/CSA 101/I.S.2/A440-05	LC-PG25 - 72 x 72 -HS
Design Pressure	±1440 Pa (±30.08 psf)
Air Infiltration	0.7 L/s/m <sup>2</sup> (0.14 cfm/ft <sup>2</sup> )
Water Penetration Resistance Test Pressure	180 Pa (3.76 psf)

**Test Completion Date:** 12/10/15

Reference must be made to Report No. E6161.01-301-44-R0, dated 01/21/16 for complete test specimen description and detailed test results

**1.0 Report Issued To:** International Window  
1551 East Orangethorpe Avenue  
Fullerton, California 92831

**2.0 Test Laboratory:** Intertek-ATI  
2524 East Jensen Avenue  
Fresno, California  
559-233-8705

**3.0 Project Summary:**

**3.1 Product Type:** Polyvinyl Chloride (PVC) XO Horizontal Sliding Window

**3.2 Series/Model:** 9320

**3.3 Compliance Statement:** Results obtained are tested values and were secured by using the designated test methods. The specimen tested successfully met the performance requirements for a LC-PG25 – 72 x 72 -HS rating.

**3.4 Test Dates:** 03/11/15 - 12/10/15

**3.5 Test Record Retention End Date:** All test records for this report will be retained until December 10, 2019

**3.6 Test Location:** Intertek-ATI test facility in Fresno, California.

**3.7 Test Specimen Source:** The test specimen was provided by the client. Representative samples of the test specimen will be retained by Architectural Testing for a minimum of four years from the test completion date.

**3.8 Drawing Reference:** The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.

**3.9 List of Official Observers:**

<u>Name</u>	<u>Company</u>
Jay Ratliff	Intertek-ATI
Jeffrey Osugi	Intertek-ATI

#### 4.0 Test Specifications:

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

#### 5.0 Test Specimen Description:

##### 5.1 Product Sizes:

Overall Area: 2.36 m <sup>2</sup> (25.4 ft <sup>2</sup> )	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1828	71-15/16	1828	71-15/16
Exterior panel	903	35-9/16	1758	69-3/16
Middle panel	905	35-5/8	1758	69-3/16
Interior panel	903	35-9/16	1758	69-3/16

##### 5.2 Frame Construction:

Frame Member	Material	Description
Head, Sill, Jambs	PVC	Extruded
Roller track	PVC	Snap fit to sill
Panel stop	PVC	Opposite each track's lock jamb snap fit to head.
Exterior fixed meeting stile	PVC	Secured through frame with two #8 x 3" Phillips flat head screws.

Joint Location	Joinery Type	Detail
All corners	Mitered	Fully welded

##### 5.3 Panel Construction:

Panel Member	Material	Description
Rails and stiles	PVC	Extruded

Joint Location	Joinery Type	Detail
All corners	Mitered	Fully welded

**5.0 Test Specimen Description:** (Continued)

**5.4 Weatherstripping:**

Description	Quantity	Location
0.230" high x 0.187" backed polypile with center fin	1 Row	Exterior meeting stile. Each side of middle panel meeting stile. Each meeting stile.
0.190" high x 0.187" backed polypile with center fin	1 Row	Top rail, bottom rail and jamb stiles members of each panel.

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

Location	Type	Daylight Opening		Glass Bite
		millimeters	inches	
Fixed lite	3/4" IG	840 x 1730	33-1/16 x 68-1/8	5/8"
Exterior panel	3/4" IG	820 x 1680	32-5/16 x 66-1/8	1/2"
Middle panel	Monolithic	820 x 1680	32-5/16 x 66-1/8	1/2"
Interior panel	Monolithic	820 x 1680	32-5/16 x 66-1/8	1/2"

Type	Spacer	Glass	Glazing Method
3/4" IG	U shaped coated steel	Interior: 1/8" annealed Exterior: 3/16" Annealed	Exterior glazed onto a 1/2" wide x 1/16" high glazing tape and secured with a snap in PVC glazing bead.
Monolithic	N/A	3/16" Annealed	

## 5.0 Test Specimen Description: (Continued)

### 5.6 Drainage:

Method	Size	Quantity	Location
Weep hole with cover	1-1/16" x 3/16" (Effective)	2	2-1/8" from each end through exterior sill face and all layers of internal webbing.
Weep hole	1/4" x 1/8"	2	1-1/2" from each side of exterior meeting stile in screen track and fixed lite glazing track.
Weep hole	5/8" x 3/16"	2	3-1/8" from each end through exterior panel sill track.
Weep hole	1/4" round	2	4-7/8" from each end through middle panel sill track.
Weep hole	1/4" round	2	3-1/2" from each end through middle panel sill track.
Weep hole	1/4" x 3/16"	4	1" from each end of exterior panel on top and bottom rails through both layers.
Weep hole	1-5/8" x 1/2"	2 per panel	2-1/2" from each end top rail for snap in rollers.
Weep hole	1/8" Round	4 per panel	Each end of middle and interior panels through glazing track of top and bottom rails.
Track held back	1/2" to 3/4"	Each end	Sill roller track held back each end.

### 5.7 Hardware:

Description	Quantity	Location
Rollers	2 per panel	2-1/2" from each end snap fit to bottom rail.
Lock	1 per panel	34-1/2" from bottom rail secured two #8 x 1-1/4" Phillips pan head self-drilling screws through reinforcement.
Keepers	3	Opposite each lock secured to jamb with two #8 x 1" Phillips flat head self-drilling screws.
Handle	1 per panel	6" from bottom rail secured to lock stile with two #8 x 1" Phillips flat head self-drilling screws.

## 5.0 Test Specimen Description: (Continued)

### 5.8 Reinforcement:

Drawing Number	Location	Material
50465	Each lock jamb	Extruded aluminum, 6"
50301	Secondary interior meeting stile, Primary and secondary lock stiles	Extruded aluminum
50302	Exterior fixed meeting stile	Extruded aluminum
FT5310	Primary and secondary interior meeting stiles	Roll-formed steel

### 5.9 Screen Construction:

Frame Material	Corner Construction	Mesh Type	Mesh Attachment Method
Roll formed aluminum	Plastic corner Key	Fiberglass	Spline

## 6.0 Installation:

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

Location	Anchor Description	Anchor Location
Head, sill and jambs	#10 x 3" wood screws	16" on center through 2 x 2 wood blocking

**7.0 Test Results:** Temperature during testing was 26-27°C (79-81°F). The results are tabulated as follows:

<b>Title of Test</b>	<b>Results</b>	<b>Allowed</b>	<b>Note</b>
<b>Operating Force,</b> per ASTM E 2068 Initiate motion: Maintain motion: Lock:	53 N (12.0 lbf) 52 N (11.8 lbf) 28 N (6.3 lbf)	Report Only 115 N (25.9 lbf) max. 100 N (22.5 lbf) max.	
<b>Air Leakage,</b> per ASTM E 283 Infiltration at 75 Pa (1.57 psf)	0.7 L/s/m <sup>2</sup> (0.14 cfm/ft <sup>2</sup> )	1.5 L/s/m <sup>2</sup> (0.3 cfm/ft <sup>2</sup> ) max.	1
<b>Water Penetration,</b> per ASTM E 547 at 180 Pa (3.76 psf)	Pass	No leakage	2
<b>Uniform Load Deflection,</b> per ASTM E 330 <u>Deflections</u> +1200 Pa (+25.06 psf) -1200 Pa (-25.06 psf)  +1200 Pa (+25.06 psf) -1200 Pa (-25.06 psf)	<u>Meeting Stile</u> <u>Panels Open</u> 30.5 mm (1.20") 31.0 mm (1.22") <u>Panels Closed</u> 27.4 mm (1.08") 35.1 mm (1.38")	Report Only	3, 4, 5
<b>Uniform Load Structural,</b> per ASTM E 330 <u>Permanent sets</u> +1800 Pa (+37.59 psf) -1800 Pa (-37.59 psf)  +1800 Pa (+37.59 psf) -1800 Pa (-37.59 psf)	<u>Meeting Stile</u> <u>Panels Open</u> 0.5 mm (0.02") 1.0 mm (0.04") <u>Panels Closed</u> 0.5 mm (0.02") 1.3 mm (0.05")	7.1 mm (0.28") max. 7.1 mm (0.28") max.  7.1 mm (0.28") max. 7.1 mm (0.28") max.	4, 5
<b>Forced Entry Resistance,</b> per ASTM F 588, Type A, Grade 10 and per CAWM 301, Type I	Pass Pass	No entry No entry	
<b>Thermoplastic Corner Weld</b>	Pass	Meets as stated	
<b>Deglazing,</b> per ASTM E 987 Stiles at 320 N (70 lbf) Rails at 230 N (50 lbf)	Pass Pass	Meets as stated Meets as stated	

**7.0 Test Results:** (Continued)

Title of Test	Results	Allowed	Note	
<b>Optional Performance</b>				
<b>Uniform Load Deflection,</b> per ASTM E 330 <u>Deflections</u> +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)  +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	<u>Meeting Stile</u>			
	<u>Panels Open</u>			
	36.8 mm (1.45")			
	40.9 mm (1.61")			
<b>Uniform Load Structural,</b> per ASTM E 330 <u>Permanent sets</u> +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)  +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	<u>Panels Closed</u>			
	33.3 mm (1.31")			
	42.0 mm (1.65")		Report Only.	3, 4, 5
<b>Uniform Load Structural,</b> per ASTM E 330 <u>Permanent sets</u> +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)  +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	<u>Meeting Stile</u>			
	<u>Panels Open</u>			
	1.3 mm (0.05")		7.1 mm (0.28") max.	
	1.8 mm (0.07")		7.1 mm (0.28") max.	
<b>Uniform Load Structural,</b> per ASTM E 330 <u>Permanent sets</u> +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)  +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	<u>Panels Closed</u>			
	1.3 mm (0.05")		7.1 mm (0.28") max.	
	1.8 mm (0.07")		7.1 mm (0.28") 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: Tested for water penetration resistance with and without insect screen.*

*Note 3: 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 4: Uniform loads were held for 10 seconds.*

*Note 5: In the opinion of the test facility, the use of tape and film to seal against extraneous air leakage during uniform load testing did not influence the test results.*



Intertek-ATI will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Intertek-ATI for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Intertek-ATI.

For INTERTEK-ATI.



Digitally Signed by: Jeffery Osugi

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Jeff Osugi  
Technician



Digitally Signed by: Kenny C. White

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Kenny C. White  
Laboratory Manager

DD: ms

Attachments (pages): This report is complete only when all attachments listed are included.  
Appendix-A: Alteration Addendum (1)  
Appendix-B: Drawings (16) Complete drawings packet on file with Intertek-ATI.