



**AAMA/NWDA 101/I.S.2-97  
TEST REPORT SUMMARY**

**Rendered to:**

**SIMONTON WINDOWS**

**SERIES/MODEL: 07-70**

**TYPE: PVC Horizontal Sliding Window (XOX)  
with E2 Reinforcement**

Title of Test	Results	
	Test Specimen #1	Test Specimen #2
Rating	HS-R20 156 x 65	HS-R30 136 x 60
Overall Design Pressure	20 psf	30 psf
Operating Force	19 lb max.	13 lb max.
Air Infiltration	0.05 cfm/ft <sup>2</sup>	0.08 cfm/ft <sup>2</sup>
Water Resistance	3.0 psf	4.5 psf
Structural Test Pressure	30.0 psf	45.0 psf
Deglazing	Passed	Passed
Forced Entry Resistance	Grade 10	Grade 10

Reference should be made to Report No. 05-30340.01 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

Digitally signed by Lynn George

Lynn George, Project Manager

LG.nlb



Architectural Testing

**AAMA/NWWDA 101/LS.2-97 TEST REPORT**

Rendered to:

SIMONTON WINDOWS  
One Cochrane Avenue  
Pennsboro, West Virginia 26415-9403

Report No: 05-30340.01  
Test Date: 02/07/02  
Report Date: 02/21/02  
Expiration Date: 02/07/06

**Project Summary:** Architectural Testing, Inc. (ATI) was contracted by Simonton Windows to witness performance tests on Series/Model 07-70, PVC horizontal sliding windows at their test facility located in Pennsboro, West Virginia. The samples tested, successfully met the performance requirements for the following ratings: Test Specimen #1: HS-R20 156 x 65; Test Specimen #2: HS-R30 136 x 60. Test specimen descriptions and results are reported herein.

**Test Specification:** The test specimen was evaluated in accordance with AAMA/NWWDA 101/LS.2-97, *Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors*.

**Test Specimen Description:**

**Series/Model:** 07-70

**Type:** PVC Horizontal Sliding Window (XOX)

**Test Specimen #1:** HS-R20 156 x 65

**Overall Size:** 13' 0" wide by 5' 5" high

**Operable Sash Size (2):** 3' 1-1/2" wide by 5' 0-3/4" high

**Fixed Sash Size:** 6' 8" wide by 5' 0-3/4" high

**Screen Size (2):** 3' 1-3/4" wide by 5' 0-3/4" high

**Installation:** The unit was installed into a wood buck constructed of Spruce-Pine-Fir construction lumber. A two piece rigid PVC blind stop measuring 1/2" wide x 3/4" high was applied at the interior and exterior perimeter (with the exception of a 4" void at each side and end of the sill) and fastened with 1-1/4" drywall screws spaced approximately 16" on center. The unit was sealed with silicone caulking at the exterior and interior perimeter, with the exception of an approximate 6" void at each interior sill corner. The unit was secured to the buck using four #8 wood screws, one at the top and bottom of each jamb (embedded 1-1/2" into the wooden test buck).

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**Test Specimen Description: (Continued)**

**Test Specimen #2: HS-R30 136 x 60**

**Overall Size:** 11' 4" wide by 5' 0" high

**Operable Sash Size (2):** 2' 9-3/8" wide by 4' 7-3/4" high

**Fixed Sash Size:** 5' 10" wide by 4' 7-3/4" high

**Screen Size (2):** 2' 7-1/2" wide by 4' 7-3/4" high

**Installation:** The window was installed into a wood buck constructed of Spruce-Pine-Fir construction lumber. The unit was sealed with silicone caulking at the exterior and interior perimeter with the exception of an approximate 6" void at each interior sill corner. The unit was secured to the buck using four #8 wood screws, one at the top and bottom of each jamb (embedded 1-1/2" into the wooden test buck).

*The following descriptions apply to all specimens.*

**Finish:** All vinyl was white.

**Glazing Details:** The sash and fixed lite were glazed with 3/4" thick sealed insulating glass fabricated with two 3/16" clear annealed sheets separated by a desiccated foam spacer system. The insulating glass was set from the exterior against a double-sided adhesive tape and secured with single leaf, dual durometer vinyl glazing beads.

**Weatherstripping:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.187" backed by 0.460" high pile with center fin	1 Row	Lock stile
0.187" backed by 0.250" high pile with center fin	2 Rows	Top and bottom rails, jamb stiles
0.187" backed by 0.340" high pile with center fin	1 Row	Exterior side of keeper stile
0.187" backed by 0.300" high pile with center fin	1 Row	Interior side of keeper stile

**Test Specimen Description: (Continued)**

**Frame Construction:** The PVC frame was assembled using mitered and welded corner construction. Rigid PVC roller tracks were applied to the sill. The center fixed sash was fastened to the head and sill using four nylon blocks, one at each sash corner. Each nylon block was fastened with one screw into the sash and two screws into the frame.

**Sash Construction:** The PVC sash were assembled using mitered and welded corner construction.

**Screen Construction:** The screen was constructed from extruded aluminum. The corners were square cut and secured with plastic corner keys. Fiberglass screen cloth was held-in-place with a flexible spline.

**Hardware:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Metal cam lock and keeper	4	Meeting stiles, 12" from each end
Plastic dual roller assembly	6	Bottom sash rail, one at each end

**Drainage:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
1-1/16" by 3/16" weepslot (with flap)	2	Exterior sill face, 4" from each end
1" by 3/16" weepslot	4	Interior sill track, 4" from each end, Intermediate sill wall, one at each end
1/4" diameter weephole	2	Exterior sill track, 4" from each end
3/16" diameter weephole	8	Bottom rails, one at each end, Sill screen track, one at each end

**Reinforcement:** (E2 reinforcement) The interior meeting stiles contained a rectangular shaped, formed steel reinforcement measuring 0.980" x 0.650" x 0.036" (reference drawing #SIMRECT1). The exterior meeting stiles contained a rectangular shaped, formed steel reinforcement measuring 0.980" x 0.747" x 0.036" (reference drawing #SIMRECT2).

**Test Results:**

The results are tabulated as follows:

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
<b><u>Test Specimen #1: HS-R20 156 x 65</u></b>			
2.2.1.5.1	<b>Operating Force</b> <b><u>Left Sash</u></b>		
	Open	15 lbs	20 lbs max.
	Close	14 lbs	20 lbs max.
	<b><u>Right Sash</u></b>		
	Open	19 lbs	20 lbs max.
	Close	18 lbs	20 lbs max.
2.1.2	<b>Air Infiltration per ASTM E 283</b> <b>@ 1.56 psf (25 mph)</b>	0.05 cfm/ft <sup>2</sup>	0.3 cfm/ft <sup>2</sup> max
<i>Note #1 The tested specimen meets the performance levels specified in AAMA/NWWDA 101/IS. 2-97 for air infiltration.</i>			
2.1.3	<b>Water Resistance per ASTM E 547</b> <b>(with and without screen)</b> <b>WTP = 2.86 psf</b>	No leakage	No leakage
2.1.4.2	<b>Uniform Load Structural per ASTM E 330</b> <b>(Measurements reported were taken on the right meeting stile)</b> <b>@ 22.5 psf (positive)</b> <b>@ 22.5 psf (negative)</b>	0.099" 0.113"	0.243" max. 0.243" max.
2.2.1.6.2	<b>Deglazing Test per ASTM E 987</b>		
	<b>In operating direction at 70 lbs</b>		
	Handle stile	0.060"/12%	0.500"/100%
	Meeting stile	0.060"/12%	0.500"/100%
	<b>In remaining direction at 50 lbs</b>		
	Top rail	0.030"/6%	0.500"/100%
	Bottom rail	0.060"/12%	0.500"/100%

**Test Results:**

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
<b><u>Test Specimen #1:</u> HS-R20 156 x 65 (Continued)</b>			
2.1.7	Welded Corner Test	Meets as stated	Meets as stated
2.1.8	Forced Entry Resistance per ASTM F 588-97  Type: A Grade: 10		
	Hand and Tool Manipulation	No entry	No entry
	Test A1 through A7	No entry	No entry
	Hand and Tool Manipulation	No entry	No entry
<b><u>Optional Performance</u></b>			
4.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 3.0 psf	No leakage	No leakage
4.4.2	Uniform Load Structural per ASTM E 330 (Measurements reported were taken on the right meeting stile)		
	@ 30.0 psf (positive)	0.100"	0.243" max.
	@ 30.0 psf (negative)	0.130"	0.243" max.
<b><u>Test Specimen #2:</u> HS-R30 136 x 60</b>			
2.2.1.5.2	<u>Operating Force</u> <u>Left Sash</u>		
	Open	12 lbs	20 lbs max.
	Close	13 lbs	20 lbs max.
	<u>Right Sash</u>		
	Open	9 lbs	20 lbs max.
	Close	10 lbs	20 lbs max.
2.1.3	Air Infiltration per ASTM E 283 @ 1.56 psf (25 mph)	0.08 cfm/ft <sup>2</sup>	0.3 cfm/ft <sup>2</sup> max.

*Note #1 The tested specimen meets the performance levels specified in AAMA/NWDA 101/IS 2-97 for air infiltration*

**Test Results:**

**Test Specimen #2: HS-R30 136 x 60 (Continued)**

2.1.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 2.86 psf	No leakage	No leakage
2.1.4.3	Uniform Load Structural per ASTM E 330 (Measurements reported were taken on the right meeting stile) @ 22.5 psf (positive) @ 22.5 psf (negative)	0.062" 0.116"	0.223" max. 0.223" max.
2.2.1.6.3	Deglazing Test per ASTM E 987  In operating direction at 70 lbs  Handle stile Meeting stile  In remaining direction at 50 lbs  Top rail Bottom rail	   0.030"/6% 0.060"/12%   0.030"/6% 0.030"/6%	   0.500"/100% 0.500"/100%   0.500"/100% 0.500"/100%
2.1.7	Welded Corner Test	Meets as stated	Meets as stated
2.1.8	Forced Entry Resistance per ASTM F 588-97  Type: A Grade: 10  Hand and Tool Manipulation Test A1 through A7 Hand and Tool Manipulation	   No entry No entry No entry	   No entry No entry No entry

**Optional Performance**

4.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 4.5 psf	No leakage	No leakage
4.4.2	Uniform Load Structural per ASTM E 330 (Measurements reported were taken on the right meeting stile) @ 45.0 psf (positive) @ 45.0 psf (negative)	0.079" 0.177"	0.223" max. 0.223" max.



Detailed drawings, representative samples of the test specimen, and a copy of this report will be retained by ATI for a period of four years. The above results were secured by using the designated test methods and they indicate compliance with the performance requirements of the above referenced specification. This report does not constitute certification of this product, which may only be granted by the certification program administrator.

For ARCHITECTURAL TESTING, INC:

Digitally signed by Lynn George

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Lynn George  
Project Manager

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Michael L. Mackereth  
Director - Operations

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