



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

**Rendered to:**

**SIMONTON WINDOWS**

**SERIES/MODEL: 40-06**

**TYPE: PVC Twin Single Hung/H-Mullion Window System  
with Medium Mullion and E8 Window Reinforcement**

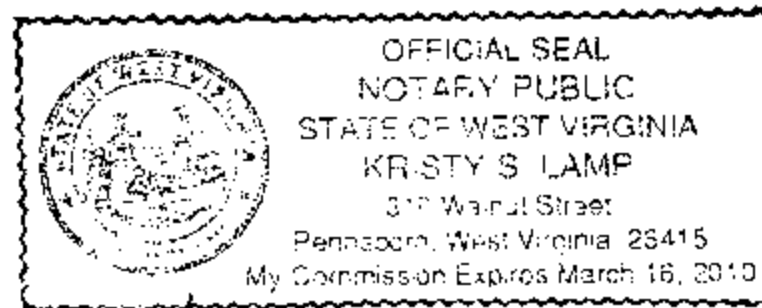
<b>Title of Test</b>	<b>Results</b>
Rating	H-R50* 72 x 74
Overall Design Pressure	50 psf
Operating Force	19 lbs max.
Air Infiltration	0.19 cfm/ft <sup>2</sup>
Water Resistance	7.5 psf
Structural Test Pressure	75.0 psf
Deglazing	Passed
Forced Entry Resistance	Passed

Reference should be made to Report No. 05-30299.01 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

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: 05-30299.01  
Test Date: 01/29/01  
Report Date: 12/14/01  
Expiration Date: 11/29/05

**Project Summary:** Architectural Testing, Inc. (ATI) was contracted by Simonton Windows to witness performance tests on a Series/Model 40-06, poly vinyl chloride (PVC) twin single hung/H-mullion window system at their facility located in Pennsboro, West Virginia. The sample tested successfully met the performance requirements for an H-R50\* 72 x 74 rating. Test specimen description and results are reported herein.

**General Note:** *An asterisk (\*) next to the performance grade indicates that the size tested for optional performance was smaller than the minimum test size for the product type and class. Reference ATI Report No. 05-30211.01 for gateway performance test results.*

**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:** 40-06 (with medium mullion and E9 window reinforcement)

**Type:** PVC Twin Single Hung/H-Mullion Window System

**Overall Size:** 6' 0-1/2" wide by 6' 2" high

**Individual Window Size (2):** 3' 0" wide by 6' 2" high

**Sash Size (2):** 2' 9-13/16" wide by 3' 0-3/16" high

**Daylight Opening Size (2):** 2' 6-13/16" wide by 2' 9-5/16" high

**Screen Size (2):** 2' 8" wide by 2' 11-7/8" high

**Finish:** All vinyl was white.

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**Test Specimen Description:** (Continued)

**Glazing Details:** The units were glazed with 3/4" thick sealed insulating glass fabricated from two sheets of 3/32" thick annealed glass and a steel spacer system. The sash were exterior wet glazed using a silicone back bedding and dual durometer snap-in vinyl glazing beads. The fixed lites were interior glazed using double-sided adhesive glazing tape and snap-in vinyl glazing beads.

**Weatherstripping:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.187" backed by 0.260" high pile with center fin	1 Row	Sill, lock rail
0.187" backed by 0.280" high pile with center fin	2 Rows	Sash stiles
0.375" diameter, offset vinyl jacket/hollow foam-filled bulb	1 Row	Bottom rail

**Frame Construction:** The PVC frames were constructed using mitered and welded corner construction. The fixed meeting rails were fastened to the window jambs using three #8 x 3" long screws per end.

**Mullion Construction:** The vertical PVC H-mullion was fastened through hung window jambs with eight #8 x 1" long screws, four per side, evenly spaced. The H-mullions were sealed at the exterior perimeter with a silicone caulking.

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

**Screen Construction:** The screens were constructed with roll-formed aluminum. The corners were square cut and secured using plastic corner keys. The fiberglass mesh screen cloth was held-in-place with a flexible vinyl spline.



**Test Specimen Description: (Continued)**

**Hardware:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Nylon cam lock and keeper	4	Lock rail, 8" in from each end with corresponding keepers at fixed rail
Plastic tilt latch	4	Lock rail at each end
Metal pivot bar	4	Bottom rail at each end
Constant force balance	4	One per jamb, two coils per balance

**Drainage:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
1-1/6" wide by 1/8" high weepslot (with flap)	4	Exterior face of sill of each unit, one 4-1/4" in from each end
1" wide by 1/2" deep weepslot	4	One at each end of the sill/jamb intersections
1" wide by 3/16" high weepslot	4	Sill intermediate legs, one at each end
3/8" wide by 3/16" deep weep notch	4	Bottom rail, one at each end of bottom pile pocket
3/4" wide by leg height weep notch	4	One at each end of the sill screen track



**Test Specimen Description:** (Continued)

**Reinforcement:** (Medium mullion and E8 window reinforcement). The vertical H-mullion contained a custom shaped extruded aluminum reinforcement measuring 0.625" x 2.839" x 0.125". (Reference drawing #16990) The lock and bottom rails contained a custom shaped steel reinforcement measuring 0.863" x 0.567" x 0.090". (Reference drawing #V0932) The sash stiles contained a custom shaped steel reinforcement measuring 0.863" x 0.469" x 0.060". (Reference drawing #SIM.0928) The assembly contained two 1-1/4" x 16" x 0.060" steel plates, one at each mullion end on the unexposed side of the frame, each secured to the PVC with six #8 x 1/2" long screws, three per side. (The heads of the screws were sealed with silicone sealant)

**Installation:** The unit was installed into a 2 x 10 wood buck constructed of Spruce-Pine-Fir construction lumber. The unit was secured to the buck through the nailing fin using #8 x 1-1/4" drywall screws spaced approximately 5" o.c. and sealed with a silicone caulking. The vertical H-mullion contained two equal leg 2" steel angles, 1" wide by 0.060" thick at each end fixed to the aluminum reinforcement with two 1/4" diameter steel pop rivets. One 2-1/8" x 6" x 060" steel base plate was fastened to the buck at each end of the vertical mullion using four #8 x 1-3/4" long screws per plate. Each base plate contained two tabs that interlocked with the slotted steel angles at each end of the mullion. (See attached drawings of base plate and steel angles)

**Test Results:**

The results are tabulated as follows:

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
2.2.1.6.1	Operating Force		
	Opening	19 lbs	30 lbs max.
	Closing	10 lbs	30 lbs max.
2.1.2	Air Infiltration per ASTM E 283 (See Note #1) @ 1.56 psf (25 mph)	0.19 cfm/ft <sup>2</sup>	0.3 cfm/ft <sup>2</sup> max.
2.1.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 2.86 psf	No leakage	No leakage

*Note #1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/NWDA 101/I.S. 2-97 for air infiltration.*



Test Results: (Continued)

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
2.1.4.2	Uniform Load Structural per ASTM E 330 (Measurements reported were taken on the vertical H-mullion) @ 22.5 psf (positive) @ 22.5 psf (negative)	0.027" 0.084"	0.296" max. 0.296" max.
2.2.1.6.2	Deglazing Test per ASTM E 987  In operating direction at 70 lbs Lift Rail Meeting Rail  In remaining direction at 50 lbs Left Stile Right Stile	0.030"/6% 0.030"/6%	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 AAMA 1302.5-76 Test A Test B Test C Test D Test E Test F Test G	No entry No entry No entry No entry No entry No entry No entry	No entry 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 = 7.5 psf	No leakage	No leakage
4.4.2	Uniform Load Structural per ASTM E 330 (Measurements reported were taken on the vertical H-mullion) @ 75.0 psf (positive) @ 75.0 psf (negative)	0.118" 0.145"	0.296" max. 0.296" 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:

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Scott A. Warner  
Executive Vice President

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05-30299.01