



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

**Rendered to:**

**SPECIALTY WINDOWS**

**SERIES/MODEL: 1900**

**TYPE: PVC Single Hung**

<b>Results</b>			
<b>Title of Test</b>	<b>Specimen #1</b>	<b>Specimen #2</b>	<b>Specimen #3</b>
Rating	H-R35 48 x 72	H-R40 44 x 60	H-R50 44 x 60
Overall Design Pressure	35 psf	40 psf	50 psf
Operating Force	14 lb max.	N/A	N/A
Air Infiltration	0.08 cfm/ft <sup>2</sup>	N/A	N/A
Water Resistance	7.50 psf	7.50 psf	7.50 psf
Structural Test Pressure	+52.5 psf	+60.0 psf	+75.0 psf
Deglazing	Pass	N/A	N/A
Forced Entry Resistance	Pass Level 10	N/A	N/A

Reference should be made to Report No. 07-30035.06 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.

  
Larry D. Mankin, Technician

LDM/jb/nlb



Architectural Testing

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

Rendered to:

SPECIALTY WINDOWS  
5520 Industrial Boulevard  
Milton, Florida 32583

Report No: 07-30035.06  
Test Date: 04/13/00  
Report Date: 04/10/01  
Expiration Date: 04/13/04

**Project Summary:** Architectural Testing, Inc. (ATI) was contracted by Dayton Technologies to perform tests on three Series/Model 190.093 SH PVC Single Hung windows. The samples tested successfully met the performance requirements for the following ratings: Test Specimen #1 H-R35 48 x 72, Test Specimen #2 H-R40 44 x 60, and Test Specimen #3 H-R50 44 x 60. Test specimen descriptions and results are reported herein.

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

**Test Specimen Description:**

**Series/Model:** 1900

**Type:** Single Hung

**Test Specimen #1:** H-R35 48 x 72

**Overall Size:** 3' 11 1/2" wide by 5' 11 1/2" high

**Sash Size:** 3' 8-3/8" wide by 2' 10-3/4" high

**Fixed Daylight Opening Size:** 3' 6" wide by 2' 8-1/4" high

**Screen Size:** 3' 6-15/16" wide by 2' 9-5/8" high

**Reinforcement:** The fixed meeting rails and bottom lift rail utilized a custom shaped extruded aluminum reinforcement with a typical wall thickness of 0.08". (Reference drawings #fixed A-6189 and #sash 6202)

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**Test Specimen Description: (Continued)**

**Test Specimen #2:** H-R40 44 x 60

**Overall Size:** 3' 7 1/2" wide by 4' 11 1/2" high

**Sash Size:** 3' 4-1/2" wide by 2' 4-3/4" high

**Fixed Daylight Opening Size:** 3' 1-3/4" wide by 2' 2-1/4" high

**Screen Size:** N/A

**Reinforcement:** No reinforcement.

**Test Specimen #3:** H-R50 44 x 60

**Overall Size:** 3' 7 1/2" wide by 4' 11 1/2" high

**Sash Size:** 3' 6-1/2" wide by 2' 4-3/4" high

**Fixed Daylight Opening Size:** 3' 1-3/4" wide by 2' 2-1/4" high

**Screen Size:** N/A

**Reinforcement:** The fixed meeting rail and bottom lift rail utilized a custom shaped extruded aluminum reinforcement with a typical wall thickness of 0.08". (Reference drawings #fixed A-6189 and #sash 6202)

*The following applies to all specimens.*

**Finish:** White PVC.

**Glazing Type:** Clear annealed.

**Glazing Details:** Nominal 3/4" insulating glass fabricated from nominal two 3/32" sheets of annealed glass with a Swiggle spacer system. The fixed lite insulating glass was interior wet-glazed and secured with PVC glazing beads, while the active lite was exterior wet-glazed with PVC glazing beads.

**Weatherstripping:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.290" high by 0.187" back pile with center fin	1 Row	Sill
0.290" high by 0.187" back pile with center fin	2 Rows	Sash stiles
0.230" high by 0.187" back pile with center fin	1 Row	Meeting rails
Bulb (8206)	1 Row	Bottom lift rail

**Test Specimen Description: (Continued)**

**Frame Construction:** The frame was constructed of extruded PVC members with mitered and welded corners. The fixed meeting rail was coped, butted, sealed, and fastened to the jambs with #8 x 1-1/2" steel screws with two screws per end in a PVC bracket.

**Sash Construction:** The sash was constructed of extruded PVC members with mitered and welded corners.

**Screen Construction:** The screen frame was constructed of rolled aluminum with plastic corner keys. Fiberglass mesh was secured with a flexible spline.

**Hardware:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Cam lock with keepers	1	At midpoint on all specimens
Tilt latches	2	Upper sash corners
Tilt pins	2	Lower sash corners
Coil balancers	2	One in each jamb

**Drainage:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
3/8" wide by 3/16" high slot	2	Two per sash, draining sash
1" wide by 1/8" high slot	2	Screen track

**Installation:** The test sample was installed into a nominal 2" by 10" wood buck with #8 by 5/8" steel screws through the nail flange every 6" (total 40). Exterior perimeter was sealed with silicone.



**Test Results:** The results are tabulated as follows.

**Test Specimen #1:** H-R35 48 x 72

<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
2.2.1.6.1	Operating Force Lower Sash	14 lbs	30 lbs max.
2.1.2	Air Infiltration per ASTM E 283 (See Note) @ 1.56 psf (25 mph)	0.08 cfm/ft <sup>2</sup>	0.30 cfm/ft <sup>2</sup> max.
<i>Note: The tested specimen meets (or exceeds) the performance levels specified in AAMA/NWWDA 101/I.S. 2-97 for air infiltration</i>			
2.1.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 2.86 psf	No leakage	No leakage
2.1.4.2	Uniform Load Structural per ASTM E 330 (measurements were taken on the fixed meeting rail) @ 22.5 psf (positive) @ 22.5 psf (negative)	No damage No damage	0.168" max. 0.168" max.
2.2.1.6.2	Deglazing Test per ASTM E 987 In operating direction @ 70 lbs Upper Sash Meeting Rail Bottom Rail In remaining direction @ 50 lbs Right stile Bottom Rail	0.125"/12.5% 0.125"/12.5% 0.02"/4% 0.02"/4%	0.50"/100% 0.50"/100% 0.50"/100% 0.50"/100%
2.1.7	Welded Corner Test	Meets as stated	Meets as stated
2.1.8	Forced Entry Resistance per ASTM F588-97 Type: A Grade: 10 Lock Manipulation Test Test A1 thru A7 Lock Manipulation Test	No entry No entry No entry	No entry No entry No entry

**Optional Performance:**

<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
2.1.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 7.50 psf	No leakage	No leakage
2.1.4.2	Uniform Load Structural per ASTM E 330 (measurements were taken on the fixed meeting rail) @ 52.5 psf (positive) @ 52.5 psf (negative)	0.01" 0.03"	0.168" max. 0.168" max.



Test Results: (Continued)

Test Specimen #2: H-R40 44 x 60

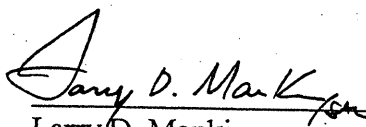
<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
2.1.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 7.50 psf	No leakage	No leakage
2.1.4.2	Uniform Load Structural per ASTM E 330 (measurements were taken on the fixed meeting rail) @ 60 psf (positive) @ 60 psf (negative)	0.02" 0.02"	0.152" max. 0.152" max.

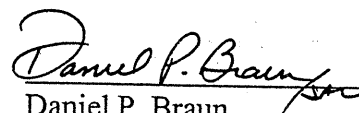
Test Specimen #3: H-R50 44 x 60

<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
2.1.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 7.50 psf	No leakage	No leakage
2.1.4.2	Uniform Load Structural per ASTM E 330 (measurements were taken on the fixed meeting rail) @ 75.0 psf (positive) @ 75.0 psf (negative)	0.03" 0.02"	0.152" max. 0.152" 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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