



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

Rendered to:

SPECIALTY WINDOWS

SERIES/MODEL: 1900

TYPE: PVC Single Hung Window

Title of Test	Results	
	Test Specimen #1	Test Specimen #2
Rating	H-R40 52 x 75	H-R50 52 x 50
Overall Design Pressure	40 psf	50 psf
Operating Force	16 lb max.	N/A
Air Infiltration	0.13 cfm/ft ²	N/A
Water Resistance	7.50 psf	7.50 psf
Structural Test Pressure	+60.0 psf	+75.0 psf
Deglazing	Pass	N/A
Forced Entry Resistance	Pass Level 10	N/A

Reference should be made to Report No. 07-30191.02 for complete test specimen description and data.

For ARCHITECTURAL TESTING, INC.


Larry D. Mankin, Technician

LDM:nlb



Architectural Testing

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

Rendered to:

SPECIALTY WINDOWS
5520 Industrial Boulevard
Milton, Florida 32583

Report No: 07-30191.02
Test Date: 07/17/01
Report Date: 11/15/01
Expiration Date: 07/17/05

Project Summary: Architectural Testing, Inc. (ATI) was contracted by Dayton Technologies, LLC to witness tests performed on two Series/Model 190.093 SH PVC single hung windows at their Monroe, Ohio, facility. The samples tested successfully met the performance requirements for the following ratings: Test Specimen #1 H-R40 52 x 75 and Test Specimen #2 H-R50 52 x 50. Test specimen descriptions and results are reported herein.

Test Procedure: The test specimen was evaluated in accordance with AAMA/NWWDA 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 Window

Test Specimen #1: H-R40 52 x 75

Overall Size: 4' 4-1/8" wide by 6' 3-1/8" high

Sash Size: 4' 1-1/8" wide by 3' 0-1/2" high

Fixed Daylight Opening Size: 3' 10-1/2" wide by 2' 9-7/8" high

Screen Size: 4' wide by 2' 11-1/2" high

Glass Type: Nominal 3/4" thick insulating glass fabricated from two sheets 1/8" thick tempered sheets with a spacer system.

Reinforcement: Aluminum reinforcement was utilized in both meeting rails, bottom lift rail and bottom sash stiles. See Dayton Technologies drawings #A6202 and #A6189.

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Test Specimen Description: (Continued)

Test Specimen #2: H-R50 52 x 50

Overall Size: 4' 4-1/8" wide by 4' 1-5/8" high

Sash Size: 4' 1" wide by 1' 11-13/16" high

Fixed Daylight Opening Size: 3' 10-1/2" wide by 1' 9-1/2" high

Screen Size: None.

Glass Type: Nominal 3/4" thick insulating glass fabricated from two sheets of 1/8" thick clear annealed sheets with a spacer system.

Reinforcement: Aluminum reinforcement was utilized in fixed meeting rail and bottom lift rail only. See Dayton Technologies drawings #A6202 and #A6189.

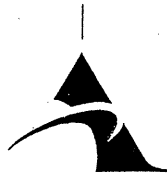
The following applies to all specimens

Finish: White PVC.

Glazing Details: Fixed daylight sash were interior wet glazed and secured with interior PVC glazing beads. The operable sash were exterior wet glazed and secured with exterior 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	Stiles
Bulb (8206)	1 Row	Bottom lift rail
0.290" high by 0.187" back pile with center fin	1 Row	Lock 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 one #8 by 1-1/2" steel screw through jambs into fixed meeting rail reinforcement.

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 locks	2	13-1/4" from jambs, 22-1/2" apart
Tilt latches	2	Upper sash corners
Tilt pins	2	Lower sash corners
Coil balances	2	One in each jamb

Drainage: Sloped sill

3/8" wide by 3/1 high slot	4	Fixed meeting rail and bottom lift rail
1" wide by 1/8" high slot	2	Screen track

Installation: The test sample was installed into a nominal 2" by 12" #2 Southern pine wood buck with #10 by 2-1/2" pan head stainless steel screws (four in each jamb, 6" and 21" down from head and 6" and 21" up from sill, eight total). Exterior perimeter was sealed with silicone.

Test Results: The results are tabulated as follows.

Test Specimen #1: H-R40 52 x 75

<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
2.2.1.6.1	Operating Force Lower Sash	16 lbs	30 lbs max.
2.1.2	Air Infiltration per ASTM E 283 (See Note #1) @ 1.56 psf (25 mph)	0.13 cfm/ft ²	0.30 cfm/ft ² max.
<i>Note #1: 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)	0.02" 0.03"	0.186" max. 0.186" max.
2.2.1.6.2	Deglazing Test per ASTM E 987 In operating direction @ 70 lbs Lower Sash Meeting Rail Bottom Rail In remaining direction @ 50 lbs Right stile Bottom Rail	0.04"/8% 0.04"/8% 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 Tests A1 through A7 Lock Manipulation Test	No entry No entry No entry	No entry No entry No entry

Test Results:

Test Specimen #1: H-R40 52 x 75 (Continued)

<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
<u>Optional Performance</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)		
	@ 60.0 psf (positive)	0.18"	0.186" max.
	@ 60.0 psf (negative)	0.155"	0.186" max.

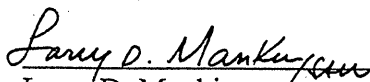
Test Specimen #2: H-R50 52 x 50

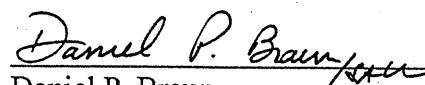
2.1.3	Water Resistance per ASTM E 547 (with and without screen) WTP = 7.50 psf	No leakage	No leakage
2.1.4.2	Uniform Load Structural per ASTM E 330 (measurements were taken on the fixed meeting rail)		
	@ 75.0 psf (positive)	0.075"	0.186" max.
	@ 75.0 psf (negative)	0.08"	0.186" max.

This report is reissued in the name of Specialty Windows through written authorization of Dayton Technologies, LLC to whom the original report was rendered. The original Dayton Technologies, LLC Report No. is 07-30191.01.

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.:


Larry D. Mankin
Technician


Daniel P. Braun
Regional Operations