



Architectural Testing

## ANSI/AAMA/WDMA STRUCTURAL TEST REPORT

Rendered to:

HURD MILLWORK COMPANY, INC.  
520 South Whelen Avenue  
Medford, Wisconsin 54451

ATI Report No: 06-30335.01  
Test Date: 12/11/01  
Report Date: 12/18/01  
Expiration Date: 12/11/05

**Series/Model:** Vinyl Builders Single Hung

**Type:** Vinyl Single Hung

### Test Procedure:

The test specimen was evaluated in accordance with ANSI/AAMA/WDMA 101/I.S. 2-97, "Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors," for conformance to the **Class H-LC35\* 35 x 77** performance requirements. Uniform load structural testing was also performed per North Carolina Building Code 613.2-Mullions.

### Test Specimen Description:

**Overall Size:** 35 -1/4" wide by 76 -1/2" high

**Lower Sash Size:** 33 -1/8" wide by 37 -1/2" high

**Overall Area:** 18.73 ft<sup>2</sup>

**Finish:** All vinyl was white.

**Glazing:** The sash was glazed using nominal 3/4" thick sealed insulating glass composed of two sheets of double strength clear annealed glass and a 1/2" thick aluminum spacer. The glass was set from the exterior against a closed cell foam glazing tape, with silicone backed at the tape corners, and vinyl glazing beads were employed at the exterior.

5906 Saxon Avenue  
Schofield, WI 54476  
phone: 715.241.8624  
fax: 715.241.8425  
www.archtest.com



**Test Specimen Description:(con't)**

**Weatherstripping:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
0.187" backed by 0.250" high pile w/center fin	1 row	Exterior perimeter of sash

**Frame and Sash Construction:** The frame and sash members were mitered and employed welded corner construction. The fixed interlock rail was notch and secured to the vertical frame with two (2) #6 by 2 -3/4" screws per end.

**Screen Construction:** The screen frame consisted of roll formed aluminum with miter cut and corner keyed construction. The screen utilized fiberglass mesh which was secured with a continuous rubber screen spline.

**Hardware:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
Metal cam lock w/ strike	1	Sash top rail/meeting rail, at center of rail
Block and tackle balances	.2 per sash	Frame jambs
Vinyl limit stops	2	Frame jambs, at top

**Drainage:**

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
.250" by .375" slot	1	Frame sill, exterior face 1 -1/2" from each end
.250" by .625" slot	1	Frame sill, interior track leg 3" from each end
.250" by .375" slot	1	Bottom rail, lower sash 3 -1/2" from each end
Drainage notch	1	Bottom rail, lower sash corners and fixed interlock corners



**Test Specimen Description:(con't)**

**Installation:** The window was installed into a nominal 2" by 6" wood buck, utilizing the integral mounting flange/fin on all four sides. The unit was set into the continuous bed of sealant. The flange/fin was secured to the wood buck with 2" galvanized roofing nails spaced approximately 4" on center. Silicone sealant was applied over the nail heads and the perimeter of nail flange.

**Test Results:**

<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
2.2.1.6.1	Operating Force Lower Sash (opening) Lower Sash (closing)	24 lbs. 20 lbs.	35 lbs. 35 lbs.
2.1.2	Air Infiltration ASTM E 283-91 @ 1.57 psf	0.08 cfm/ft <sup>2</sup>	0.3 cfm/ft <sup>2</sup>
<i>The test specimen meets the performance levels specified in ANSI/AAMA/WDMA 101/I.S.2-97 for a H-LC35* window.</i>			
2.1.3	Water Resistance ASTM E 547-96 with and without screen @ 3.75 psf	No entry	No entry @ 3.75 psf
2.1.4.2	Uniform Load Structural ASTM E 330-97 Meeting rail @ 37.50 psf (positive) @ 37.50 psf (negative)	0.006" 0.006"	0.4% of L = 0.135" 0.4% of L = 0.135"
2.2.1.6.2	Deglazing Test ASTM E 987-88 Top rail @ 70 lbs.(U) Bottom rail @ 70 lbs.(U) Left stile @ 50 lbs.(U) Right stile @ 50 lbs.(U)	0.06"/12% 0.06"/12% 0.03"/6% 0.03"/6%	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 ASTM F 588-97 Grade 10	No entry	No entry @ Grade 10

**Test Results:(con't)**

**Optional Performance:**

<u>Paragraph</u>	<u>Title of Test</u>	<u>Results</u>	<u>Allowed</u>
4.3	Water Resistance ASTM E 547-96 with and without screen @ 5.25 psf	No entry	No entry @ 5.25 psf
4.4.1	Uniform Load Deflection at Design Pressure* ASTM E 330-97 (60 seconds) Meeting rail		
	@ 35.00 psf (positive)	0.235"	No damage
	@ 35.00 psf (negative)	0.205"	No damage
4.4.2	Uniform Load Structural ASTM E 330-97 Meeting rail		
	@ 52.50 psf (positive)	0.008"	0.4% of L = 0.135"
	@ 52.50 psf (negative)	0.008"	0.4% of L = 0.135"

\* Not required for ANSI/AAMA/WDMA 101/L.S.2-97

Design Pressure Rating: For use in locations adhering to the S.B.C.C.I., S.F.B.C., S.F.B.C. Broward Edition, and where the pressure requirements as determined by ASCE 7 minimum design loads for buildings and other structures does not exceed design pressure ratings listed above.

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.

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Jody D. White  
Jody D. White  
Project Manager

Wanda L. Matis  
Wanda L. Matis  
Lab Technician