



Architectural Testing
ANSI/AAMA/WDMA STRUCTURAL TEST REPORT

Rendered to:

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

ATI Report No: 06-30293.01
 Test Dates: 10/25/01
 Report Date: 10/25/01
 Expiration Date: 10/25/05

Series/Model: Monument 3-0 x 6-0 Vinyl Casement
Type: PVC Crank-out Casement Window

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 C-C50 36 x 72** performance requirements. Uniform load structural testing was also performed per North Carolina Building Code 613.2-Mullions.

Test Specimen Description:

Overall Size: 35 -1/2" wide by 71 -1/2"
Sash Size: 33 -1/2" wide by 69 -1/2" high
Overall Area: 17.63 ft²

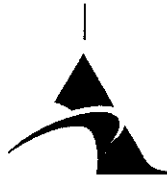
Finish: All vinyl was white.

Glazing: The sash was glazed using nominal 1" thick sealed insulating glass composed of two sheets of double strength clear annealed glass and a 3/4" thick aluminum spacer. The glass was set from the exterior against a continuous backbed of silicone and vinyl glazing beads were employed at the exterior.

Weatherstripping:

| <u>Description</u> | <u>Quantity</u> | <u>Location</u> |
|-----------------------------------|-----------------|-----------------------------|
| 0.187" backed by 0.320" high pile | 1 row | Outer perimeter of sash |
| Q300x190 foam filled bulb | 1 row | Interior perimeter of frame |
| QWS-530 foam filled bulb | 1 row | Exterior perimeter of frame |

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Test Specimen Description:(con't)

Frame/Sash Construction: The frame and sash members were mitered and employed welded corner construction.

Hardware:

| <u>Description</u> | <u>Quantity</u> | <u>Location</u> |
|-------------------------------------|-----------------|--|
| Dual arm roto operator | 1 | Sill |
| 10" metal 2-bar hinge w/tracks | 2 | Hinge side head and sill |
| Roto 4-point lock w/plastic strikes | 1 | Locking jamb/stile, located at tip of sash to centerline at 10 -7/8", 27 -1/8", 43 -1/2", 59 -5/8" |
| 2 piece metal snubber | 4 | Hinge side jamb/stile located from tip of sash to centerline 9 -1/2", 26 -1/2", 43 -1/2", 60 -1/2" |
| Vinyl lift block | 1 | Frame sill |

Drainage:

| <u>Description</u> | <u>Quantity</u> | <u>Location</u> |
|--------------------|-----------------|---|
| 3/8" diameter hole | 2 | Exterior face of frame sill, 1 -1/2" each end |
| 1/4" by 5/8" slot | 2 | Sill cavity, 3" each end |
| 1/4" by 5/8" slot | 2 | Sash bottom rail, 3" each end |

Installation: The window was installed into a nominal 2" by 6" wood buck/wall. The interior side of the integral nailing flange was sealed to the wood surround, as well as the nail head, and secured with 2" galvanized roofing nails spaced approximately 4" on center.

Test Results:

| <u>Paragraph</u> | <u>Title of Test</u> | <u>Results</u> | <u>Allowed</u> |
|------------------|-----------------------------------|---------------------------|--------------------------|
| 2.1.2 | Air Infiltration ASTM E 283-91 | | |
| | @ 1.57 psf | <0.01 cfm/ft ² | 0.30 cfm/ft ² |
| | @ 6.24 psf | <0.01 cfm/ft ² | ----- |

The test specimen meets the performance levels specified in ANSI/AAMA/WDMA 101/L.S.2-97 for a C-C50 window.



Test Results:(con't)

| <u>Paragraph</u> | <u>Title of Test</u> | <u>Results</u> | <u>Allowed</u> |
|------------------|--|------------------|--|
| 2.1.3 | Water Resistance ASTM E 547-96 @ 4.50 psf | No entry | No entry @ 4.50 psf |
| 2.1.4.2 | Uniform Load Structural ASTM E 330-97 Sash @ 45.00 psf (positive) @ 45.00 psf (negative) | 0.006" 0.012" | 0.4% of L = 0.278" 0.4% of L = 0.278" |
| 2.2.5.6.1 | Vertical Deflection Test @ 60 lbf | 0.06" | < 0.25"/ft = 0.70" |
| 2.2.5.6.2 | Hardware Load Test @ 6.24 lbf/ft ² | No damage | No damage |
| 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 |

Optional Performance:

| <u>Paragraph</u> | <u>Title of Test</u> | <u>Results</u> | <u>Allowed</u> |
|------------------|---|------------------------|--|
| 2.1.3 | Water Resistance ASTM E 547-96 @ 7.50 psf | No entry | No entry @ 7.50 psf |
| 4.4.1 | Uniform Load Deflection at Design Pressure* ASTM E 330-97 (60 seconds) @ 50.00 psf (positive) @ 50.00 psf (negative) | No damage No damage | No damage No damage |
| 4.4.2 | Uniform Load Structural ASTM E 330-96 Sash @ 75.00 psf (positive) @ 75.00 psf (negative) | 0.010" 0.020" | 0.4% of L = 0.278" 0.4% of L = 0.278" |

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



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.

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.

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