



Architectural Testing

AAMA/NWWDA STRUCTURAL TEST REPORT

Rendered to:

EAGLE WINDOW & DOOR, INC.
375 East Ninth Street
Dubuque, Iowa 52004-1072

Report No: 02-32848.01
Test Date: 12/14/2000
Report Date: 12/28/2000
Expiration Date: 12/14/2004

Project Summary: Architectural Testing, Inc. (ATI) was contracted to perform tests on one Eagle Window Series 96 Clad Picture Wood window.

Test Procedure: The test specimen was evaluated in accordance with the following:

AAMA/NWWDA 101/I.S. 2-97, "*Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors,*" for conformance to the Class F-C40 (60" x 78") performance requirements.

Test Specimen Description:

Series/Model: 96 Clad Double Hung Picture

Type: Aluminum Clad Picture Wood Window

Overall Size: 5' 0" wide by 6' 6" high

Sash Size: 4' 5" wide by 5' 11" high

Overall Area: 32.5 ft²

Finish: Interior wood was natural, exterior cladding was painted.

Glazing: The window utilized nominal 3/4" insulating glass fabricated from two nominal 1/4" annealed sheets separated by a desiccant-filled metal spacer system. The glass was set from the interior against butyl rubber backbedding. Wood glazing stops and foam tape were secured on the interior with brad nails spaced 2" from each corner and 6" to 8" on center.

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**Test Specimen Description (Continued)****Weatherstripping:**

| <u>Description</u> | <u>Quantity</u> | <u>Location</u> |
|--|-----------------|-------------------------------|
| TPE bulb weatherstrip | 1 row | Sash perimeter |
| One-piece foam-filled TPE weatherstrip | 1 row | Interior frame stop perimeter |

Frame Construction: The wood frame was comprised of laminated veneer lumber with the corners square-cut, butted, glued and secured with two 1/2" by 1-3/4" staples and two corrugated staples per corner. Aluminum cladding was slip-fit over the exterior frame members, and the corners were miter-cut with a nylon corner key inserted and secured with two #6 by 7/16" sheetmetal screws per corner. The cladding corners were sealed with silicone.

Sash Construction: Sash corners utilized mortise-and-tenon construction and were secured with glue. Aluminum cladding was slip-fit over the exterior wood members, with the corners miter-cut and secured with two screws per corner. The sash was set from the interior against a butyl rope and secured to the jambs and head by wood stops fastened to the frame with 1-1/4" 18-gauge brads. The bottom rail of the sash was secured to the sill with a continuous aluminum clip.

Installation: The window was installed within a nominal 2" by 8" #2 SPF wood test buck. The window was anchored to the buck through the nailing flange with 2" roofing nails spaced 3-1/2" from each corner and 6" on center. The nailing flange was sealed to the buck with silicone.

Test Results

| <u>Paragraph</u> | <u>Title of Test</u> | <u>Results</u> | <u>Allowed</u> |
|--|---|--|------------------------------------|
| 2.1.2 | Air Infiltration per ASTM E 283 @ 1.56 psf (25 mph) @ 6.24 psf (50 mph) | 0.01 cfm/ft ² 0.02 cfm/ft ² | 0.3 cfm/ft ² max. -- |
| <i>The tested specimen exceeds the performance levels specified in AAMA/NWDA 101/I.S. 2-97 for air infiltration.</i> | | | |
| 2.1.3 | Water Resistance per ASTM 547-96 WTP = 4.50 psf | No leakage | No leakage |
| 2.1.4.2 | Uniform Load Structural per ASTM E 330-97 (10 seconds) @ 45.0 psf (positive) @ 45.0 psf (negative) | 0.01" 0.01" | 0.4%L = 0.08" 0.4%L = 0.08" |



Test Results (Continued)

| <u>Paragraph</u> | <u>Title of Test</u> | <u>Results</u> | <u>Allowed</u> |
|------------------|--|----------------|----------------|
| 2.1.8 | Forced Entry Resistance per ASTM F 588-97 Grade: Level 10 Tool Manipulation Test | No entry | No entry |

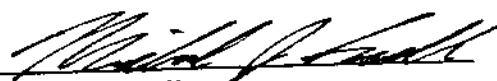
Optional Performance


| <u>Paragraph</u> | <u>Title of Test</u> | <u>Results</u> | <u>Allowed</u> |
|------------------|---|------------------------|----------------------------|
| 4.3 | Water Resistance per ASTM E 547-96 & E 331-96 WTP = 6.00 psf | No leakage | No leakage @ 6.00 psf |
| 4.4.1 | Uniform Load Deflection at Design Pressure per ASTM E 330-97* (60 seconds) @ 40.0 psf (positive) @ 40.0 psf (negative) | No Damage No Damage | No Damage No Damage |
| 4.4.2 | Uniform Load Structural per ASTM E 330-97 (10 seconds) @ 60.0 psf (positive) @ 60.0 psf (negative) | 0.01" 0.01" | 0.4%L=0.08" 0.4%L=0.08" |

*Not a requirement of AAMA/NWWDA 101/I.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.

For ARCHITECTURAL TESTING, INC.


Michael J. Sovell
Regional Manager


Daniel A. Johnson
Regional Manager