



**AAMA/WDMA/CSA 101/LS.2/A440-08
TEST REPORT**

Rendered to:

MI WINDOWS AND DOORS, INC.

**SERIES/MODEL: 1650
PRODUCT TYPE: PVC Fixed Window (Fin)**

Title	Summary of Results
Primary Product Designator	Class LC-PG50 2438 x 1520 (96 x 60)-FW
Design Pressure	±2400 Pa (±50.13 psf)
Air Infiltration	0.2 L/s/m ² (0.04 cfm/ft ²)
Water Penetration Resistance Test Pressure	360 Pa (7.52 psf)
Uniform Load Structural Test Pressure	±3600 Pa (±75.19 psf)
Forced Entry Resistance	Grade 10

Test Completion Date: 04/28/10

Reference must be made to Report No. A0295.01-109-47, dated 05/17/10 for complete test specimen description and data.

130 Derry Court
York, PA 17406-8405
phone: 717-764-7700
fax: 717-764-4129
www.archtest.com

A·L·I

(Validator / Operations Administrator)

**AAMA
CERTIFICATION PROGRAM****AUTHORIZATION FOR PRODUCT CERTIFICATION****MI Windows & Doors, LLC
P.O. Box 370
Gratz, PA 17030-0370****Attn: Rick Sawdey**

The product described below is hereby approved for listing in the next issue of the AAMA Certified Products Directory. The approval is based on successful completion of tests, and the reporting to the Administrator of the results of tests, accompanied by related drawings, by an AAMA Accredited Laboratory.

1. The listing below will be added to the next published AAMA Certified Products Directory.

SPECIFICATION	RECORD OF PRODUCT TESTED		
AAMA/WDMA/CSA 101/I.S.2/A440-08 LC-PG50-2438x1520 (96x60)-FW			
COMPANY AND CODE	CPD NO.	SERIES MODEL & PRODUCT DESCRIPTION	MAXIMUM SIZE TESTED
MI Windows & Doors, LLC Code: MTL	4372	1650 PW (FIN) (PVC)(O)(IG)(INS TEMP GL) (ASTM)	<u>FRAME</u> 2438 mm x 1520 mm (8'0" x 5'0")

2. This Certification will expire **April 28, 2016 (extended from April 28, 2014 per AAMA 106-13)** and requires validation until then by continued listing in the current AAMA Certified Products Directory.

3. Product Tested and Reported by: **Architectural Testing, Inc.**

Report No.: **A0295.01-109-47**Date of Report: **May 17, 2010****NOTE: ALL CERTIFIED WINDOWS MUST BE GLAZED WITH
TEMPERED GLASS.**

Validated for Certification

Associated Laboratories, Inc.Date: **March 20, 2014**

Authorized for Certification

Cc: AAMA
JGS
ACP-04 (Rev. 1/11)
American Architectural Manufacturers Association



AAMA/WDMA/CSA 101/LS.2/A440-08 TEST REPORT

Rendered to:

MI WINDOWS AND DOORS, INC.
P.O. Box 370
650 West Market Street
Gratz, Pennsylvania 17030-0370

Report No.: A0295.01-109-47

Test Date: 04/28/10

Report Date: 05/17/10

Test Record Retention Date: 04/28/14

Project Summary: Architectural Testing, Inc. was contracted by MI Windows and Doors, Inc. to witness and validate testing on a Series/Model 1650, PVC fixed window (fin) at the MI Windows and Doors, Inc. test facility in Gratz, Pennsylvania. The sample tested successfully met the performance requirements for a Class LC-PG50 2438 x 1520 (96 x 60)-FW. Test specimen description and results are reported herein. The sample was provided by the client.

Test Specification: The test specimen was evaluated in accordance with AAMA/WDMA/CSA 101/LS.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*.

Test Specimen Description:

Series/Model: 1650

Product Type: PVC Fixed Window (Fin)

Overall Size: 2438 mm (96") wide by 1520 mm (60") high

Fixed Daylight Opening Size: 2289 mm (90-1/8") wide by 1375 mm (54-1/8") high

Overall Area: 3.7 m² (40 ft²)

Finish: All PVC was white.

Frame Construction: All frame members were constructed of extruded PVC with mitered and welded corners.

Test Specimen Description: (Continued)

Weatherstripping: No weatherstripping was utilized.

Glazing Details: The unit was glazed with 7/8" thick insulating glass constructed from two sheets of 3/16" thick clear tempered glass and a metal reinforced butyl spacer system. The glass was set from the interior against a bed of silicone and secured with snap-in PVC glazing beads.

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
1" wide by 1/8" high weepslot	2	Sill face, 3" from each end
1/2" wide by 1/4" high weephole	2	Glazing channel, 2" from each end

Hardware: No hardware was utilized.

Reinforcement: No reinforcement was utilized.

Installation: The unit was installed into a Spruce-Pine-Fir wood buck. The nail fin was set onto a bed of silicone and secured to the buck using #6 x 1-5/8" long drywall screws, located at each corner and spaced 11" on center.

Test Results: The temperature during testing was 21°C (69°F). The results are tabulated as follows:

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
5.3.2.1	Air Leakage Resistance per ASTM E 283 75 Pa (1.6 psf)	0.2 L/s/m ² (0.04 cfm/ft ²)	1.5 L/s/m ² (0.3 cfm/ft ²) max.

Note #1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

5.3.3.2	Water Penetration Resistance per ASTM E 547	See Note #2
5.3.4.2	Uniform Load Deflection per ASTM E 330	See Note #2
5.3.4.3	Uniform Load Structural per ASTM E 330	See Note #2

Note #2: The client opted to start at a pressure higher than the minimum required. Those results are listed under "Optional Performance".

Test Results: (Continued)

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
5.3.5	Forced Entry Resistance per ASTM F 588		
	Type: D	Grade: 10	
	Disassembly Test	No entry	No entry
5.3.6.2	Thermoplastic Corner Weld Test	Meets as stated	Meets as stated

Optional Performance

4.3.2.1	Water Penetration Resistance per ASTM E 547 360 Pa (7.52 psf)	No leakage	No leakage
4.3.2.1	Uniform Load Deflection per ASTM E 330 (Deflections were taken on the jamb) (Loads were held for 10 seconds)		
	2400 Pa (50.13 psf) (positive)	0.5 mm (0.02")	See Note #3
	2400 Pa (50.13 psf) (negative)	0.3 mm (0.01")	See Note #3

Note #3: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

4.3.2.1	Uniform Load Structural per ASTM E 330 (Permanent sets were taken on the jamb) (Loads were held for 10 seconds)		
	3600 Pa (75.19 psf) (positive)	0.3 mm (0.01")	0.8 mm (0.03") max.
	3600 Pa (75.19 psf) (negative)	0.3 mm (0.01")	0.8 mm (0.03") max.

Tape and film were not used to seal against air leakage during structural testing.

Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen reported herein.

Per the client, this product is also labeled under the following names:

1555	Bryn Mawr III
1650 HP	New Castle III
3450	

List of Official Observers:

<u>Name</u>	<u>Company</u>
Rick Sawdey	MI Windows and Doors, Inc.
Emily C. Riley	Architectural Testing, Inc.

Detailed drawings, data sheets, representative samples of test specimens, a copy of this report, or other pertinent project documentation will be retained by Architectural Testing, Inc. for a period of four years from the original test date. At the end of this retention period, such materials shall be discarded without notice and the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in the test specimen can be made. This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, INC.



Digitally Signed by: Emily C. Riley

Emily C. Riley
Technician



Digitally Signed by: Michael D. Stremmel

Michael D. Stremmel, P.E.
Senior Project Engineer

ECR:dem

Attachments (pages): This report is complete only when all attachments listed are included.

Appendix-A: Alteration Addendum (1)

Appendix-B: Test Equipment (1)

Appendix-C: Complete drawings packet on file with Architectural Testing, Inc.

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	05/17/10	N/A	Original report issue

Appendix A

Alteration Addendum

Alteration #1: Date - 04/28/10
 Cause for alteration - Failed 7.52 psf water test
 Remedial action taken - Resealed glazing leg at bottom rail

Appendix B
Test Equipment

Instrument	Manufacturer	Asset #
Control Panel	Architectural Testing, Inc.	MI-1
Linear Transducer	Celesco	E1603002A
Linear Transducer	Celesco	J1705016A
Linear Transducer	Celesco	J1705014A

Appendix C

Drawings

Note: Complete drawings packet on file with Architectural Testing, Inc.