

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

Rendered to:

MI WINDOWS AND DOORS, INC.

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

Title	Summary of Results	
Primary Product Designator	Class LC-PG35 2438 x 1520 (96 x 60)-FW	
Design Pressure	±1680 Pa (±35.09 psf)	
Air Infiltration	$0.2 \text{ L/s/m}^2 (0.03 \text{ cfm/ft}^2)$	
Water Penetration Resistance Test Pressure	360 Pa (7.52 psf)*	
Uniform Load Structural Test Pressure	±2520 Pa (±52.63 psf)	
Forced Entry Resistance	Grade 10	

Test Completion Date:

04/29/10

Reference must be made to Report No. A0297.01-109-47, dated 05/17/10 for complete test specimen description and data. *Reference Architectural Testing Report No. A0295.01-109-47, dated 05/17/10 for Water Penetration Resistance test results.

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

www.archtest.com



(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			
AAMA/WDMA/CSA 101/I.S.2/A440-08 LC-PG35-2438x1520 (96x60)-FW	RECORD OF PRODUCT TESTED		
COMPANY AND CODE	CPD NO.	SERIES MODEL & PRODUCT DESCRIPTION	MAXIMUM SIZE TESTED
MI Windows & Doors, LLC Code: MTL	4373	1650 PW (FINLESS) (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 29, 2016 (extended from April 29, 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.: A0297.01-109-47

Date of Report: May 17, 2010

NOTE: ALL CERTIFIED WINDOWS MUST BE GLAZED WITH

TEMPERED GLASS.

Validated for Certification

Date: March 20, 2014

Cc: AAMA

JGS

ACP-04 (Rev. 1/11)

Authorized for Certification

ted Laboratories, Inc.

American Architectural Manufacturers Association



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

Rendered to:

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

Report No.: A0297.01-109-47

Test Date:

04/28/10

And:

04/29/10

Report Date:

05/17/10

Test Record Retention Date:

04/29/14

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 (finless) at the MI Windows and Doors, Inc. test facility in Gratz, Pennsylvania. The sample tested successfully met the performance requirements for a Class LC-PG35 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/I.S.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 (Finless)

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>	Quantity	<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 unit was secured to the buck through the jambs with #8 x 2" long pan head screws, located 4" from head and sill. The exterior perimeter was sealed with silicone.

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

Paragraph Paragraph	Title of Test - Test Method	<u>Results</u>	Allowed
5.3.2.1	Air Leakage Resistance per AS775 Pa (1.6 psf)	_	
	73 Ta (1.0 psi)	0.2 L/s/m^2 (0.03 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.



Test Results: (Continued)

<u>Paragraph</u>	Title of Test - Test Method	<u>Results</u>	Allowed
5.3.3.2	Water Penetration Resistance per A	ASTM E 547	See Note #2
5.3.4.2	Uniform Load Deflection per AST	M E 330	See Note #2
5.3.4.3	Uniform Load Structural per ASTN	M 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".

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

*Reference Architectural Testing Report No. A0295.01-109-47, dated 05/17/10 for Water Penetration Resistance test results.

4.3.2.1 Uniform Load Deflection per ASTM E 330

(Deflections were taken on the sill)

(Loads were held for 10 seconds)

1680 Pa (35.09 psf) (positive) 7.1 mm (0.28") See Note #3 1680 Pa (35.09 psf) (negative) 7.8 mm (0.31") See Note #3

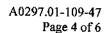
Note #3: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

4.3.2.1 Uniform Load Structural per ASTM E 330

(Permanent sets were taken on the sill)

(Loads were held for 10 seconds)

2520 Pa (52.63 psf) (positive) 0.5 mm (0.02") 9.7 mm (0.38") max. 2520 Pa (52.63 psf) (negative) 0.5 mm (<0.01") 9.7 mm (0.38") max.





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

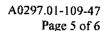
Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen reported herein.

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

1555 1650 HP 3450 Bryn Mawr III New Castle III

List of Official Observers:

<u>Name</u>	Company
Rick Sawdey	Ml 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

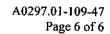
Michael D. Stremmel, P.E. Senior Project Engineer

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>	Page(s)	Revision(s)
0	05/17/10	N/A	Original report issue



Appendix A

Alteration Addendum

Note: No alterations were required.



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.