Architectural Testing

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 (Fin)

Title	Summary of Results
Primary Product Designator	Class LC-PG50 1829 x 1829 (72 x 72)-FW
Design Pressure	±2640 Pa (±55.14 psf)
Air Infiltration	0.3 L/s/m^2 (0.06 cfm/ft^2)
Water Penetration Resistance Test Pressure	360 Pa (7.52 psf)
Uniform Load Structural Test Pressure	±3960 Pa (±82.71 psf)
Forced Entry Resistance	Grade 10

Test Completion Date: 04/12/10

Reference must be made to Report No. 99928.01-109-47, dated 05/04/10 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-PG50-1829x1829 (72x72)-FW** Negative Design Pressure = -55 psf			
COMPANY AND CODE	**CPD NO.**	**SERIES MODEL & PRODUCT DESCRIPTION**	**MAXIMUM SIZE TESTED**
MI Windows & Doors, LLC **Code: MTL**	**4310**	**1650 PW (FIN)** **(PVC)(O)(IG)(INS GL)** **(ASTM)**	**FRAME** **1829 mm x 1829 mm** **(6'0" x 6'0")**

2. This Certification will expire **April 12, 2016 (extended from April 12, 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.: **99928.01-109-47**

   Date of Report: **May 4, 2010**

Validated for Certification

Associated Laboratories, Inc.

Date: **February 20, 2014**

Authorized for Certification

American Architectural Manufacturers Association

Cc: AAMA
JGS
ACP-04 (Rev. 1/11)

Architectural Testing

AAMA/WDMA/CSA 101/I.S.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.:	99928.01-109-47
Test Date:	04/12/10
Report Date:	05/04/10
Test Record Retention Date:	04/12/14

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 Window and Doors, Inc. test facility in Gratz, Pennsylvania. The sample tested successfully met the performance requirements for a Class LC-PG50 1829 x 1829 (72 x 72)-FW rating. 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 (Fin)

Overall Size: 1829 mm (72") wide by 1829 mm (72") high

Fixed Daylight Opening Size: 1682 mm (66-1/4") wide by 1682 mm (66-1/4") high

Overall Area: 3.3 m^2 (36.0 ft^2)

Finish: All PVC was white.

Frame Construction: The frame was constructed from extruded PVC with mitered and welded corners.

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Test Specimen Description: (Continued)

Weatherstripping: No weatherstripping was utilized.

Glazing Details: The unit was glazed with a 7/8" thick sealed insulating glass fabricated from two sheets of 3/16" thick clear annealed glass with a metal reinforced butyl spacer system. The glass was set from the interior onto a bead of silicone and secured with snap-in vinyl glazing beads.

Drainage:

Description	Quantity	Location
1/4" long by 1/8" wide weepslot	2	Sill, 2-1/2" from interior corner draining glazing
1/4" long by 1/8" wide weepslot	2	Sill, 2-1/2" from interior corner draining glazing
1" long by 1/8" wide weepslot	2	Sill face, 3-1/2" 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 bead of silicone and secured to the buck with #6 x 1-5/8" long drywall screws, located 2" from corners and spaced 8" on center through the nail fin into the wood buck.

Test Results: The temperature during testing was 21°C (70°F). The results are tabulated as follows:

Paragraph	Title of Test - Test Method	Results	Allowed
5.3.2.1	Air Leakage Resistance per ASTM E 283		
	75 Pa (1.6 psf)	0.3 L/s/m^2 (0.06 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)

Paragraph	Title of Test - Test Method	Results	Allowed
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".*

5.3.5	Forced Entry Resistance per ASTM F 588		
	Type: D	Grade: 10	
	Disassembly Test	No entry	No entry
	Sash/Panel Manipulation Test	No entry	No entry
	Lock Hardware Manipulation 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 (without insect screen) 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 stile) (Loads were held for 10 seconds)		
	2640 Pa (55.14 psf) (positive)	<0.3 mm (<0.01")	See Note #3
	2640 Pa (55.14 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.*

Test Results: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
	Optional Performance: (Continued)		
4.3.2.1	Uniform Load Structural per ASTM E 330 (Permanent sets were taken on the stile) (Loads were held for 10 seconds)		
	3960 Pa (82.71 psf) (positive)	<0.3 mm (<0.01")	0.7 mm (0.03") max.
	3960 Pa (82.71 psf) (negative)	<0.3 mm (<0.01")	0.7 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 PW
1650 PW
3450 PW
Bryn Mawr 3 PW
New Castle 3 PW

List of Official Observers:

Name	Company
Rick Sawdey	MI Windows and Doors, Inc.
Jeremy R. Bender	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: Jeremy R. Bender

Jeremy R. Bender
Technician

Digitally Signed by: Michael D. Stremmel

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

JRB: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

Rev. #	Date	Page(s)	Revision(s)
0	05/04/10	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
Transducer	Celesco	E-1603001A
Transducer	Celesco	J-1705016A
Transducer	Celesco	J-1705014A

Appendix C

Drawings

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