



TEST REPORT

Report No.: A1184.01-109-47

Rendered to:

MI WINDOWS AND DOORS, INC.
Gratz, Pennsylvania

PRODUCT TYPE: PVC Horizontal Sliding Window (XO) (Finless)
SERIES/MODEL: 3580

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

	Summary of Results
Primary Product Designator	Class R-PG20 1829 x 1829 (72 x 72)-HS
Design Pressure	±960 Pa (±20.05 psf)
Air Infiltration	0.8 L/s/m ² (0.15 cfm/ft ²)
Water Penetration Resistance Test Pressure	150 Pa (3.13 psf)

Test Completion Date: 05/25/2010

Reference must be made to Report No. A1184.01-109-47, dated 06/16/10 for complete test specimen description and detailed test results.

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 R-PG20-1829x1829 (72x72)-HS			
COMPANY AND CODE	CPD NO.	SERIES MODEL & PRODUCT DESCRIPTION	MAXIMUM SIZE TESTED	
MI Windows & Doors, LLC Code: MTL	4597	3580 HS (FINLESS) (PVC)(OX)(IG)(INS GL) (REINF)(ASTM)	FRAME 1829 mm x 1829 mm (6'0" x 6'0")	SASH 911 mm x 1778 mm (3'0" x 5'10")

2. This Certification will expire **May 25, 2016 (extended from May 25, 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.: **A1184.01-109-47**Date of Report: **June 16, 2010****Validated for Certification**
Associated Laboratories, Inc.Date: **March 6, 2014****Authorized for Certification**Cc: AAMA
JGS
ACP-04 (Rev. 1/11)
American Architectural Manufacturers Association

1.0 Report Issued To: MI Windows and Doors, Inc.
P.O. Box 370
650 West Market Street
Gratz, Pennsylvania 17030-0370

2.0 Test Laboratory: Architectural Testing, Inc.
130 Derry Court
York, Pennsylvania 17406-8405
717-764-7700

3.0 Project Summary:

3.1 Product Type: PVC Horizontal Sliding Window (XO) (Finless)

3.2 Series/Model: 3580

3.2.1 This product also labeled under the following names: 1280, 3280, New Castle III, and Bryn Mawr III

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test methods. The specimen tested successfully met the performance requirements for a **Class R-PG20 1829 x 1829 (72 x 72)-HS** rating.

3.4 Test Date: 05/25/2010

3.5 Test Location: MI Windows and Doors, Inc. test facility in Gratz, Pennsylvania. Calibration of test equipment was performed by Architectural Testing in accordance with AAMA 205-01 "In-Plant Testing Guidelines for Manufacturers and Independent Laboratories".

3.6 Test Sample Source: The test specimen was provided by the client. Representative samples of the test specimen will be retained by Architectural Testing for a minimum of four years from the test completion date.

3.7 Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.

3.8 List of Official Observers:

<u>Name</u>	<u>Company</u>
Rick Sawdey	MI Windows and Doors, Inc.
Jeremy R. Bender	Architectural Testing, Inc.

4.0 Test Specification:

AAMA/WDMA/CSA 101/1.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 2.2 m ² (24 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall Size	1829	72	1829	72
Interior Sash	911	35-7/8	1778	70
Screen	867	34-1/8	1757	69-3/16

5.2 Frame Construction:

Frame Member	Material	Description
Head	PVC	Extruded
Sill	PVC	The interior sill track utilized an extruded PVC roller track
Jambs	PVC	Extruded

	Joinery Type	Detail
All Corners	Mitered and Welded	Thermally welded
Fixed Meeting Stile	PVC Clips	Each clip was secured to the stile with three #6 x 1-1/4" long Phillips screws and secured to the frame with three #6 x 5/8" long Phillips screws

5.3 Sash Construction:

Sash Member	Species/Material/Alloy	Other
Rails	PVC	Extruded
Stiles	PVC	Extruded

	Joinery Type	Detail
All Corners	Mitered and Welded	Thermally welded

5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
0.187" backed by 1/4" diameter foam-filled vinyl bulb seal with fin	1 Row	Operable sash pull stile
0.187" backed by 0.230" high polypile with center fin	1 Row	Operable sash lock stile and top and bottom rails
0.187" backed by 1/8" diameter offset vinyl foam-filled bulb	1 Row	Fixed meeting stile

5.5 Glazing:

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
7/8" IG	Aluminum reinforced butyl	1/8" Annealed	1/8" Annealed	Interior glazed against double-sided adhesive tape, secured with PVC glazing beads

Location	Quantity	Daylight Opening	Glass Bite
Sash	1	33" x 68"	1/2"
Fixed Daylight Opening	1	33" x 68"	1/2"

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weepslot	1/8" wide by 1/2" long	2	Fixed glazing channel, 2" from each end, draining to exterior sill hollow
Weepslot	1/8" wide by 1/2" long	2	Screen track, 1" from each end, draining to exterior sill hollow
Weepslot	1/4" wide by 5/8" long	4	Each end of interior sill track, draining the interior sill track through the intermediate hollow to exterior sill hollow
Weepslot	1/8" wide by 1-1/4" long	2	Sill face, 2-1/2" from each end
Weepslot	1/16" wide by 1/2" long	4	Sash bottom rail, two located 2" from each end



5.0 Test Specimen Description: (Continued)

5.7 Hardware:

Description	Quantity	Location
Metal cam locks with adjacent keepers	2	Lock stile, 15" from each end
Rollers	2 per sash	Bottom rail, 2" from each end

5.8 Reinforcement:

Drawing Number	Location	Material
RF-104	Fixed meeting stile	Roll-formed steel
GVL-451	Operable sash stiles	Roll-formed steel

5.9 Screen Construction:

Frame Material	Corner Construction	Mesh Attachment Method
Extruded aluminum	Mitered and Keyed	Flexible vinyl spline

6.0 Installation:

The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/8" shim space. The exterior perimeter of the window was sealed with silicone.

Location	Anchor Description	Anchor Location
Jambs	#8 x 1-1/4" long pan head screws	4" from head and sill

7.0 Test Results: The temperature during testing was 22°C (71°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 89 N (20 lbf) Maintain motion: 44 N (10 lbf) Locks: 18 N (4 lbf)	Report Only 90 N (20 lbf) 100 N (22.5 lbf)	
Air Leakage, per ASTM E 283 at 75 Pa (1.6 psf)	0.8 L/s/m ² (0.15 cfm/ft ²)	1.5 L/s/m ² (0.3 cfm/ft ²) max.	1
Water Penetration, per ASTM E 547	N/A	N/A	3
Uniform Load Deflection, per ASTM E 330 taken at meeting stile +960 Pa (+20.05 psf) -960 Pa (-20.05 psf)	33.5 mm (1.32") 32.0 mm (1.26")	Report Only	4, 5, 6
Uniform Load Structural, per ASTM E 330 taken at meeting stile +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	2.5 mm (0.10") 2.8 mm (0.11")	6.9 mm (0.27") max. 6.9 mm (0.27") max.	5, 6
Forced Entry Resistance, per ASTM F 588 Type: A - Grade: 10	No entry	No entry	
Thermoplastic Corner Weld	Meets as stated	Meets as stated	
Deglazing - Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	Pass Pass	Pass Pass	
Operational Performance			
Water Penetration, per ASTM E 547 at 150 Pa (3.13 psf)	No leakage	No leakage	2

7.0 Test Results: (Continued)

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.

Note 2: With and without insect screen.

Note 3: The client opted to start at a pressure higher than the minimum required.

Note 4: 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.

Note 5: Loads were held for 10 seconds.

Note 6: Tape and film were not used to seal against air leakage during structural testing.

The service life of this report will expire on the stated Test Record Retention End Date, at which time such materials as drawings, data sheets, samples of test specimens, copies of this report, and any other pertinent project documentation, shall be discarded without notice.

If test specimen contains glazing, no conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) 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:vlm

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

Appendix-A: Alteration Addendum (1)

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

This report produced from controlled document template AT100438, issued 05/29/10 (draft).



Test Report No.: A1184.01-109-47
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Test Record Retention End Date: 05/25/14

Appendix A
Alteration Addendum

Note: No alterations were required.



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Appendix B

Drawings

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