

**TEST REPORT**

**Report No.:** C8629.01-109-47

**Rendered to:**

MI WINDOWS AND DOORS, LLC  
Gratz, Pennsylvania

**PRODUCT TYPE:** Polyvinyl Chloride (PVC) Horizontal Sliding Window (XO)  
**SERIES/MODEL:** 3580

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

<b>Title</b>	<b>Summary of Results</b>
Primary Product Designator	Class R-PG15 1816 x 1816 (72 x 72)-HS
Design Pressure	±720 Pa (±15.04 psf)
Air Infiltration	0.6 L/s/m <sup>2</sup> (0.11 cfm/ft <sup>2</sup> )
Water Penetration Resistance Test Pressure	150 Pa (3.13 psf)

**Test Completion Date:** 05/21/2013

Reference must be made to Report No. C8629.01-109-47, dated 06/17/13 for complete test specimen description and detailed test results.



**1.0 Report Issued To:** MI Windows and Doors, LLC  
P.O. Box 370  
650 West Market Street  
Gratz, Pennsylvania 17030-0870

**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:** Polyvinyl Chloride (PVC) Horizontal Sliding Window (XO)

**3.2 Series/Model:** 3580

**3.2.1** This product also labeled under the following names: 358031, 1280, and 128031.

**3.3 Compliance Statement:** Results obtained are tested values and were secured by using the designated test method(s). The specimen tested successfully met the performance requirements for a **Class R-PG15 1816 x 1816 (72 x 72)-HS** rating.

**3.4 Test Date:** 05/21/2013

**3.5 Test Record Retention End Date:** All test records for this report will be retained until June 17, 2017.

**3.6 Test Location:** MI Windows and Doors, LLC 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".

**3.7 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 report completion date.

**3.8 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 on file with Architectural Testing. Any deviations are documented herein or on the drawings.

**3.9 List of Official Observers:**

<u>Name</u>	<u>Company</u>
Rick Sawdey	MI Windows and Doors, LLC
Aaron M. Shultz	Architectural Testing, Inc.

**4.0 Test Specification(s):**

AAMA/WDMA/CSA 101/I.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: 3.3 m <sup>2</sup> (35.4 ft <sup>2</sup> )	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1816	71-1/2	1816	71-1/2
Panel size	906	35-11/16	1769	69-5/8
Screen	860	33-7/8	1734	68-1/4

**5.2 Frame Construction:**

Frame Member	Material	Description
Head, sill, and jambs	Vinyl	Extruded, a snap-in extruded PVC sill track was utilized

	Joinery Type	Detail
All corners	Mitered	Thermally welded

**5.3 Panel Construction:**

Panel Member	Material	Description
Rails and stiles	Vinyl	Extruded
Fixed meeting stile	Vinyl	Extruded

	Joinery Type	Detail
All corners	Mitered	Thermally welded
Fixed meeting stile	Coped and butted	Each end and secured to the frame using a custom shaped extruded PVC clip. Each clip was secured to the meeting stile with three #6 x 1-1/4" long Phillips flat head screws, and secured to the frame with three #6 x 5/8" long Phillips flat head screws

**5.0 Test Specimen Description:** (Continued)**5.4 Weatherstripping:**

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

**5.5 Glazing:** *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
3/4" IG	Aluminum reinforced butyl	1/8" thick clear annealed glass	1/8" thick clear annealed glass	The glass was set from the interior against double-sided adhesive foam tape and secured using extruded vinyl snap-in glazing beads

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Fixed daylight opening	1	860 x 1745	33-7/8 x 68-11/16	1/2"
Operable daylight opening	1	838 x 1696	33 x 66-3/4	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 the 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	Panel bottom rail, two located 2" from each end

**5.0 Test Specimen Description:** (Continued)**5.7 Hardware:**

Description	Quantity	Location
Lock with adjacent keeper	2	Lock stile, 15" from each end
Wheel assembly	2	End of bottom rail
Aluminum retained springs	2	Screen jamb stile

**5.8 Reinforcement:**

Drawing Number	Location	Material
RF-1045-020	Fixed meeting stile	Steel
GVL-451-020	Panel stiles	Steel

**5.9 Screen Construction:**

Frame Material	Corner Construction	Mesh Type	Mesh Attachment Method
Aluminum	Square-cut with a plastic corner key	Fiberglass	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 sealant.

Location	Anchor Description	Anchor Location
Head, sill, and jambs	#6 x 1-5/8" long drywall screws	2" from each corner and spaced 8" on center, through the mounting fin, into the wood buck.



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

Title of Test	Results	Allowed	Note
<b>Operating Force,</b> per ASTM E 2068	Initiate motion: 102 N (23 lbf) Maintain motion: 44 N (10 lbf) Locks: 13 N (3 lbf)	Report Only  90 N (20 lbf) max.  100 N (22.5 lbf) max.	
<b>Air Leakage,</b> Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	0.6 L/s/m <sup>2</sup> (0.11 cfm/ft <sup>2</sup> )	1.5 L/s/m <sup>2</sup> (0.3 cfm/ft <sup>2</sup> ) max.	1
<b>Water Penetration,</b> per ASTM E 547	N/A	N/A	3
<b>Uniform Load Deflection,</b> per ASTM E 330	N/A	N/A	3
<b>Uniform Load Structural,</b> per ASTM E 330	N/A	N/A	3
<b>Forced Entry Resistance,</b> per ASTM F 588 Type: A - Grade: 10	Pass	No entry	
<b>Thermoplastic Corner Weld</b>	Pass	Meets as stated	
<b>Deglazing,</b> per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	Pass  Pass	Meets as stated  Meets as stated	
<b>Optional Performance</b>			
<b>Water Penetration,</b> per ASTM E 547 at 150 Pa (3.13 psf)	Pass	No leakage	2
<b>Uniform Load Deflection,</b> per ASTM E 330 taken at meeting stile +720 Pa (+15.04 psf) -720 Pa (-15.04 psf)	36.8 mm (1.45") 35.1 mm (1.38")	Report Only	4, 5, 6
<b>Uniform Load Structural,</b> per ASTM E 330 taken at meeting stile +1152 Pa (+24.06 psf) -1152 Pa (-24.06 psf)	3.8 mm (0.15") 5.8 mm (0.23")	6.9 mm (0.27") max. 6.9 mm (0.27") max.	5, 6, 7



## 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. Test results are reported under Optional Performance.*

*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.*

*Note 7: Client opted to test Uniform Loads Permanent set at 1.6% of the design pressure.*



Architectural Testing will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Architectural Testing, Inc. for the entire test record retention period.

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.

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Aaron M. Shultz  
Technician

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

AMS:dem

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.





Architectural Testing

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## **Appendix A**

### **Alteration Addendum**

***Note:** No alterations were required.*



**Architectural Testing**

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## **Appendix B**

### **Drawings**

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