

TEST REPORT

Report No.: B0317.01-109-47

Rendered to:

MI WINDOWS AND DOORS, INC.
Gratz, Pennsylvania

PRODUCT TYPE: Aluminum Sliding Glass Door (XX)
SERIES/MODEL: 620

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-05, *Standard/Specification for Windows, Doors, and Unit Skylights.*

Title	Summary of Results
Primary Product Designator	SGD-C60 2438 x 2438 (96 x 96)
Design Pressure	±2880 Pa (±60.15 psf)
Air Infiltration	0.8 L/s/m ² (0.16 cfm/ft ²)
Water Penetration Resistance Test Pressure	440 Pa (9.19 psf)

Test Completion Date: 05/27/2011

Reference must be made to Report No. B0317.01-109-47, dated 06/14/11 for complete test specimen description and detailed test results.

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: Aluminum Sliding Glass Door (XX)

3.2 Series/Model: 620

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 **SGD-C60 2438 x 2438 (96 x 96)** rating.

3.4 Test Dates: 05/24/2011 - 05/27/2011

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(s) 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 on file with Architectural Testing. 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(s):

AAMA/WDMA/CSA 101/I.S.2/A440-05, *Standard/Specification for Windows, Doors, and Unit Skylights.*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 5.9 m ² (64.0 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	2438	96	2438	96
Panel size (2)	1221	48-1/16	2384	93-7/8
Screen size	1238	48-3/4	2403	94-5/8

5.2 Frame Construction:

Frame Member	Material	Description
Head, sill, and jambs	Aluminum	Extruded

	Joinery Type	Detail
All corners	Coped and butted	Sealed with a butyl backed foam pad and secured with two #8 x 3/4" long pan head screws per corner

5.3 Panel Construction:

Panel Member	Material	Description
Rails and stiles	Aluminum	Extruded

	Joinery Type	Detail
All corners	Coped and butted	Secured with two #10 x 1-1/4" long hex head screws at each corner

5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
0.187" backed by 0.160" high polypile with center fin	1 Row	All glazing beads
0.270" backed by 0.400" high polypile with center fin	1 Row	Meeting stiles
0.270" backed by 0.250" high polypile with center fin	2 Rows	Top and bottom rails, and lock stiles
1" long by 1/2" high by 0.500" high polypile pad	2	Top and bottom of meeting stiles

5.5 Glazing:

Glass Type	Glazing	Glazing Method
7/16" Monolithic	3/16" clear annealed 0.100" thick Solutia Saflex high performance interlayer 3/16" clear annealed	The glass was exterior glazed against a bead of silicone and secured with aluminum glazing beads with a polypile weatherstrip against the glass

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Panel daylight opening	2	1076 x 2254	42-3/8 x 88-3/4	1/2"

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weepslot	7/8" long by 1/2" high	2	Sill, 5" from each end, draining the interior track to the exterior track. This weep utilized a foam insert.
Weepslot	7/8" long by 1/2" high	2	Sill, 3" from each end, draining the exterior track

5.0 Test Specimen Description: (Continued)

5.7 Hardware:

Description	Quantity	Location
Tandem roller assembly	4	Two on each bottom rail, one at each end
Metal handle with adjacent	2	46" from bottom rail on lock stiles

5.8 Reinforcement: No reinforcement was utilized.

5.9 Screen Construction:

Frame Material	Corner Construction	Mesh Type	Mesh Attachment Method
Roll-formed aluminum	Mitered and keyed	Fiberglass	Flexible vinyl spline

6.0 Installation:

The specimen was installed into a Spruce-Pine-Fir wood buck. The rough opening allowed for a 1/16" shim space. The exterior perimeter of the window was sealed with sealant.

Location	Anchor Description	Anchor Location
Head and sill	#12 x 1-1/2" flat head screws	Interior track, located 10" from each corner and spaced 10" on center through the frame into the wood buck.
Jambs		Interior track, located 12" from corner and spaced 19-1/2" on center through the frame into the wood buck.

7.0 Test Results: The temperature during testing was 24°C (75°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: 67 N (15 lbf) Locks 18 N (4 lbf)	180 N (40 lbf) max. 115 N (25 lbf) max. 100 N (22.5 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	0.8 L/s/m ² (0.16 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	N/A	N/A	3
Uniform Load Structural, per ASTM E 330	N/A	N/A	3
Forced Entry Resistance, per ASTM F 842, Type: A - Grade: 10	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	Pass Pass	Meets as stated Meets as stated	
Optional Performance			
Water Penetration, per ASTM E 547 at 440 Pa (9.19 psf)	Pass	No leakage	2
Uniform Load Deflection, per ASTM E 330 taken at meeting stile +2880 Pa (+60.15 psf) -2880 Pa (-60.15 psf)	30.7 mm (1.21") 32.5 mm (1.28")	Report Only	4, 5, 6
Uniform Load Structural, per ASTM E 330 taken at meeting stile +4320 Pa (+90.23 psf) -4320 Pa (-90.23 psf)	1.3 mm (0.05") 4.1 mm (0.16")	7.1 mm (0.28") max. 7.1 mm (0.28") max.	5, 6

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 used to seal against air leakage during structural testing. In our opinion, the tape and film did not influence the results of the test.

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.

Jeremy R. Bender
Technician

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



Test Report No.: B0317.01-109-47
Report Date: 06/14/11
Test Record Retention End Date: 05/27/15

Appendix A
Alteration Addendum

Note: No alterations were required.



Test Report No.: B0317.01-109-47
Report Date: 06/14/11
Test Record Retention End Date: 05/27/15

Appendix B

Drawings

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