Architectural Testing

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

Rendered to:

MI WINDOWS AND DOORS, INC.

SERIES/MODEL: 390 VPD
PRODUCT TYPE: PVC Sliding Door

Title	Summary of Results
Primary Product Designator	Class R-PG30 1829 x 2083 (72 x 82) - Type SD
Design Pressure	1440 Pa (30.09 psf)
Operating Force (in motion)	80 N (18 lbf)
Air Infiltration	0.5 L/s/m^2 (0.09 cfm/ft^2)
Water Penetration Resistance Test Pressure	260 Pa (5.43 psf)
Uniform Load Structural Test Pressure	±2160 Pa (±45.14 psf)
Forced Entry Resistance	Grade 10

Test Completion Date: 01/12/10

Reference must be made to Report No. 97557.03-501-47, dated 08/31/10 for complete test specimen description and data.

1140 Lincoln Avenue
Springdale, PA 15144
phone: 724-275-7100
fax: 724-275-7102
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 R-PG30-1816x2070 (72x82)-SD				
COMPANY AND CODE	CPD NO.	SERIES MODEL & PRODUCT DESCRIPTION	MAXIMUM SIZE TESTED	
MI Windows & Doors, LLC Code: MTL	5027	390 SGD (PVC)(OX)(OG)(INS GL) (MODIF)(REINF)(ASTM)	FRAME 1816 mm x 2070 mm (6'0" x 6'10")	PANEL 943 mm x 2026 mm (3'1" x 6'8")

2. This Certification will expire **January 12, 2016 (extended from January 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.: **97557.03-501-47**

   Date of Report: **August 31, 2010**

Validated for Certification

Associated Laboratories, Inc.

Date: **December 5, 2013**

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.
7555 E. State Route 69
Prescott Valley, Arizona 86314

Report No.:	97557.03-501-47
Test Date:	01/11/10
And:	01/12/10
Report Date:	08/31/10
Test Record Retention Date:	01/12/14

Project Summary: Architectural Testing, Inc. was contracted by Veka Inc. to witness and validate testing on one Series/Model PD3WW, PVC sliding door at the Veka Inc. test facility in Fombell, Pennsylvania. The sample tested successfully met the performance requirements for a Class R-PG30 1829 x 2083 (72 x 82) – Type SD rating. This report is a reissue of the original Report No. 97557.01-501-47. This report is reissued in the name of MI Windows and Doors, Inc. through written authorization of Veka Inc. 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: 390 VPD

Product Type: PVC Horizontal Sliding Door

Overall Size: 1816 mm (71-1/2") wide by 2070 mm (81-1/2") high

Operable Panel Size: 943 mm (37-1/8") wide by 2026 mm (79-3/4") high

Fixed Daylight Opening Size: 822 mm (32-3/8") wide by 1905 mm (75") high

Screen Size: 927 mm (36-1/2") wide by 2035 mm (80-1/8") high

Overall Area: 3.8 m^2 (40.5 ft^2)

1140 Lincoln Avenue
Springdale, PA 15144
phone: 724-275-7100
fax: 724-275-7102
www.archtest.com

Test Specimen Description: (Continued)

Finish: All PVC was white.

Frame Construction: The extruded PVC frame was of mitered and welded corner construction. The fixed meeting stile was fastened to the frame with four #8 x 2" long truss head screws, two at each end. Snap-in rigid PVC equal glass adapters were located at the head and sill of the fixed lite. A drop-in extruded aluminum roller track was located at the interior sill track. A snap-in rigid PVC threshold was located at the exterior sill track at the operable panel.

Panel Construction: The PVC operable panel corners were of mitered and welded construction.

Weatherstripping:

Description	Quantity	Location
0.187" backed by 0.270" high center fin pile	1 Row	Fixed meeting stile, operable meeting stile
0.187" backed by 0.270" high center fin pile	2 Rows	Top rail, bottom rail, and operable jamb/lock stile

Glazing Details: The unit was exterior glazed with nominal 1" thick sealed insulating glass fabricated from two sheets of 1/8" thick clear tempered glass, separated by a silicone foam spacer system, single sealed. The glass was set against a double-sided adhesive tape and secured with rigid vinyl glazing beads.

Drainage:

Description	Quantity	Location
1" wide by 1/8" high weepslot	2	Exterior sill face, one 3" in from each end
1" wide by 3/16" high weepslot	4	Two at each end of sill through interior walls
1" wide by 1/4" high weephole	2	Interior sill track, one 3" from each end of sill draining into lower cavity
2-3/4" wide by 1/4" deep notch	2	Each end of aluminum roller track
1/2" wide by 1/8" high weepslot	2	Each end of the sill screen track

Test Specimen Description: (Continued)

Hardware:

Description	Quantity	Location
Adjustable steel dual roller	2	Active panel bottom rail, one per end
Lock and handle set with dual adjustable latch	1	Lock stile, approximately 40" up from the bottom
Metal keeper	1	Jamb, approximately 40" up from the bottom
Spring-loaded adjustable roller	4	Top and bottom screen rails, one 4" in from each end

Reinforcement: The fixed meeting stile, operable meeting stile, and jamb/lock stile contained a "U" shaped formed steel reinforcement, reference Drawing No. 3RFPD03SOM.

Screen Construction: The screen frame was constructed from roll-formed aluminum. The corners were miter cut with staked corner keys. Fiber mesh screen cloth was secured with a flexible vinyl spline.

Installation: The unit was installed in a wood test buck constructed of Spruce-Pine-Fir construction lumber and secured through the nail fin with #8 x 2" long screws spaced approximately 10" on center, and beginning approximately 4" from each corner. The nail fin perimeter was sealed with a silicone sealant. A nominal 3/16" gap was maintained at the perimeter between the buck and window frame.

Test Results: The temperature during testing was 17°C (62°F). The results are tabulated as follows:

Paragraph	Title of Test - Test Method	Results	Allowed
5.3.1	Operating Force per ASTM E 2068		
	Initiate motion open	67 N (15 lbf)	135 N (30 lbf)
	Maintain motion open	80 N (18 lbf)	90 N (20 lbf)
	Initiate motion close	80 N (18 lbf)	135 N (30 lbf)
	Maintain motion close	80 N (18 lbf)	90 N (20 lbf)
	Latches	N/A	100 N (22.5 lbf)
	Locks	36 N (8 lbf)	100 N (22.5 lbf)

Test Results: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
5.3.2.1	Air Leakage Resistance per ASTM E 283		
	75 Pa (1.6 psf)	0.5 L/s/m^2 (0.09 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.*

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 842		
	Type: A	Grade: 10	
	Disassembly Test	No entry	No entry
	Tests A1 through A7	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
5.3.6.3	Deglazing Test		
	In operating direction - 320 N (72 lbf)		
	Lock stile	4.8 mm (0.19")	11.4 mm (0.45")
	Interlocking stile	4.8 mm (0.19")	11.4 mm (0.45")
	In remaining direction - 230 N (52 lbf)		
	Top rail	3.3 mm (0.13")	11.4 mm (0.45")
	Bottom rail	3.3 mm (0.13")	11.4 mm (0.45")

Test Results: (Continued)

Paragraph	Title of Test - Test Method	Results	Allowed
	Optional Performance		
4.3.2.1	Water Penetration Resistance per ASTM E 547 (with and without insect screen) 260 Pa (5.43 psf)	No leakage	No leakage
4.3.2.1	Uniform Load Deflection per ASTM E 330 (Deflections were taken on the fixed meeting stile) (Loads were held for 10 seconds)		
	1440 Pa (30.09 psf) (positive)	36.0 mm (1.42")	See Note #3
	1440 Pa (30.09 psf) (negative)	34.8_ mm (1.37")	See Note #3
4.3.2.1	Uniform Load Structural per ASTM E 330 (Permanent sets were taken on the fixed meeting stile) (Loads were held for 10 seconds)		
	2160 Pa (45.14 psf) (positive)	7.8 mm (0.31")	8.0 mm (0.32") max.
	2160 Pa (45.14 psf) (negative)	6.5 mm (0.26")	8.0 mm (0.32") max.

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.

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.

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

List of Official Observers:

Name	Company
Doug Merry	Veka Inc.
Cornell Charles	Veka Inc.
Joe Allison	Architectural Testing Inc.

This report is reissued in the name of MI Windows and Doors, Inc. through written authorization of Veka Inc. to whom the original report was rendered. The original Veka Inc. Report No. is 97557.01-501-47.

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: Joseph E. Allison

Joseph E. Allison
Senior Technician

Digitally Signed by: Lynn George

Lynn George
Director – Regional Operations

JEA:sld

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Alteration Addendum (1)
Appendix-B: Drawings (1) Complete drawings packet on file with Architectural Testing Inc.

Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	08/31/10	N/A	Original report issue – Reissued Report No. 97557.01-501-47 in the name of MI Windows and Doors, Inc.

Appendix A

Alteration Addendum

Note: No alterations were required.

Appendix B

Drawings

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