

**AAMA/WDMA/CSA 101/IS.2/A440-05
TEST REPORT**

Rendered to:

REMODELERS SUPPLY CENTER

SERIES/MODEL: ClimateGuard Classic

PRODUCT TYPE: PVC Fixed Window

Title	Summary of Results	
	Test Specimen #1	Test Specimen #2
Primary Product Designator	FW-R45 1829 x 1219 (72 x 48)	FW-R70 1829 x 1219 (72 x 48)
Design Pressure	2160 Pa (45.14 psf)	3360 Pa (70.22 psf)
Negative Design Pressure	3360 Pa (70.22 psf)	3360 Pa (70.22 psf)
Operating Force (in motion)	N/A	N/A
Air Infiltration	<0.1 L/s/m ² (<0.01 cfm/ft ²)	N/A
Water Penetration Resistance Test Pressure	330 Pa (6.90 psf)	510 Pa (10.66 psf)
Uniform Load Structural Test Pressure	±5040 Pa (±105.33 psf)	±5040 Pa (±105.33 psf)
Forced Entry Resistance	Grade 10	N/A

Test Completion Date: 10/26/07

Reference must be made to Report No.77936.02-501-47, dated 06/05/09 for complete test specimen description and data.

AAMA/WDMA/CSA 101/I.S.2/A440-05 TEST REPORT

Rendered to:

REMODELERS SUPPLY CENTER
2622 North Pulaski Road
Chicago, Illinois 60639

Report No.: 77936.02-501-47
Test Date: 10/25/07
And: 10/26/07
Report Date: 06/05/09
Expiration Date: 10/26/11

Project Summary: Architectural Testing, Inc. was contracted by Veka, Inc. to witness testing on two Series/Model: PI54W, PVC fixed windows at the Veka's test facility in Fombell, Pennsylvania. The samples tested successfully met the performance requirements for the following ratings: Test Specimen #1: FW-R45 1829 x 1219 (72 x 48); Test Specimen #2: FW-R70 1829 x 1219 (72 x 48). This report is a reissue of the original Report No. 77936.01-501-47. This report is reissued in the name of Remodelers Supply Center through written authorization of Veka Inc. Test specimen description and results are reported herein. The samples were provided by the client.

Test Specification: The test specimens were evaluated in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-05, *Standard/Specification for Windows, Doors, and Unit Skylights*.

Test Specimen Description:

Series/Model: ClimateGuard Classic

Product Type: Poly Vinyl Chloride (PVC) Fixed Window

Test Specimen #1: FW-R45 1829 x 1219 (72 x 48)

Overall Size: 1829 mm (72") wide by 1219 mm (48") high

Daylight Opening Size: 1715 mm (67-1/2") wide by 1105mm (43-1/2") high

Overall Area: 2.23 m² (24 ft²)

Test Specimen Description: (Continued)

Test Specimen #1: FW-R45 1829 x 1219 (72 x 48)(Continued)

Drainage:

<u>Description</u>	<u>Quantity</u>	<u>Location</u>
32 mm (1-1/4") wide by 8 mm (5/16") high weepslot with flap	2	Exterior face of sill, one 127mm (3") from each end of sill
13 mm (1/2") wide by 5 mm (3/16") weepnotch	2	Sill glazing track, one on each end at miter

Test Specimen #2: FW-R70 1829 x 1219 (72 x 48)

Overall Size: 1829mm (72") wide by 1219 mm (48") high

Daylight Opening Size: 1715 mm (67-1/2") wide by 1105mm (43-1/2") high

Overall Area: 2.23 m² (24 ft²)

Drainage: No drainage was utilized.

The following descriptions apply to all specimens.

Finish: All PVC was white.

Frame Construction: The PVC frame was constructed using mitered and welded corner construction

Glazing Details: The unit was interior glazed with nominal 19 mm (3/4") thick, sealed insulating glass fabricated from two sheets of 5 mm (3/16") clear annealed glass and a "U" shaped aluminum spacer system, single sealed. The insulating glass was set against a double-sided adhesive structural glazing tape and secured with rigid vinyl glazing beads. A cap bead of silicone sealant was applied at the exterior perimeter.

Hardware: No hardware was utilized.

Reinforcement: No reinforcement was utilized.

Test Specimen Description: (Continued)

Installation: The unit was installed in a wood buck constructed of Spruce-Pine-Fir construction lumber, and fastened through the frame with fourteen #8 x 51mm (2") long truss head screws; three at each jamb, and four each at the head and sill, evenly spaced and beginning 153 mm (6") in from each end. The exterior perimeter was sealed with a silicone sealant. A nominal 5 mm (3/16") gap was maintained at the perimeter between the buck and window frame.

Test Results: The temperature during testing was 25.5°C (78°F). The results are tabulated as follows:

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
<u>Test Specimen #1:</u> FW-R45 1829 x 1219 (72 x 48)			
5.3.2.1	Air Leakage Resistance per ASTM E 283 75 Pa (1.6 psf)	<0.1 L/s/m ² (<0.01 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/A440-05 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 588 Type: D	Grade: 10	
	Disassembly Test	No entry	No entry
	Hand Tool Manipulation Test	No entry	No entry
	Sash/Panel Manipulation Test	No entry	No entry
5.3.6.2	Thermoplastic Corner Weld Test	Meets as stated	Meets as stated

Test Results: (Continued)

<u>Paragraph</u>	<u>Title of Test - Test Method</u>	<u>Results</u>	<u>Allowed</u>
<u>Test Specimen #1:</u> FW-R45 1829 x 1219 (72 x 48)(Continued)			
<u>Optional Performance</u>			
4.4.2.6	Water Penetration Resistance per ASTM E 547 330 Pa (6.90 psf)	No leakage	No leakage
4.4.2.6	Uniform Load Deflection per ASTM E 330 (Deflections were taken on the head) (Loads were held for 10 seconds)		
	3360 Pa (70.22 psf) (positive)	6.1 mm (0.24")	See Note #3
	3360 Pa (70.22 psf) (negative)	5.84 mm (0.23")	See Note #3
4.4.2.6	Uniform Load Structural per ASTM E 330 (Permanent sets were taken on the head) (Loads were held for 10 seconds)		
	5040 Pa (105.33 psf) (positive)	1.02 mm (0.04")	7.4 mm (0.29") max
	5040 Pa (105.33 psf) (negative)	0.51 mm (0.02")	7.4 mm (0.29") max

Test Specimen #2: FW-R70 1829 x 1219 (72 x 48)

<u>Optional Performance</u>			
4.4.2.6	Water Penetration Resistance per ASTM E 547 510 Pa (10.66 psf)	No leakage	No leakage
4.4.2.6	Uniform Load Deflection per ASTM E 330 (Deflections were taken on the head) (Loads were held for 10 seconds)		
	3360 Pa (70.22 psf) (positive)	6.1 mm (0.24")	See Note # 3
	3360 Pa (70.22 psf) (negative)	5.84 mm (0.23")	See Note # 3
4.4.2.6	Uniform Load Structural per ASTM E 330 (Permanent sets were taken on the head) (Loads were held for 10 seconds)		
	5040 Pa (105.33 psf) (positive)	1.02 mm (0.04")	7.4 mm (0.29") max
	5040 Pa (105.33 psf) (negative)	0.51 mm (0.02")	7.4 mm (0.29") 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, Inc. and are representative of the test specimen reported herein.

List of Official Observers:

<u>Name</u>	<u>Company</u>
Mike Zilian	Veka, Inc.
Barry Bieber	Veka, Inc.
Joe Allison	Architectural Testing, Inc.

This report is reissued in the name of Remodelers Supply Center through written authorization of Veka Inc. to whom the original report was rendered. The original Veka Inc. Report No. is 77936.01-501-47.

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. 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)

Revision Log

<u>Rev. #</u>	<u>Date</u>	<u>Page(s)</u>	<u>Revision(s)</u>
0	06/05/09	N/A	Original report issue – Reissue of Report No. 77936.01-501-47 in the name of Remodelers Supply Center.

Appendix A
Alteration Addendum

Note: No alterations were required.