

TEST REPORT

AAMA/WDMA/CSA 101/I.S.2/A440-11

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

REPORT NO.: 2499.02-109-12-R1

RENDERED TO: TROPHY WINDOWS
16261 Hollister Street
Houston, Texas 77066

PRODUCT TYPE: Integrally Mullered Twin PVC Fixed Window

SERIES / MODEL: S-83

Test	Specimen #1 Summary of Results
Primary Product Designator	Class R-PG50 1816 x 2121 (72 x 84) - FW
Design Pressure	±2400 Pa (±50.13 psf)
Air Infiltration	0.1 L/s/m ² (0.01 cfm/ft ²)
Canadian Air Infiltration/Exfiltration Level	Fixed
Water Penetration Resistance Test Pressure	360 Pa (7.52 psf)

Test Completion Date: 8/7/2020
Structural Re-Test Date: 3/22/2021
Revision Date: 4/13/2021

Reference must be made to Report No. 2499.02-109-12-R1, dated 9/21/2020 for complete test specimen description and detailed test results.

CLIENT INFORMATION: TROPHY WINDOWS
16261 Hollister Street
Houston, Texas 77066

TEST LABORATORY: Molimo, LLC
1410 Eden Road
York, Pennsylvania 17402
717-900-6034

PROJECT SUMMARY:

PRODUCT TYPE: Integrally Mullered Twin PVC Fixed Window

SERIES/MODEL: S-83

PROJECT SUMMARY:

Molimo, LLC was contracted to perform testing on the above referenced product. The results are tested values and were secured by using the designated test methods. A summary of the rating achieved for the specimen tested are shown in the table below.

This product was original tested by Veka, Inc. as Series SH46W Integrally Mullered Twin PVC Fixed Window. This report is a reissue of Report No. 2499.01-109-12-R1 in the name of Trophy Windows through written authorization of Veka, Inc.

SPECIMEN	SPECIFICATION	PRODUCT RATING
1	101/I.S.2/A440-08 & 11	Class R-PG50 1816 x 2121 (72 x 84) - FW

PROJECT DETAILS:

Test Dates: 8/6/2020 – 8/7/2020

Structural Re-Test Date: 3/22/2021

Test Record Retention End Date: 8/7/2024

Test Location: Veka, Inc. test facility in Fombell, PA. In accordance with AAMA 205.01, calibration of manufacturers' test equipment is documented under Report No. 2497.01-109-12.

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

Drawing Reference: The test specimen drawings were supplied by the client. The test specimen construction was verified by Molimo and was found to be representative of the product tested. Test specimen drawings are located in Appendix C of this report.

WITNESSES:

The following representatives witnessed all or part of the testing.

Name	Company
Doug Merry	VEKA, Inc.
Cornell Charles	VEKA, Inc.
Joseph Allison	Molimo, LLC

TEST METHODS:

AAMA/WDMA/CSA 101/I.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

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

TEST SPECIMEN DESCRIPTION:**PRODUCT SIZES:**

Overall Size: 1816 mm x 2121 mm (71-1/2" x 83-1/2")

Overall Area: 3.85 m² (41.46 ft²)

FRAME CONSTRUCTION:

Material: Extruded PVC

Corner Details: Miter cut and thermally welded

Integral mullions: The integral mullion was coped, butted and fastened with four #8 x 2-1/2" truss head screws at each end. The entire mechanical joint was sealed with silicone sealant.

REINFORCEMENT:

Drawing Number	Material	Location
Part No. 1186	Extruded Aluminum	Integral mullion

TEST SPECIMEN DESCRIPTION: (Continued)

GLAZING DETAILS: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen can be made.*

Description	Detail
Glass Type	3/4" IG
Glazing Construction (exterior to interior)	5/32" Thick annealed glass 7/16" Butyl with corrugated metal substrate spacer system 5/32" Thick annealed glass
Glazing Method	Interior glazed against a bed of silicone, toe beaded with silicone and secured with rigid vinyl glazing beads
Glazing Bite	5/8"
Daylight Opening Frame (2):	787 mm x 2007 mm (31" x 79")

WEATHERSTRIPPING: No weatherstripping was utilized

DRAINAGE:

Description	Quantity	Location
1-1/8" wide by 3/16" high weep slot	2	Exterior sill face, one 3" from each end

HARDWARE: No hardware was utilized

TEST SPECIMEN DESCRIPTION: (Continued)

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

Location	Anchor Description	Anchor Spacing
Jambs	#8 x 2" Truss head screw	Beginning at each corner then spaced 7-1/2" on center, through the nailing fin and into the wood buck

TEST RESULTS: The temperature during testing was 19° C (67° F).

AIR LEAKAGE TESTING: (per ASTM E 283)

Test	Results	Allowable
Infiltration @ 75 Pa (1.57 psf)	0.1 L/s/m ² (0.01 cfm/ft ²)	1.5 L/s/m ² (0.30 cfm/ft ²)
Exfiltration @ 75 Pa (1.57 psf)	0.1 L/s/m ² (0.01 cfm/ft ²)	1.5 L/s/m ² (0.30 cfm/ft ²)

Canadian Air Infiltration Rating: Fixed

Note 1: The specimen tested meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

WATER PENETRATION TESTING: (per ASTM E 547)

Test	Results	Allowable
360 Pa (7.52 psf)	Pass	No Leakage

Note 2: Water Penetration testing was performed without an insect screen.

TEST RESULTS: (Continued)

UNIFORM LOAD TESTING: (per ASTM E 330)

Design Pressure Test	Results	Allowable
Deflection measured at the integral mullion +2400 Pa (+50.13 psf) -2400 Pa (-50.13 psf)	41.5 mm (1.63") 34.8 mm (1.37")	Report only

Structural Test	Results	Allowable
Permanent Set measured at the integral mullion +3600 Pa (+75.19 psf) -3600 Pa (-75.19 psf)	3.8 mm (0.15") 4.3 mm (0.17")	8.1 mm (0.32") 8.1 mm (0.32")

Note 3: All loads were held for 10 seconds.

Note 4: Tape and film were not used to seal against air leakage.

SECONDARY TESTING:

Test	Results	Allowable
FORCED ENTRY RESISTANCE per ASTM F 588 Type: D – Grade: 40	Pass	No Entry
THERMOPLASTIC CORNER WELD	Pass	Meets as stated

General Note: All testing was performed in accordance with reference test methods.

This report is reissued in the name of Trophy Windows through written authorization from Veka, Inc. to whom the original report was rendered. The original Report Number is 2499.01-109-12-R1. A copy of this report, detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Molimo, LLC for the entire test record retention period. At the end of this retention period, the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. This test 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 permission of Molimo, LLC.

For MOLIMO, LLC:

Joseph E. Allison
Regional Project Manager

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

JEA:dro

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

Appendix-A: Alteration Addendum (1)

Appendix-B: Air Seal Location (1)

Appendix-C: Drawings (1)

Revision Log

Rev. #	Date	Page(s)	Revision(s)
1	4/13/2021	Cover, 2, 6	Additional testing conducted due to glass breakage to achieve higher rating

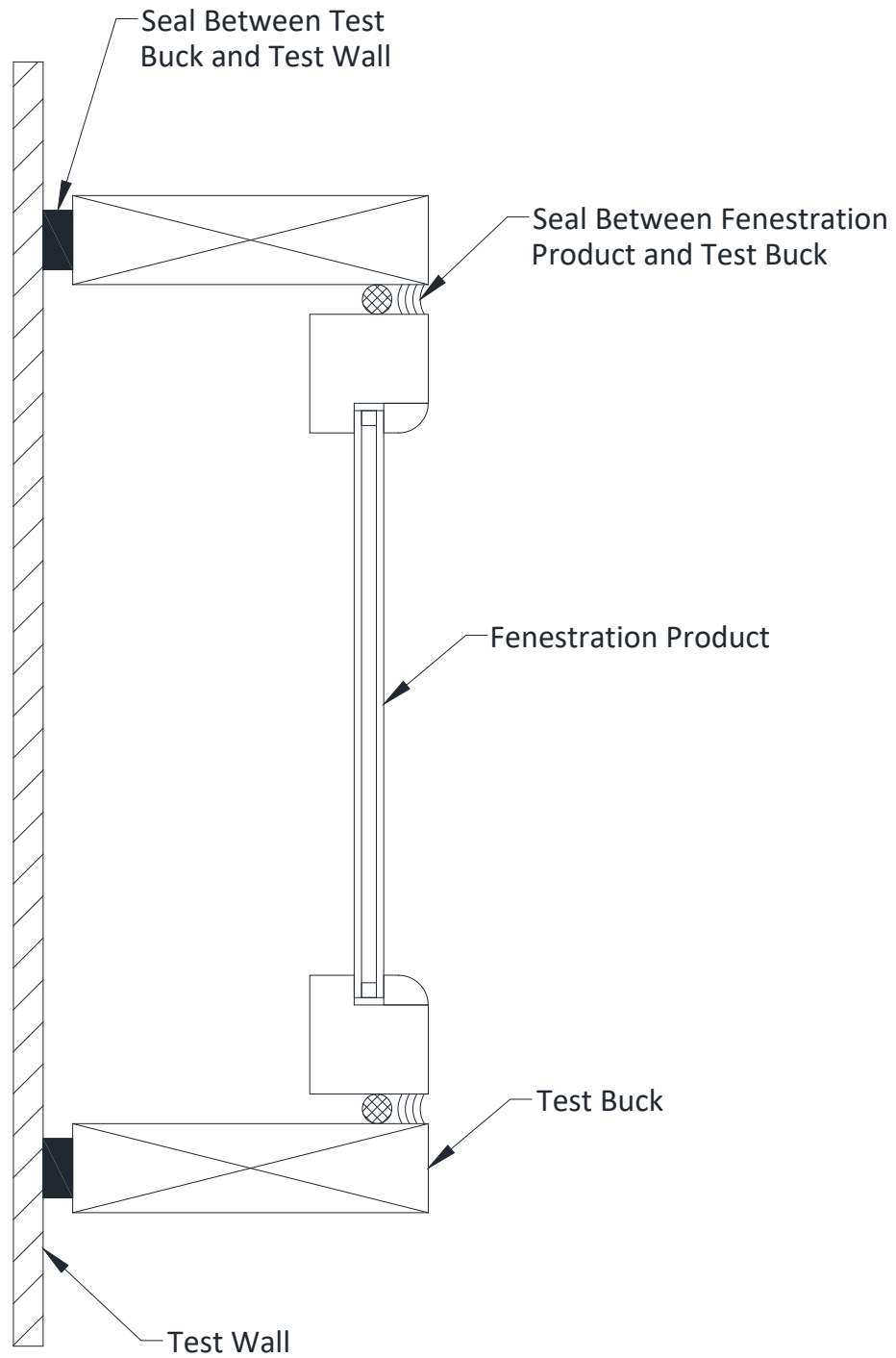
Appendix A

Alteration Addendum

No alterations were performed.

Appendix B

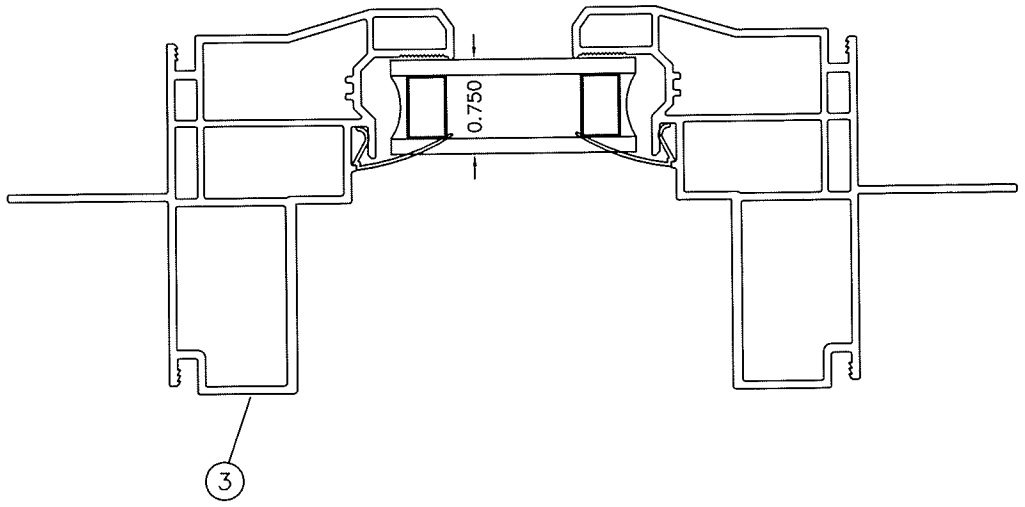
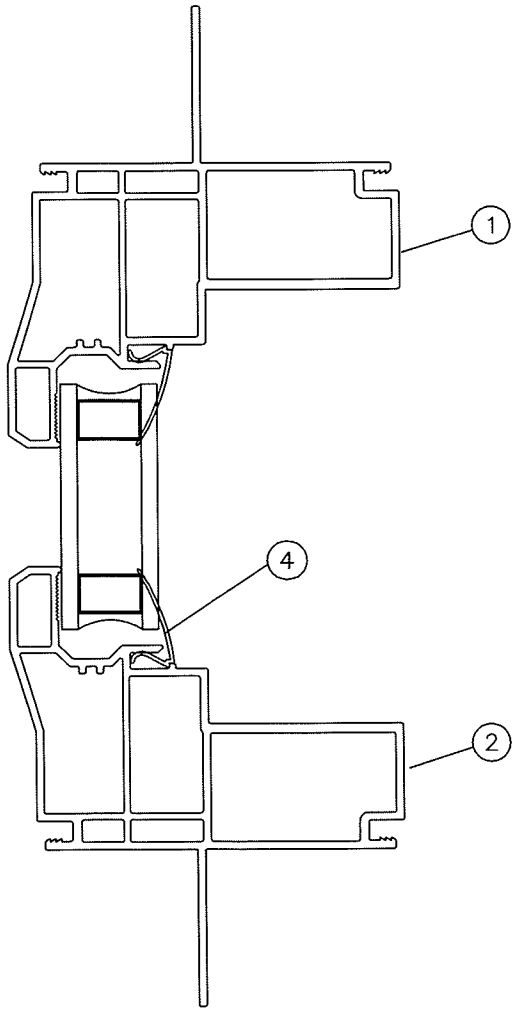
Air Seal Location



Appendix C

Drawings

SH46W



VINYL EXTRUSIONS

- ① SH4602 FRAME HEAD
- ② SH4602 FRAME SILL
- ③ SH4602 FRAME JAMB
- ④ V-716 GLAZING BEAD

Molimo
Architectural Product Testing

Report #: 2499.02-109-12

Date: 9/21/2020

By: J. Allison

VEKA INC.
100 VEKA DRIVE
FOMBELL, PA 16123

DESCRIPTION: SH46W SERIES
PICTURE WINDOW LAYOUT

B-SIZE	BY BJF	DATE 11/5/04
SCALE FULL	DWG # SH46W	

REV	ECN.	CHANGE	BY	DATE
B		UPDATED PROFILE SH5702 TCR#0517-002	BJF	09/13/17
A	XXXX	UPDATED PROFILE SH5702	BJF	12/20/04

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