

TEST REPORT

Report No.: C9428.01-301-44

Rendered to:

ALL WEATHER ARCHITECTURAL ALUMINUM
Vacaville, California

SERIES/MODEL: 5000 Series

PRODUCT TYPE: Thermally Broken Aluminum Fixed Window

SPECIFICATION: AAMA/WDMA/CSA 101/I.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*
AND
AAMA/WDMA/CSA 101/I.S.2/A440-05, *Standard/Specification for Windows, Doors, and Unit Skylights.*

Title	Summary of Results
Primary Product Designator, AAMA/WDMA/CSA 101/I.S.2/A440-08	Class C – PG60: Size Tested 1502 x 1502 (59 x 59) – Type FW
Primary Product Designator, AAMA/WDMA/CSA 101/I.S.2/A440-05	FW – C60 1502 x 1502 (59 x 59)
Design Pressure	±2880 Pa (±60.15 psf)
Air Infiltration	0.0 L/s/m ² 0.00 cfm/ft ²)
Water Penetration Resistance Test Pressure	440 Pa (9.19 psf)

Test Completion Date: 06/17/2013

Reference must be made to Report No. C9428.01-301-44 dated 01/20/14 for complete test specimen description and detailed test results.

1.0 Report Issued To: All Weather Architectural Aluminum
777 Aldridge Road
Vacaville, California 95688

2.0 Test Laboratory: Architectural Testing, Inc.
2524 East Jensen Avenue
Fresno, California 93706
559-233-8705

3.0 Project Summary:

3.1 Series/Model: 5000 Series

3.2 Product Type: Thermally Broken Aluminum Fixed Window

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test methods. The specimen tested successfully met the performance requirements for an AAMA/WDMA/CSA 101/I.S.2/A440-08 rating of **Class C – PG60: Size Tested 1502 x 1502 (59 x 59) – Type FW**, and an AAMA/WDMA/CSA 101/I.S.2/A440-05 rating of **FW – C60 1502 x 1502 (59 x 59)**.

3.4 Test Date: 06/17/2013

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

3.6 Test Location: Architectural Testing, Inc. test facility in Fresno, California.

3.7 Test Sample Source: The test specimen was provided by the client.

3.8 Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix B. Any deviations are documented herein or on the drawings.

3.9 List of Official Observers:

<u>Name</u>	<u>Company</u>
Seamus Porter	All Weather Architectural Aluminum
David Douglass	Architectural Testing, Inc.

4.0 Test Specifications:

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

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: 2.26 m ² (24.3 ft ²)	Width		Height	
	millimeters	inches	millimeters	inches
Overall size	1502	59-1/8	1502	59-1/8

5.2 Frame Construction:

Frame Member	Material	Description
Head and Sill	Aluminum	Extruded aluminum with poured and debridged thermal break
Jambs	Aluminum	Extruded aluminum with poured and debridged thermal break

	Joinery Type	Detail
Frame corners	Mitered	Corners were welded and sealed with seam sealer.

5.3 Panel Construction: No panel was utilized.

5.4 Weatherstripping: No weatherstripping was utilized.

5.0 Test Specimen Description: (Continued)

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

Glass Type	Spacer Type	Interior Lite	Exterior Lite	Glazing Method
1" IG	Aluminum	3/16" clear annealed	3/16" clear annealed	Glazing was direct set to the frame from the exterior onto double-sided foam tape, sealed at the corners with silicone, and secured with a snap-fit glazing bead. Each glazing bead utilized a rubber gasket against the glass.

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
Fixed lite	1	1433 x 1433	56-7/16 x 56-7/16	1/2"

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Weep Notch	11/16" x 1/8"	2	Sill at fixed lite, 7/8" from each corner.

5.7 Hardware: No hardware was utilized

5.8 Reinforcement: No reinforcement was utilized.

5.9 Screen Construction: No screen was utilized.



6.0 Installation:

The specimen was installed into a Douglas fir test buck. The rough opening allowed for a 1/4" shim space. The exterior perimeter of the window was sealed with silicone.

Location	Anchor Description	Anchor Location
Nail fin	1/4" x 2" Phillips flat head screw	1-1/2" from each corner and spaced 12" – 13" on center.

7.0 Test Results: The temperature during testing was 21°C (69°F). The results are tabulated as follows:

Title of Test	Results	Allowed	Note
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	0.0 L/s/m ² (0.00 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	2
Uniform Load Deflection, per ASTM E 330	N/A	N/A	2
Uniform Load Structural, per ASTM E 330	N/A	N/A	2
Forced Entry Resistance, per ASTM F 588, Type D, Grade 40 and per CAWM-301, Type V	Pass	No entry	

**7.0 Test Results:** (Continued)

Title of Test	Results	Allowed	Note
Optional Performance			
Water Penetration, per ASTM E 547 at 440 Pa (9.19 psf)	Pass	No leakage	3
Uniform Load Deflection, per ASTM E 330 <u>Lock-to-Lock Mullion</u> -2880 Pa (-60.15 psf) +2880 Pa (+60.15 psf)	0.1 mm (0.01") 0.3 mm (0.01")	1.9 mm (0.07") 1.9 mm (0.07")	4, 5, 6
Uniform Load Structural, per ASTM E 330 <u>Lock-to-Lock Mullion</u> -4320 Pa (-90.23 psf) +4320 Pa (+90.23 psf)	0.1 mm (0.01") 0.0 mm (0.00")	1.0 mm (0.04") 1.0 mm (0.04")	5, 6

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

Note 2: 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 given different allowable limits by the stated specifications. The allowable limits reported are the more restrictive. The deflection data in this report may also be used for special code compliance or information purposes.

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.

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.



Digitally Signed by: David Douglass

David Douglass
Project Manager



Digitally Signed by: Leaton Kirk

Leaton Kirk
Director – Regional Operations

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

Appendix-A: Alteration Addendum (1)

Appendix-B: Drawings (4)