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Report No. : A09FW-025
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TESTED FOR

ALL WEATHER

777 Aldridge Road
Vacaville, CA 95688

1.0 PURPOSE

The purpose of this report is to present the testing methods employed and the test results obtained during the performance testing of one (1) **Thermally Broken Aluminum Fixed Window** described in paragraph 4.0 of this report.

2.0 TEST REFERENCES

- 2.1 Standard/Specification for Windows, Doors, and Unit Skylights AAMA/WDMA/CSA 101/IS.2/A440-05
FW - HC75 1524 x 1803 (60 x 71)
- 2.2 CAWM 301 - 90 Forced Entry Resistance Tests for Windows.
- 2.3 ASTM F 588-07 Standard Test Method for Measuring the Forced Entry Resistance of Windows

3.0 SUMMARY

The test results in paragraphs 5.0 and 6.0 indicate that the test sample described in paragraph 4.0 of this report complied with the performance requirements of the above referenced specifications.

4.0 SAMPLE SUBMITTED

SERIES: 5000 Fixed Window

CONFIGURATION: O

FRAME SIZE: 1524 mm x 1803 mm (60.00" x 70.98")

FIXED SIZE: 1454 mm x 1734 mm (57.24" x 68.27") Daylight Opening

GLASS: The frame was glazed with a 1" overall insulated glass panel containing 1/4" annealed glass on both sides.

INSULATED

GLASS SPACER: The spacer was aluminum box type 1/2" wide and single sealed.

GLAZING:

The insulated glass panel rested on 1/4" high setting blocks set at quarter points of the frame span and was glazed from the exterior onto a double-sided adhesive foam tape. The lite was also adhered to the frame with seam sealer applied at each corner 2" in each direction under the glazing tape.

From the exterior, the lite was retained full perimeter with aluminum snap-in glazing stops containing full length pull-in flat vinyl gasket.

WEEPAGE: The sill exterior face contained a 7/16" x 1/8" weep slot punched at each end.
The sill snap-in stop was notched around each frame weep allowing water to drain from the glazing pocket.

WEATHERING: The glazing stops each containing a full length pull-in flat vinyl gasket.

CONSTRUCTION: The frame corners were mitered and welded.
The thermal break was poured-in and debridged. The debridged width was 0.17".

CAULKING: The following were sealed:
1) The frame corners were sealed full profile.
2) Glass corners to frame, 2" in each direction.

ANCHORING: The frame was mounted over a 2" x 6" wood rough opening and fastened through the nail fin with #6 x 1 5/8" screws every 14" on center. Wood furring was applied over the nail fins and screwed to the wooden buck.

5.0 TEST PROCEDURES AND RESULTS

5.1 All testing procedures were performed in accordance with the performance requirements of the test specifications referenced in paragraph 2.0 of this report.

5.2 TEST RESULTS
PARAGRAPH

TEST DESCRIPTION **MEASURED** **ALLOWED**

5.3.2.1	Air Infiltration (ASTM E 283) 300 Pa (6.2 PSF) The tested specimen exceeds the performance requirements specified in AAMA/WDMA/CSA 101 / I.S.2 / A440 for air leakage resistance.	0.0 L/s•m ² 0.00 CFM/ft ²	1.5 L/s•m ² 0.3 CFM/ft ²
5.3.3.2	Water Penetration (ASTM E 547 & 331) 290 Pa (6.0 PSF)	No Leakage	No Leakage
5.3.4.2	Uniform Load Deflection (ASTM E 330) 1920 Pa (40.0 PSF) POS 1920 Pa (40.0 PSF) NEG	1.50 mm (0.06") 1.00 mm (0.04")	10.50 mm (0.41") 10.50 mm (0.41")
5.3.4.3	Uniform Load Structural (ASTM E 330) 2880 Pa (60.0 PSF) POS 2880 Pa (60.0 PSF) NEG	No Damage No Damage	No Damage No Damage

5.3 OPTIONAL PERFORMANCE GRADES

TEST RESULTS

<u>PARAGRAPH</u>	<u>TEST DESCRIPTION</u>	<u>MEASURED</u>	<u>ALLOWED</u>
5.3.3.2	Water Penetration (ASTM E 547 & 331) 540 Pa (11.25 PSF)	No Leakage	No Leakage
5.3.4.2	Uniform Load Deflection (ASTM E 330) 3600 Pa (75.0 PSF) POS	2.50 mm (0.10")	10.50 mm (0.41")
	3600 Pa (75.0 PSF) NEG	1.50 mm (0.06")	10.50 mm (0.41")
5.3.4.3	Uniform Load Structural (ASTM E 330) 5400 Pa (112.5 PSF) POS	No Damage	No Damage
	5400 Pa (112.5 PSF) NEG	No Damage	No Damage

6.0 5.3.5 ASTM F 588 Forced Entry Resistance Test Results For Windows

1.2.4 Type "D" Fixed Window Assemblies

Table A1.1 Grade 20

	<u>TEST</u>	<u>RESULTS</u>	<u>DESCRIPTION</u>
A2.7.1	A2.1	Passed	No Entry
A2.7.3	A2.1	Passed	No Entry

6.1 5.3.5 CAWM 301 - 90 Forced Entry Resistance Tests for Windows.

2.4.5 Type "V" Fixed Window Assemblies

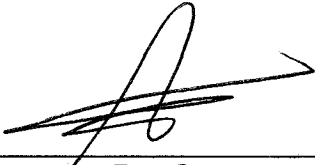
	<u>TEST</u>	<u>RESULTS</u>	<u>DESCRIPTION</u>
5.4.1	A	Passed	No Entry
5.4.2	B	Passed	No Entry

For a complete description of the tested sample refer to the attached cross section drawings. Assembly and die drawings of frame members are on file and have been compared to the sample submitted. Test sample sections, drawings and a copy of this report will be retained at the test laboratory for four years.

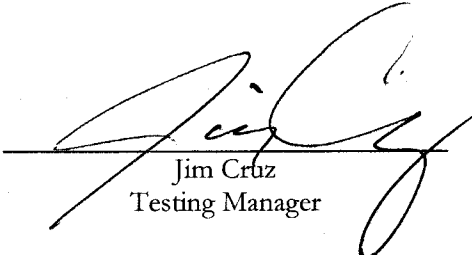
This test report may not be modified in any way without the written consent of Fenestration Testing Laboratory.

The above test results were obtained by using the applicable ASTM and CAWM Test Methods. This report does not constitute Certification of this product. Certification can only be granted by an approved Administrator and/or Validator.

Testing Completed: April 21, 2009
 Report Completed: April 24, 2009



 Pete Cruz
 Test Engineer



 Jim Cruz
 Testing Manager