

TESTED FOR

Fleetwood Aluminum
2485 Railroad Street
Corona, CA 91720

Report No. : A98C-047
Date : April 6, 1998
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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 Casement Window** described in paragraph 4.0 of this report.

2.0 TEST REFERENCES

2.1 Voluntary Specifications for Aluminum, Vinyl (PVC) and Wood Windows and Glass Doors;
AAMA/NWWDA 101/L.S.2 - 97: **C - HC 75** 73 x 51

2.2 CAWM 301 - 90 Forced Entry Resistance Tests for 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: YUKON 5000 T OG Casement

CONFIGURATION: XO Single Vent next to fixed lite.

FRAME SIZE: 72.50" x 50.50"

SASH SIZE: 24.25" x 48.25"

FIXED SIZE: 44.06" x 46.63" Daylight Opening.

GLASS: The vent and fixed lite were glazed with 1/4" annealed glass.

GLAZING: Both lites were outside glazed with bulb vinyl on the frame and bulb vinyl on the aluminum snap-in glazing stop applied full perimeter on the exterior of both lites. The fixed lite sat on a plastic setting block at each end of the sill.

The vent glass sat on a setting block on the hinge side of the bottom rail and one (1) at the diagonal corner.

WEEPAGE: The sill bottom rail contained a 1" x 1/8" weep slot at each end of the vent opening and at each end of the fixed lite opening.

WEATHERING: The snap-in aluminum glazing stop used on the vent and fixed lite contained a strip of hollow bulb.

HARDWARE: The mullion contained a three-point lock 12½" from the bottom fastened with a pair of #10 machine screws. When locked, the slide bolts engaged their respective plastic keepers fastened to the vent lock stile at 7", 25" and 42.5" from the bottom. The vent was supported in the frame with an aluminum butt hinge 5½" from each end of the hinge stile and fastened with three (3) screws to the vent and frame. The sill contained a roto operator fastened with four (4) screws. A gasket seal was used between the frame and roto operator housing.

CONSTRUCTION: The frame and vent corners were keyed and welded. The mullion was just welded to the frame at each end.

CAULKING: The vent and frame corners were seam sealed full profile. The mullion was seam sealed to the frame on the bottom and top corners.

Silicone was used to secure the glass to the frame 2" each way on all glazing corners.

The window was sealed to the buck with silicone caulk full perimeter on the inside and outside.

ANCHORING: The window was mounted in a 2" x 6" wooden buck and fastened with #10 x 1¾" PFH screws every 14 inches.

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

<u>TEST DESCRIPTION</u>	<u>MEASURED</u>	<u>ALLOWED</u>
2.1.2 Air Infiltration (ASTM E 283) 6.24 PSF The tested specimen exceeds the performance requirements specified in AAMA/NWDA 101/I.S.2-97 for Air Infiltration.	0.02 CFM/Ft ²	0.3 CFM/Ft ²
2.1.3 Water Penetration (ASTM E 547 & ASTM E 331) 6.00 PSF	No Leakage	No Leakage
2.1.4 Uniform Load Structural (ASTM E 330) 60.0 PSF POS 60.0 PSF NEG	0.0" 0.0"	0.188" Set 0.188" Set
2.2.5.6.1 Vertical Deflection Test	0.0" Defl.	0.51" Defl.
2.2.5.6.2 Hardware Load Test	Pass	No Damage

5.2 **TEST RESULTS**
PARAGRAPH **TEST DESCRIPTION** **MEASURED** **ALLOWED**

2.2.5.6.3 Torsion Test 0.83" 1.55"

5.3 **OPTIONAL PERFORMANCE GRADES**

4.3 Water Penetration (ASTM E 547 & ASTM E 331)
15.0 PSF No Leakage No Leakage

4.4.2 Uniform Load Structural (ASTM E 330)
105.0 PSF POS 0.0" 0.188"
105.0 PSF NEG 0.0" 0.188"

6.0 2.1.8 **CAWM 301 - 90 FORCED ENTRY RESISTANCE TEST RESULTS**

2.4.2 Type "II" Window

	<u>TEST</u>	<u>RESULTS</u>	<u>DESCRIPTION</u>
5.2.1		Passed	Disassembly
5.2.2	A	Passed	With swinging sash in normal position, 100# load within three (3) inches of each end of the member which is opposite the hinged side, in direction perpendicular to the plane of the glass that would tend to open the window.
5.2.3	B	Passed	Test A and simultaneous load of 100# on the outside within one (1) inch of each end of the member which is opposite the hinged side, in a direction parallel to the plane of the glass which would tend to disengage the lock.
5.2.4	C	Passed	With the swinging sash in normal position, 200# on the member containing the locking device, within six (6) inches of the locking device, in direction perpendicular to the plane of the glass which would tend to open the window, while simultaneous load of 100# on the outside within one (1) inch of each end of the member which is opposite the hinged side, in a direction parallel to the plane of the glass which would tend to disengage lock.
5.2.5	E	Passed	Hand and Tool Manipulation.

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.

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/Validator.

Testing Completed: April 3, 1998
Report Completed: April 6, 1998

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Test Technician