TESTED FOR

FLEETWOOD ALUMINUM PRODUCTS, INC.
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Corona, CA 91720

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 Sliding Glass Door** described in paragraph 4.0 of this report.

2.0 TEST REFERENCES

2.1 Voluntary Specifications for Aluminum, Vinyl (PVC) Wood Windows and Glass Doors:
AAMA/NWWDA 101/I.S.2-97: **SGD - R 20** 219 x 144

2.2 CAWM 300 - 96 Forced Entry Resistance Tests for Sliding Glass Doors.

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:	**GLACIER 3300 Sliding Glass Door**
CONFIGURATION:	**OXO**
FRAME SIZE:	219.00" x 143.63"
SLIDING PANEL:	74.19" x 141.63"
FIXED PANEL:	71.25" Right Panel 72.25" Left Panel
GLASS:	All panels contained 1" overall I.G. units with ¼" tempered glass on each side and a metal air spacer.
GLAZING:	All panels were channel glazed with vinyl gasket and all of the glazing corners were sealed from the interior and exterior with silicone.
WEEPAGE:	None.
WEATHERING:	Amesbury 0.290" overall high pile with center fin was used as follows: a) Full length on the sill facing out. b) Full length on the jambs facing in. c) Full length on the head sliding track facing out.

WEATHERING: The head and intermediate jamb contained 0.210" overall high pile with center fin facing in. The intermediate jamb contained 0.230" high polypile facing out. Both fixed and intermediate jamb stops contained one (1) strip of Q-lon vinyl facing out. Both interlocks contained a strip of Amesbury 0.290" overall high pile. Bottom rail of sliding panel on the underside contained sweep vinyl.

HARDWARE: The sliding bottom rail contained an adjustable tandem steel roller at each end. The lead stile contained a heavy duty maxi lock mechanism.

CONSTRUCTION: All frame and panel corners were mechanically joined with two (2) screws.

Intermediate jamb and fixed interlock were clipped to the frame at bottom end with an aluminum angle clip. Each clip leg was fastened with a pair of screws. A snap-in aluminum head cover was inserted between the intermediate jamb and the fixed interlock.

Each jamb contained a jamb stop secured with screws.

CAULKING: Frame to rough opening full perimeter in and out. All corners were caulked with seam seal. Intermediate jamb and fixed jamb stops were caulked full profile, top and bottom to the frame.

ANCHORING: The frame was fastened into the 2" x 8" wood rough opening with screws equally spaced across the four sides every 20 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	TEST DESCRIPTION	MEASURED	ALLOWED
2.2.19.5.1	Operating Force		
	Breakaway	27 lbf.	30 lbf.
	Motion	12 lbf.	20 lbf.
2.1.2	Air Infiltration (ASTM E 283)		
	1.57 PSF	0.05 CFM/Ft²	0.3 CFM/Ft²
	The tested specimen exceeds the performance requirements specified in AAMA/NWWDA 101/I.S.2-97 for Air Infiltration.		
2.1.3	Water Penetration (ASTM E 547)		
	2.86 PSF With/without screen	No Leakage	No Leakage
2.1.4	Uniform Load Structural (ASTM E 330)		
	22.5 PSF POS	0.13"	0.56" Set
	22.5 PSF NEG	0.00"	0.56" Set
2.1.19.5.2	Deglazing (ASTM E 987)		
	70 lbf. Stiles	10%	Less than 100%
	50 lbf. Rails	9%	Less than 100%

5.3 OPTIONAL PERFORMANCE GRADES

4.3	Water Penetration (ASTM E 547)		
	6.24 PSF With/without screen	No Leakage	No Leakage
2.1.4	Uniform Load Structural (ASTM E 330)		
	30.0 PSF POS	0.25"	0.56" Set
	30.0 PSF NEG	0.13"	0.56" Set

6.0 2.1.8 **CAWM 300-96 Forced Entry Resistance Test Results For Sliding Glass Doors**

2.3.2 Type "II" Sliding Glass Door

6.1.3 **Results of Operable Panel**

	TEST	RESULTS	DESCRIPTION
6.1.1		Passed	Disassembly
6.1.3.1	**A-II**	Passed	Test A, Section 6.1.2.1, as described for Type I assembly, applying two (2) equal 800# forces. Apply the first force at the locking stile of the operable panel, in the direction parallel to the plane of the glass. Apply the second force at the intermediate jamb in the direction parallel to the plane of the glass and opposite the first force. The load attachment points shall be the same height above the frame sill as the load attachment points for the first force. Apply both loads together and in equal stages, not to exceed 10#/s, so that the results are not adversely affected by deglazing of the fixed panel.
6.1.3.2	**B-II**	Passed	Repeat Test A while, simultaneously, an additional concentrated load of 200# is applied to the same area of the same lock stile in direction perpendicular to the plane of the glass toward the interior of the building.
6.1.3.3	**C-III**	Passed	Repeat Test A while, simultaneously, an additional concentrated load of 200# is applied to the same area of the same lock stile in direction perpendicular to the plane of the glass toward the exterior of the building.
6.1.3.4	**G**	Passed	Hand and Tool Manipulation.
6.1.3.5	**D-II**	Passed	With the operable panel lifted upward to its full limit within the confines of the door frame, with the lifting force at the midspan of the bottom rail of the test panel, repeat Test A while, simultaneously, applying a concentrated load of 50# at the end of the same bottom rail near the meeting stiles toward the interior of the building.
6.1.3.6	**G**	Passed	Hand and Tool Manipulation.

6.1.5 **Results of Fixed Panel**

	TEST	RESULTS	DESCRIPTION
6.1.5.1	**A**	Passed	With panels in normal position, concentrated load of 300# at midspan of the fixed jamb stile in direction parallel to the plane of the glass that tends to remove the fixed panel from the frame jamb pocket.
6.1.5.1	**B**	Passed	With panels in normal position, concentrated load of 300# shall be applied at midspan of the fixed jamb stile in the direction parallel to the plane of the glass that would tend to remove the fixed panel from the frame jamb pocket while, simultaneously, an additional concentrated load of 150# is applied at midspan to the fixed panel interlock stile in the direction perpendicular to the plan of the glass which would tend to disengage the meeting stiles.
6.1.5.3	**C**	Passed	Test A with fixed panel lifted upward to its full limit within the confines of the door frame. The lifting force not to exceed 150# at the bottom of the exterior face of the meeting stile.
6.1.5.4	**G**	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.

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

The preceding 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 10, 2000
Report Completed: April 10, 2000

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