

**TESTED FOR**

**FLEETWOOD ALUMINUM PRODUCTS, INC.**

2485 Railroad Street  
Corona, CA 91720

Report No. : A03D-112  
Date : October 31, 2003  
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**1.0 PURPOSE**

The purpose of this report is to present the testing methods employed and test results obtained during the performance testing of one (1) **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 - HC50**                   181 x 96

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:**                   **NORWOOD 3000 SGD**

**CONFIGURATION:** **OXO Inside Slide**

**FRAME SIZE:**           181.12" x 95.50"

**SLIDING PANEL:**       61.75" x 93.56"

**FIXED PANEL:**         59.75" x 93.81"

**DEAD PANEL:**         58.87" x 93.81"

**GLASS:**                 Each of the panels was glazed with a 1" overall insulated glass unit which contained a lite of 1/4" clear tempered glass on each side and a 1/2" metal spacer.

**GLAZING:**             Each of the glass units was channel glazed with vinyl gasket onto its respective panel.

**WEEPAGE:**           None.

**WEATHERING:**       A strip of 0.290 polypile with a center fin was used as follows:

- 1) Sill – interior retaining leg contained one strip full length facing out.
- 2) Head – one strip full length in the operable channel was facing in and one strip was facing out.
- 3) Head - over fixed panels only, one strip facing in and one strip facing out.
- 4) False jamb –the operable portion contained one strip facing in and one strip facing out.

**WEATHERING (cont'd):** Each jamb and the false jamb contained a strip of two (2) finger vinyl seal facing out and weathering against the fixed stiles.

Each of the interlock stile contained a strip of 0.300" overall polypile applied full length which weathered against its respective interlock. The top and bottom end notches of each interlock contained a rigid PVC snap-in air barrier which contained a foam filled Q-lon bulb vinyl.

The operable panel bottom rail underside contained a sweep vinyl.

**HARDWARE:** The operable panel bottom rail contained an adjustable tandem steel roller in a metal housing at each end.

Forty inches up from the bottom rail, the operable panel lock stile contained Adams-Rite locking mechanism and handle assembly fastened in place with a pair of screws. The hook lock was recessed in the lock stile and fastened with a pair of screws. When closed and locked, the hook on the lock engaged a steel reinforced slot in the false lock jamb.

**CONSTRUCTION:** The frame corners were each mechanically joined with a pair of screws.

The panel corners were each mechanically joined with one (1) screw.

The intermediate false jamb and the fixed interlock were each clipped to the sill with an aluminum angle clip. Each clip leg was fastened with a pair of #10 x 3/4" Ph Pan Head screws.

From the interior, the fixed panels were each fastened to the frame jambs and intermediate false jamb with one (1) #8 screw at the lower end.

The threshold block was fastened to the bottom rail of the fixed panel with one (1) screw which in turn was fastened to the sill with one (1) screw.

**CAULKING:** The following were sealed:

- 1) The frame corners were sealed full profile.
- 2) The intermediate false jamb was sealed to the head and sill full profile.
- 3) The bottom rail glazing butt joints on each panel were sealed prior to assembly.

**ANCHORING:** The frame was fastened to the 2" x 8" wooden buck with #10 x 2" PH Flat Head screws as follows:

- 1) Head - a pair of screws every 16" on center. One (1) per panel channel.
- 2) Jamb - a pair of screws every 16" on center. One (1) per panel channel.
- 3) Sill - every 16" on center

## **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**

<b><u>PARAGRAPH</u></b>	<b><u>TEST DESCRIPTION</u></b>	<b><u>MEASURED</u></b>	<b><u>ALLOWED</u></b>
2.2.19.5.1	Operating Force (ASTM E 2068) Breakaway Motion	34 lbs. 15 lbs.	40 lbf. 25 lbf.

5.2 **TEST RESULTS (cont'd)**

<b><u>PARAGRAPH</u></b>	<b><u>TEST DESCRIPTION</u></b>	<b><u>MEASURED</u></b>	<b><u>ALLOWED</u></b>
2.1.2	Air Infiltration (ASTM E 283) 6.24 PSF The tested specimen meets the performance requirements specified in AAMA/NWWDA 101/I.S.2 -97 for Air Infiltration.	0.3 CFM/Ft <sup>2</sup>	0.3 CFM/Ft <sup>2</sup>
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) <b>For Fixed Interlock</b> 60.0 PSF POS 60.0 PSF NEG	0.04" 0.07"	0.37"Set 0.37"Set
2.1.4	Uniform Load Structural (ASTM E 330) <b>For Intermediate False Jamb</b> 60.0 PSF POS 60.0 PSF NEG	0.03" 0.05"	0.38"Set 0.38"Set
2.2.19.5.2	Deglazing (ASTM E 987) 70 lbs. Stiles 50 lbs. Rails	9% 3%	Less than 100% Less than 100%

5.3 **OPTIONAL PERFORMANCE GRADES**

**TEST RESULTS**  
**PARAGRAPH**

<b><u>PARAGRAPH</u></b>	<b><u>TEST DESCRIPTION</u></b>	<b><u>MEASURED</u></b>	<b><u>ALLOWED</u></b>
4.3	Water Penetration (ASTM E 547 & ASTM E 331) 7.50 PSF	No Leakage	No Leakage
4.4.1	Uniform Load Deflection (ASTM E 330) <b>For Fixed Interlock</b> 50.0 PSF POS 50.0 PSF NEG	1.32" 1.45"	No Damage No Damage
4.4.1	Uniform Load Deflection (ASTM E 330) <b>For Intermediate False Jamb</b> 50.0 PSF POS 50.0 PSF NEG	0.76" 0.89"	No Damage No Damage
4.4.2	Uniform Load Structural (ASTM E 330) <b>For Fixed Interlock</b> 75.0 PSF POS 75.0 PSF NEG	0.15" 0.18"	0.37"Set 0.37"Set
4.4.2	Uniform Load Structural (ASTM E 330) <b>For Intermediate False Jamb</b> 75.0 PSF POS 75.0 PSF NEG	0.09" 0.12"	0.38"Set 0.38"Set

5.4 **ADDITIONAL TESTING**  
**TEST DESCRIPTION**

Water Penetration (ASTM E 547 & ASTM E 331)  
12.00 PSF

**MEASURED**

**ALLOWED**

No Leakage

No Leakage

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

6.1.2 **Results of Operable Panel**

	<u>TEST</u>	<u>RESULTS</u>	<u>DESCRIPTION</u>
6.1.1		Passed	Disassembly
6.1.3.1	<b>A-II</b>	Passed	Apply two (2) equal 800 pounds forces. The first force is applied on the operable panel locking devise by installing cable through the lock stile on the interior and exterior in direction parallel to the plane of the glass that tends to open the door. Apply the second force on the false jamb opposite of the first force at the same time to avoid the deglazing of opposite panel.
6.1.3.2	<b>B-II</b>	Passed	Repeat Test A, while simultaneously applying an additional concentrated load of 200 pounds to the same area of the same lock stile in direction perpendicular to the plane of the glass towards the interior of the building.
6.1.3.3	<b>C-II</b>	Passed	Repeat Test A, while simultaneously applying an additional concentrated load of 200 pounds to the same area of the same lock stile in direction perpendicular to the plane of the glass towards the exterior of the building.
6.1.3.4	<b>G</b>	Passed	Hand and Tool Manipulation.
6.1.3.5	<b>D-II</b>	Passed	With 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-II while simultaneously applying a concentrated load of 50 pounds at the end of the same bottom rail near meeting stiles toward the interior of the building.
6.1.3.6	<b>G</b>	Passed	Hand and Tool Manipulation.

6.1.5 **Results of Fixed Panel**

6.1.5.1	<b>A</b>	Passed	With panels in normal position, apply a concentrated load of 300 pounds 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.
6.1.5.2	<b>B</b>	Passed	With panels in normal position, apply a concentrated load of 300 pounds 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. Simultaneously apply a concentrated load of 150 pounds 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	<b>C</b>	Passed	Repeat 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 pounds at the bottom of the exterior face of the meeting stile.
6.1.5.4	<b>G</b>	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 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: October 23, 2003

Report Completed: October 31, 2003

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Pete Cruz  
Test Engineer

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Melchor Ordaz  
Test Technician