

**TESTED FOR**

**FLEETWOOD ALUMINUM PRODUCTS, INC.**

2485 Railroad Street  
Corona, CA 91720

Report No. : A02D-223  
Date : January 29, 2003  
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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) **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 - C30** 185 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:** 3070 EX

**CONFIGURATION:** XXP

**FRAME SIZE:** 185.75" x 96.00"

**PRIMARY**

**SLIDING PANEL:** 62.00" x 94.37"

**SECONDARY**

**SLIDING PANEL:** 61.12" x 94.37"

**FIXED POCKET:**

65.12" x 96.00" Daylight opening of frame in pocket.

**GLASS:**

Each of the panels was glazed with a single lite of 1/4" clear tempered glass.

**GLAZING:**

Each of the panels was glazed with vinyl gasket full perimeter.

**WEEPAGE:**

The sill rested on a sill pan which captured the water draining through the sill weep slots. Refer to the attached drawing for weep sizes and locations and required sill pan size.

**WEATHERING:**

The frame head contained a strip of 0.310" overall polypile with a center fin as follows:

- 1) Exterior panel channel - one strip, full length facing in and one facing out.
- 2) Interior panel channel - one strip, full length facing in and one facing out.

**WEATHERING (cont'd):**

The jamb of interior panel channel contained a strip of 0.230" overall polypile with a center fin facing in and one strip facing out.

The sill contained eight (8) strips of 0.230" overall polypile with a center fin. The weatherstrip was placed so that two (2) strips weathered against each bottom rail leg. *Refer to the cross section drawings for a complete understanding of weatherstrip type and locations.*

Each of the interlock stile contained a strip of 0.290" 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 strip of 0.290" overall polypile with a center fin.

The bottom of each operable interlock contained an aluminum air barrier which contained a 7/16" brush and was fastened to the interlock with a pair of screws.

*Refer to the cross section drawings for a complete understanding of weatherstrip type and locations.*

**HARDWARE:**

Each of the operable panel bottom rails contained an adjustable tandem steel roller in a metal housing at each end.

Forty inches up from the bottom rail, the interior operable panel lock stile contained a mortise lock and handle assembly fastened in place with a pair of screws. The mortise 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 lock jamb.

**CONSTRUCTION:**

The frame sill consisted of two (2) sliding channels which were held together full length with a rigid PVC V-shaped extrusion. The two (2) individual jamb channels were mechanically joined together with a #8 x 3/4" Ph Pan Head self-tapping screw at each end. The frame corners were each mechanically joined with a pair of #10 x 3/4" Ph Pan Head screws.

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

The frame sill rested on a metal sill pan which ran full length and into wall pocket.

The pocket portion of the door contained an interlock which was fastened to a 2 x 6 nominal wood stud with screws every 16" on center. A reinforced plywood wall enclosed the remainder portion of the frame so as to not have a fixed lite but rather a wall pocket. The top of the interlock was notched and sealed to the head. The bottom end was notched and sealed to the aluminum sill pan.

The frame head contained an aluminum snap-in filler in the exterior channel pile pockets such that when all panels are closed no weatherstrip is visible from the exterior.

The sill contained a stainless steel snap-in roller track for each of the operable panels.

**CAULKING:**

The following were sealed:

- 1) The bottom rail glazing butt joints on each panel were sealed prior to assembly.
- 2) The fixed interlock was caulked full length to the supporting wood stud.
- 3) The plywood wall was caulked full perimeter to the frame.
- 4) The sill pan was sealed at each end full profile.
- 5) The sill threshold was sealed to the sill pan at pocket portion.

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

- 1) Head - a pair of screws every 16" on center. One (1) per sliding channel.
- 2) Jamb - a pair of screws every 16" on center. One (1) per sliding channel.
- 3) Sill - five (5) screws were equally spaced through sill span through threshold cap.

**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**

<u>PARAGRAPH</u>	<u>TEST DESCRIPTION</u>	<u>MEASURED</u>	<u>ALLOWED</u>
2.2.19.5.1	Operating Force Breakaway Motion	25 lbf. 11 lbf.	30 lbf. 20 lbf.
2.1.2	Air Infiltration (ASTM E 283) 1.57 PSF The tested specimen exceeds the performance requirements specified in AAMA/NWDA 101/I.S.2-97 for Air Infiltration.	0.17 CFM/Ft <sup>2</sup>	0.3 CFM/Ft <sup>2</sup>
2.1.3	Water Penetration (ASTM E 547) 4.50 PSF With/without screen	No Leakage	No Leakage
2.1.4.1	Uniform Load Deflection (ASTM E 330) 30.0 PSF POS 30.0 PSF NEG	1.73" 1.61"	No Damage No Damage
2.1.4.2	Uniform Load Structural (ASTM E 330) 45.0 PSF POS 45.0 PSF NEG	0.15" 0.12"	0.38" Set 0.38" Set
2.2.19.5.2	Deglazing (ASTM E 987) 70 lbf. Stiles 50 lbf. Rails	13% 8%	Less than 100% Less than 100%

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

2.3.1 Type "I" Sliding Glass Door

**6.1.2 Results of Operable Panel**

<u>TEST</u>	<u>RESULTS</u>	<u>DESCRIPTION</u>
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6.1.1	Passed	Disassembly
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6.1.2.1	<b>A</b> Passed	With panels in test position, apply concentrated load of 800# to the vertical pull stile incorporating a locking device. Force is exerted on the locking device at points on both the exterior and interior of the door panel members within three (3) inches above and below locking device, in direction parallel to the plane of the glass that would tend to open the door.
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**6.0 2.1.8 CAWM 300-96 Forced Entry Resistance Test Results For Sliding Glass Doors (cont'd)**

2.3.1 Type "I" Sliding Glass Door

6.1.2 Results of Operable Panel

	<u>TEST</u>	<u>RESULTS</u>	<u>DESCRIPTION</u>
6.1.2.2	<b>B</b>	Passed	Test A, while simultaneously 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 towards the interior of the building.
6.1.2.3	<b>C</b>	Passed	Test A, while simultaneously additional concentrated load of 200# is applied to the same area the same lock stile in direction perpendicular to the plane of the glass toward the exterior of the building.
6.1.2.4	<b>G</b>	Passed	Hand and Tool Manipulation.
6.1.2.5	<b>D</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 Test A while simultaneously applying concentrated load of 50# at the end of the same bottom rail near meeting stiles toward the exterior of the building .
6.1.2.6	<b>E</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, Test B.
6.1.2.7	<b>F</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, Test C.
6.1.2.8	<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, 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.
6.1.5.2	<b>B</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	<b>C</b>	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	<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 preceding test results were obtained by using the applicable ASTM and CAWM Test Methods. This report does not constitute Certification of this product. An approved Administrator and / or Validator can only grant certification.

Testing Completed: January 22, 2003

Report Completed: January 29, 2003

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Pete Cruz  
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