

TESTED FOR

FLEETWOOD ALUMINUM PRODUCTS, INC.

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Corona, CA 91720

Report No. : A03D-094
Date : October 3, 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) and 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 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 3070

CONFIGURATION: XXO

FRAME SIZE: 184.50" x 95.62"

PRIMARY

PANEL SIZE: 62.62" x 94.12"

SECONDARY

PANEL SIZE: 61.75" x 94.12"

FIXED SIZE: 62.62" x 94.12"

GLASS: Each of the panel 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: The panels were each channel glazed with vinyl gasket full perimeter.

WEEPAGE: The sill rested on a sill pan that captured the water draining through the sill weep slots. Refer to the attached drawings for weep sizes and location and required sill pan size.

WEATHERING: The frame head contained a strip of 0.240" overall polypile with a center fin full length of each panel channel facing in and a strip full length facing out.

NOTE : The weatherstrip of the secondary and the fixed panel ran from the jamb to the length of the closed panel to allow the aluminum head filler to snap into place.

WEATHERING (cont'd): The lock jamb of primary panel contained a strip of 0.240" overall polypile with a center fin full length facing in and one strip facing out.

The jamb of the fixed panel contained a two (2) finger vinyl weatherstrip full length facing in and facing out.

The sill contained twelve (12) strips of 0.240" overall polypile with a center fin. The weatherstrip was placed so that two (2) strips weathered against each bottom rail leg.

NOTE : The weatherstrip of the secondary and the fixed panel ran from the jamb to the length of the closed panel to allow the aluminum sill filler to snap into place.

Each of the interlock stile contained a strip of 0.320" 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.

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

HARDWARE: The operable panel bottom rails and the fixed panel each 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 corners were each mechanically joined with three (3) #10 x 3/4" Ph Pan Head screws and rested on a metal sill pan which ran full length.

The panels corners were mechanically joined with a #10 x 2" Ph Pan Head screw.

The fixed stile was secured to the jamb with a #8 x 3/4" screw 3" up from the bottom rail.

The frame head contained an aluminum snap-in filler in the secondary and fixed channel 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 panel and an aluminum snap-in filler in the pile pockets such that when all panels are closed, no pile is visible from the outside.

Refer to the cross section drawings for a complete understanding of aluminum snap-in fillers and locations.

CAULKING: The following were sealed:

- 1) The frame head to jamb was sealed full profile.
- 2) The bottom rail glazing butt joints on each panel were sealed prior to assembly.
- 3) The sill pan was sealed at each end full profile and to interior of the frame full length.

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

- 1) Head, set of three (3) screws every 16 inches.
- 2) Jambs, set of three (3) screws every 16 inches.
- 3) Sill, set of three (3) screws every 16 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

<u>PARAGRAPH</u>	<u>TEST DESCRIPTION</u>	<u>MEASURED</u>	<u>ALLOWED</u>
2.2.19.5.1	Operating Force Breakaway Motion	11 lbf. 8 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 AMA/NWWDA 101/IS.2 for Air Infiltration.	0.27 CFM/Ft ²	0.3 CFM/Ft ²
2.1.3	Water Penetration (ASTM E 547) 4.50 PSF <i>Note: Achieved with a sill pan leg height of 1.68".</i>	No Leakage	No Leakage
2.1.4.1	Uniform Load Deflection (ASTM E 330) 30.0 PSF POS 30.0 PSF NEG	1.48" 1.60"	No Damage No Damage
2.1.4.2	Uniform Load Structural (ASTM E 330) 45.0 PSF POS 45.0 PSF NEG	0.08" 0.10"	0.38" Set 0.38" Set
2.2.19.5.2	Deglazing (ASTM E 987) 70 lbf. Stiles 50 lbf. Rails	18% 10%	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>
6.1.1	Passed	Disassembly
6.1.2.1	A Passed	With panels in test position, apply concentrated load of 800 pounds to the vertical pull stile incorporating a locking device. Force is exerted on the locking device at points on both the interior and exterior of the door panel member 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.
6.1.2.2	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.

6.0 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>
6.1.2.3	C	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.
6.1.2.4	G	Passed	Hand and Tool Manipulation.
6.1.2.5	D	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.
6.1.2.6	E	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 B.
6.1.2.7	F	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 C.
6.1.2.8	G	Passed	Hand and Tool Manipulation.

6.1.5 **Results of Fixed Panel**

6.1.5.1	A	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	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	C	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	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. An approved Administrator and / or Validator can only grant certification.

Testing Completed: September 8, 2003

Report Completed: October 3, 2003

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