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
NAFS – North American Fenestration Standard/specification for windows, doors, and skylights
AAMA/WDMA/CSA 101/1.5.2/A4-40-08
Class R PG20 Size Tested 3651 x 3048 (144 x 120) with Standard Subsill - Type SD

2.2 ASTM F 842 - Forced Entry Resistance Tests for Sliding Doors.

2.3 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 EX

CONFIGURATION: XXX

FRAME SIZE: 3651 mm x 3048 mm (147.75" x 120.00")

END PANEL SIZE: 1261 mm x 2997 mm (49.65" x 117.99") (each end panel)

CENTER PANEL SIZE: 1242 mm x 2997 mm (48.90" x 117.99")

GLASS: All three panels contained 1” overall insulated glass which consisted of two lites of 6 mm tempered glass and a 0.5” air spacer.

INSULATED GLASS SPACER: All insulated glass spacers were aluminum box type, dual sealed and 0.5” wide.

GLAZING: Each of the panels was channel glazed with a vinyl gasket.

WEEPAGE: The bottom web of the threshold was notched 1” wide to allow water to drain down into the subsill and out the 1/2” diameter weep in the bottom of the subsill. The weeps described above were spaced as follows: 8” from each end and 36” on center in the field. Refer to the attached drawing and photo for more information.
WEATHERING: 0.290" overall high polyamide with center fin was used at all the frame channels making contact with the panels. (refer to the cross section drawing for exact locations). 0.300" overall high polyamide with center fin was used at all the interlocks as indicated on the attached cross section drawings. The threshold contained a strip of hollow bulb vinyl on the outside face and on the inside face which weathered to the subsill on each side.

HARDWARE: Each panel's bottom rail contained an adjustable tandem steel roller in a metal housing. Thirty-nine inches up from the bottom rail, the far left active panel lock stile contained metal mortise lock and handle assembly which when locked engaged a metal strike fastened to the jamb with a pair of #10 x 0.5" machine screws that threaded into a back metal back plate.

CONSTRUCTION: The frame corners were each mechanically joined with three #8 x 0.75" PPH screws. The active panels were fastened at each of their respective corners with a #10 x 2" PPH screws. The threshold was formed by combining three individual sill track extrusions joined to their respective abutting threshold track extrusion with a full length slide-in PVC key and by an aluminum 1" x 5.4" x 0.19" thick aluminum bar fastened to each individual threshold track extrusion with a #8 x 0.75" PPH self tapping screw applied from underneath every 36" on center. Each threshold track contained a slide-in stainless steel roller track. PVC setting blocks measuring 4" long were fastened to the under-side of each threshold extrusion with a single screw. The setting blocks were placed every 16" on center and kept the threshold elevated 1" above the subsill. The jamb channels that were exposed on the exterior when the door was fully closed each contained an aluminum filler. The interlocks each contained an air barrier fastened to each end (refer to the drawings for more details).

CAULKING: The following were sealed:
1) The sill to jamb joints were sealed full profile.
2) The head to jamb joints were sealed full profile.
3) The subsill corners joints were soldered and sealed.
4) Frame perimeter was sealed to the wood rough opening from the exterior.
5) The subsill sealed to the jams along the inside and outside face.

ANCHORING: The Sliding Glass Door frame was set in a 2" x 8" rough opening and fastened as follows: The frame head and jams were fastened to their respective sides with #10 x 2" screws one per channel starting 6" from each end and 16" on center in the field. The screws used to secure the The subsill was set in a bed of silicone which was allowed to cure and support the door.

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

5.3.1.1 Operating Force (ASTM F 2068)
  Breakaway
  Motion

5.3.1.2.1 Latching Devices
  Open and Close Latch Device

5.3.2 Air Infiltration (ASTM E 283)
  75 Pa (1.6 PSF)
  1.0 L/s*m² (0.2 CFM/ft²)

5.3.3.2 Water Penetration (ASTM E 547)
  140 Pa (2.9 PSF)
  No screen

5.3.4.2 Uniform Load Deflection (ASTM E 330)
  For Interlock
  720 Pa (15.0 PSF) POS
  720 Pa (15.0 PSF) NEG

5.3.4.3 Uniform Load Structural (ASTM E 330)
  2160 Pa (45.0 PSF) POS
  2160 Pa (45.0 PSF) NEG

5.3.6.3 Deglazing (ASTM E 987)
  320 N Stiles (70 lbf.)
  230 N Rails (50 lbf.)

4.3.2 Optional Performance Grades

5.3.3.2 Water Penetration (ASTM E 547)
  150 Pa (3.0 PSF)
  No screen

5.3.4.2 Uniform Load Deflection (ASTM E 330)
  For Interlock
  960 Pa (20.0 PSF) POS
  960 Pa (20.0 PSF) NEG

5.3.4.3 Uniform Load Structural (ASTM E 330)
  2160 Pa (45.0 PSF) POS
  2160 Pa (45.0 PSF) NEG

6.0 5.3.5 ASTM F 842 Forced Entry Resistance Test Results For Sliding Glass Doors
Table A1.1 Grade 10
1.2.2 Type "B" Sliding Glass Door

10.3 Results of Operable Panel

<table>
<thead>
<tr>
<th>TEST</th>
<th>RESULTS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2.5.1</td>
<td>A2.1</td>
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</tr>
<tr>
<td>A2.5.2</td>
<td>B1</td>
<td>Passed</td>
</tr>
<tr>
<td>A2.5.3</td>
<td>B2</td>
<td>Passed</td>
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<tr>
<td>A2.5.4</td>
<td>B3</td>
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<td>A2.5.5</td>
<td>B4</td>
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<tr>
<td>A2.5.6</td>
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<td>A2.5.7</td>
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<td>A2.5.9</td>
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6.1 5.3.5 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

<table>
<thead>
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<td>No Entry</td>
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<td>6.1.2.1 A</td>
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</tr>
<tr>
<td>6.1.2.2 B</td>
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<td>No Entry</td>
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<tr>
<td>6.1.2.3 C</td>
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<tr>
<td>6.1.2.4 G</td>
<td>Passed</td>
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<td>6.1.2.5 D</td>
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<td>6.1.2.6 E</td>
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<td>6.1.2.7 F</td>
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<tr>
<td>6.1.2.8 G</td>
<td>Passed</td>
<td>No Entry</td>
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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 AAMA, 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 17, 2012
Report Completed: July 16, 2012

Pete Cruz
Test Engineer

Jim Cruz
Testing Manager
GLAZING:
1": (6MM-TEMP. 0.5 AIR, 6MM-TEMP.)

* FRAME ANCHOR REQUIREMENTS TABLE

<table>
<thead>
<tr>
<th>OPENING TYPE</th>
<th>FRAME TO OPENING FASTENER TYPE</th>
<th>MINIMUM EMBEDMENT</th>
<th>MINIMUM EDGE DIST.</th>
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<tbody>
<tr>
<td>2N. WOOD FRAME OR BUCK</td>
<td>#12 10 SAE SCREW</td>
<td>3/4&quot;</td>
<td>3/4&quot;</td>
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<tr>
<td>MIN. 16 GA. 33 KSI STEEL STUD</td>
<td>#10 10 SAE SCREW</td>
<td>FULL</td>
<td>3/4&quot;</td>
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<tr>
<td>CLAY/CONCRETE</td>
<td>#12.5/16&quot; CONCRETE SCREWS</td>
<td>1 1/4&quot;</td>
<td>2 5/8&quot;</td>
</tr>
</tbody>
</table>

10 SAE SCREWS
CONCRETE SCREWS SHALL BE 3/8" ITW TAPCOIN

"A-A" 143.75
NET FRAMEWIDTH

FENESTRATION TESTING LAB
REPORT NO: T12-004
DATE: 7/13/12
EXTERIOR

NORWOOD 3070–EX HEAD

SCALE: FULL SIZE

FENESTRATION TESTING LAB

REPORT NO: T12-004

DATE: 7/12/12

NOTES:
- Seal fastener heads with compatible sealant as shown.
- Seal dim at anchor locations required (typical) (not by Fleetwood).
- Size and spacing of fasteners per local code, (typical) (not by Fleetwood).

Dimensions:
- 5 3/4"
- 6 6/8"
- 12 3/8"
- 1 1/8" NPT coupling (1 1/16" O.D. X 5/8"

Details:
- 0.0625 SILL PAN CLEARANCE
- WEEP HOLES IN SILL
- 2-1/16" MINIMUM ROUGH OPENING DEPTH
- 4" BLOCKS 12" O.C. MAXIMUM UNLESS OTHERWISE SPECIFIED
- PVC BLOCKS ATTACHED TO SILL WITH FASTENERS
- WEEP SLOTS IN PVC BLOCK
- WEEP SLOTS IN PVC BLOCK

SCALE: FULL SIZE

NORWOOD 3070–EX SILL

18
7
20
6

1010
501B
4040
4040
4040
4040
4040
4040
*CRITICAL DIMENSION

\( \phi 0.010 \text{ R.} \times 0.010 \text{ HIGH I.D. MARK} \)

**NOTE:**

TYP. WALL EXCEPT AS NOTED
UNMARKED Corners .010 R.

<table>
<thead>
<tr>
<th>CONTAINER</th>
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<th>SPACER RING</th>
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<tr>
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<td>PERL.</td>
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**DATE:**

2/10/95

**MAT'L:**

6063-T6

**CUSTOMER:**

FLEETWOOD ALUMINUM PRODUCTS

**PART NAME:**

NORWOOD LOCK STILE

**SCALE:**

1:1

**PART NO.**

03005

**H-002565**
* CRITICAL DIMENSION

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<th>SPACER RING</th>
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<tr>
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<td>STANDARD TOLERANCES</td>
<td>UNLESS OTHERWISE NOTED</td>
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SIERRA ALUMINUM COMPANY
2345 Fleetwood Drive
Riverside, California 92509
(909)781-7800 FAX (909)781-7884

FLEETWOOD ALUM. PROD.
CUSTOMER
PART NAME NORWOOD
1" DOOR TOP RAIL

SCALE 2:1
PART NO. 03004
DIE NO. 003130

NOTE: UNMARKED CORNERS .010 R.

TYP. WALL EXCEPT AS NOTED .094 .020

(10) R.031
R.062
R.094
R.162
60°

.843 REF .500
.087 REF

.020 TYP

.100 TYP

.100(4)

1.460 TYP

1.354

* .010 R. X .010 HIGH I.D. MARK

FIT WITH PART #
### Critical Dims.

0.010 R. X .010 DEEP I.D. MARK

<table>
<thead>
<tr>
<th>Container</th>
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<th>5</th>
<th>Spacer Ring</th>
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</thead>
<tbody>
<tr>
<td>Area</td>
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<td>Wt/ft</td>
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<td>Bolster</td>
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<tr>
<td>PerL</td>
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<td>Die Size</td>
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Dwn. By: TAS Date: 5/01/02

Material: 6063-T6

Scale: 1:1

Customer: FLEETWOOD ALUMINUM PRODS.

Part Name: 3070 MAMMOTH RAIL

Part No: 3027

Note: .094 TYP. WALL EXCEPT AS NOTED

Unmarked Corners: .010 R.
NOTES:
1. MATERIAL: .030 THICK, 302 STAINLESS STEEL
2. +/- .010 TOLERANCE UNLESS OTHERWISE NOTED.