Fenestration Testing Laboratory, Inc.

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Report No. : T12-004-1
Date : July 16, 2012
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TESTED FOR

Fleetwood Windows and Doors 1 Fleetwood Way Corona, CA 92879

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) <u>Aluminum Sliding Glass Door</u> 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/I.S.2/A440-08

Class LC PG30 Size Tested 3651 x 3048 (144 x 120) with Staggered 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 <u>SAMPLE SUBMITTED</u>

SERIES: Norwood 3070 EX (Staggered Subsill)

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 vertical weep holes of the subsill. The weeps described above were spaced as follows: 8" from each end and 48" on center in the field. Refer to the attached drawing for more information. Note that the threshold and pan were staggered which means that on the outside, the sill track and pan only continued as far as the panel extended in the closed position in contrast with the

standard sill and subsill where all three sill tracks run full length.

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WEATHERING:

0.290" overall high polypile 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 polypile 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 $\#10 \times 0.5$ " 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 (one screw per channel, on the end where all three sill and jamb panels were placed and with one screw on the opposite side where only one sill track and jamb channel were needed.

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 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. The sill tracks went from three wide on the left side to only one on the right side forming a staggered threshold and the PVC key and the aluminum bar described above would not be need where there was only one track. 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 fasteners were applied from the top.

The threshold, jamb and head channels that were exposed on the exterior when the door was fully closed each contained an aluminum filler which varied in shape depending on which frame member it engaged.

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 jambs 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 jambs 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.

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5 0	TROT BROLLI TO		Page : 3 of		4		
5.2	TEST RESULTS PARAGRAPH	TEST DESCRIPTION	MEASURED		ALLOWED		
	5.3.1.1	Operating Force (ASTM E 2068) Breakaway Motion	67 N 90 N	(15.1 lbf.) (20.0 lbf.)	135 N 90 N	(30 lbf.) (20 lbf.)	
	5.3.1.2.1	Latching Devices Open and Close Latch Device	9 N	(2.0 lbf.)	100 N	(22.5 lbf.)	
	5.3.2.1	Air Infiltration (ASTM E 283) 75 Pa (1.6 PSF) The tested specimen exceeds the performance levels leakage resistance.	1.0 L/s ^o (0.2 CF) s specified in	M/Ft^2)	1.5 L/s•m² (0.3 CFM/Ft²) SA 101/1.S.2/A440 for air		
	5.3.3.2	Water Penetration (ASTM E 547) 180 Pa (3.75 PSF) No screen	No Leakage		No Leakage		
	5.3.4.2	Uniform Load Deflection (ASTM E 330) For Interlock 1200 Pa (25.0 PSF) POS 1200 Pa (25.0 PSF) NEG	49.25 m	49.25 mm (1.94")		Report Only Report Only	
	5.3.4.3	Uniform Load Structural (ASTM E 330) 2160 Pa (45.0 PSF) POS 2160 Pa (45.0 PSF) NEG	PSF) POS 0.00 mm (0.00")		12.00 mm (0.47"Set) 12.00 mm (0.47"Set)		
	5.3.6.3	Deglazing (ASTM E 987) 320 N Stiles (70 lbf.) 230 N Rails (50 lbf.)	8% 6%		Less than 90% Less than 90%		
4.3 Op	tional Performance Gra	ades					
	5.3.3.2	Water Penetration (ASTM E 547) 220 Pa (4.5 PSF) No screen	No Leakage		No Leakage		
	5.3.4.2	Uniform Load Deflection (ASTM E 330) For Interlock 1440 Pa (30.0 PSF) POS 1440 Pa (30.0 PSF) NEG	58.00 mm (2.28") 66.75 mm (2.63")		Report Only Report Only		
	5.3.4.3	Uniform Load Structural (ASTM E 330) 2160 Pa (45.0 PSF) POS 2160 Pa (45.0 PSF) NEG	0.00 mm (0.01") 0.00 mm (0.02")		12.00 mm (0.47"Set) 12.00 mm (0.47"Set)		
ADDI	TIONAL TESTING						
	5.3.3.2	Water Penetration (ASTM E 547) 290 Pa (6.0 PSF) No screen	No Leak	kage	No Lea	kage	

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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

	<u>TEST</u>	RESULTS	<u>DESCRIPTION</u>
A2.5.1	A2.1	Passed	No Entry
A2.5.2	B1	Passed	No Entry
A2.5.3	B2	Passed	No Entry
A2.5.4	B3	Passed	No Entry
A2.5.5	B4	Passed	No Entry
A2.5.6	B5	Passed	No Entry
A2.5.7	B6	Passed	No Entry
A2.5.9	A2.2	Passed	No Entry
A2.5.9	A2.3	Passed	No Entry

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

	<u>TEST</u>	<u>RESULTS</u>	DESCRIPTION
6.1.1		Passed	No Entry
6.1.2.1	A	Passed	No Entry
6.1.2.2	В	Passed	No Entry
6.1.2.3	C	Passed	No Entry
6.1.2.4	G	Passed	No Entry
6.1.2.5	\mathbf{D}	Passed	No Entry
6.1.2.6	\mathbf{E}	Passed	No Entry
6.1.2.7	\mathbf{F}	Passed	No Entry
6.1.2.8	G	Passed	No Entry.

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.

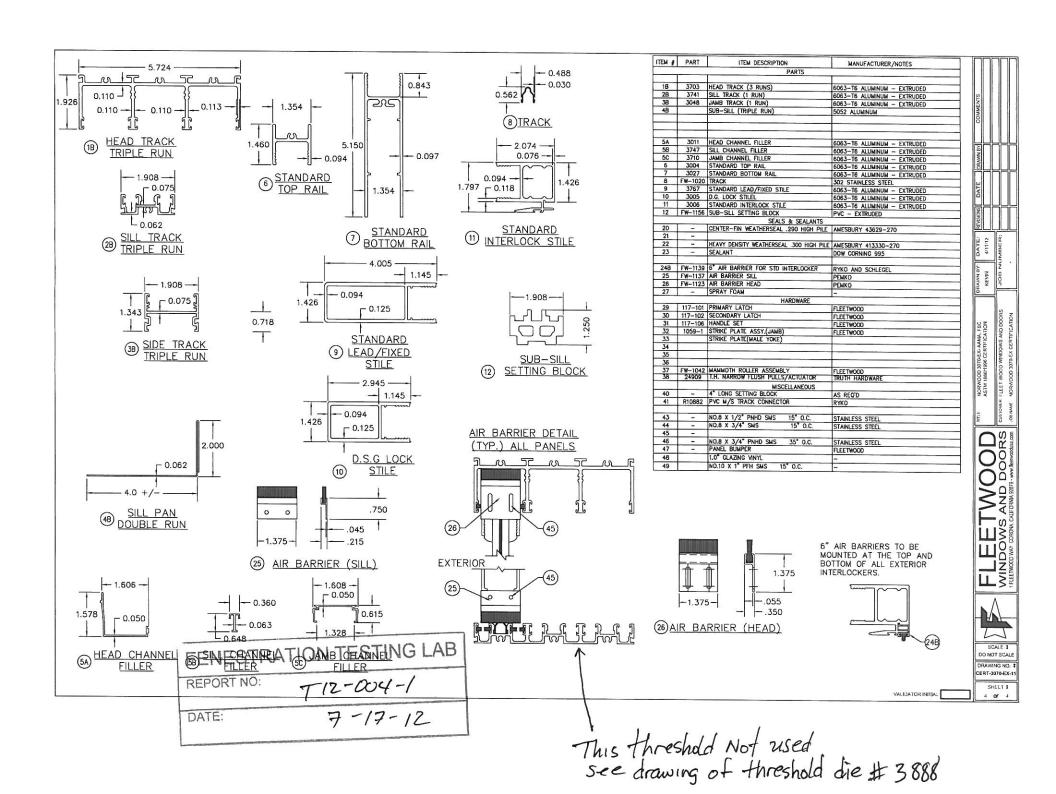
This test report may not be modified in any way without the written consent of Fenestration Testing Laboratory.

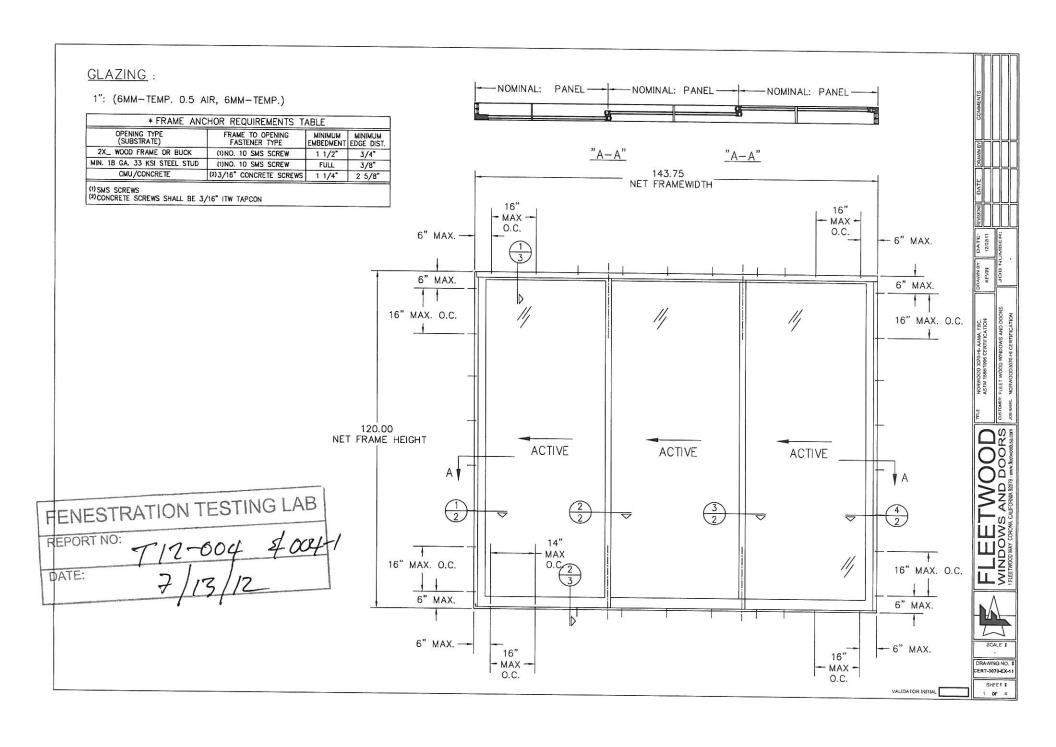
The above test results were obtained by using the applicable AAMA, ASTM and CAWM Test Methods. This report does not constitute Certification of this product. Certification can only be granted by an approved Administrator and/or Validator.

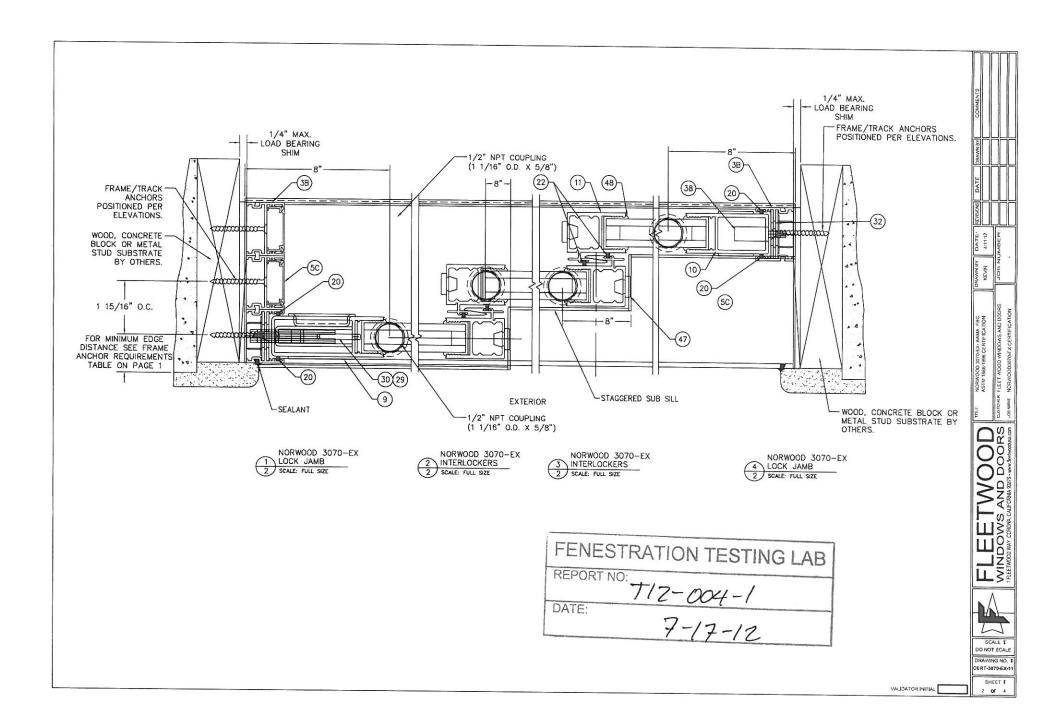
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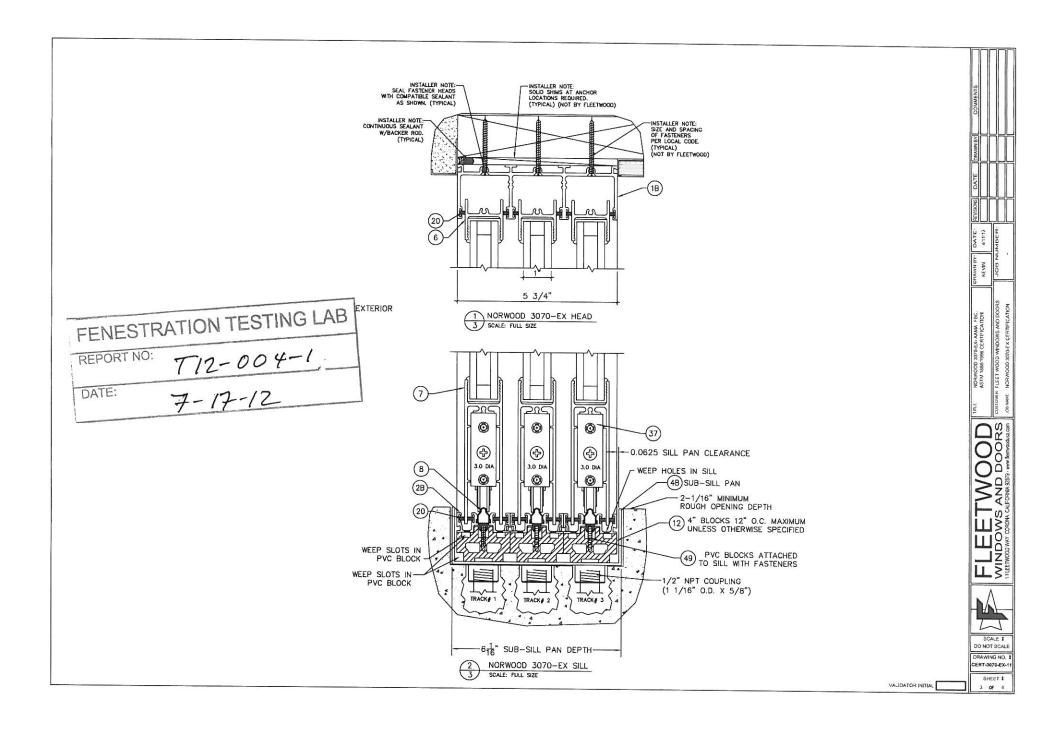
Report Completed: July 16, 2012

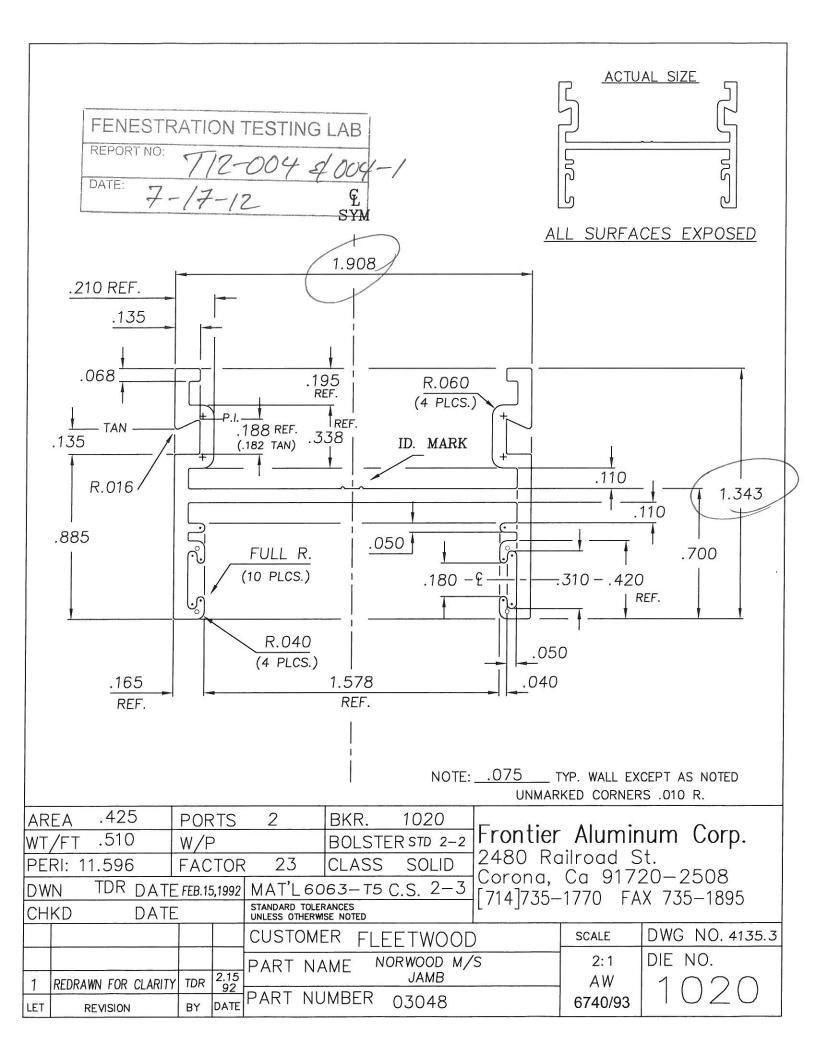
Pete Cruz Test Engineer Jim Fru? Testing Manager/

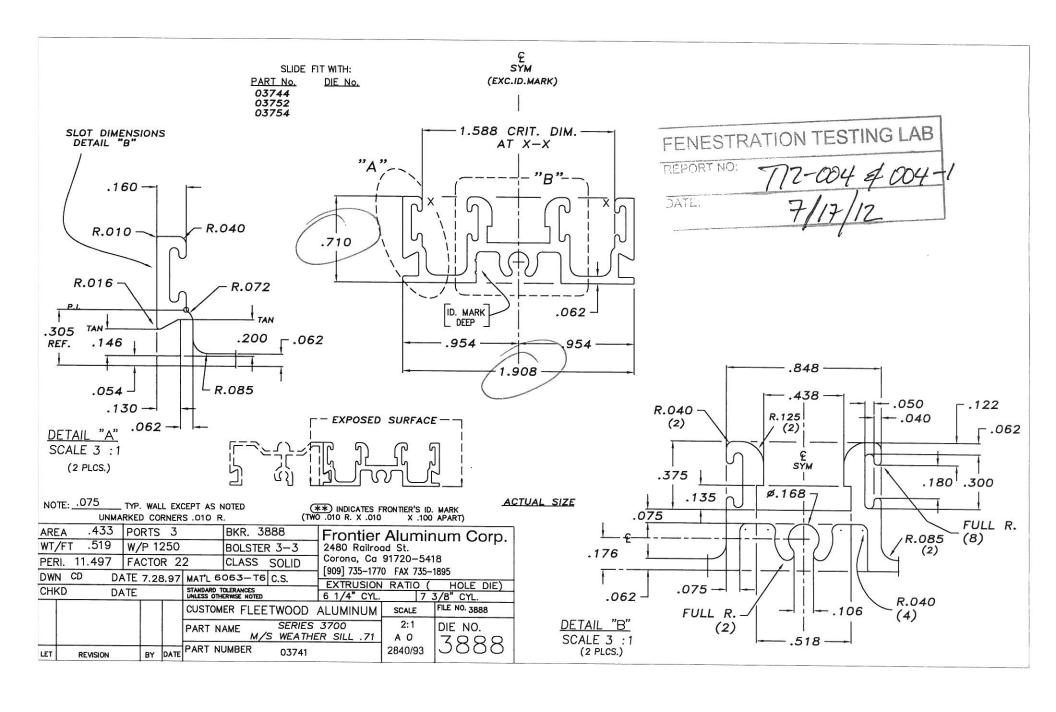


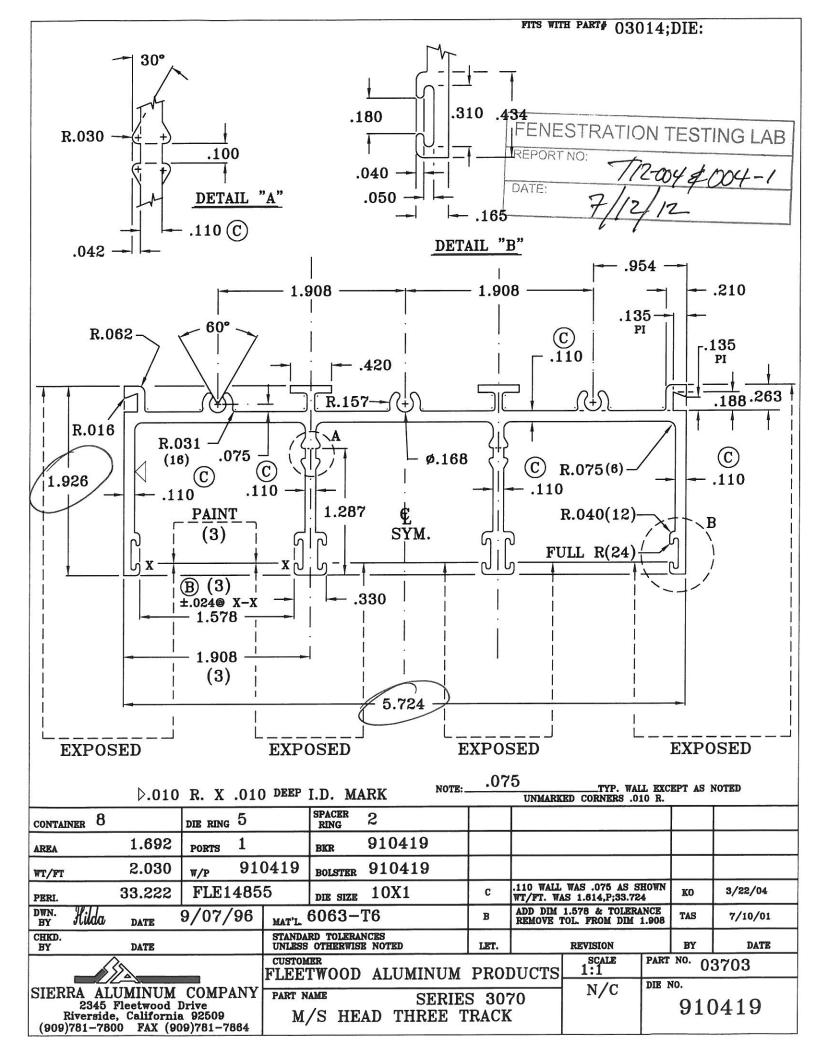












FLEETWOOD ALUMINUM

03713

SERIES 3070 THREE TRACK M/S JAMB A ID. MARK RELOCATED PV 12.21.05

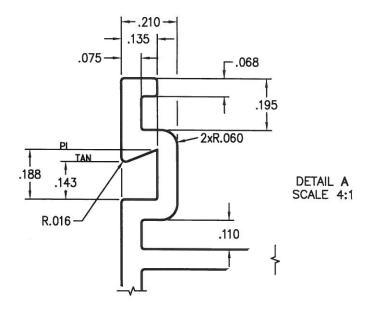
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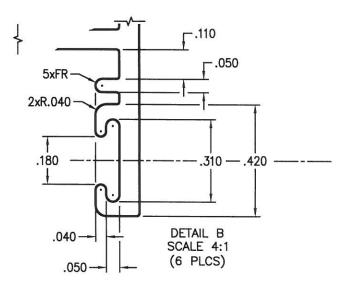
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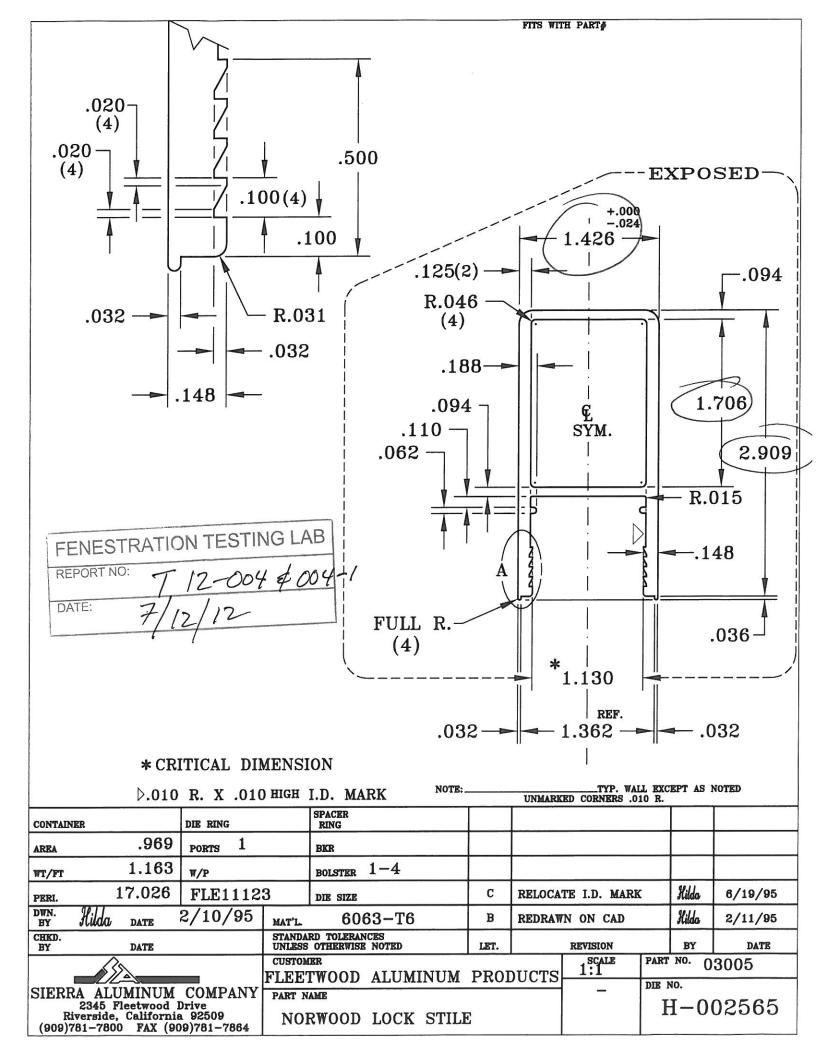
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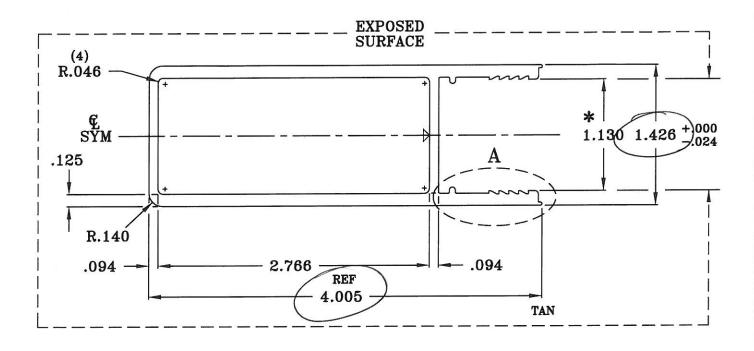
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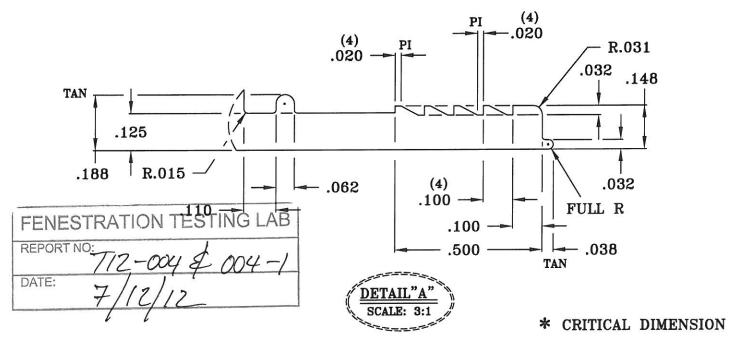
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Xref D: \DATA\BLOCKS\FROBVN.dwg





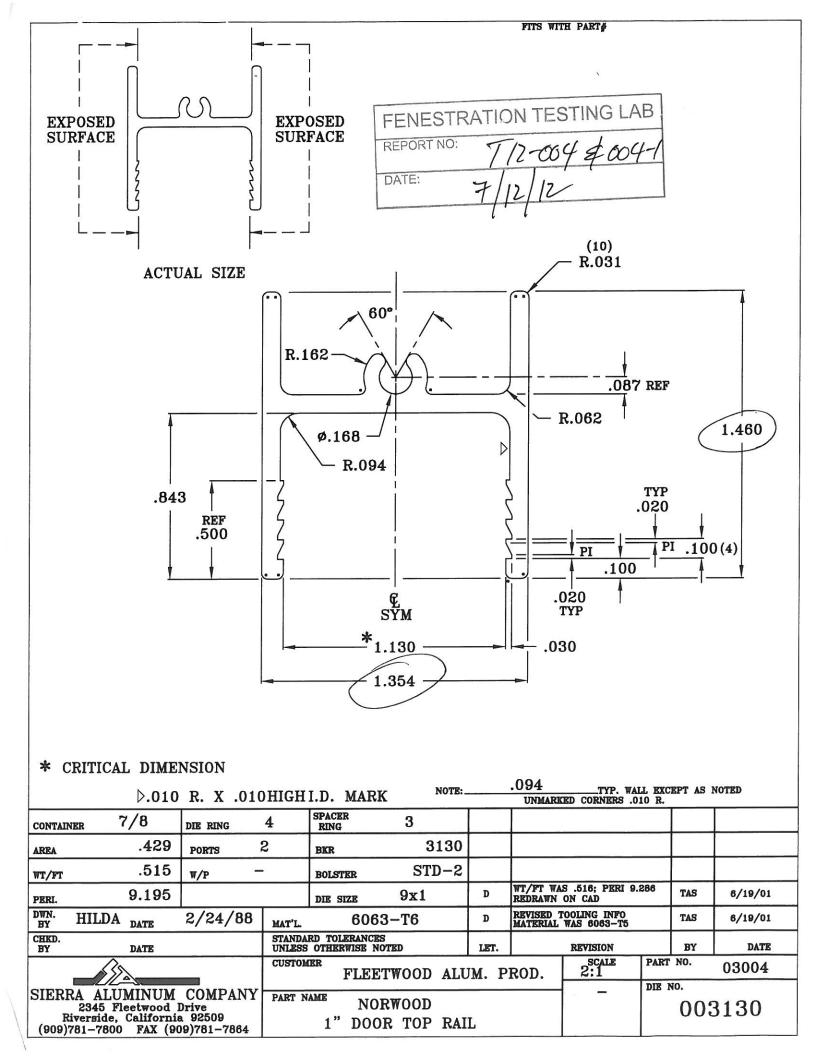


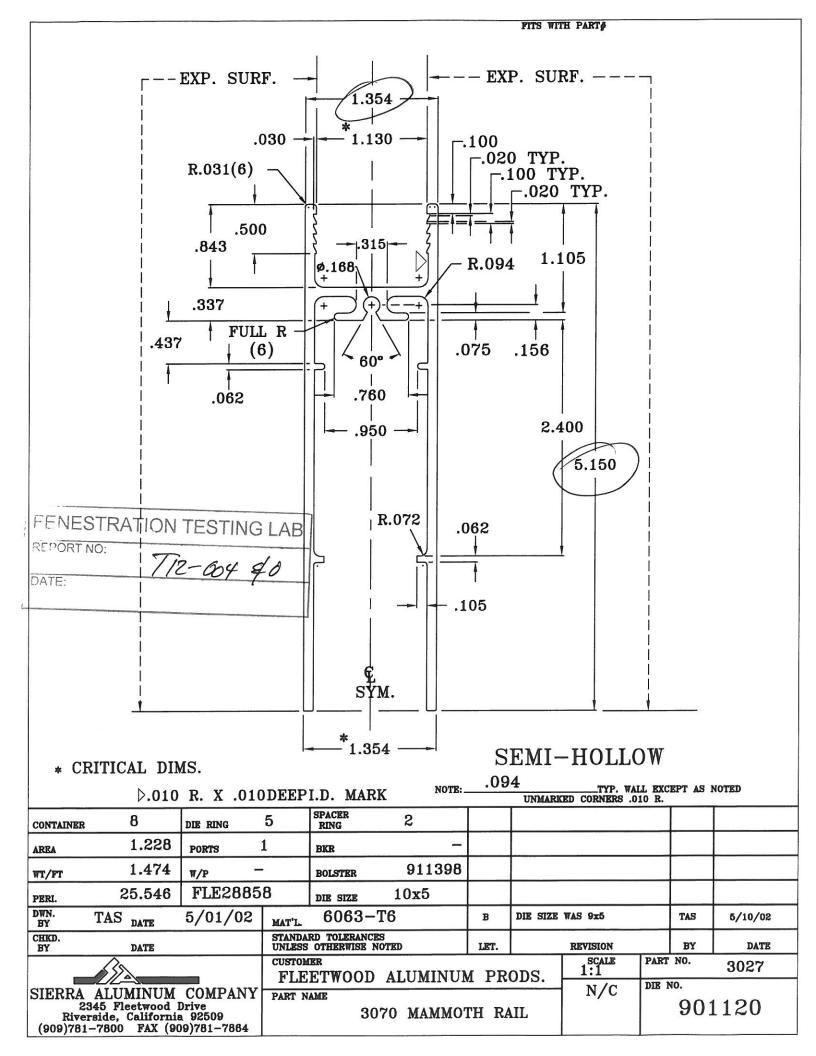


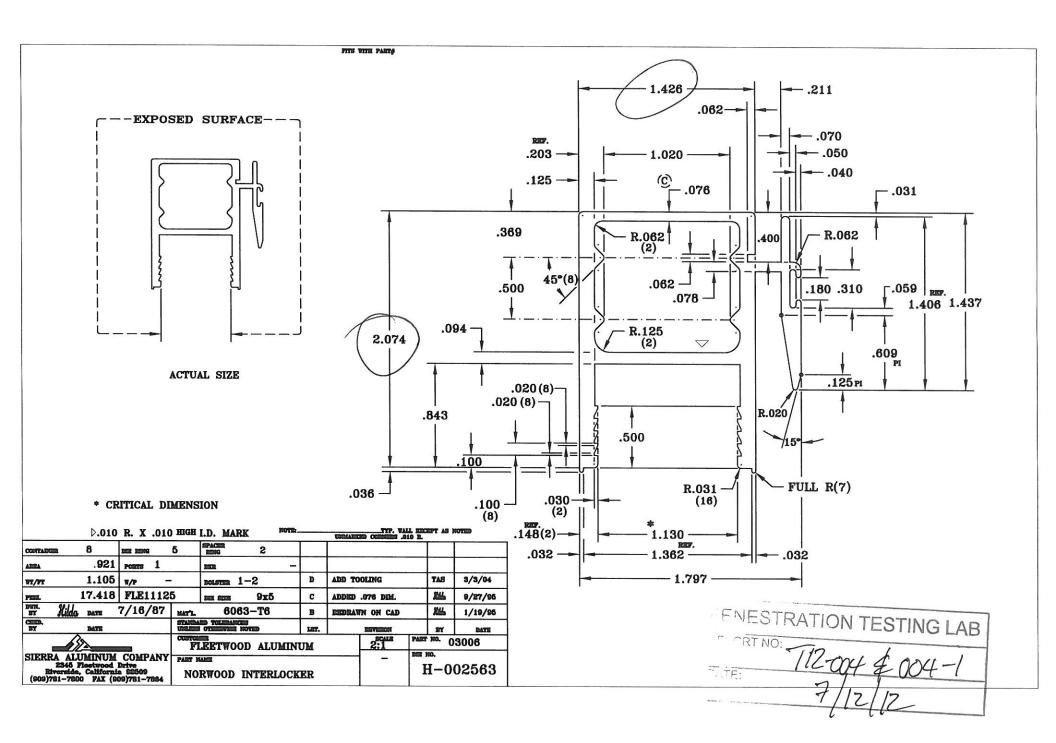


TYP. WALL EXCEPT AS NOTED UNMARKED CORNERS .010 R. NOTE: >.010 R. X .010DEEPI.D. MARK

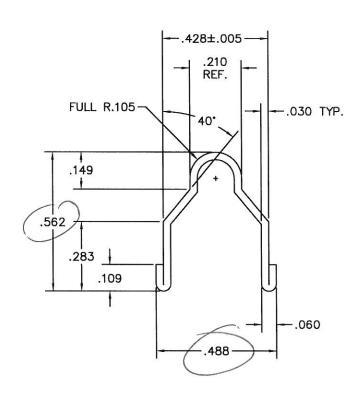
	4 - OALONGO OFF - WIND										
CONTAINER	8	DIE RING	5	SPACER RING	2						
AREA	1.225	PORTS	1	BKR	_						
WT/FT	1.470	W/P	-	BOLSTER	010044			W			
PERI.	21.167	FLE37	803	DIE SIZE	10x5						
DWN. BY	TAS DATE	7/19/06	MAT'L.	MAT'L 6063-T6 B PART # WAS 3676			TAS	8/28/06			
CHKD. BY DATE				STANDARD TOLERANCES UNLESS OTHERWISE NOTED		LET.	REVISION		BY	DATE	
				CUSTOMER FLEETWOOD			SCALE 1:1		PART NO. 3767		
SIERRA ALUMINUM COMPANY				PART NAME			N/C DIE 1		NO.		
2345 Fleetwood Drive			- FARI F	LOCK STILE				H-0131		13146	
Riverside, California 92509 (951)781-7800 FAX (951)781-7864				NOR	WOOD SERIES	5					







REVISIONS
REV DESCRIPTION DATE APPROVED



FENESTRATION TESTING LAB

REPORT NO: 7/2-004 \$ 004-1

DATE: 7/13/12

NOTES:

1. MATERIAL: .030 THICK, 302 STAINLESS STEEL

2. +/- .010 TOLERANCE UNLESS OTHERWISE NOTED.

	FLEETWOOD Corona, CA 927 (800) 735-735 (800) 735-735					
		SILL T 9/16" I SLIDING	HEIGHT			
SIZE B	DWG NO.	FW-	1020		REV NC	
DRAWN	BY BLP	DATE 09/05/03	SCALE 8X	SHEET 1 of	1	

