Intertek | Architectural Testing

TEST REPORT

Report No.: E8391.01-301-44

Rendered to:
FLEETWOOD WINDOWS AND DOORS
Corona, California

PRODUCT TYPE: Sliding Door
SERIES/MODEL: 3070-HI

SPECIFICATION(S): AAMA/WDMA/CSA 101/I.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

AAMA/WDMA/CSA 101/I.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

Test Date(s): 07/01/15
Through: 08/19/15
Report Date: 12/04/15
Revision 4 Date: 04/01/16
Record Retention End Date: 08/19/19

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Summary of Results

Title	Summary of Results	
	Test Specimen #1	**Test Specimen #2**
	PXIXXX Bottom Drain	XXXIXP Bottom Drain
AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11	CW PG30 – SD 6096mm x 3658mm (240" x 144") non-pocket dimension	CW PG30 – SD 6096mm x 3658mm (240" x 144") non-pocket dimension
Design Pressure	±1440 Pa (±30.08 psf)	±1440 Pa (±30.08 psf)
Air Infiltration	1.1 L/s/m^2 (0.22 cfm/ft^2)	1.2 L/s/m^2 (0.23 cfm/ft^2)
Canadian Air Infiltration/Exfiltration Level	A2	A2
Water Penetration Resistance Test Pressure	220 Pa (4.59 psf)	290 Pa (6.06 psf)

Title	Summary of Results	
	Test Specimen #3	**Test Specimen #4**
	XXXIXP Side Drain	XXXIX Side Drain
AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11	CW PG30 – SD 6096mm x 3658mm (240" x 144") non-pocket dimension	LC PG50 – SD 6096mm x 3658mm (240" x 144")
Design Pressure	+1440 Pa (+30.08 psf)	+2400 Pa (+50.13 psf)
Negative Design Pressure	-1440 Pa (-30.08 psf)	-2640 Pa (-55.14 psf)
Air Infiltration	1.1 L/s/m^2 (0.22 cfm/ft^2)	1.1 L/s/m^2 (0.21 cfm/ft^2)
Canadian Air Infiltration/Exfiltration Level	A2	A2
Water Penetration Resistance Test Pressure	290 Pa (6.06 psf)	440 Pa (9.19 psf)

Summary of Results (Continued)

	Summary of Results	
Title	**Test Specimen #5**	**Test Specimen #6**
	XXXIX Side Drain	XXXIX Bottom Drain
AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11	CW PG30 – SD 6096mm x 3658mm (240" x 144") non-pocket dimension	LC PG50 – SD 6096mm x 3658mm (240" x 144")
Design Pressure	+1440 Pa (+30.08 psf)	+2400 Pa (+50.13 psf)
Negative Design Pressure	-1440 Pa (-30.08 psf)	-2640 Pa (-55.14 psf)
Air Infiltration	1.1 L/s/m^2 (0.21 cfm/ft^2)	1.1 L/s/m^2 (0.21 cfm/ft^2)
Canadian Air Infiltration/Exfiltration Level	A2	A2
Water Penetration Resistance Test Pressure	440 Pa (9.19 psf)	440 Pa (9.19 psf)

	Summary of Results
Title	**Test Specimen #7**
	XXXIX Bottom Drain
AAMA/WDMA/CSA 101/I.S.2/A440-08 and -11	CW PG30 – SD 6096mm x 3658mm (240" x 144") non-pocket dimension
Design Pressure	+1440 Pa (+30.08 psf)
Negative Design Pressure	-1440 Pa (-30.08 psf)
Air Infiltration	1.1 L/s/m^2 (0.21 cfm/ft^2)
Canadian Air Infiltration/Exfiltration Level	A2
Water Penetration Resistance Test Pressure	440 Pa (9.19 psf)

Test Completion Date: 08/19/15

Reference must be made to Report No. E8391.01-301-44, dated 04/01/16 for complete test specimen description and detailed test results.

1.0 Report Issued To: Fleetwood Windows & Doors
1 Fleetwood Way
Corona, California 92879

2.0 Test Laboratory: Architectural Testing, Inc.
2524 East Jensen Avenue
Fresno, California 93706
(559) 233-8705

3.0 Project Summary:

3.1 Product Type: Sliding Door

3.2 Series/Model: 3070-HI

3.3 Compliance Statement: Results obtained are tested values and were secured by using the designated test method(s). The specimens tested successfully met the performance requirements for the following ratings:

Test Specimen(s)	Title	Summary of Results
1 PXIXXX Bottom Drain	101/I.S.2/A440-08 and -11	CW PG30
2 XXXIXP Bottom Drain	101/I.S.2/A440-08 and -11	CW PG30
3 XXXIXP Side Drain	101/I.S.2/A440-08 and -11	CW PG30
4 XXXIX Side Drain	101/I.S.2/A440-08 and -11	LC PG50
5 XXXIX Side Drain	101/I.S.2/A440-08 and -11	CW PG30
6 XXXIX Bottom Drain	101/I.S.2/A440-08 and -11	LC PG50
7 XXXIX Bottom Drain	101/I.S.2/A440-08 and -11	CW PG30

3.4 Test Dates: 07/01/15 - 08/19/15

3.5 Test Record Retention End Date: All test records for this report will be retained until August 19, 2019.

3.6 Test Location: Architectural Testing, Inc. test facility in Fresno, California.

3.7 Test Specimen Source: The test specimen(s) was provided by the client. Representative samples of the test specimen(s) will be retained by Architectural Testing for a minimum of four years from the test completion date.

3.0 Project Summary: (Continued)

3.8 Drawing Reference: The test specimen drawings have been reviewed by Architectural Testing and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Architectural Testing per the drawings located in Appendix B and C. Any deviations are documented herein or on the drawings.

3.9 List of Official Observers:

Name	Company
Nathan Baker	Fleetwood
Dennis Janzen	Intertek-ATI
Tyler Westerling	Intertek-ATI

4.0 Test Specifications:

AAMA/WDMA/CSA 101/I.S.2/A440-11, *NAFS 2011 - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

AAMA/WDMA/CSA 101/I.S.2/A440-08, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

CSA A440S1-09, Canadian Supplement to AAMA/WDMA/CSA 101/I.S.2/A440, *NAFS - North American Fenestration Standard/Specification for Windows, Doors, and Skylights*

5.0 Test Specimen Description:

5.1 Product Sizes:

Overall Area: 22.8 m^2 (243 ft^2)	**Width**		**Height**	
	millimeters	**inches**	**millimeters**	**inches**
MAX Overall Size	6,096	240	3,658	144
MAX Panel Size	1,588	62-1/16	3,607	142

5.0 Test Specimen Description: (Continued)

The following descriptions apply to all specimens.

5.2 Frame Construction:

Frame Member	Material	Description
Sill	Aluminum	Two piece sill held in place with two rows of #8 Phillips head screws spaced 36" on center in each track.
Sill pan	Aluminum	With a 1.93" tall interior leg.
Sill filler	Aluminum	Snapped in place where panels do not slide.
Jamb	Aluminum	With snapped in jamb filler where panel is not engaged.
Head	Aluminum	With snapped in head filler where panel is not engaged.

	Joinery Type	Detail
All corners	Butt	Sealed with silicone and attached with three #10 x 3/4" Phillips pan head sheet metal screws.

5.3 Panel Construction:

Panel Member	Material	Description
All	Aluminum	See drawings for details.

	Joinery Type	Detail
All corners	Butt	Sealed with silicone. Top corners fastened with one #10 x 2" Phillips head screw each. Bottom corners fastened with one #10 x 2". Two 1/4-20 x 1" Phillips head screws were fastened into each roller.

5.0 Test Specimen Description: (Continued)

5.4 Weatherstripping:

Description	Quantity	Location
0.230 polypile with center fin	4	In sill contracting interior and exterior of each panel leg.
Q-lon foam seal	2	Contacting interior and exterior of subsill pan from sill vertical face.
0.230 polypile with center fin	2	In head contracting interior and exterior of panel face.
0.290 Polypile with center fin	1	In each pocket interlock extrusion.
0.230 polypile with center fin	2	In interior and exterior meeting stile locking extrusion.
0.290 polypile with center fin	1	In each interlock extrusion.
Q-lon foam seal	1	In interior and exterior of jamb extrusion.
Panel corner air barrier	1	At each exposed panel bottom and top corner.

5.5 Glazing: *No conclusions of any kind regarding the adequacy or inadequacy of the glass in any glazed test specimen(s) can be made.*

Glass Type	Glazing	Glazing Method
Monolithic	6mm clear/0.090 SGP/6mm clear	Channel glazed into frame. Dry glazed at all top and bottom rails and interlocks. (Wet glazed at locking vertical stiles only. > 30DP Specimens #4 and #6).

Location	Quantity	Daylight Opening		Glass Bite
		millimeters	inches	
All Lights	4	1435 x 3454	56-1/2 x 136	5/8

5.6 Drainage:

Drainage Method	Size	Quantity	Location
Saw cut across sill across all tracks	1" wide by 3/16" deep	6	6" from each end, 60" spacing
Bottom drain or side drain	1" NPT	6	8" from each and 60" on center drained into a common 2" diameter manifold with check valve

5.0 Test Specimen Description: (Continued)

5.7 Hardware:

Description	Quantity	Location
Rollers, Tandem	2 tandem rollers each panel	Bottom panel rail
Archetype Narrow lock with strike plate	1	Locking meeting panel

5.8 Reinforcement:

Drawing Number	Location	Material
37	All small interlock hallows	Aluminum
38	All small interlock hallows	Aluminum

5.9 Screen Construction: No screen was utilized.

6.0 Installation:

The specimen was installed into a Pine wood buck. The rough opening allowed for a 1/4" shim space. The exterior perimeter of the window was sealed with sealant. See drawing on sheet 6 of 9 for installation details.

7.0 Test Results: The temperature during testing was 21°C (70°F). The results are tabulated as follows:

Test Specimen #1 PXIXXX Bottom Drain:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 68 N (15 lbf) Maintain motion: 36 N (8 lbf)	135 N (30 lbf) max. 90 N (20 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.1 L/s/m² (0.22 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.0 L/s/m² (0.20 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Canadian Air Infiltration/Exfiltration Level	A2	N/A	
Water Penetration, per ASTM E 547 and ASTM E 331 at 220 Pa (4.59 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 Deflections taken at Interlock +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	15 mm (0.59") 17 mm (0.68")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Deflection, per ASTM E 330 Deflections taken at Meeting rail +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	18 mm (0.70") 18 mm (0.69")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Structural, per ASTM E 330 Permanent sets taken at Interlock +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	4.3 mm (0.17") 2.0 mm (0.08")	15 mm (0.58") max. 15 mm (0.58") max.	2,3

7.0 Test Results: (Continued)

Test Specimen #1 PXIXXX Bottom Drain: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Structural, per ASTM E 330 Permanent sets taken at meeting rail +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	 1.3 mm (0.05") 3.6 mm (0.14")	 15 mm (0.58") max. 15 mm (0.58") max.	 2,3
Forced Entry Resistance, per ASTM F 842	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	 Pass Pass	 Meets as stated Meets as stated	

7.0 Test Results: (Continued)

Test Specimen #2 XXXIXP Bottom Drain:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 68 N (15 lbf) Maintain motion: 36 N (8 lbf)	135 N (30 lbf) max. 90 N (20 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.2 L/s/m² (0.23 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.1 L/s/m² (0.21 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Canadian Air Infiltration/Exfiltration Level	A2	N/A	
Water Penetration, per ASTM E 547 and ASTM E 331 at 290 Pa (6.06 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 Deflections taken at Interlock +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	17 mm (0.68") 15 mm (0.59")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Deflection, per ASTM E 330 Deflections taken at Meeting rail +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	18 mm (0.69") 18 mm (0.70")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Structural, per ASTM E 330 Permanent sets taken at Interlock +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	4.3 mm (0.17") 2.0 mm (0.08")	15 mm (0.58") max. 15 mm (0.58") max.	2,3

7.0 Test Results: (Continued)

Test Specimen #2 XXXIXP Bottom Drain: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Structural, per ASTM E 330 Permanent sets taken at meeting rail +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	 1.3 mm (0.05") 3.6 mm (0.14")	 15 mm (0.58") max. 15 mm (0.58") max.	 2,3
Forced Entry Resistance, per ASTM F 842	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	Pass Pass	Meets as stated Meets as stated	

7.0 Test Results: (Continued)

Test Specimen #3 PXXXIX Side Drain:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 68N (15 lbf) Maintain motion: 36 N (8 lbf)	135 N (30 lbf) max. 90 N (20 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.2 L/s/m² (0.23 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.1 L/s/m² (0.21 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Canadian Air Infiltration/Exfiltration Level	A2	N/A	
Water Penetration, per ASTM E 547 and ASTM E 331 at 290 Pa (6.06 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 Deflections taken at Interlock +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	17 mm (0.68") 15 mm (0.59")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Deflection, per ASTM E 330 Deflections taken at Meeting rail +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	18 mm (0.69") 18 mm (0.70")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Structural, per ASTM E 330 Permanent sets taken at Interlock +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	4.3 mm (0.17") 2.0 mm (0.08")	15 mm (0.58") max. 15 mm (0.58") max.	2,3

7.0 Test Results: (Continued)

Test Specimen #3 PXXXIX Side Drain: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Structural, per ASTM E 330 Permanent sets taken at meeting rail			
+2160 Pa (+45.11 psf)	1.3 mm (0.05")	15 mm (0.58") max.	
-2160 Pa (-45.11 psf)	3.6 mm (0.14")	15 mm (0.58") max.	2,3
Forced Entry Resistance, per ASTM F 842	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction,			
320 N (70 lbf)	Pass	Meets as stated	
Remaining direction, 230 N (50 lbf)	Pass	Meets as stated	

7.0 Test Results: (Continued)

Test Specimen #4 XXXIX Side Drain:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 68 N (15 lbf) Maintain motion: 36 N (8 lbf)	135 N (30 lbf) max. 90 N (20 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.1 L/s/m² (0.22 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.0 L/s/m² (0.20 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Canadian Air Infiltration/Exfiltration Level	A2	N/A	
Water Penetration, per ASTM E 547 and ASTM E 331 at 440 Pa (9.19 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 Deflections taken at Interlock +2400 Pa (+50.13 psf) -2640 Pa (-55.14 psf)	27 mm (1.16") 38 mm (1.48")	Report Only	2,3
Uniform Load Deflection, per ASTM E 330 Deflections taken at Meeting rail +2400 Pa (+50.13 psf) -2640 Pa (-55.14 psf)	28 mm (1.09") 37 mm (1.44")	Report Only	2,3
Uniform Load Structural, per ASTM E 330 Permanent sets taken at Interlock +3600 Pa (+75.19 psf) -3960 Pa (-82.71psf)	4.3 mm (0.17") 2.0 mm (0.08")	15 mm (0.58") max. 15 mm (0.58") max.	2,3

7.0 Test Results: (Continued)

Test Specimen #4 XXXIX Side Drain: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Structural, per ASTM E 330 Permanent sets taken at meeting rail +3600 Pa (+75.19 psf) -3960 Pa (-82.71psf)	 3.6 mm (0.14") 1.3 mm (0.05")	 15 mm (0.58") max. 15 mm (0.58") max.	 2,3
Forced Entry Resistance, per ASTM F 842	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	 Pass Pass	 Meets as stated Meets as stated	

7.0 Test Results: (Continued)

Test Specimen #5 XXXIX Side Drain:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 68 N (15 lbf) Maintain motion: 36 N (8 lbf)	135 N (30 lbf) max. 90 N (20 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.1 L/s/m² (0.21 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.0 L/s/m² (0.20 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Canadian Air Infiltration/Exfiltration Level	A2	N/A	
Water Penetration, per ASTM E 547 and ASTM E 331 at 440 Pa (9.19 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 Deflections taken at Interlock +2400 Pa (+50.13 psf) -2640 Pa (-55.14 psf)	27 mm (1.16") 38 mm (1.48")	Report Only	2,3
Uniform Load Deflection, per ASTM E 330 Deflections taken at Meeting rail +2400 Pa (+50.13 psf) -2640 Pa (-55.14 psf)	28 mm (1.09") 37 mm (1.44")	Report Only	2,3
Uniform Load Structural, per ASTM E 330 Permanent sets taken at Interlock +3600 Pa (+75.19 psf) -3960 Pa (-82.71psf)	4.3 mm (0.17") 2.0 mm (0.08")	15 mm (0.58") max. 15 mm (0.58") max.	2,3

7.0 Test Results: (Continued)

Test Specimen #5 XXXIX Side Drain: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Structural, per ASTM E 330 Permanent sets taken at meeting rail +3600 Pa (+75.19 psf) -3960 Pa (-82.71psf)	 3.6 mm (0.14") 1.3 mm (0.05")	 15 mm (0.58") max. 15 mm (0.58") max.	 2,3
Forced Entry Resistance, per ASTM F 842	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	 Pass Pass	 Meets as stated Meets as stated	

7.0 Test Results: (Continued)

Test Specimen #6 XXXIX Bottom Drain:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 68 N (15 lbf) Maintain motion: 36 N (8 lbf)	135 N (30 lbf) max. 90 N (20 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.1 L/s/m² (0.22 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.0 L/s/m² (0.20 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Canadian Air Infiltration/Exfiltration Level	A2	N/A	
Water Penetration, per ASTM E 547 and ASTM E 331 at 440 Pa (9.19 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 Deflections taken at Interlock +2400 Pa (+50.13 psf) -2640 Pa (-55.14 psf)	27 mm (1.16") 38 mm (1.48")	Report Only	2,3
Uniform Load Deflection, per ASTM E 330 Deflections taken at Meeting rail +2400 Pa (+50.13 psf) -2640 Pa (-55.14 psf)	28 mm (1.09") 37 mm (1.44")	Report Only	2,3
Uniform Load Structural, per ASTM E 330 Permanent sets taken at Interlock +3600 Pa (+75.19 psf) -3960 Pa (-82.71psf)	4.3 mm (0.17") 2.0 mm (0.08")	15 mm (0.58") max. 15 mm (0.58") max.	2,3

7.0 Test Results: (Continued)

Test Specimen #6 XXXIX Bottom Drain: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Structural, per ASTM E 330 Permanent sets taken at meeting rail +3600 Pa (+75.19 psf) -3960 Pa (-82.71psf)	 3.6 mm (0.14") 1.3 mm (0.05")	 15 mm (0.58") max. 15 mm (0.58") max.	 2,3
Forced Entry Resistance, per ASTM F 842	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	 Pass Pass	 Meets as stated Meets as stated	

7.0 Test Results: (Continued)

Test Specimen #7 XXXIX Bottom Drain:

Title of Test	Results	Allowed	Note
Operating Force, per ASTM E 2068	Initiate motion: 68 N (15 lbf) Maintain motion: 36 N (8 lbf)	135 N (30 lbf) max. 90 N (20 lbf) max.	
Air Leakage, Infiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.1 L/s/m² (0.21 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Air Leakage, Exfiltration per ASTM E 283 at 75 Pa (1.57 psf)	1.0 L/s/m² (0.20 cfm/ft²)	1.5 L/s/m² (0.3 cfm/ft²) max.	1
Canadian Air Infiltration/Exfiltration Level	A2	N/A	
Water Penetration, per ASTM E 547 and ASTM E 331 at 440 Pa (9.19 psf)	Pass	No leakage	
Uniform Load Deflection, per ASTM E 330 Deflections taken at Interlock +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	17 mm (0.68") 15 mm (0.59")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Deflection, per ASTM E 330 Deflections taken at Meeting rail +1440 Pa (+30.08 psf) -1440 Pa (-30.08 psf)	18 mm (0.69") 18 mm (0.70")	20 mm (0.79") max. 20 mm (0.79") max.	2,3
Uniform Load Structural, per ASTM E 330 Permanent sets taken at Interlock +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	2.0 mm (0.08") 4.3 mm (0.17")	15 mm (0.58") max. 15 mm (0.58") max.	2,3

7.0 Test Results: (Continued)

Test Specimen #7 XXXIX Bottom Drain: (Continued)

Title of Test	Results	Allowed	Note
Uniform Load Structural, per ASTM E 330 Permanent sets taken at meeting rail +2160 Pa (+45.11 psf) -2160 Pa (-45.11 psf)	 1.3 mm (0.05") 3.6 mm (0.14")	 15 mm (0.58") max. 15 mm (0.58") max.	 2,3
Forced Entry Resistance, per ASTM F 842	Pass	No entry	
Deglazing, per ASTM E 987 Operating direction, 320 N (70 lbf) Remaining direction, 230 N (50 lbf)	 Pass Pass	 Meets as stated Meets as stated	

Note 1: The tested specimen meets (or exceeds) the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.

Note 2: The client opted to start at a pressure higher than the minimum required. Test results are reported under Optional Performance.

Note 3: The deflections reported are not limited by AAMA/WDMA/CSA 101/I.S.2/A440 for this product designation. The deflection data is recorded in this report for special code compliance and information only.

Architectural Testing will service this report for the entire test record retention period. Test records such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained by Architectural Testing, Inc. for the entire test record retention period.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written approval of Architectural Testing, Inc.

For ARCHITECTURAL TESTING, Inc.

Digitally Signed by: Dennis Janzen

Dennis Janzen
Technician

Digitally Signed by: Tyler Westerling

Tyler Westerling, P.E.
Senior Project Engineer

TW:ss

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix-A: Alteration Addendum (1)
Appendix-B: Drawings (9)

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Revision Log

Rev. #	Date	Page(s)	Revision(s)
0	12/04/15	N/A	Original report issue.
1	02/09/16	Appendix C	Revised drawings.
2	02/12/16	4	Corrected air barrier description.
3	03/08/16	3	Corrected panel corner description.
3	03/08/16	Appendix C	Removed dry glazed only drawings.
3	03/08/16	Cover, Summary of Results and Data	Added Specimen 7 and corrected performance grades and metric conversion.
4		4	Corrected panel corner detail.
4		5	Corrected hardware spelling.
4		6	Corrected installation details.
4		Appendix B	Updated drawing package.

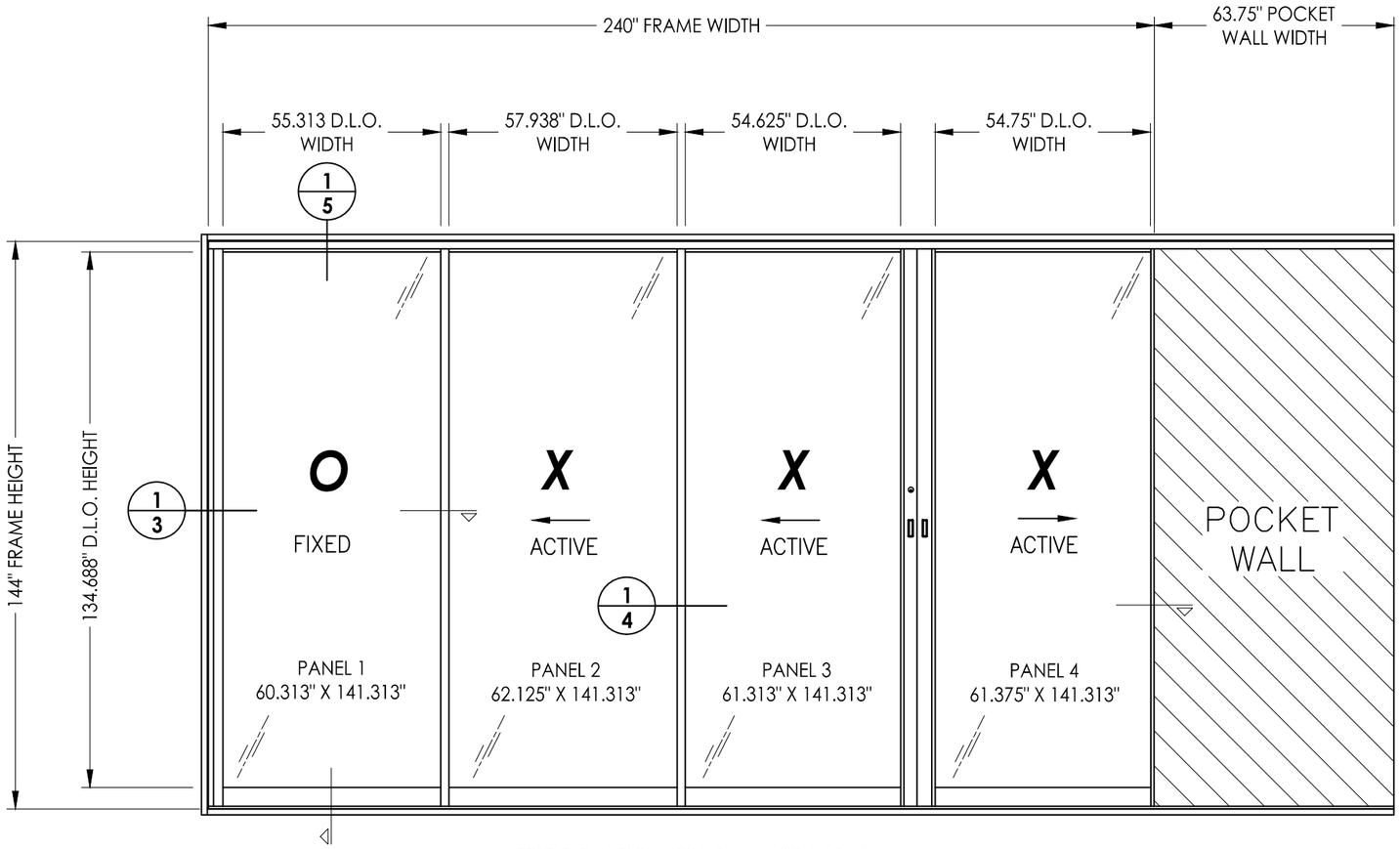
Appendix A

Alteration Addendum

***Note**: No alterations were required.*

Appendix B

Drawings



TEST ELEVATION (SILL PAN NOT SHOWN)

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Report #: E8391-301-44
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COMMENTS | DRAWN BY | DATE | REVISIONS
DRAWN BY: BL
DATE: 6/22/15
JOB NUMBER: 385199-V2
MATERIAL: SERIES 3070-HI
CUSTOMER: FLEETWOOD WINDOWS AND DOORS
JOB NAME: FLEETWOOD TAS & AAMA TEST

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SCALE: DO NOT SCALE
DRAWING NO.: #####
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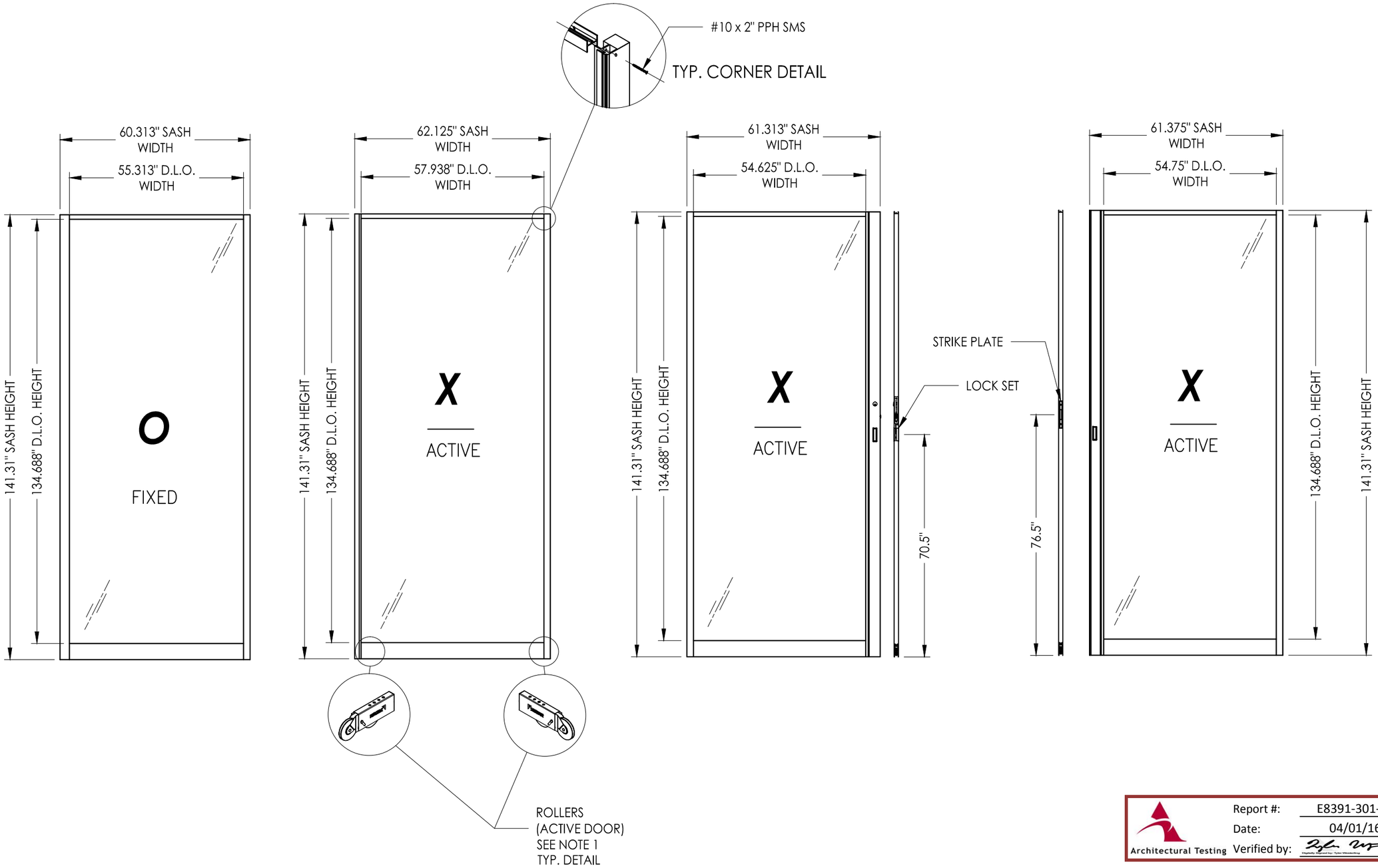

Architectural Testing

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Note:

1. Roller attached to bottom rail utilizing (2) 1/4-20 x 1/2" PFH Screw and attached to Stile utilizing (2) 1/4 -20 x 1" PPH Screw.

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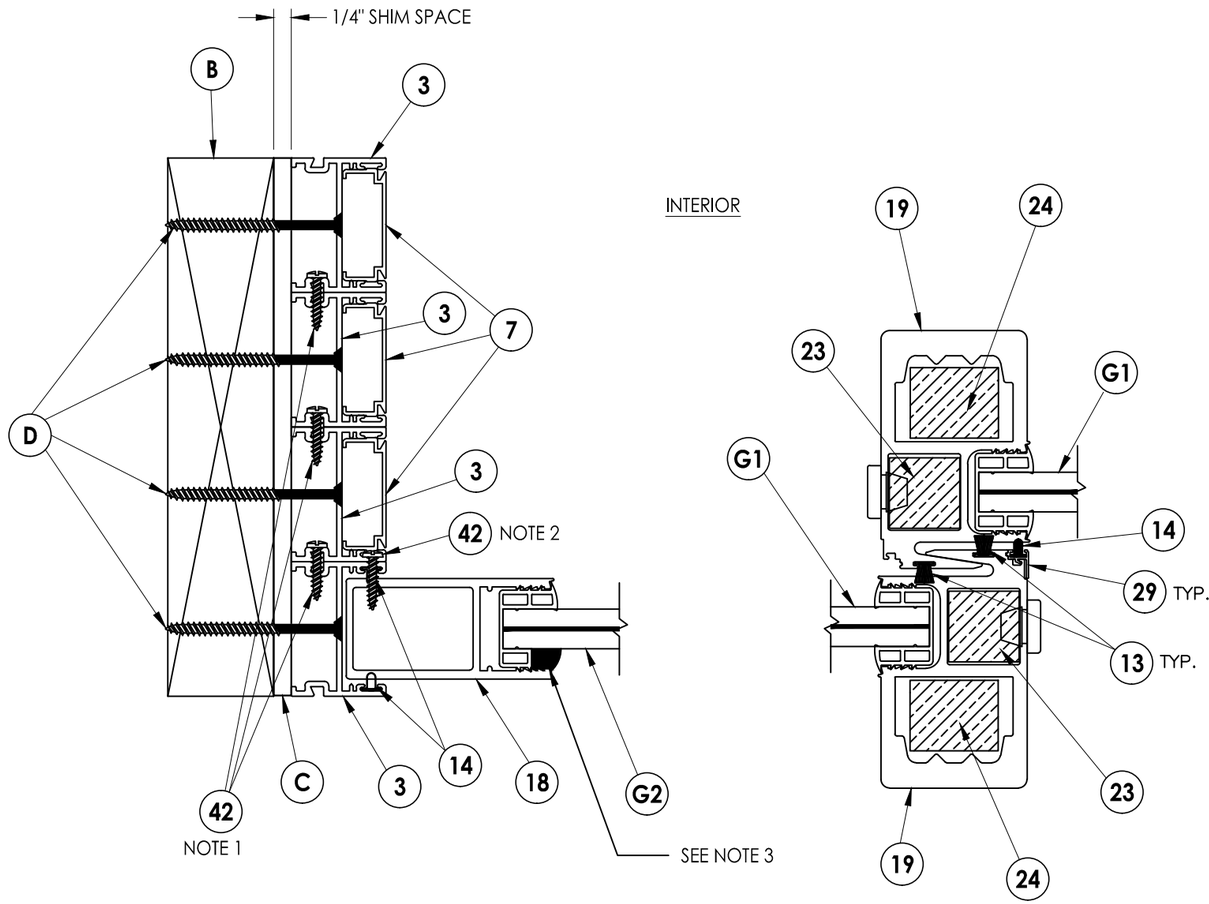
SHEET 2 OF 9



1/3 **HORIZONTAL CROSS SECTION**

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NOTE:
1. 1" from each end then 60" on center.
2. 48" from each end (2) total
3. Interior or exterior (gasket cut 2" from top rail and bottom rail on stile).

REVISIONS	DATE	DRAWN BY	COMMENTS

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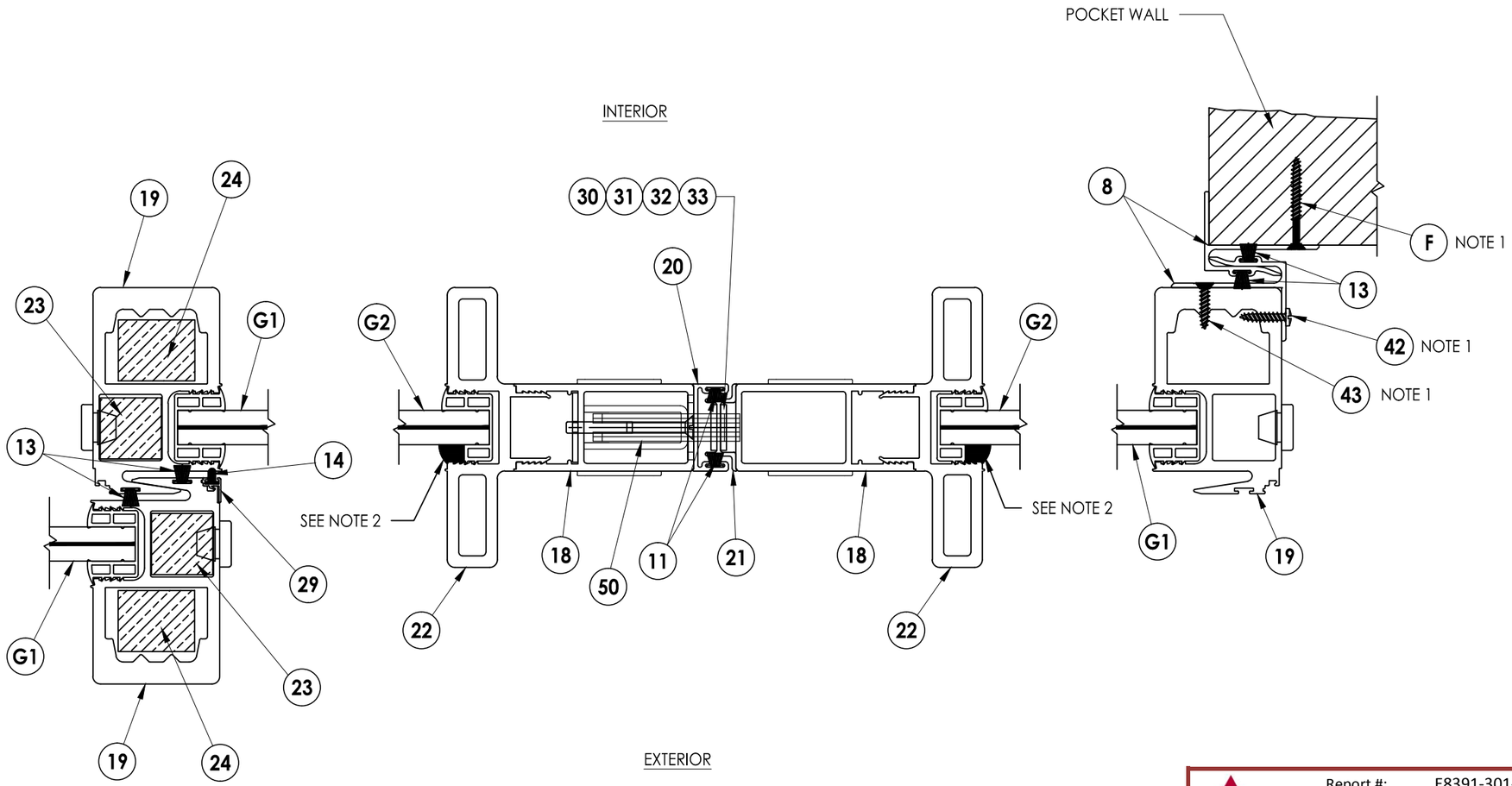
SHEET: 3 OF 9



1/4 **HORIZONTAL CROSS SECTION**

Architectural Testing

Report #: E8391-301-44
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NOTE:
1. 2" from each end then 12" on center
2. Interior or exterior (gasket cut 2" from top rail and bottom rail on stile).

REVISIONS	DATE	DRAWN BY	COMMENTS

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DATE: 6/22/15
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MATERIAL: SERIES 3070-HI
CUSTOMER: FLEETWOOD WINDOWS AND DOORS
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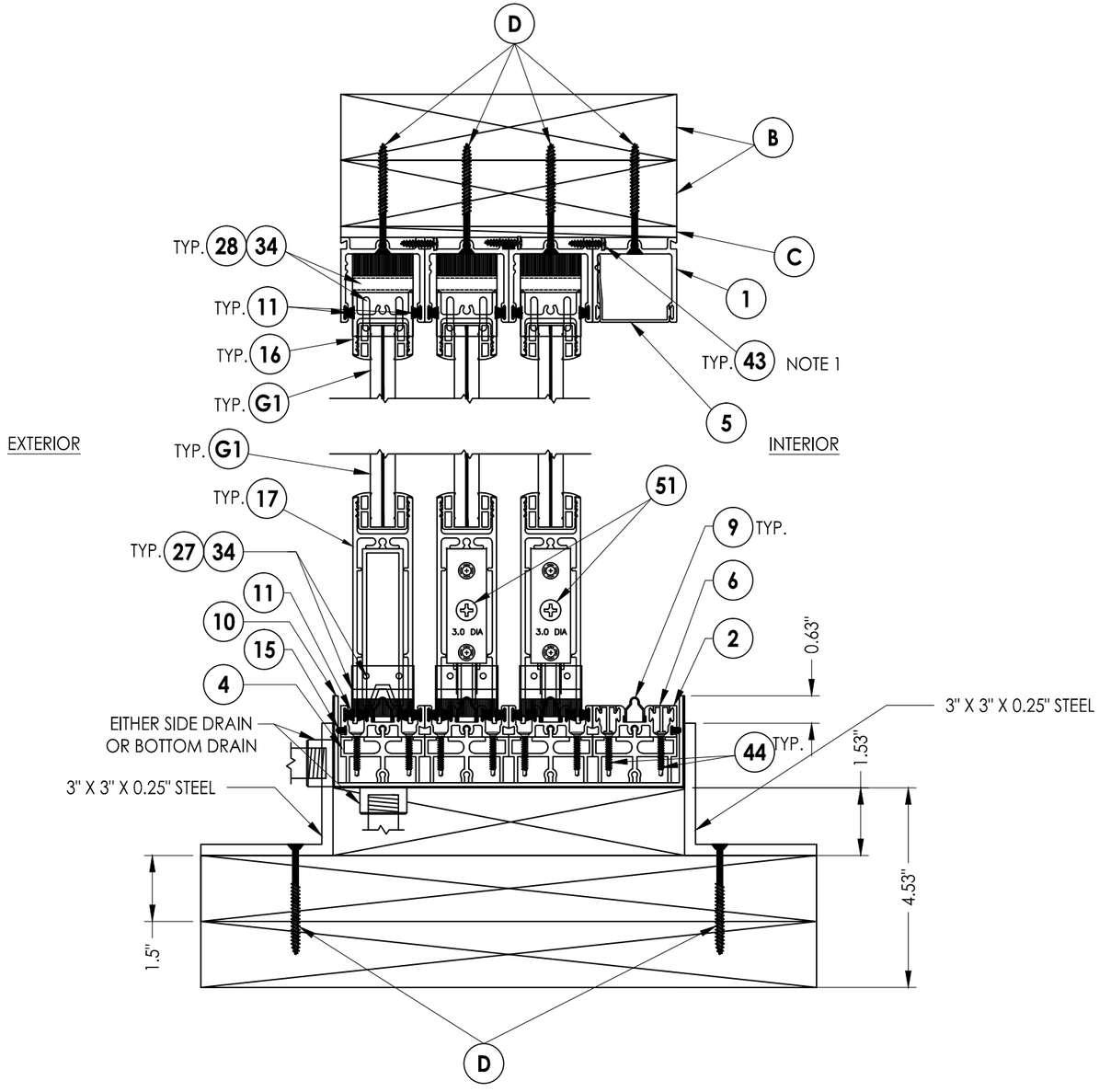
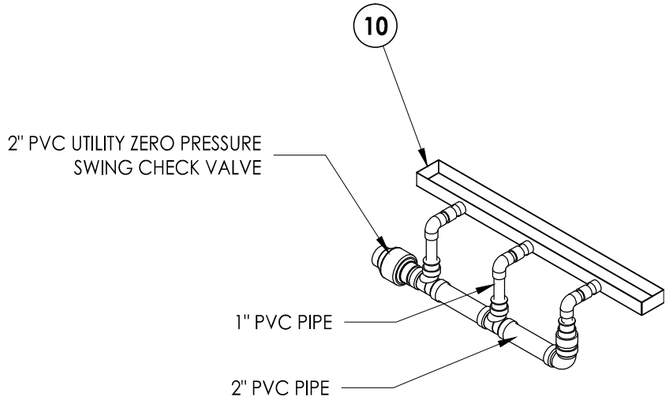
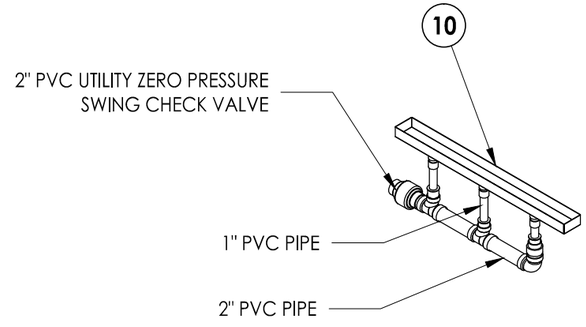


1/5 *VERTICAL CROSS SECTION*

NOTE:
1. 1" from each end then 60" on center.



SIDE DRAIN DETAIL



BOTTOM DRAIN DETAIL

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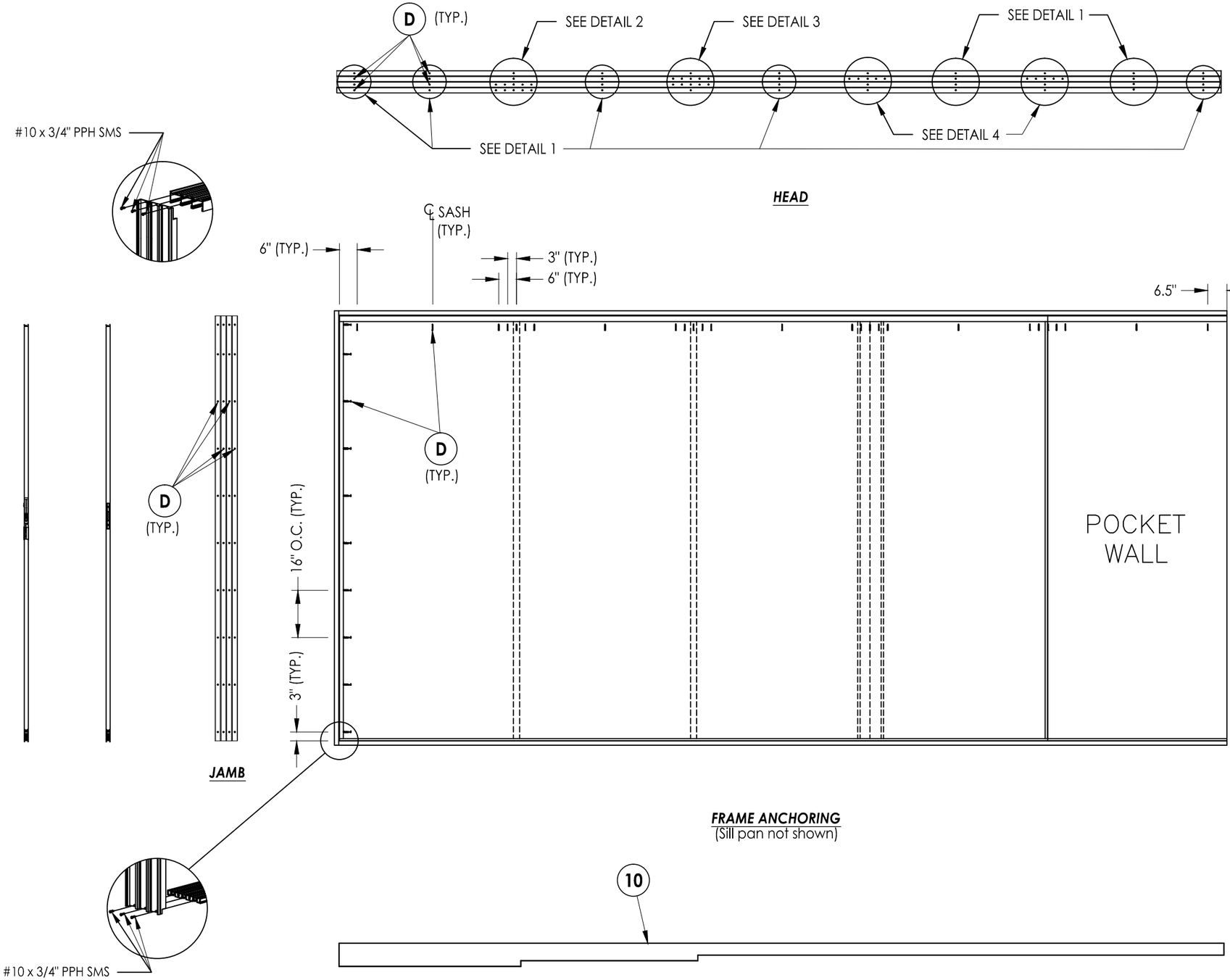

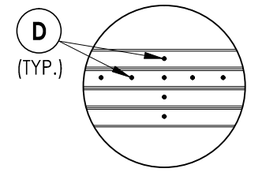

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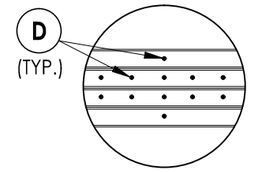

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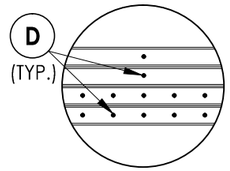

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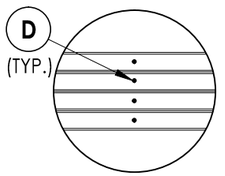

DETAIL 1

Architectural Testing

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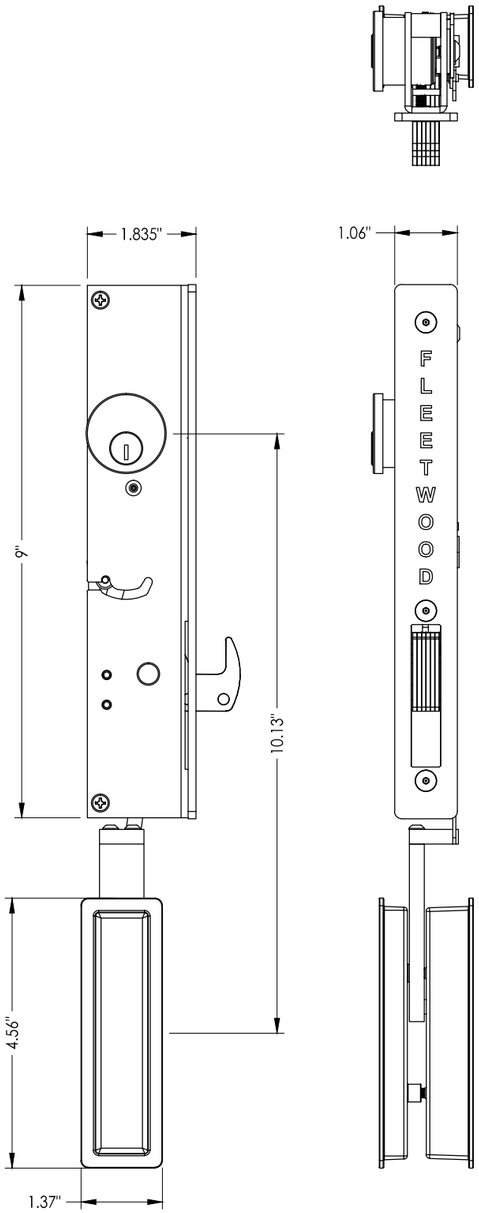
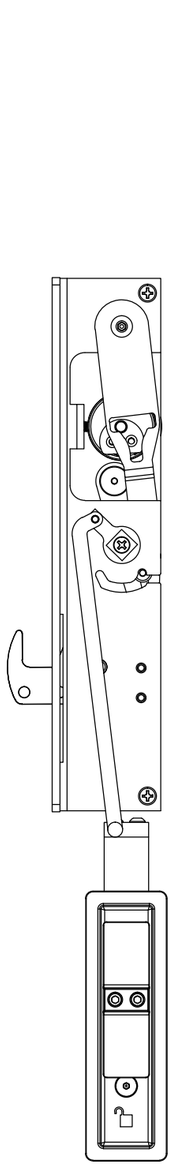
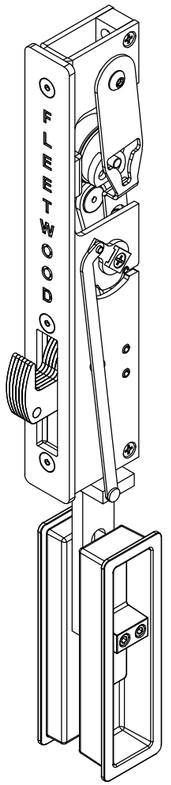
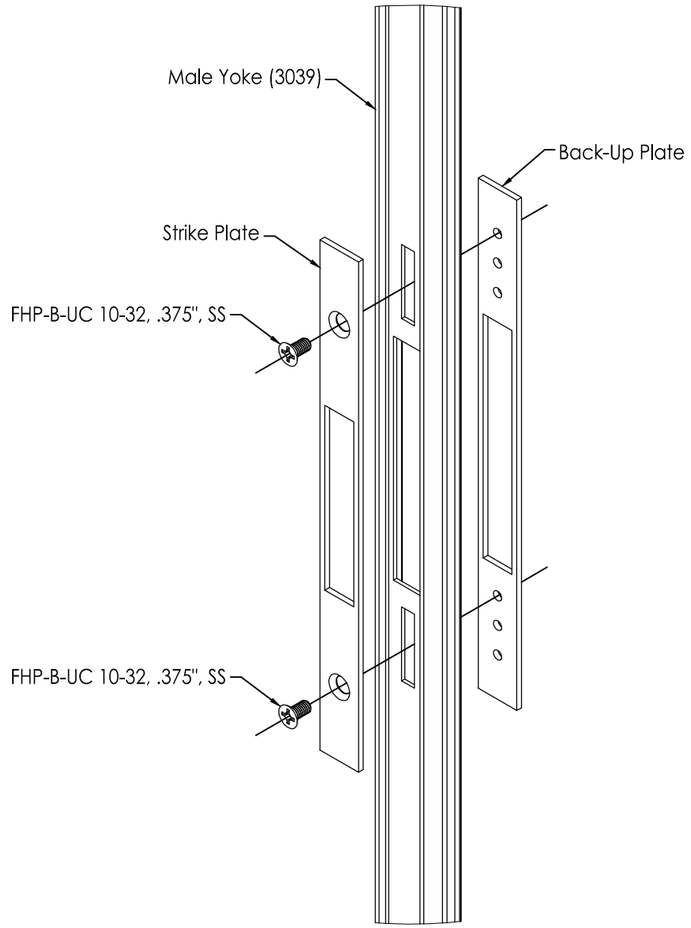






49 **ARCHETYPE NARROW LOCK**



30 **STRIKE PLATE**

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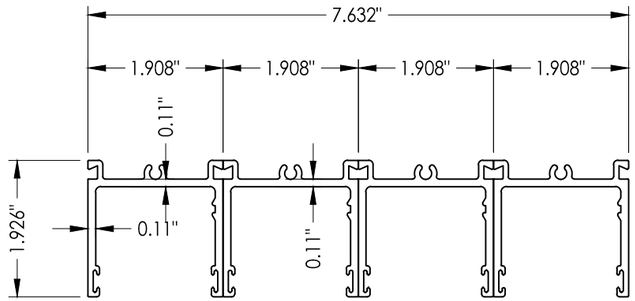
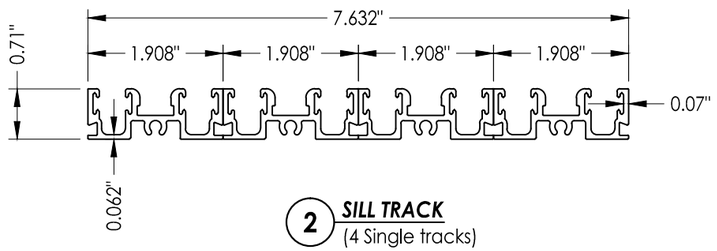
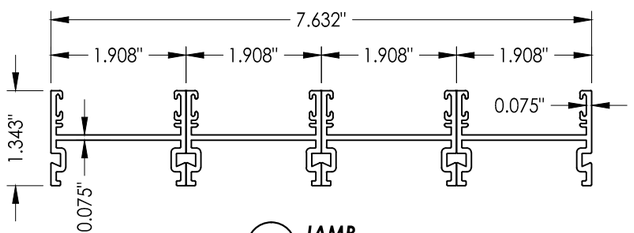


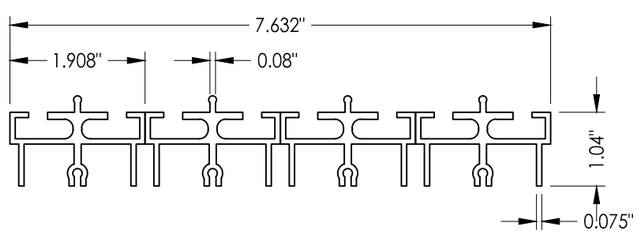
1 **HEAD TRACK**
(4 Single tracks)



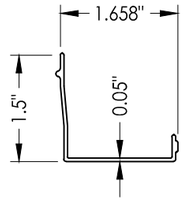
2 **SILL TRACK**
(4 Single tracks)



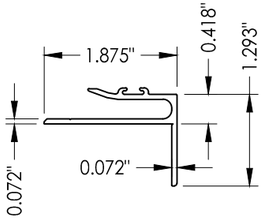
3 **JAMB**
(4 Single tracks)



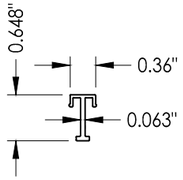
4 **SUB-SILL SUPPORTS**
1 HIGH X 4 WIDE



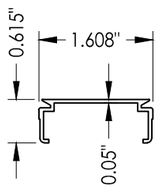
5 **HEAD FILLER**



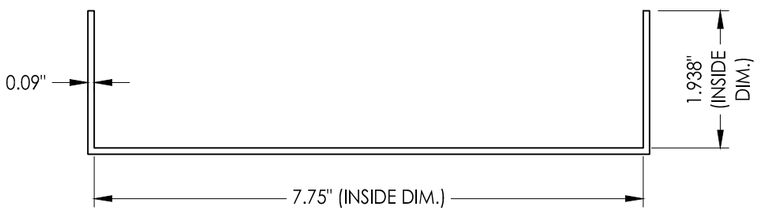
8 **L-TYPE POST INTERLOCK**



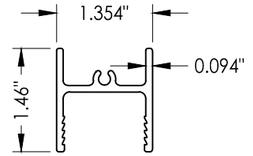
6 **SILL FILLER**



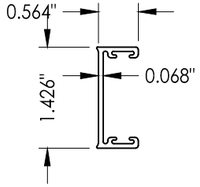
7 **JAMB FILLER**



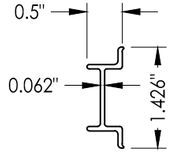
10 **SUB-SILLPAN**
Staggered Pan
4 Track to 2 Track



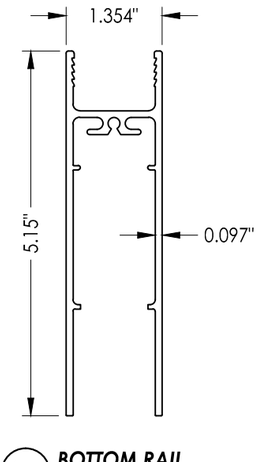
16 **TOP RAIL**



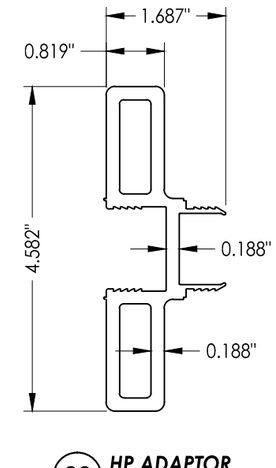
20 **FEMALE YOKE**



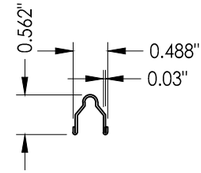
21 **MALE YOKE**



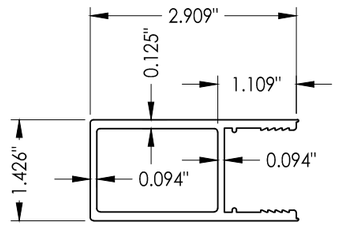
17 **BOTTOM RAIL**



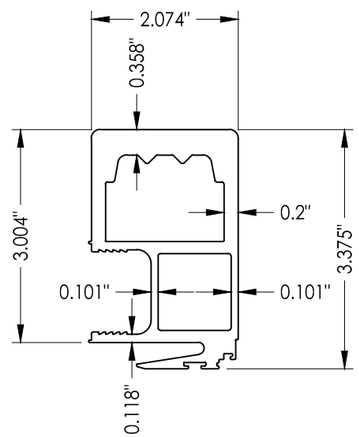
22 **HP ADAPTOR**



9 **TRACK**



18 **NARROW LOCK STILE/ WIDE FIXED STILE**



19 **HP INTERLOCKER**

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JOB NUMBER:	385199-V2
MATERIAL:	SERIES 3070-HI
CUSTOMER:	FLEETWOOD WINDOWS AND DOORS
JOB NAME:	FLEETWOOD TAS & AAMA TEST

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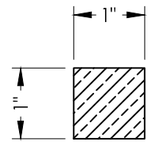
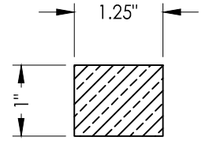
SHEET: 8 OF 9

BILL OF MATERIALS

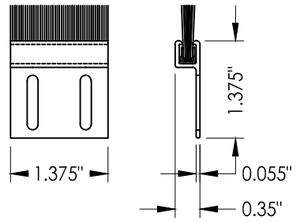
ITEM #	DESCRIPTION	PART#	MATERIAL
B	2X BUCK SG >= 0.55		WOOD
C	1/4" MAX. SHIM SPACE		-
D	#10 x 2-1/2" PFH WOOD SCREW		STEEL
F	#8 x 1-1/2" PPH WOOD SCREW		STEEL
1	M/S HEAD (SINGLE TRACK)	3046	6063-T6 ALUM
2	M/S SILL (SINGLE TRACK)	3741	6063-T6 ALUM
3	JAMB (1 TRACK)	3048	6063-T6 ALUM
4	TRACK SUPPORT (SUB-SILL)	3774	6063-T6 ALUM
5	HEAD FILLER	3014	6063-T6 ALUM
6	SILL FILLER	3747	6063-T6 ALUM
7	JAMB FILLER	3710	6063-T6 ALUM
8	POST INTERLOCKER (L-TYPE)	3730	6063-T6 ALUM
9	S.S. TRACK	FW1020	STAINLESS STEEL
10	SUB-SILLPAN (1.938" DEPTH)	3722-4-4S	-
11	SMALL FIN SEAL .230	19118	-
12	9/16" GLAZING VINYL (ASTM C864)	25033	-
13	LARGE FIN SEAL .290	19117	-
14	Q-LON (U5212)	19120	-
15	Q-LON FOAM SEAL	25189	-
16	TOP RAIL	3004	6063-T6 ALUM
17	BOTTOM RAIL	3027	6063-T6 ALUM
18	NARROW LOCK STILE/WIDE FIXED STILE	3005	6063-T6 ALUM
19	HP INTERLOCKER	3034	6063-T6 ALUM
20	FEMALE YOKE	3040	6063-T6 ALUM
21	MALE YOKE	3039	6063-T6 ALUM
22	HP ADAPTOR	3716	6063-T6 ALUM
23	1" X 1" SOLID ALUMINUM	N/A	6061-T6 ALUM
24	1" X 1.25" SOLID ALUMINUM	N/A	6061-T6 ALUM
27	AIR BARRIER (SILL)	25383	SAVIO
28	AIR BARRIER (HEAD)	24097	SAVIO
29	6" AIR BARRIER FOR HP INTERLOCKER	25562	-
30	STRIKE PLATE	24980	STAINLESS STEEL
31	BACK UP PLATE	24981	STAINLESS STEEL
32	10-32 X .5" FHP	N/A	STEEL
33	#10 X 1" PHP	N/A	STEEL
34	#8 TEK X 1/2"	N/A	STEEL
35	DOW 995 SILICONE	N/A	-
42	#8 X 3/4" PPH SMS	N/A	STEEL
43	#8 X 3/4" PFH SMS	N/A	STEEL
44	#8 X 1" PFH TEK SCREW	N/A	STEEL
49	ARCHETYPE NARROW LOCK	N/A	-
51	ARCHETYPE ROLLERS	N/A	-



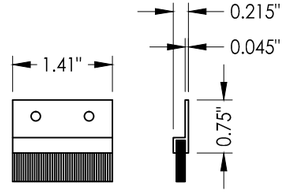
23 ALUMINUM REINFORCEMENT



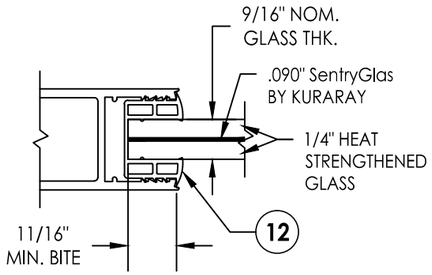
24 ALUMINUM REINFORCEMENT



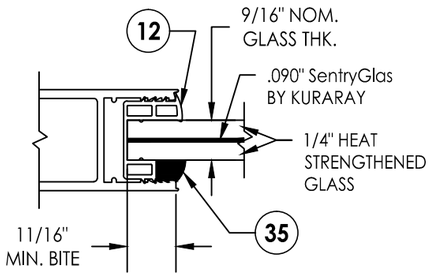
28 AIR BARRIER (HEAD)
(AT INTERLOCKERS)



27 AIR BARRIER (SILL)
(AT INTERLOCKERS)



G1 GLAZING DETAIL



G2 GLAZING DETAIL

Architectural Testing
Report #: E8391-301-44
Date: 04/01/16
Verified by:

REVISIONS	
DATE	
DRAWN BY	
COMMENTS	
DRAWN BY:	BL
DATE:	6/22/15
JOB NUMBER:	385199-V2
MATERIAL:	SERIES 3070-HI
CUSTOMER:	FLEETWOOD WINDOWS AND DOORS
JOB NAME:	FLEETWOOD TAS & AAMA TEST

FLEETWOOD
WINDOWS AND DOORS
1 FLEETWOOD WAY CORONA, CALIFORNIA 92879 - www.fleetwoodusa.com

SCALE
DO NOT SCALE

DRAWING NO.
#####

SHEET
9 OF 9