

Fenestration Testing Laboratory, Inc.
10235 8th Street, Rancho Cucamonga, CA 91730
Report #: T24-078

REPORT SUMMARY

REPORT #

T24-078

TESTED FOR

Fleetwood Windows & Doors
1 Fleetwood Way
Corona, CA 92879

SERIES & PRODUCT TYPE

3050 - ALUMINUM SLIDING GLASS DOOR

CONFIGURATION

XXX

FRAME SIZE

3517.90 mm x 3052.83 mm (138.50" x 120.19")

SPECIFICATION

NAFS - North American Fenestration Standard/specification for windows, doors, and skylights
AAMA/WDMA/CSA 101/I.S.2/A440-22

PRIMARY DESIGNATOR

CLASS R-PG20 3517.90 x 3052.83 mm (138.50 x 120.19 in) Type: SD

TEST COMPLETION DATE

July 17, 2024

REPORT DATE

August 20, 2024

Fenestration Testing Laboratory, Inc.

10235 8th Street, Rancho Cucamonga, CA 91730

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1.0 Tested For: Fleetwood Windows & Doors
1 Fleetwood Way
Corona, CA 92879

2.0 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 5.0 of this report.

3.0 Test References:

3.1 NAFS - North American Fenestration Standard/specification for windows, doors, and skylights
AAMA/WDMA/CSA 101/1.S.2/A440-22
3.2 ASTM F 842-17 Forced Entry Resistance Tests for Sliding Door Assemblies
3.3 CAWM 300-96 Forced Entry Test Resistance Tests for Sliding Glass Doors

4.0 Compliance Statement: The test results in paragraph 6.0 indicate that the test sample described in paragraph 5.0 of this report met the performance requirements of the above specifications for the performance grade shown in 4.1 below.

4.1 CLASS R-PG20 3517.90 x 3052.83 mm (138.50 x 120.19 in) Type: SD

5.0 Sample Submitted:

5.1 Product Type: ALUMINUM SLIDING GLASS DOOR

5.2 Series: 3050

5.3 Configuration: XXX

5.4 Product Dimensions:	Millimeters	Inches
Total Frame:	3517.90 x 3052.83	138.50 x 120.19
Left Panel:	1204.98 x 2956.05	47.44 x 116.38
Center Panel:	1155.70 x 2956.05	45.50 x 116.38
Right Panel:	1159.00 x 2956.05	45.63 x 116.38

5.5 Glass and Glazing: Applies to all three IGUs

IGU Thickness	Spacer Size	Interior Lite	Exterior Lite	Glazing method
1" overall wide	0.5"	1/4" Tempered	1/4" Tempered	Channel glazed with wrap around vinyl gasket.

5.6 Weepage:

Sill tracks consisted of three parts that mated to each other and sat on the aluminum "track supports" that sat in the sill pan. The aluminum supports were placed in sections to leave a 3" drainage gap in line with each pan weep.

The pan contained four weeps in two configurations: Config. #1) 1" diameter drains going straight down.

Config. #2) 0.5" diameter drains out the outside face of the pan. For each configuration the weeps were located as follows: The pan contained a weep 8" from each end, another 68" from the left end, and the other 39.5" from the right end (see page 1 Specimen 1 Elevation drawing which provides a weep hole layout).

The air infiltration and water penetration tests passed with each configuration tested separately.

Aluminum plates were placed between tracks to simulate finished flooring. Water passing over the tracks and finished floor drained into the pan through a 0.2" wide full length drain between the sill inside edge and the pan inside leg (see pages 2 detail 2).

The innermost sill support contained a PVC shim fastened to it to maintain an even drain gap between the pan inside leg and the sill.

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5.7 Pressure balancing: None

5.8 Weather-stripping:

Type	Quantity	Location
0.220" Overall high polypile with center fin	Six (6) strips	Head - two strips per channels with one strip facing in and one facing out.
0.270" overall high polypile (no fin)	Four (4)	Each of the four interlocks contained one strip facing the adjacent interlock.
0.250" overall high Q-lon foam filled bulb	Four (4) strips	Left lock jamb outermost channel- two strips with one facing in and one facing out. Right lock jamb innermost channel - two strips with one facing in and one facing out.
Flap vinyl - "sill wipe"	Six (6) strips	Each bottom rail contained two sill wipes.
Brush air barrier	Eight (8)	Each interlock contained a brush air barrier fastened to each end with screws.
Vinyl air barrier	Two (2)	Each exterior side interlock contained a vinyl air barrier at the top end.

5.9 Sealants:

Sealant was applied at the following locations:

-Head to jamb frame corners were sealed full profile.

-The frame was sealed to the rough opening full perimeter on the exterior side.

5.10 Hardware:

Type	Quantity	Location
Metal Archetype narrow two point lock	Two (2)	Left panel lock stile - locked to the outermost jamb active channel. Right panel lock stile - locked to the innermost jamb active channel. Each lock actuator was located 48" from the bottom of the stile and engaged a mortise hook at 8" and 32" above the lock actuator. Each lock hook engaged its respective metal strike fastened to the jamb with a pair of screws.
A2 tandem adjustable metal rollers.	Six (6)	Each of the three active panels contained a metal roller at each end of the bottom rail.

5.11 Construction:

Location	Joinery Type	Number of Fasteners	Fastener Size
Frame corners	The head and sill were butted to jambs and mechanically joined with screws	Three (3) per corner	#10 x 1.5" PPH
Panel corners	The stiles were butted to the rail and mechanically joined with screws.	One (1) per corner	#10 x 2" PPH - lock stiles #10 x 2" PFH interlocks
The sill track consisted of three identical single track extrusions that mated to each other to form a three track sill. Each track extrusion was fastened to a track support extrusion under it with a #6 x 1" PFH TEK screws applied 2.5" from each end and 7" on center in the field. The PVC shim to maintain the even drain gap was fastened to the innermost track support.			
Note that the interlocks were "narrow" and "narrow HP" types as follow: - Center panel interlock mating with the left panel was a narrow HP interlock. - Right panel interlock mating with the center panel interlock was a narrow HP interlock. - The other two interlocks were narrow interlocks.			

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5.12 Reinforcement: None

5.13 Installation:

<i>Location on frame</i>	<i>Anchor type</i>	<i>Spacing</i>
The head and jambs were fastened to the rough opening with screws applied through the frame. At each spacing point, three screws were applied; one in each channel.	#10 x 2" PFH	8" from each end and 16" on center.
The sill pan was encased in framing, the track supports set into the pan and the sill placed on the track supports and fastened to them as indicated under "Construction".		

6.0 - Test procedures and results: All testing procedures were performed in accordance with the performance requirements of the test specifications referenced in paragraph 3.0 of this report. The number preceding each test listed below refers to the corresponding section in the NAFS.

8.3.1 - Operation Force (ASTM E2068-00(2022))

Test Description	Results	Allowed	Comments
Maximum force to initiate and motion	102.7 N (23.10 lbf)	155 N (35 lbf)	1
Latching device force to operate	29.80 N (6.70 lbf)	100 N (22.48 lbf)	

8.3.2 - Air Infiltration (ASTM E283-19)

Test Description	Results	Allowed	Comments
75 Pa differential pressure	Pass	1.5 L/s*m ²	
1.57 psf differential pressure	Pass	0.30 cfm/ft ²	
The tested specimen meets the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.			

8.3.2 - Air Exfiltration (ASTM E283-19)

Test Description	Results	Allowed	Comments
75 Pa differential pressure	Pass	1.5 L/s*m ²	
1.57 psf differential pressure	Pass	0.30 cfm/ft ²	
The tested specimen meets the performance levels specified in AAMA/WDMA/CSA 101/I.S.2/A440 for air leakage resistance.			

8.3.3 - Water Penetration (ASTM E547-00(2016)) With both weep configurations

Test Description	Results	Allowed	Comments
DP20 - 150 Pa (3.13 psf)	No water penetration	No water penetration	1

8.3.4.2 - Uniform Load Deflection at Design Pressure (ASTM E330-14 (2021))

Test Description	Results	Allowed	Comments
DP20 - 960 Pa (20.05 psf)Pos	27.69 mm (1.09")	Report only	2
DP20 - 960 Pa (20.05 psf)Neg	27.94 mm (1.10")	Report only	2

8.3.4.3 - Uniform Load Structural at 1.5 x Design Pressure (ASTM E330-14 (2021))

Test Description	Results	Allowed	Comments
OL for DP20 - 1440 Pa (30.08 psf)Pos	2.54 mm (0.10")	11.43 mm (0.45")	2
OL for DP20 - 1440 Pa (30.08 psf)Neg	3.81 mm (0.15")	11.43 mm (0.45")	2

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8.3.5 - Forced Entry Resistance (ASTM F842-17(2023) & CAWM 300-96)

Test Description	Results	Allowed	Comments
ASTM F842 Type A and CAWM 300	No Entry	No Entry	Grade 10

8.3.6.2 - Deglazing Test

Test Description	Results	Allowed	Comments
Active Sash Pull Stile - 320 N (71.94 lbf)	2%	Less than 90% of glazing bite	
Active Sash Rail - 230 N (51.71 lbf)	1%	Less than 90% of glazing bite	

Comment #1 - Tested without insect screen.

Comment #2 - Deflection measurement taken from interlocks.

Testing was witnessed by: Jim Cruz with FTL and Corey Jones with Fleetwood.

For a complete description of the tested sample, refer to the attached three (3) pages consisting of a bill of materials, cross section drawings, and individual part drawings. This report is complete only when all the above referenced bill of materials and drawings are attached.

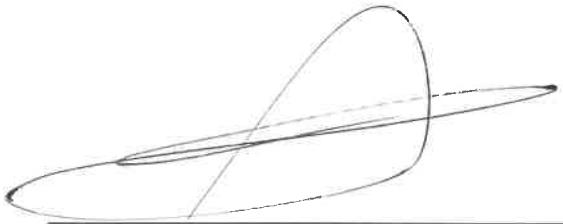
The bill of materials, cross section drawings, and part drawings of frame and sash members are on file and have been compared to the sample submitted. Test sample sections, bill of materials, drawings and a copy of this report will be retained at the test laboratory for four years.

This test report may not be modified in any way without the written consent of Fenestration Testing Laboratory, Inc (FTL).

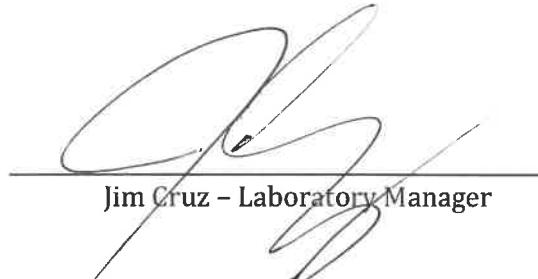
The preceding test results relate only to the tested specimen and were obtained by using the applicable test methods listed in section 3.0 and 6.0 above. This report does not constitute certification of this product or an endorsement by this laboratory. It is the property of the client named in section 1.0 above. Certification can only be granted by an approved administrator and/or validator.

Test Completion Date: July 17, 2024

Report Completion Date: August 20, 2024



Pete Cruz - Test Engineer



Jim Cruz - Laboratory Manager

TEST SPECIMEN

1. SERIES / MODEL: SERIES 3050
2. PRODUCT TYPE: MULTI-SLIDE DOOR
3. CONFIGURATION: XXX

GLAZING

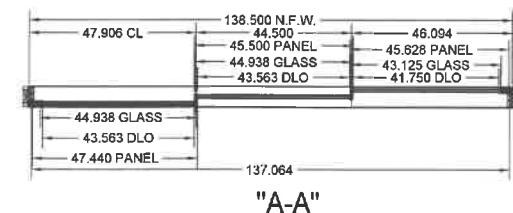
DETAIL G1) 1": CLEAR 6MM, 0.5 AIR, CLEAR 6MM -T

GENERAL NOTES

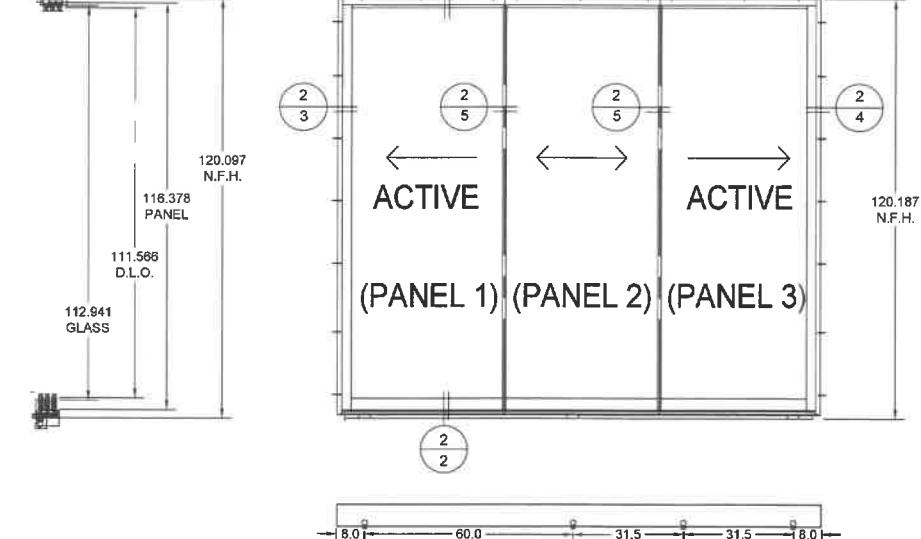
GENERAL NOTES

1. BUCKING OPENINGS & BUCKING FASTENERS MUST BE PROPERLY DESIGNED & INSTALLED TO TRANSFER LOADS TO THE STRUCTURE AND TO BE REVIEWED BY BUILDING OFFICIAL.
2. ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & MAY NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS.
3. MATERIALS, INCLUDING BUT NOT LIMITED TO STEEL SCREWS, THAT COME INTO CONTACT WITH OTHER DISSIMILAR MATERIALS SHALL MEET THE REQUIREMENTS OF AAMA AND BUILDING CODE.

PAGE #
DETAIL #



"A-A"



**SPECIMEN 1: 3050 XXX ELEVATION
NARROW INTERLOCKERS (HP/STD)**

CORNERS CONSTRUCTION

1. FRAME CORNER: THE HEAD AND SILLS ARE BUTTED TO THE JAMBS AND ATTACHED WITH SCREWS.
2. PANEL CORNER: THE TOP AND BOTTOM RAILS ARE BUTTED TO THE VERTICAL STILES AND ATTACHED WITH #10 PAN HEAD SCREWS.

HARDWARE

1. ARCHETYPE NARROW HARDWARE

WEE

1. DRAIN SPACING: 8" FROM EACH END; 60" SPACING
2. 1" DRAINS DOWN
3. 0.5" DRAINS SIDE

ANCHORING

SCREW: #10 MIN. EMBEDMENT OF 0.75", ALL TRACKS
HEAD: 8" FROM ENDS, 16" O.C.
JAMBS: 8" FROM ENDS, 16" O.C.

TABLE OF CONTENTS	
DRAWING NO.	DESCRIPTION
1	GENERAL NOTES AND SPECIMEN 1 ELEVATION
2	CROSS SECTIONAL DETAILS
3	BILL OF MATERIALS AND GLAZING DETAILS

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SPECIMEN 1 PANEL & PANEL DLO: WIDTH X HEIGHT

PANEL 1: 47.440" X 116.375" DLO 1: 43.563" X 111.566"
PANEL 2: 45.500" X 116.375" DLO 2: 43.563" X 111.566"
PANEL 3: 45.625" X 116.375" DLO 3: 41.750" X 111.566"

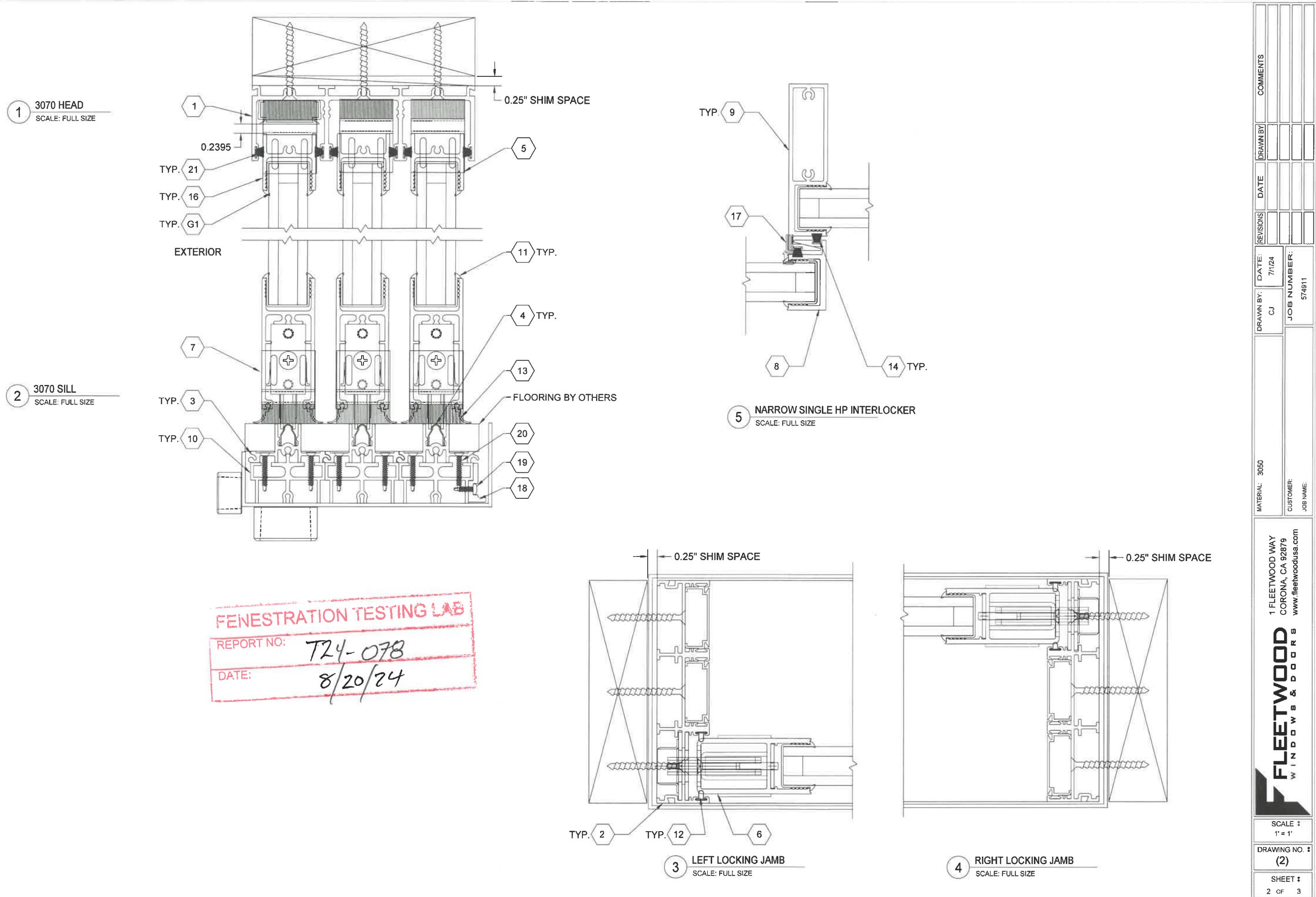
AIR	
ALLOWABLE = 0.3	
INFIL.	EXFIL.
PASS	PASS

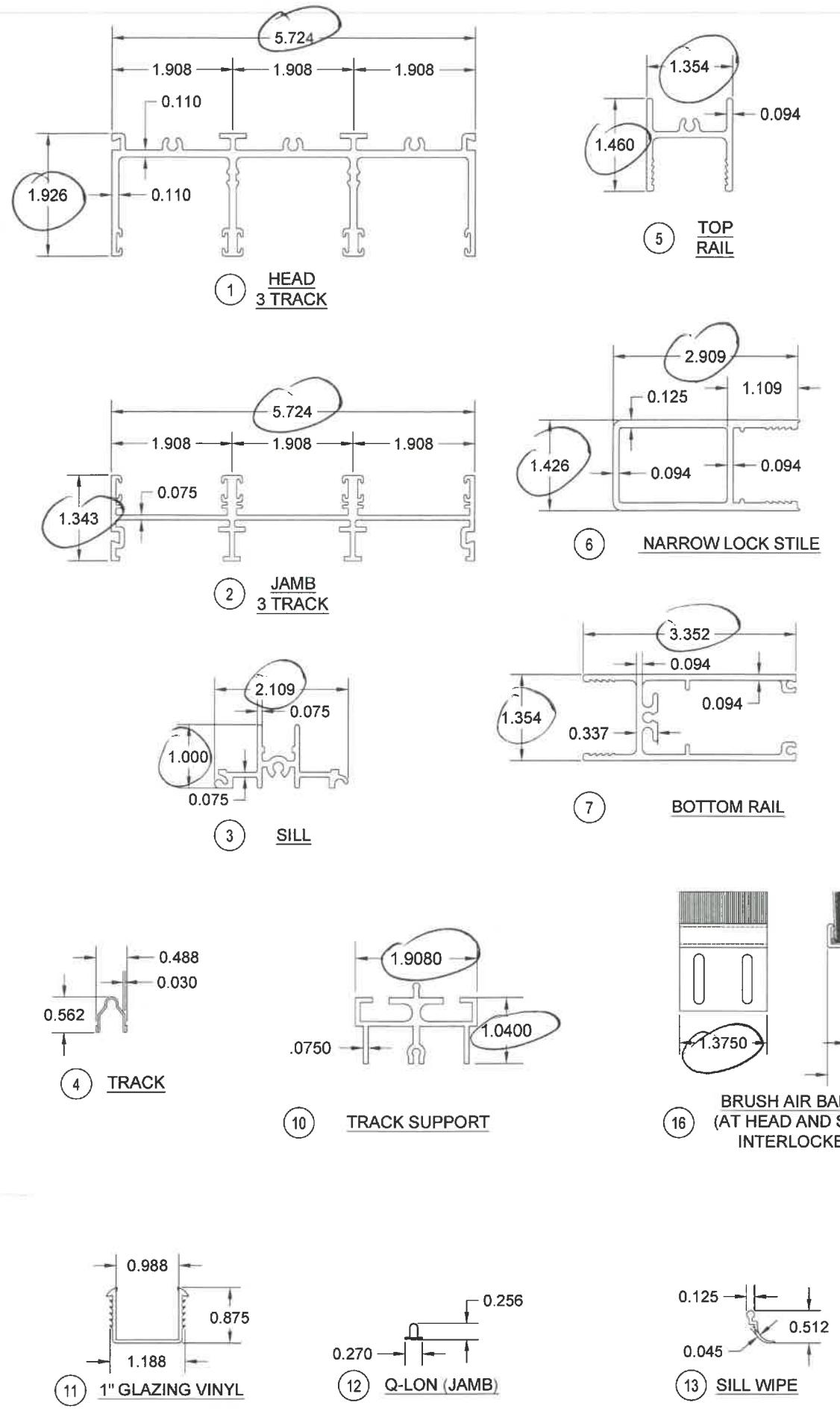
WATER			
PRESSURE	RATING	SILL HT.	PASS/FAIL
3 PSF	20	FLUSH	PASS
4.5 PSF	30	FLUSH	FAIL

NAR. HP/STD	STRUCTURAL				
	DESIGN PRESSURE (PSF)				
	POSITIVE	DEFL. (in.)	NEGATIVE	DEFL. (in.)	PERM. SET (in.)
	20	1.09	20	1.10	0.08

OVERLOAD				
NAR. HP/STD	DESIGN PRESSURE (PSF)			
	POSITIVE	DEFL. (in.)	NEGATIVE	DEFL. (in.)
	30	3.00	30	3.09
				0.10

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BILL OF MATERIALS				
EXTRUSIONS				
ITEM NO.	FWID #	DESCRIPTION	VENDOR	VENDOR PART NO.
1	3703	HEAD (3-TRACK)		
2	3713	JAMB (3-TRACK)		
3	1092	SILL		
4	FW1020	STAINLESS STEEL TRACK		
5	3004	TOP RAIL		
6	3005	NARROW LEAD STILE		
7	3709	BOTTOM RAIL		
8	3737	NARROW INTERLOCKER		
9	3738	NARROW HP INTERLOCKER		
10	3774	TRACK SUPPORT		
21	3006	STANDARD INTERLOCKER		

HARDWARE				
ITEM NO.	FWID #	DESCRIPTION	VENDOR	VENDOR PART NO.
11	22909	1" GLAZING VINYL	RYKO	R11542
12	19120	Q-LON 0.25 x 0.27	SCHLEGEN	P4R1BL-00000
13	19064	SILL WIPE	RYKO	R9162
14	19122	MOHAIR 0.27 x 0.187	AMESBURY	27018745BKWP
15	-	SILLPAN		
16	19104	BRUSH AIR BARRIER	D&B	233-101
17	27449	VINYL AIR BARRIER	RYKO	R11685
18	27537	ARCHE-DUCT SPACER	RYKO	R11693
19	20228	#6 PHP-TEK SCREW, 0.5"		
20	25559	#6 PHP-TEK SCREW, 1"		
21	19118	MOHAIR 0.22 X 0.270	AMESBURY	22027045BKGB

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