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CR LAURENCE CO. INC.

ACOUSTICAL PERFORMANCE TEST REPORT

SCOPE OF WORK
ASTM E90 SOUND TRANSMISSION LOSS TESTING ON A PALISADES S100, SLIDING GLASS DOOR

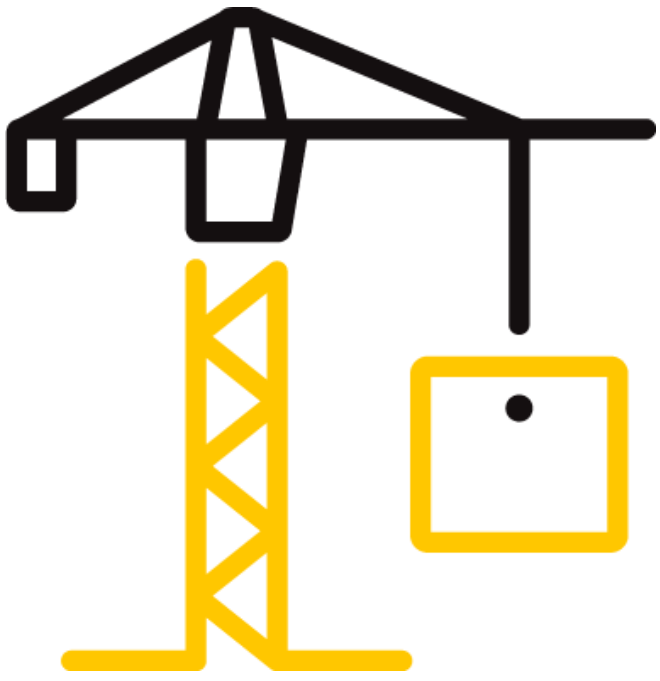
REPORT NUMBER
L8956.02-303-11-R0

TEST DATE
03/01/21

ISSUE DATE
03/22/21

PAGES
17

DOCUMENT CONTROL NUMBER
RT-R-AMER-Test-2761 (01/17/21)



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TEST REPORT FOR CR LAURENCE CO. INC.
Report No.: L8956.02-303-11-R0
Date: 03/22/21

REPORT ISSUED TO
CR LAURENCE CO. INC.
2100 East 38th Street
Vernon, CA 90058

SECTION 1
SCOPE

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by CR Laurence Co. Inc. to conduct a sound transmission loss test. Results obtained are tested values and were secured by using the designated test methods. The complete test data is included herein. The client provided the test specimen. All measurements were conducted in the HT test chambers at Intertek B&C located in Lake Forest, California.

This report does not constitute certification of this product nor an opinion or endorsement by this laboratory. Intertek B&C will service this report for the entire test record retention period. The test record retention period ends four years after the test date. Test records, such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation, will be retained for the entire test record retention period.

Unless differently required, Intertek reports apply the "Simple Acceptance" rule, also called “Shared Risk approach,” of ILAC-G8:09/2019, Guidelines on Decision Rules and Statements of Conformity.

For INTERTEK B&C:

COMPLETED BY:	Marco T Santa Rosa	**REVIEWED BY:**	Leeland S Hoover
TITLE:	Technician III Acoustical Testing	**TITLE:**	Laboratory Manager Acoustical Testing
SIGNATURE:	Digitally Signed by: Marco Santa-Rosa	**SIGNATURE:**	Digitally Signed by: Leeland Hoover
DATE:	03/22/21	**DATE:**	03/22/21

MTSR: LSH

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SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Palisades S100
TYPE	Sliding Glass Door
GLAZING (Nominal Dimensions)	1" IG (1/4" Tempered Exterior, 3/8" Air Space, 3/8" Laminated Interior) Glass temperature 75ºF
DATA FILE NO.	L8956.01A1
STC	37
OITC	31

SECTION 3
TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM E90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*

ASTM E413-16, *Classification for Rating Sound Insulation*

ASTM E1332-16, *Standard Classification for Rating Outdoor-Indoor Sound Attenuation*

ASTM E2235-04 (2020), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

SECTION 4
SPECIMEN INSTALLATION

A sound transmission loss test was initially performed on a filler wall.

The specimen plug was removed from the filler wall assembly. The specimen was placed on an isolation pad in the test opening. Duct seal was used to seal the perimeter of the specimen to the test opening on both sides. The interior side of the specimen, when installed, was approximately 1/4" from being flush with the receive room side of the filler wall. A stethoscope was used to check for any abnormal air leaks around the test specimen prior to testing. Operable portions of the test specimen, if any, were cycled at least five times prior to testing.

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SECTION 5
EQUIPMENT

The equipment listed below meets the requirements of the test methods stated in Section 3 of this report.

EQUIPMENT

INSTRUMENT	MANUFACTURER	MODEL	DESCRIPTION	ASSET #	CAL DATE
Data Acquisition Card*	National Instruments	PXIe-4464	Data Acquisition Card	INT00392	10/19
Data Acquisition Card*	National Instruments	PXIe-4464	Data Acquisition Card	INT00394	10/19
Data Acquisition Card*	National Instruments	PXIe-4464	Data Acquisition Card	INT00395	09/19
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00234	04/20
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00235	04/20
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00236	04/20
Source Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00237	04/20
Source Room Microphone	PCB piezotronics	378C20	Microphone and Preamplifier	INT00238	04/20
Receive Room Microphone	PBC Piezotronics	378C20	Microphone and Preamplifier	INT00229	04/20
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00230	04/20
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT01542	04/20
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00232	04/20
Receive Room Microphone	PCB Piezotronics	378C20	Microphone and Preamplifier	INT00233	04/20
Receive Room Environmental Indicator	Comet	T7510	Receive Room	INT00299	07/20
Source Room Environmental Indicator	Comet	T7510	Source Room	INT00300	07/20
Microphone Calibrator	Norsonic	1251	Acoustical Calibrator	INT00288	10/20

**- Note: The calibration frequency for this equipment is every two years per the manufacturer's recommendation.*

TEST CHAMBER

	VOLUME	DESCRIPTION
RECEIVE ROOM	231 m³	Rotating vane and stationary diffusers Temperature and humidity controlled Isolation pads under the floor
SOURCE ROOM	196 m³	Stationary diffusers only Temperature and humidity controlled

	MAXIMUM SIZE	DESCRIPTION
TL TEST OPENING	4.27 m wide by 3.05 m high	Vibration break between source and receive rooms

N/A-Not Applicable

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SECTION 6
LIST OF OFFICIAL OBSERVERS

NAME	COMPANY
Roman Jimenez	CR Laurence Co. Inc.
Garrett Osterode	CR Laurence Co. Inc
Marco Santa Rosa	Intertek B&C
Eric Rueda	Intertek B&C

SECTION 7
TEST PROCEDURE

The sensitivity of the microphones was checked before measurements were conducted.

The transmission loss values were obtained for a single direction of measurement.

Two background noise sound pressure level and five sound absorption measurements were conducted at each of five microphone positions.

Two sound pressure level measurements were made simultaneously in receive and source rooms at each of five microphone positions.

The air temperature and relative humidity conditions were monitored and recorded during all measurements.

Data for flanking limit tests, repeatability measurements, and reference specimen tests are available upon request.

Intertek B&C will store samples of test specimens for four years.

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SECTION 8
ACOUSTICAL TEST CALCULATIONS

Transmission loss (TL) at each 1/3 octave frequency is the average source room sound pressure level minus the average receive room sound pressure level, plus, 10 times the log of the specimen area divided by the sound absorption of the receive room with the sample in place.

STC Rating
To obtain the Sound Transmission Class (STC), read the TL of the contour curve at 500 Hz. The sum of the deficiencies below the contour curve must not exceed 32. The maximum deficiency at any one frequency must not exceed 8.

OITC Rating
The Outdoor-Indoor Transmission Class (OITC) is calculated by subtracting the logarithmic summation of the TL values from the logarithmic summation of the A-weighted transportation noise spectrum stated in ASTM E1332.

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SECTION 9
SPECIMEN DESCRIPTION

	FRAME	ACTIVE	FIXED
SIZE	79" by 78-3/4"	38" by 73-1/2"	38" by 73-1/2"
THICKNESS	4-5/8"	4-1/2"	4-1/2"
CORNERS	Butted	Butted	Butted
FASTENERS	Screws	Screws	Screws
SEAL METHOD	N/A	Silicone	Silicone
MATERIAL	Aluminum	Aluminum	Aluminum
REINFORCEMENT	N/A	N/A	N/A
THERMAL BREAK MATERIAL	N/A	N/A	N/A
DAYLIGHT OPENING SIZE (X2)	N/A	34-1/2” by 70-5/8”	34-1/2” by 70-5/8”

MEASURED OVERALL INSULATION GLASS UNIT THICKNESS	1.007"
SPACER TYPE	Aluminum box

	EXTERIOR SHEET	GAP	INTERIOR SHEET
MEASURED THICKNESS	0.223"	0.397”	0.180”, 0.026”, 0.181”
MUNTIN PATTERN	N/A	N/A	N/A
MATERIAL	Tempered	Air*	Laminated
LAMINATE MATERIAL	N/A	N/A	PVB

GLAZING METHOD	Channel
GLAZING MATERIAL	Rubber gasket

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	TYPE	QUANTITY	LOCATION
WEATHERSTRIP	0.270” by 0.270” Polypile with center fin	1 Row	Perimeter of frame (interior)
	1/4" Rubber leaf gasket	2 Rows	Perimeter of Frame (Exterior)
	3/4" by 1/16” Foam pad	1 Row	Meeting stiles
HARDWARE	Latch lock	1	Locking Stile
	Keeper	2	Head and sill
	Locking pin	1	Locking Stile
DRAINAGE	1-3/4” by 1/4" Weep slots with covers	4	Sill

TOTAL WEIGHT (lbs)	**AVERAGE WEIGHT** (lbs/ft^2)
412	9.54

** - Stated per Client/Manufacturer, N/A-Not Applicable*

Photographs are included in Section 11.

A drawing of the test specimen is included in Section 12

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SECTION 10
TEST RESULTS

ASTM E90
AIRBORNE SOUND TRANSMISSION LOSS

IAS ACCREDITED Testing Laboratory

TEST DATE	03/01/21				
DATA FILE NO.	L8956.01A1				
CLIENT	CR Laurence Co. Inc.				
DESCRIPTION	Series/Model: Palisades S100, Sliding Glass Door With 1" IG (1/4" Tempered Exterior, 3/8" Air Space, 3/8" Laminated Interior) Glass Temperature 75F * changed meeting stile*				
SPECIMEN AREA	4.03 m²	RECEIVE TEMP.	18.5 °C	SOURCE TEMP	18.3 °C
TECHNICIAN	Marco T Sant	RECEIVE HUMIDITY	30%	SOURCE HUMIDIT	33%

FREQ (Hz)	BACKGROUND SPL (dB)	ABSORPTION (m²)	SOURCE SPL (dB)	RECEIVE SPL (dB)	SPECIMEN TL (dB)	95% CONFIDENCE LIMIT	NUMBER OF DEFICIENCIES
80	40.8	4.6	104	74	30	1.85	-
100	35.3	4.6	102	78	25	1.01	-
125	42.1	5.0	103	79	23	0.80	0
160	44.6	5.4	103	77	25	1.20	0
200	38.4	6.7	106	80	24	0.77	3
250	30.9	7.1	107	76	28	0.47	2
315	33.5	7.2	106	73	31	0.39	2
400	38.4	6.2	106	69	35	0.31	1
500	24.2	5.5	106	70	35	0.65	2
630	21.2	5.9	107	68	37	0.32	1
800	24.4	6.0	105	66	38	0.23	1
1000	17.8	6.3	107	68	37	0.27	3
1250	16.3	6.6	105	66	37	0.22	4
1600	6.6	7.4	103	63	37	0.30	4
2000	4.2	9.0	101	60	37	0.27	4
2500	3.8	10.8	100	57	39	0.21	2
3150	4.1	13.0	100	54	40	0.30	1
4000	4.7	16.9	96	49	40	0.41	1
5000	5.5	22.6	92	41	44	0.47	-
STC RATING		37	*(Sound Transmission Class)*				
DEFICIENCIES		31	*(Sum of Deficiencies)*				
OITC RATING		31	*(Outdoor-Indoor Transmission Class)*				

Notes:
1) Receive Room levels less than 5 dB above the Background levels are red.
2) Specimen TL levels listed in red indicate the lower limit of the transmission loss.
3) Specimen TL levels listed in green indicate that there has been a filler wall correction applied

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ASTM E90
AIRBORNE SOUND TRANSMISSION LOSS

IAS ACCREDITED Testing Laboratory

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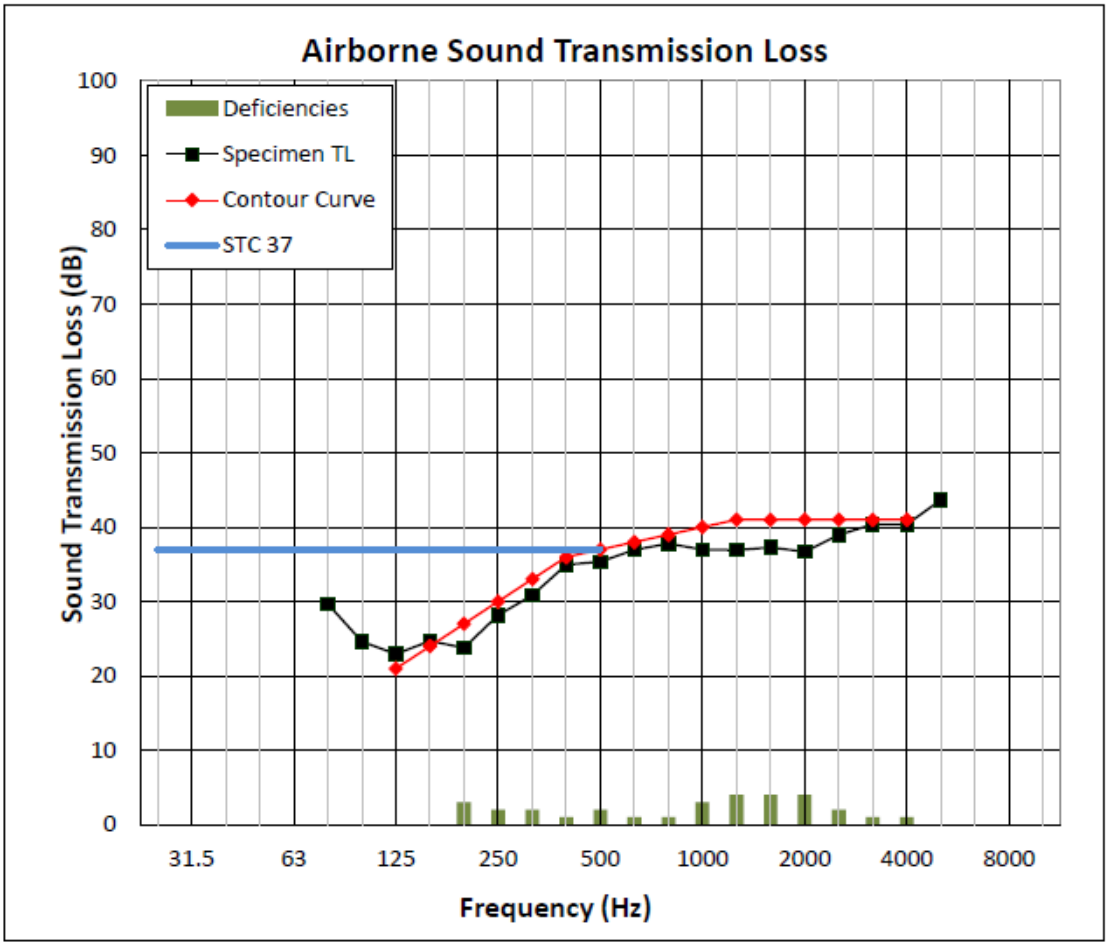

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SECTION 11
PHOTOGRAPHS

Photo No. 1
Source Room View of Test Specimen

Photo No. 2
Receive Room View of Test Specimen

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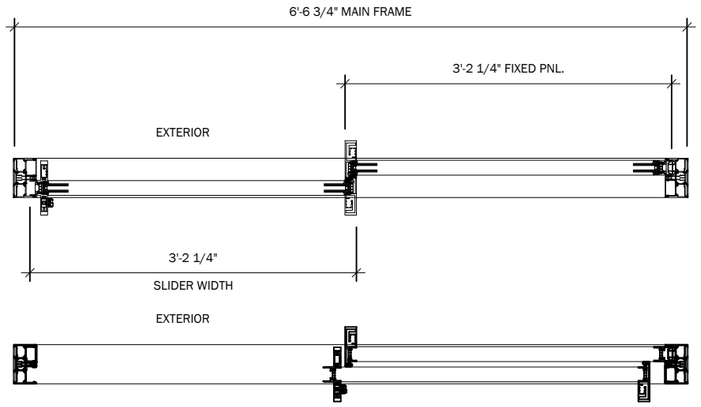
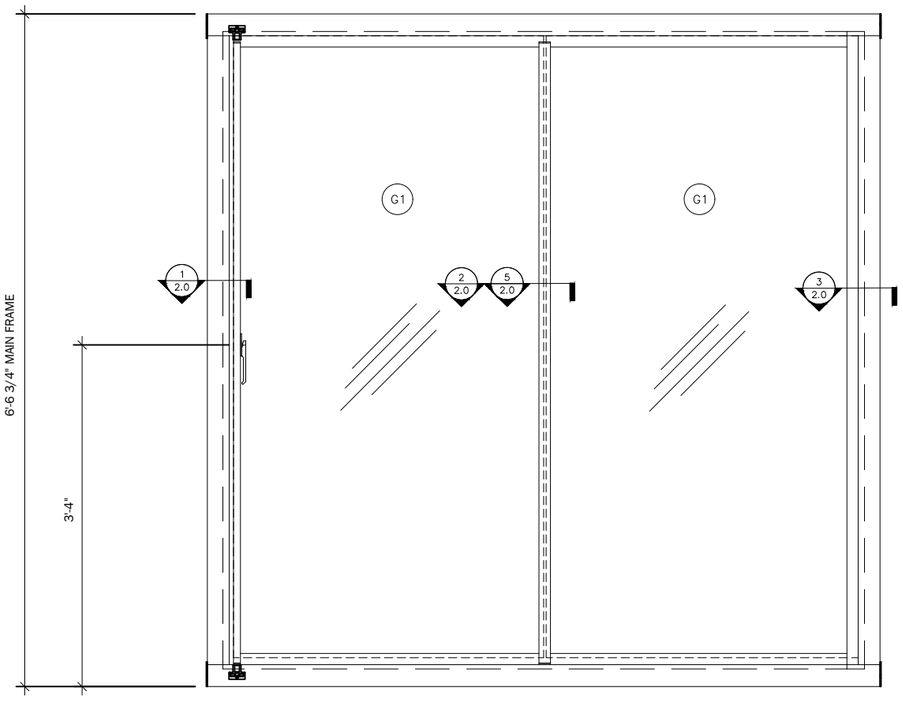
SECTION 12
DRAWING

PALISADES S100 SLIDER CONFIGURATION	
PTC #	1011117 - ACOUSTIC
CUSTOMER PO #	CR Laurence Co., Inc
SYSTEM:	S100
FRAME & PANEL FINISH:	DARK BRONZE ANODIZE - CLASS 1
HARDWARE FINISH:	BLACK
SILL:	RAISED
CONFIGURATION:	XO
GLAZING:	1" INSULATED
QTY:	1 (ONE) THUS





1 ELEVATION-EXTERIOR

ARCH REF: NONE

1-1/2"=1'-0"

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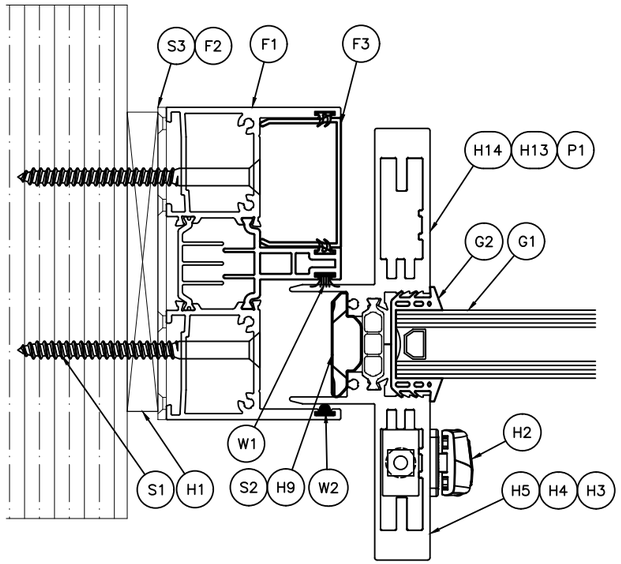
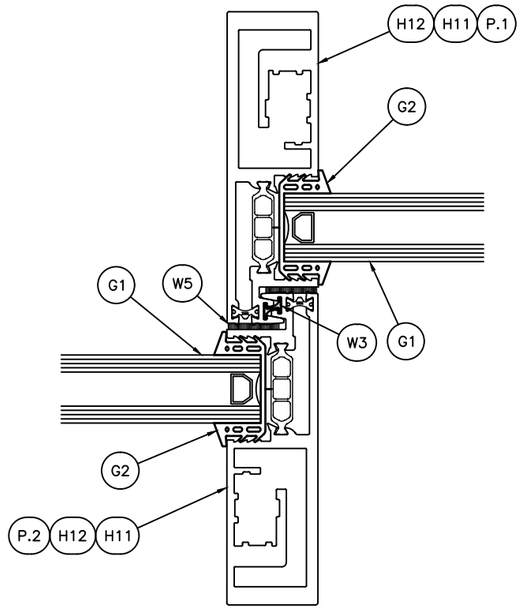


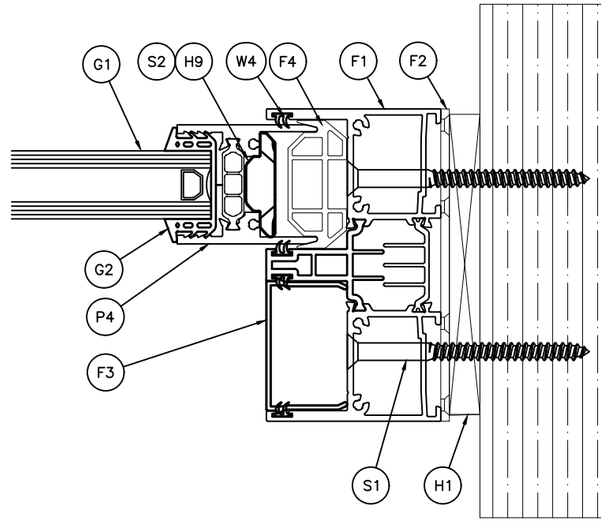
1 SLIDER JAMB DETAIL

ARCH REF: NONE 1"=1'-0"



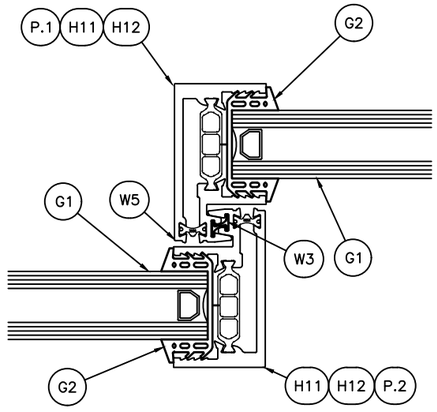
2 INTERLOCK DETAIL (LARGE)

ARCH REF: NONE 1"=1'-0"



3 FIXED JAMB DETAIL

ARCH REF: NONE 1"=1'-0"



2 INTERLOCK DETAIL (SAMALL)

ARCH REF: NONE 1"=1'-0"

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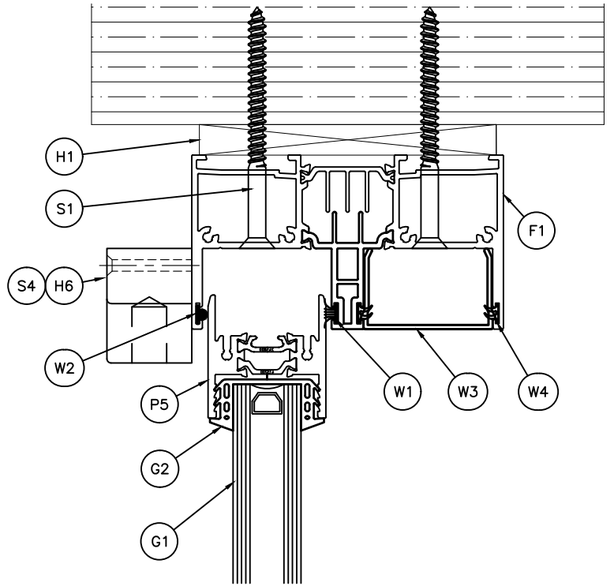
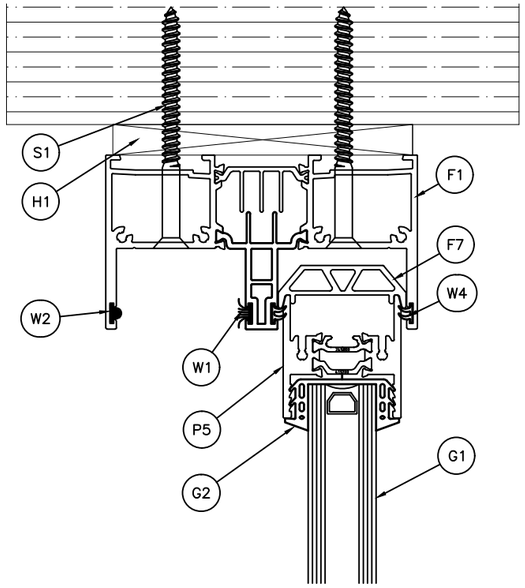


4 HEAD DETAIL @ SLIDER

ARCH REF: NONE

1"=1'-0"



6 HEAD DETAIL @ FIXED PANEL

ARCH REF: NONE

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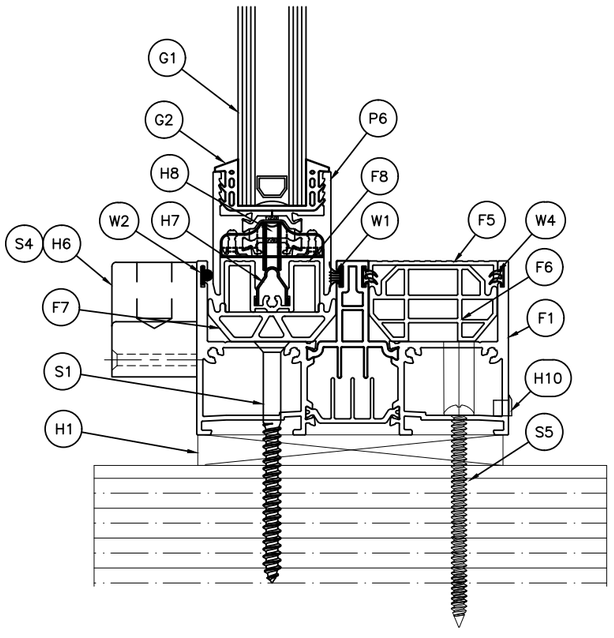

5 SILL DETAIL @ SLIDER

ARCH REF: NONE

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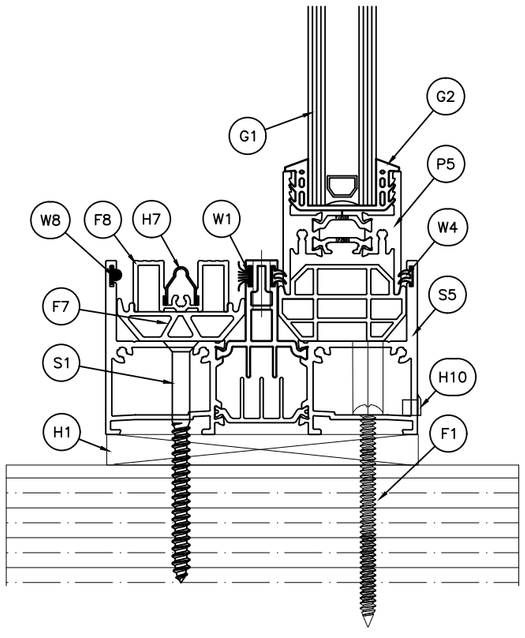

7 SILL DETAIL @ FIXED PANEL

ARCH REF: NONE

1"=1'-0"

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ITEM		PT. NO.	PART DESCRIPTION
F1	MAIN FRAME	S100TRACK2_	S100 - Double Track , Head, Jambs, Sill
F2		S100DAMR2	S100- End dam, Raised Double Track
F3		1S250_	Deep Snap Filler
F4		S100SPACERJ	S100 - Jamb PVC Spacer
F5		S100SNAP_	S100 - Sill Snap Filler
F6		S100SPACERL	S100 - Large PVC Spacer
F7		S100SPACERS	S100 - Small PVC Spacer, Anti Lift Spacer
F8		S100GU1DE_	S100 - Sill Track Guide
P.1	PANEL COMPONENTS	S1001NTERL0CKLARGE	S100 - Fixed Interlock
P.2		S1001NTERL0CKLARGE	S100 - Slider Interlock
P1		S100ST1LED_	S100 - Lead Stile, Double Handle
P2		S1001NTERL0CKLARGE	S100 - Fixed Interlock
P3		S1001NTERL0CKLARGE	S100 - Slider Interlock
P4		S100ST1LE_	S100 - Fixed Stile
P5		S100RA1L_	S100- Top Rails / Fixed Bottom Rail
P6		S100RA1L_	S100 - Slider Bottom Rail
W1	WEATHERSTRIP	W02733012	Tri-Fin with Strip, .270" X .250"- Slider
W2		NP942	Rigid Polyethylene Strip, Slider
W3		S100G1F	S100 - 1 Finger Gasket
W4		VY002S	2 Finger Gasket
W5		74418X34BL	Adhesive Backed Foam Gasket
S1	FASTENERS	#10x3"SMS-SS	NO. 10 X 3" FLAT HEAD SHEET METAL SCREW
S2		#8x2"SMS-SS	FASTENS STILES AND INTERLOCKERS TO TOP AND BOTTOM RAILS.
S3		8X58FHPSMS	NO. 8 X 5/8" Flat Head, Phillips Sheet Metal Screw, 18-8
S4		1024X114SHCSS	10-24 X 1-1/4" Socket Head Cap Screw Scew SS
S5		SMS	NO. 10 X 3" PAN HEAD SHEET METAL SCREW
G1	GLAZING		1" IGU (Glass Makeup Specfied in Test Report)
G2		S100GD	S100- Glazing Gasket
H1	HARDWARE / MISC		Plastic Shim
H2		S100CATCHHANDLEB	S100 - Catch Handle (304 SS), Black Finish
H3		S100CATCHB0DY	S100- Catch Body
H4		S85CATCHB0LT	S85/S100 Catch Bolt
H5		1420TRSS316ASTMA19396	ASTM A193 GRADE B8M TYPE 316 SS THREADED ROD 1/4"-20 THREAD
H6		S100CATCHREC1	S100- FLUSH CATCH RECEIVER
H7		EL103	Heavy Duty 0.032" Thick Stainless Track Insert
H8		S100BR0LLER	S100- Bottom Roller
H9		S100SCL1P	S100- Stile Shear Clip
H10		WH27633	Weep Hole Cover & Flap
H11		S100C0VER1NTLA	S100 - Interlock Cover / Bolt Guide A
H12		S100C0VER1NTLB	S100 - Interlock Cover / Bolt Guide B
H13		S100C0VERHA	S100 - Handle Cover / Bolt Guide A
H14		S100C0VERHB	S100 - Handle Cover / Bolt Guide B
		S100FXCL1P	S.S. S100 Fixed Panel Clip
		UB3000	Weep Hole Baffle
		S100HPLUG	S100 - Nylon Plug for Head/Interlock Cavity
		S100DRBUMPER	S100 - Tight Grip Push-In Bumper 9/32" High, SBR

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SYSTEM OR DRAWING DESCRIPTION

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Checked By	:
Date	:
Scale	:
Job #	:
ESO #	:

Sheet No.
3.0

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SECTION 13
REVISION LOG

REVISION #	DATE	PAGES	REVISION
0	03/22/21	N/A	Original Report Issue