

# CR LAURENCE CO., INC.

## THERMAL PERFORMANCE TEST REPORT

**SCOPE OF WORK**

S100 SLIDING PATIO DOOR

**REPORT NUMBER**

L8960.02-301-46 R0

**TEST DATE**

03/11/21

**ISSUE DATE**

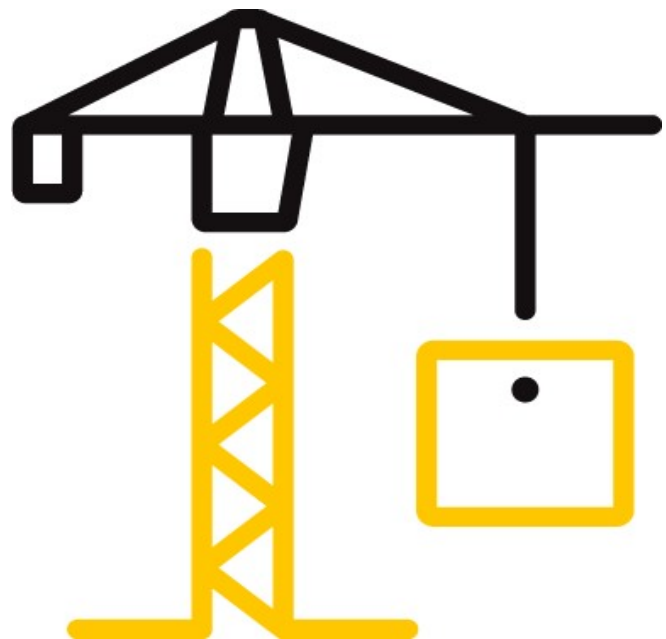
08/18/21

**PAGES**

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**DOCUMENT CONTROL NUMBER**

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## TEST REPORT FOR CR LAURENCE CO., INC.

Report No.: L8960.02-301-46 R0

Date: 08/18/21

### REPORT ISSUED TO

**CR LAURENCE CO., INC.**

2100 East 38th Street

Vernon, California 90058

### SECTION 1

#### SCOPE

**SERIES/MODEL: S100**

**TYPE: Sliding Patio Door**

Architectural Testing, Inc. (an Intertek company) dba Intertek Building & Construction (B&C) was contracted by CR Laurence Co., Inc. to evaluate the thermal performance per AAMA 1503-09. Results obtained are tested values and were secured by using the designated test method. Testing was conducted at Intertek B&C test facility in Fresno, California.

Intertek B&C will service this report for the entire test record retention period. The test record retention period ends five years after the test date. Test records, such as detailed drawings, datasheets, or other pertinent project documentation, will be retained for the entire test record retention period. Representative samples of the test specimen will be retained by Intertek B&C for a minimum of two years from the test date.

For INTERTEK B&C:

**COMPLETED BY** William Simon Smeds

**TITLE** Technician

**SIGNATURE**

  
Digitally Signed by: William Smeds

**DATE** 08/18/21

**REVIEWED BY** Kenny C. White

Business Process

**TITLE** Manager, IIRC

**SIGNATURE**

  
Digitally Signed by: Kenny C. White

**DATE** 08/18/21

WSS:ss

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**TEST REPORT FOR CR LAURENCE CO., INC.**

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**SECTION 2**

**SUMMARY OF TEST RESULTS**

Condensation Resistance Factor - Frame (CRFf): 66  
 Condensation Resistance Factor - Glass (CRFg): 72  
 Thermal Transmittance (U): 0.38 Btu/hr·ft<sup>2</sup>·F

**SECTION 3**

**TEST SPECIMEN SUMMARY**

<b>SERIES/MODEL</b>	S100
<b>TYPE</b>	Sliding Patio Door
<b>OVERALL SIZE</b>	78-3/4" x 78-3/4"
<b>TEST SAMPLE SUBMITTED BY</b>	CRL - Los Angeles, California

**SECTION 4**

**TEST METHOD**

The specimens were evaluated in accordance with the following:

*AAMA 1503-09, Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections*

**SECTION 5**

**MATERIAL SOURCE/INSTALLATION**

The test specimen was provided by CRL - Los Angeles, California.

**Test Chamber Installation**

The test sample was installed in a vertical orientation, the exterior of the specimen was exposed to the cold side.

**SECTION 6**

**LIST OF OFFICIAL OBSERVERS**

<b>NAME</b>	<b>COMPANY</b>
William Simon Smeds	Intertek B&C

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**SECTION 7**

**TEST SAMPLE DESCRIPTION**

**Frame**

<b>MATERIAL</b>	AT (1.09"): Aluminum with Thermal Breaks - All Members		
<b>SIZE</b>	78-3/4" x 78-3/4"		
<b>DAYLIGHT OPENING</b>	N/A	<b>GLAZING METHOD</b>	N/A
<b>EXTERIOR COLOR</b>	Black	<b>EXTERIOR FINISH</b>	Anodized
<b>INTERIOR COLOR</b>	Black	<b>INTERIOR FINISH</b>	Anodized
<b>CORNER JOINERY</b>	Square Cut / No Fasteners / Unsealed		

**Exterior Panel**

<b>MATERIAL</b>	Rails - AT (0.57"): Aluminum with Thermal Breaks Jamb Stile - AT (0.82"): Aluminum with Thermal Breaks Meeting Stile - AU (0.19"): Aluminum with Thermal Improvement		
<b>SIZE</b>	38-1/4" x 74-5/8"		
<b>DAYLIGHT OPENING</b>	34-1/2" x 70-1/2"	<b>GLAZING METHOD</b>	Channel
<b>EXTERIOR COLOR</b>	Black	<b>EXTERIOR FINISH</b>	Anodized
<b>INTERIOR COLOR</b>	Black	<b>INTERIOR FINISH</b>	Anodized
<b>CORNER JOINERY</b>	Square Cut / Screws / Sealed		

**Interior Panel**

<b>MATERIAL</b>	Rails - AT (0.57"): Aluminum with Thermal Breaks Jamb Stile - AT (0.82"): Aluminum with Thermal Breaks Meeting Stile - AU (0.19"): Aluminum with Thermal Improvement		
<b>SIZE</b>	38-1/4" x 74-5/8"		
<b>DAYLIGHT OPENING</b>	34-1/2" x 70-1/2"	<b>GLAZING METHOD</b>	Channel
<b>EXTERIOR COLOR</b>	Black	<b>EXTERIOR FINISH</b>	Anodized
<b>INTERIOR COLOR</b>	Black	<b>INTERIOR FINISH</b>	Anodized
<b>CORNER JOINERY</b>	Square Cut / Screws / Sealed		

**Glazing Information**

<b>LAYER 1</b>	1/4"	PPG Solarban 70XL (e=0.018*, #2)	
<b>GAP</b>	0.52"	A1-D: Aluminum Spacer	90% Argon*
<b>LAYER 2</b>	1/4"	Clear	
<b>GAS FILL METHOD</b>	Single-Probe Method*		
<b>DESICCANT</b>	Yes		

*\*Stated per the client/manufacturer and can affect the validity of results*

*N/A Non-Applicable*

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### SECTION 7 (CONTINUED)

#### TEST SAMPLE DESCRIPTION (CONTINUED)

##### Weatherstripping

DESCRIPTION	QUANTITY	LOCATION
Vinyl leaf gasket	1 Row	Each meeting stile.
Foam gasket	1 Row	Each meeting stile.
Dual leaf vinyl gasket	2 Rows	Head. Sill. Lock jamb.
Dual leaf vinyl gasket	4 Rows	Fixed jamb.
Polypile with center fin	1 Row	Head. Sill. Lock jamb.
Rubber gasket	1 Row	Head. Sill. Lock jamb.

##### Hardware

DESCRIPTION	QUANTITY	LOCATION
Roller assembly	2	Bottom rail of the interior panel.
Handle with two point lock assembly	1	Lock stile of the interior panel.
Keeper	2	Head & sill.

##### Drainage

DRAINAGE METHOD	SIZE	QUANTITY	LOCATION
Weephole with cover	1-1/4" x 1/8"	4	Sill face.
Weephole	1-5/8" x 1/4"	2	Exterior sill track.
Weephole	1-1/2" x 1/4"	2	Center sill leg.

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**SECTION 8****CONDENSATION RESISTANCE FACTOR**

1. Average Metering Room Air Temperature (th)	69.79 F
2. Average Cold Side Air Temperature (tc)	-0.64 F
3. Average of 14 Pre-Specified Frame Temperatures (FTp)	49.58 F
4. Average of 4 Roving Thermocouples (FTr)	29.28 F
5. Weighting Factor (W)	0.202
6. Weighted Frame Temperature (FT)	45.48 F
7. Average Glass Temperature (GT)	49.95 F
8. Condensation Resistance Factor – Frame (CRFf)	66
9. Condensation Resistance Factor – Glass (CRFg)	72

The CRF number was determined to be 66 (on the size as reported). When reviewing this test data, it should be noted that the frame temperature (FT) was colder than the glass temperature (GT) therefore controlling the CRF number. Refer to the 'CRF Report' page and the 'Thermocouple Location Diagram' page of this report.

**SECTION 9****THERMAL TRANSMITTANCE**

1. Average Metering Room Air Temperature (th)	69.79 F
2. Average Cold Side Air Temperature (tc)	-0.64 F
3. Measured Static Pressure Difference Across Test Specimen	0.00" $\pm$ 0.04" H <sub>2</sub> O
4. Test Specimen Projected Area (As)	43.07 ft <sup>2</sup>
5. Total Measured Input into Metering Box (Qtotal)	1239.89 Btu/hr
6. Total Correction	100.98 Btu/hr
7. Net Specimen Heat Loss (Qs)	1138.91 Btu/hr
8. Thermal Transmittance (U)	0.38 Btu/hr·ft <sup>2</sup> ·F

**SECTION 10****TEST DURATION**

1. The environmental systems were started at 13:40 hours, 03/10/21.
2. The test parameters were considered stable for two consecutive four hour test periods from 22:16 hours, 03/10/21 to 06:16 hours, 03/11/21.
3. The thermal performance test results were derived from 02:16 hours, 03/11/21 to 06:16 hours, 03/11/21.

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### SECTION 11

#### TEMPERATURE AND CONDENSATION RESISTANCE CALCULATION

Time	04:16	04:46	05:16	05:46	06:16	Average
<b>Pre-Specified Thermocouples - Frame</b>						
1	40.41	40.34	40.17	40.24	40.29	40.29
2	37.66	37.62	37.43	37.51	37.59	37.56
3	54.23	54.24	54.11	54.10	54.18	54.17
4	57.10	57.10	56.96	57.01	57.03	57.04
5	45.00	44.97	44.83	44.89	44.92	44.93
6	30.05	30.00	29.73	29.88	30.00	29.93
7	39.29	39.21	39.07	39.20	39.24	39.20
8	60.43	60.42	60.35	60.37	60.37	60.39
9	48.65	48.64	48.52	48.51	48.57	48.58
10	56.17	56.20	56.09	56.08	56.09	56.13
11	59.98	59.97	59.92	59.90	59.91	59.94
12	58.54	58.54	58.52	58.55	58.58	58.55
13	48.44	48.47	48.49	48.43	48.45	48.46
14	59.09	59.08	59.01	58.99	59.00	59.03
FTp	49.65	49.63	49.51	49.55	49.59	49.58
<b>Pre-Specified Thermocouples - Glass</b>						
15	37.21	37.14	36.95	37.06	37.12	37.10
16	57.83	57.86	57.73	57.82	57.82	57.81
17	49.58	49.52	49.37	49.42	49.46	49.47
18	44.84	44.77	44.63	44.74	44.79	44.76
19	58.71	58.71	58.59	58.68	58.66	58.67
20	51.92	51.93	51.75	51.86	51.90	51.87
GT	50.02	49.99	49.83	49.93	49.96	49.95
<b>Cold Point (Roving) Thermocouples</b>						
21	29.08	28.86	28.86	29.01	29.10	28.98
22	30.05	30.00	29.73	29.88	30.00	29.93
23	25.59	25.46	25.30	25.55	25.61	25.50
24	32.80	32.66	32.51	32.67	32.83	32.69
FTr	29.38	29.25	29.10	29.28	29.38	29.28
W	0.201	0.202	0.203	0.202	0.201	0.202
FT	45.57	45.50	45.36	45.46	45.53	45.48
<b>Warm Side - Room Ambient Air Temperature</b>						
	69.82	69.81	69.75	69.75	69.76	69.78
<b>Cold Side - Room Ambient Air Temperature</b>						
	-0.64	-0.64	-0.64	-0.64	-0.64	-0.64
<b>Condensation Resistance Factor</b>						
CRFF	66	65	65	65	66	66
CRFg	72	72	72	72	72	72

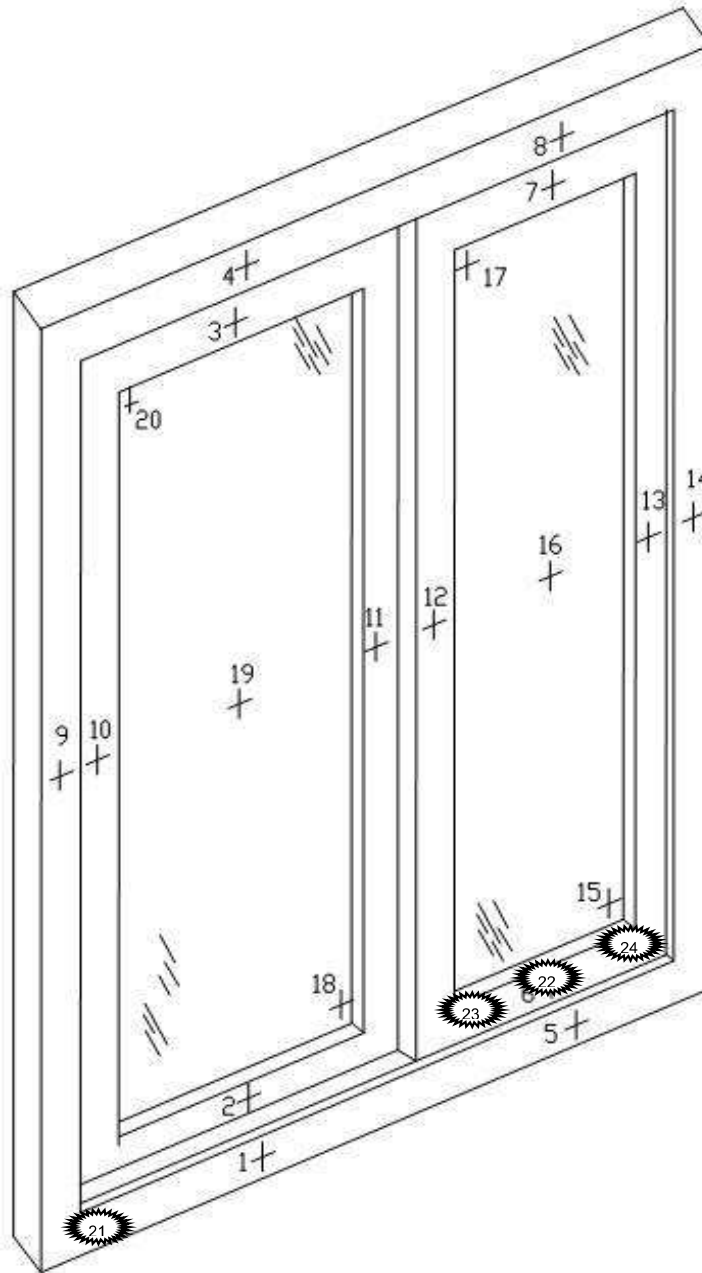
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**SECTION 12**

**THERMOCOUPLE LOCATION DIAGRAM**



COLD POINT LOCATIONS	
21	28.98
22	29.93
23	25.50
24	32.69



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**SECTION 13**

**GLAZING DEFLECTION**

	Interior Panel	Exterior Panel
<b>EDGE GAP WIDTH</b>	0.52"	0.52"
<b>ESTIMATED CENTER GAP WIDTH</b> upon receipt of specimen in laboratory (after stabilization)	0.50"	0.59"
<b>CENTER GAP WIDTH</b> at laboratory ambient conditions on day of testing	0.50"	0.59"
<b>CENTER GAP WIDTH</b> at test conditions	0.44"	0.53"

*Glass collapse determined using a digital glass and air space meter*

The sample was inspected for the formation of frost or condensation, which may influence the surface temperature measurements. The sample showed no evidence of condensation/frost at the conclusion of the test.

Required annual calibrations for the Intertek B&C, 'thermal test chamber' (ICN 004287) in Fresno, California were last conducted in February 2021 in accordance with Intertek B&C calibration procedure. A CTS Calibration verification was performed February 2021. A Metering Box Wall Transducer and Surround Panel Flanking Loss Characterization was performed December 2020.

ANSI/NCSL Z540-2-1997 type B uncertainty for this test was 1.64%.

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.

Prior to testing the specimen was sealed with silicone on the interior side and checked for air infiltration per Section 9.3.4.

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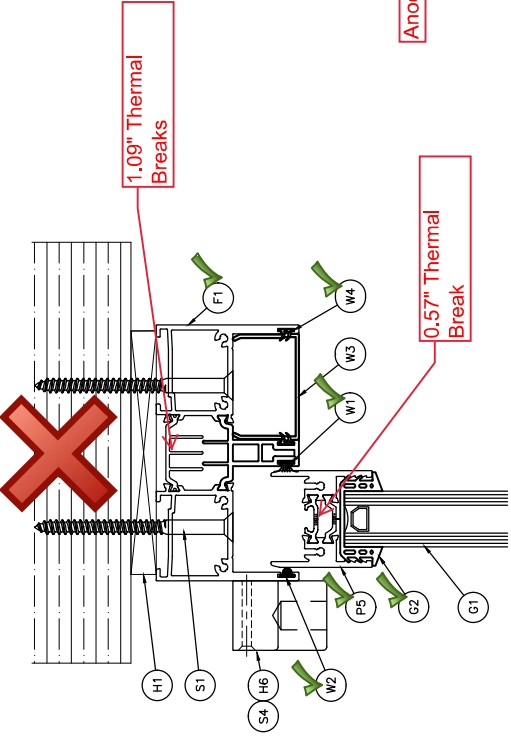
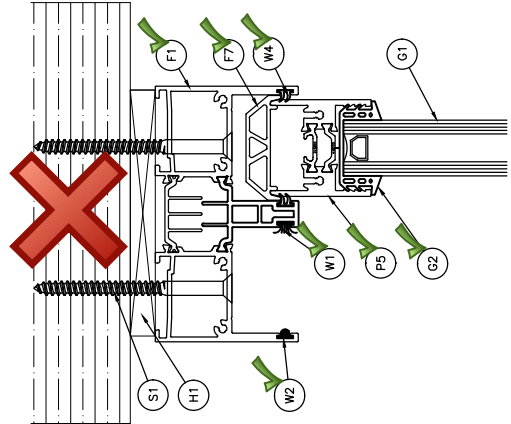
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**SECTION 14**  
**DRAWINGS**

The test specimen drawings which follow have been reviewed by Intertek B&C and are representative of the test specimen(s) reported herein. Test specimen construction was verified by Intertek B&C per the drawings included in this report. Any deviations are documented herein or on the drawings.



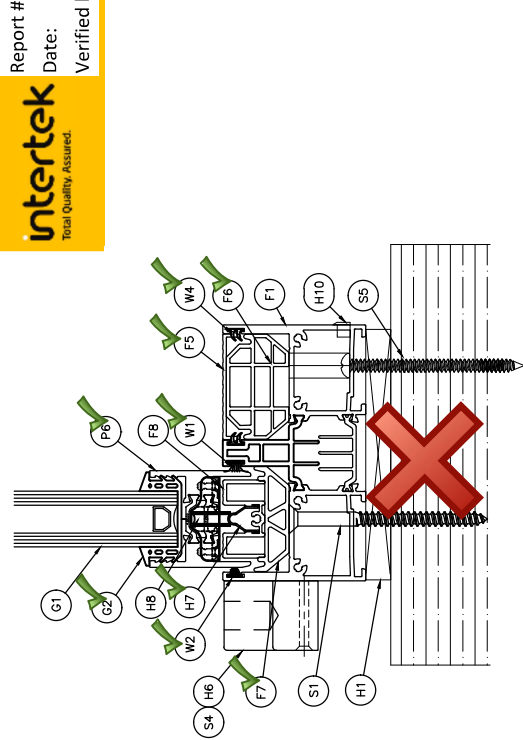
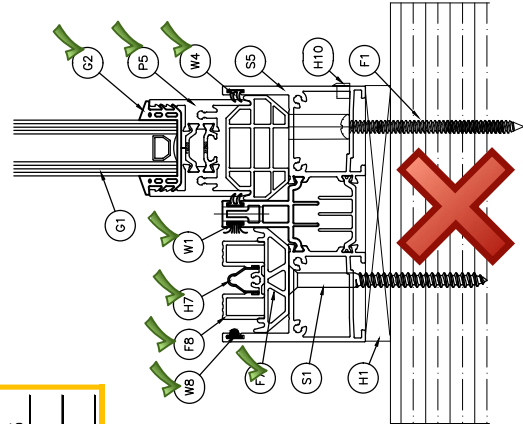




④ HEAD DETAIL @ SLIDER  
ARCH REF: NONE

⑥ HEAD DETAIL @ FIXED PANEL  
ARCH REF: NONE

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Verified by:



⑤ SILL DETAIL @ SLIDER  
ARCH REF: NONE

⑦ SILL DETAIL @ FIXED PANEL  
ARCH REF: NONE

Rev #	Date	Drawn by



PALISADES S100

Drawn By :	GDO
Checked By :	
Date :	3.15.2021
Scale :	SHOWN
Job # :	
ESO # :	
Sheet No. :	2.1

**intertek**  
Total Quality Assured.

Report #: L8960-301-46  
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Verified by: 

ITEM	PT. NO.	PART DESCRIPTION
F1	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
P1	S100INTERLOCKLARGE	S100 - Fixed Interlock
P2	S100INTERLOCKLARGE	S100 - Slider Interlock
P1	S100ST1LED_	S100 - Lead Stille, Double Handle
P2	S100INTERLOCKLARGE	S100 - Fixed Interlock
P3	S100INTERLOCKLARGE	S100 - Slider Interlock
P4	S100ST1LE_	S100 - Fixed Stille
P5	S100RA1L_	S100 - Top Rails / Fixed Bottom Rail
P6	S100RA1L_	S100 - Slider Bottom Rail
W1	W02733012	Tri-Fin with Strip, .270" X .250" - Slider
W2	NP942	Rigid Polyethylene Strip, Slider
W3	S100G1F	S100 - 1 Finger Gasket
W4	WY0025	2 Finger Gasket
W5	74418X34BL	Adhesive Backed Foam Gasket
S1	#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	1024X1.14SHCSS	10-24 X 1.1/4" Socket Head Cap Screw SCS SS
S5	SMS	NO. 10 X 3" PAN HEAD SHEET METAL SCREW
G1	S100GD	1" IGU 1" 1/4" Solarban 70 XL - 1/2" Kodispac K456 w/Argon -1/4" CLEAR Temp
G2		S100- Glazing Gasket
H1		Plastic Shim
H2	S100CATCHHANDLEB	S100 - Catch Handle (304 SS), Black Finish
H3	S100CATCHBODY	S100- Catch Body
H4	S85CATCHBOLT	S85/S100 Catch Bolt
H5	1420TRSS316ASTMA19396	ASTM A193 GRADE B8M TYPE 316 SS THREADED ROD 1/4"-20 THREAD
H6	S100CATCHRECE1	S100- FLUSH CATCH RECEIVER
H7	EL103	Heavy Duty 0.032" Thick Stainless Track Insert
H8	S100BROLLER	S100- Bottom Roller
H9	S100SCL1P	S100- Stile Shear Clip
H10	WH27633	Weep Hole Cover & Flap
H11	S100COVERINTLA	S100 - Interlock Cover / Bolt Guide A
H12	S100COVERINTLB	S100 - Interlock Cover / Bolt Guide B
H13	S100COVERHA	S100 - Handle Cover / Bolt Guide A
H14	S100COVERHB	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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Date	
Rev #	

**CRH ALUMINUM**  
A CRH COMPANY  
2025 E. Vincent Avenue, Los Angeles, CA 90064-1897  
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**PALSADES S100**

Drawn By : GDO  
Checked By :  
Date : 3.15.2021  
Scale : SHOWN  
Job # :  
ESO # :  
Sheet No. : **3.0**



Total Quality. Assured.

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Fresno, California 93706

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**SECTION 15**

**REVISION LOG**

REVISION #	DATE	PAGES	REVISION
.02 R0	08/18/21	N/A	Original Report Issue