



NATIONAL CERTIFIED TESTING LABORATORIES

5 LEIGH DRIVE
YORK, PA 17406
(717) 846-1200



8350 PARKLINE BLVD
ORLANDO, FL 32809
(407) 240-1356



3310 HILL AVE
EVERETT, WA 98201
(425) 259-6799

SIMULATION TEST REPORT

NCTL-610-20833-1_{E0A1}

REPORT TO:

Glass Flooring Systems Inc.
10 Leslie Court
Whippany, NJ 07981

SIMULATION DATE: 03/11/21

PRODUCT:

SkyFloor® series 2000 System Ultra High-performance



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Simulation Standards

ANSI/NFRC 100-2020 "Procedure for Determining Fenestration Product U-factors"

ANSI/NFRC 200-2020 "Procedure for Determining Fenestration Product Solar Heat Gain Coefficients and Visible Transmittance at Normal Incidence"

NFRC 500-2020 "Procedure for Determining Fenestration Product Condensation Resistance Values"

THERM 7 / WINDOW 7 NFRC Simulation Manual (February 2021)
NFRC 2010 Technical Interpretations Manual (February 2021)

Approved Simulation Software

Center of Glass	Window 7.4
2-D Heat Transfer	THERM 7.4
Total Product Calculations	Window 7.4

Note: All dimensions are in the order (Width x Height) unless otherwise noted.

Report Number

NCTL-610-20833-1E0A1

Model/ Series

SkyFloor® Series 2000 Ultra High-Performance

Operator Type

Sky Light- Fixed (SKFX)

Simulation Size

1200 mm x 1200 mm (47" x 47")

Frame Type

Aluminum w/ thermal breaks- All members (AT)

Sash Type

N/A

Frame Material & Finish

Aluminum Alloy (painted)

Frame Option(s)

Frame 1
Thermally broken frames with single air space
Frame 2
Thermally broken frames with Dual air space

Reinforcement

N/A

Thermal Break(s)

Other (O)

Weather Seal(s)	<u>N/A</u>
Edge of Glass	Exterior Structural glazed with interior EPDM Gasket
Spacer System(s)	Silicone Foam Spacer System- Single Seal (ZF-S)
Gas Fillings	Argon 95% Dual Probe per the client (ARG) Krypton 90% Single Probe per client (KRY)
Laminates	Laminate details can be found in Table-1
Divider(s)	<u>N/A</u>

Table 1**User Database Optical Reference Table**

All glazing layer(s) below were created in accordance with NFRC 303-2017 and NFRC 304-2017

<i>User DB ID</i>	<u>Glass 1</u>	<u>Interlayer 1</u>	<u>Glass 2</u>	<u>Interlayer 2</u>	<u>Glass 3</u>
30007	11505	.060 PVB	11505	.060 PVB	11505
30008	3018	.060 PVB	3018	.060 PVB	3018
30009	3018	.060 PVB	3018	.060 PVB	5449
30010	3018	.060 PVB	3018	.060 PVB	5441
30011	3018	.060 PVB	3018	.060 PVB	5278
30012	3018	.060 PVB	3018	.060 PVB	21062
30013	3018	.060 PVB	3018	.060 PVB	11709
30014	3018	.060 PVB	3018	.060 PVB	11552
30015	3018	.060 SGP	3018	.060 SGP	3018
30016	3018	.060 SGP	3018	.060 SGP	5449
30017	3018	.060 SGP	3018	.060 SGP	5441
30018	3018	.060 SGP	3018	.060 SGP	5278
30019	3018	.060 SGP	3018	.060 SGP	21062
30020	3018	.060 SGP	3018	.060 SGP	11505
30021	3018	.060 SGP	3018	.060 SGP	11534
30022	3018	.060 SGP	3018	.060 SGP	11708
30023	3018	.060 SGP	3018	.060 SGP	11552

<i>User DB ID</i>	<u>Glass 1</u>	<u>Interlayer 1</u>	<u>Glass 2</u>	<u>Interlayer 2</u>	<u>Glass 3</u>
30024	12034	.030 PVB	3014		
30025	5449	.035 SGP	3013		
30026	3013	.035 SGP	3013		
30027	5432	.035 SGP	3013		
30028	5281	.035 SGP	3013		
30029	21063	.035 SGP	3013		
30030	3253	.035 SGP	3013		
30031	11530	.035 SGP	11536		
30032	11501	.035 SGP	11536		
30033	11705	.035 SGP	3014		
30034	3104	.035 SGP	3014		
30035	11706	.035 SGP	3016		
30036	3016	.035 SGP	3016		
30037	11707	.035 SGP	3017		
30038	3017	.035 SGP	3017		
30039	11708	.035 SGP	3018		
30040	3018	.035 SGP	3018		
30041	11548	.035 SGP	3014		
30042	11550	.035 SGP	3016		
30043	11551	.035 SGP	3017		
30044	11552	.035 SGP	3018		
30045	3013	.030 PVB	3013		
31000	11706	.035 PVB	3014		

Notes, Additional Information, Comments, and Assumptions

All simulations use the emissivity from the approved ANSI/NFRC spectral data files with the International Glazing Database (IGDB).

For Solar Heat Gain and Visible Light Transmittance; all frame, divider and glass options are calculated using the best case center of glass / worst-case frame values from the "U" Factor calculations as required by ANSI/NFRC 200-2017.

A default frame absorptance of 0.30 is assumed for all products except glazing window walls, glazing curtain walls, and slopped glazing wall - all of which will have a frame absorptance of 0.50

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Supporting information including THERM 7 and WINDOW 7 files are being submitted as part of this report. The simulation matrix is being submitted electronically.

Detailed assembly drawings, horizontal and vertical cross-sectional drawings, profile drawings, parts drawings, and a bill of materials as supplied by the client were used as the basis for performing the simulations. Copies are attached to this report. The results were secured by using the designated methods and NFRC approved simulation programs as required by, and in full compliance with, NFRC procedures.

This report does not constitute certification of this product. The results in this report apply only to the sample as shown in the attached drawings, using the components and construction methods described herein. NCTL does not warrant the accuracy of the computer programs used to obtain the results. Client request for work performed by NCTL and its associated documentation constitute approval by client for Inspection Agency (IA) submission.

Ratings values included in this report are for submittals to an NFRC-licensed IA and are not meant to be used directly for labeling purposes. Only those options identified on a valid Certificate of Authorization (CA) by an NFRC accredited Inspection Agency (IA) are to be used for labeling purposes.

The Condensation Resistance results obtained from this procedure are for controlled laboratory conditions and do not include the effects of air movement through the specimen, solar radiation and the thermal bridging that may occur due to the specific design and construction of the fenestration system opening.

Units and rounding is in accordance with NFRC 601, *Units and Measurement Policy* except that all units may be reported in IP as the primary units after conversion and any matrix is reported in IP units only unless requested otherwise by the client.

The manufacturer is capable of producing, in its normal manufacturing process, products in sizes identical to the model sizes listed in the ANSI/NFRC 100 Table 4-3 and have a least deviation of 0 within the tolerances of ANSI/NFRC 100. All simulations are performed in the sizes and configurations listed in ANSI/NFRC 100 Table 4-3 except that a non-standard size may be simulated and identified in the matrix to match the manufacturer's physical test sample. Glass and glazing types, Low-E placement, finishes and other required information is included in the NFRC U-Factor Simulation Summary Report and/ or the NFRC SHGC/ VT Simulation Summary Report included in this document. Additional supporting information and modeling assumptions are included in the individual reports obtained from the approved simulation programs and in the notes following the required summary reports.

National Certified Testing Laboratories

Performed by:

A digital signature in black ink, appearing to read 'Skyler Darrah', is written over a semi-transparent NCTL logo. The logo consists of the letters 'NCTL' in a bold, sans-serif font, with 'NCTL Digital Signature' written in a smaller font below it.

SKYLER DARRAH
NFRC Certified Simulator

Reviewed by:

A digital signature in black ink, appearing to read 'Mark Bennett', is written over a semi-transparent NCTL logo. The logo consists of the letters 'NCTL' in a bold, sans-serif font, with 'NCTL Digital Signature' written in a smaller font below it. Below the signature and logo, the words 'DIGITAL SIGNATURE' are printed in a small, black, sans-serif font.

MARK BENNETT
NFRC Certified Simulator
Simulator-In-Responsible-Charge

Attachments
Glazing Matrix
Appendix A - Revision Summary

PRODUCT	Product Number		Panel ID #1		Panel ID #2		Panel ID #3		Panel Thickness #1	Panel Thickness #2	Panel Thickness #3	Gap 1	Gap 2	Gap Fill 1	Gap Fill 2	% of Gap Fill 1	% of Gap Fill 2	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Spacer	Grid Type	Grid Size	U-factor	Condensation Resistance	SHGC NO GRID	SHGC GRID<1"	SHGC GRID>1"	V1 NO GRID	V1 GRID<1"	V1 GRID>1"
Dual Air Space	1		10mm clear/060SGP/10mm Clear/060SGP/10mm ExtraClear		4 mm KlimaGuard 1.0		4mm KlimaGuard 1.0/035 SGP/4mm KlimaGuard Dry		1.218	0.151	0.337	0.376	0.376	KRY	KRY	90	90			0.023		0.023	0.200	CL	ZF-S	N	0.32	68	0.27			0.43		
Dual Air Space	2		10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT		6 mm SunGuard SN 70/37 HT		6mmClear /035 SGP/6mm Clear		1.218	0.230	0.477	0.269	0.269	KRY	KRY	90	90	0.022		0.022				CL	ZF-S	N	0.32	68		0.23			0.43	
Dual Air Space	3		10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT		6 mm SunGuard SN 70/37 HT		6mmClear /035 SGP/6mm Clear		1.218	0.230	0.477	0.269	0.269	KRY	KRY	90	90	0.022		0.022				CL	ZF-S	N	0.32	68		0.23			0.44	
Dual Air Space	4		10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 70XL		3 mm Solarban® 70XL		3mm Clear/035 SGP/3mm Clear		1.204	0.129	0.269	0.437	0.437	KRY	KRY	90	90	0.018		0.018				CL	ZF-S	N	0.32	69		0.20			0.39	
Dual Air Space	5		10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 70XL		3 mm Solarban® 70XL		3mm Clear/035 SGP/3mm Clear		1.204	0.129	0.269	0.437	0.437	KRY	KRY	90	90	0.018		0.018				CL	ZF-S	N	0.32	69		0.20			0.38	
Dual Air Space	6		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3 mm Solarban® 70XL		3mm Solarban 70XL/035 SGP/3mm Clear		1.218	0.129	0.281	0.424	0.424	KRY	KRY	90	90	0.023		0.018	0.018			CL	ZF-S	N	0.32	69		0.23		0.31		
Dual Air Space	7		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3 mm SGG COOL-LITE XTREME 60-28		3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.218	0.118	0.270	0.429	0.429	KRY	KRY	90	90	0.023	0.021		0.021			CL	ZF-S	N	0.32	69		0.21		0.28		
Dual Air Space	8		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3 mm KlimaGuard 70/36 LE		3mm KlimaGuard 70/36/035 SGP/3mm Clear		1.218	0.117	0.269	0.430	0.430	KRY	KRY	90	90	0.023		0.036	0.036			CL	ZF-S	N	0.33	69		0.26		0.37		
Dual Air Space	9		10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 90		3 mm Solarban® 90		3mm Clear/035 SGP/3mm Clear		1.204	0.129	0.269	0.437	0.437	KRY	KRY	90	90	0.023		0.023				CL	ZF-S	N	0.33	69		0.16		0.25		
Dual Air Space	10		10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT		4 mm SunGuard SN 70/37 HT		4mmClear /035 SGP/4mm Clear		1.218	0.151	0.337	0.376	0.376	KRY	KRY	90	90	0.022		0.022				CL	ZF-S	N	0.33	68		0.23			0.44	
Dual Air Space	11		10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT		4 mm SunGuard SN 70/37 HT		4mmClear /035 SGP/4mm Clear		1.218	0.151	0.337	0.376	0.376	KRY	KRY	90	90	0.022		0.022				CL	ZF-S	N	0.33	68		0.23			0.44	
Dual Air Space	12		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3 mm Solarban® 90		3mm Solarban 90/035 SGP/3mm Clear		1.218	0.129	0.281	0.424	0.424	KRY	KRY	90	90	0.023		0.023	0.023			CL	ZF-S	N	0.33	68		0.21		0.21		
Dual Air Space	13		10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 90		3 mm Solarban® 90		3mm Clear/035 SGP/3mm Clear		1.204	0.129	0.269	0.437	0.437	KRY	KRY	90	90	0.023		0.023				CL	ZF-S	N	0.33	69		0.16		0.24		
Dual Air Space	14		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3 mm Solarban® 60		3mm Solarban 60/035 SGP/3mm Clear		1.218	0.129	0.281	0.424	0.424	KRY	KRY	90	90	0.023		0.035				CL	ZF-S	N	0.33	69		0.25		0.38		
Dual Air Space	15		10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		3 mm SGG COOL-LITE XTREME 60-28		3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.191	0.118	0.270	0.443	0.443	KRY	KRY	90	90		0.021		0.021			CL	ZF-S	N	0.33	68		0.24		0.32		
Dual Air Space	16		10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		3 mm SGG COOL-LITE XTREME 60-28		3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.191	0.118	0.270	0.443	0.443	KRY	KRY	90	90		0.021		0.021			CL	ZF-S	N	0.33	68		0.24		0.33		
Dual Air Space	17		10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 60		3 mm Solarban® 60		3mm Clear/035 SGP/3mm Clear		1.204	0.129	0.269	0.437	0.437	KRY	KRY	90	90	0.035		0.035				CL	ZF-S	N	0.33	69		0.25		0.46		
Dual Air Space	18		10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 60		3 mm Solarban® 60		3mm Clear/035 SGP/3mm Clear		1.204	0.129	0.269	0.437	0.437	KRY	KRY	90	90	0.035		0.035				CL	ZF-S	N	0.33	69		0.26		0.47		
Single Air Space	19		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		4mm KlimaGuard 1.0/035 SGP/4mm KlimaGuard Dry				1.218	0.337		0.909		KRY		90		0.023	0.023	0.200				CL	ZF-S	N	0.38	63		0.28		0.46		
Single Air Space	20		10mm clear/060SGP/10mm Clear/060SGP/10mm ExtraClear		4mm KlimaGuard 1.0/035 SGP/4mm KlimaGuard Dry				1.218	0.337		0.909		KRY		90				0.023	0.200			CL	ZF-S	N	0.39	62		0.34		0.54		
Single Air Space	21		10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 70XL		3mm Solarban 70XL/035 SGP/3mm Clear				1.204	0.281		0.979		KRY		90		0.018	0.018					CL	ZF-S	N	0.40	68		0.25		0.42		
Single Air Space	22		10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 70XL		3mm Solarban 70XL/035 SGP/3mm Clear				1.204	0.281		0.979		KRY		90		0.018	0.018					CL	ZF-S	N	0.40	68		0.25		0.42		
Single Air Space	23		10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 90		3mm Solarban 90/035 SGP/3mm Clear				1.204	0.281		0.979		KRY		90		0.023	0.023					CL	ZF-S	N	0.40	68		0.20		0.27		
Single Air Space	24		10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 90		3mm Solarban 90/035 SGP/3mm Clear				1.204	0.281		0.979		KRY		90		0.023	0.023					CL	ZF-S	N	0.40	68		0.20		0.27		
Single Air Space	25		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear				1.218	0.270		0.976		KRY		90		0.023	0.021					CL	ZF-S	N	0.40	68		0.26		0.41		
Single Air Space	26		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3mm Solarban 70XL/035 SGP/3mm Clear				1.218	0.281		0.965		KRY		90		0.023	0.018					CL	ZF-S	N	0.40	68		0.27		0.44		
Single Air Space	27		10mm clear/060SGP/10mm Clear/060SGP/10mm COOL-LITE XTREME 60-28		3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear				1.227	0.270		0.966		KRY		90		0.021	0.021					CL	ZF-S	N	0.40	68		0.22		0.35		
Single Air Space	28		10mm clear/060pvb/10mm Clear/060pvb/10mm COOL-LITE XTREME 60-28		3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear				1.227	0.270		0.966		KRY		90		0.021	0.021					CL	ZF-S	N	0.40	68		0.22		0.36		
Single Air Space	29		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3mm Solarban 90/035 SGP/3mm Clear				1.218	0.281		0.965		KRY		90		0.023	0.023					CL	ZF-S	N	0.40	68		0.25		0.36		
Single Air Space	30		10mm clear/060SGP/10mm Clear/060SGP/10mm KlimaGuard 1.0		3mm KlimaGuard 70/36/035 SGP/3mm Clear				1.218	0.269		0.977		KRY		90		0.023	0.036					CL	ZF-S	N	0.40	68		0.30		0.48		
Single Air Space	31		10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 70XL		3mm Clear/035 SGP/3mm Clear				1.204	0.269		0.991		KRY		90		0.018						CL	ZF-S	N	0.40	68		0.26		0.53		
Single Air Space	32		10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 70XL		3mm Clear/035 SGP/3mm Clear				1.204	0.269		0.991		KRY		90		0.018						CL	ZF-S	N	0.40	68		0.26		0.54		
Single Air Space	33		10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT		4mm SunGuard 70/37 HT /035 SGP/4mm Clear				1.218	0.337		0.909		KRY		90		0.022	0.022					CL	ZF-S	N	0.40	68		0.28		0.49		
Single Air Space	34		10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT		4mm SunGuard 70/37 HT /035 SGP/4mm Clear				1.218	0.337		0.909		KRY		90		0.022	0.022					CL	ZF-S	N	0.40	68		0.28		0.48		
Single Air Space	35		10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 90		3mm Clear/035 SGP/3mm Clear				1.204	0.269		0.991		KRY		90		0.023						CL	ZF-S	N	0.40	68		0.22		0.42		
Single Air Space	36		10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 90		3mm Clear/035 SGP/3mm Clear				1.204	0.269		0.991		KRY		90		0.023						CL	ZF-S	N	0.40	68		0.22		0.41		

PRODUCT	Product Number	Panel ID #1	Panel ID #2	Panel ID #3	Panel Thickness #1	Panel Thickness #2	Panel Thickness #3	Gap 1	Gap 2	Gap Fill 1	Gap Fill 2	% of Gap Fill 1	% of Gap Fill 2	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Spacer	Grid Type	Grid Size	U-factor	Condensation Resistance	SHGC NO GRID	SHGC GRID<1"	SHGC GRID>1"	VT NO GRID	VT GRID<1"	VT GRID >=1"
Dual Air Space	37	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6 mm ClimaGuard Premium	6mm ClimaGuard Premium /035 SGP/6mm Clear	1.191	0.230	0.486	0.283	0.283	KRY	KRY	90	90			0.038	0.038		0.038	CL	ZF-S	N	0.33	68	0.34		0.56			
Dual Air Space	38	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6 mm ClimaGuard Premium	6mm ClimaGuard Premium /035 SGP/6mm Clear	1.191	0.230	0.486	0.283	0.283	KRY	KRY	90	90			0.038	0.038		0.038	CL	ZF-S	N	0.33	68	0.33		0.55			
Dual Air Space	39	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4 mm ClimaGuard Premium	4mm ClimaGuard Premium /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90			0.038	0.038		0.038	CL	ZF-S	N	0.33	68	0.34		0.56			
Dual Air Space	40	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	4 mm ClimaGuard Premium	4mm ClimaGuard Premium /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90			0.038	0.038		0.038	CL	ZF-S	N	0.33	68	0.34		0.57			
Dual Air Space	41	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	8 mm ClimaGuard Premium	8mm ClimaGuard Premium /035 SGP/8mm Clear	1.191	0.305	0.634	0.162	0.162	KRY	KRY	90	90			0.038	0.038		0.038	CL	ZF-S	N	0.35	67	0.34		0.54			
Dual Air Space	42	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	8 mm ClimaGuard Premium	8mm ClimaGuard Premium /035 SGP/8mm Clear	1.191	0.305	0.634	0.162	0.162	KRY	KRY	90	90			0.038	0.038		0.038	CL	ZF-S	N	0.35	67	0.34		0.55			
Dual Air Space	43	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	8 mm SunGuard SN 70/37 HT	8mmClear /035 SGP/8mm Clear	1.218	0.305	0.623	0.154	0.154	KRY	KRY	90	90	0.022		0.022				CL	ZF-S	N	0.35	67	0.24		0.43			
Dual Air Space	44	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	8 mm SunGuard SN 70/37 HT	8mmClear /035 SGP/8mm Clear	1.218	0.305	0.623	0.154	0.154	KRY	KRY	90	90	0.022		0.022				CL	ZF-S	N	0.35	67	0.23		0.42			
Dual Air Space	45	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	4 mm ClimaGuard 1.0	4mm ExtraClear/035 SGP/4mm ClimaGuard Dry	1.218	0.151	0.337	0.376	0.376	KRY	KRY	90	90	0.023	0.023			0.200		CL	ZF-S	N	0.36	66	0.26		0.43			
Dual Air Space	46	10mm clear/060SGP/10mm Clear/060SGP/10mm ExtraClear	4 mm ClimaGuard 1.0	4mm ExtraClear/035 SGP/4mm ClimaGuard Dry	1.218	0.151	0.337	0.376	0.376	KRY	KRY	90	90		0.023		0.200		CL	ZF-S	N	0.36	66	0.31		0.50				
Dual Air Space	47	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6 mm SunGuard SN 70/37 HT	6mm SunGuard 70/37 HT /035 SGP/6mm Clear	1.191	0.230	0.486	0.283	0.283	KRY	KRY	90	90			0.022	0.022			CL	ZF-S	N	0.37	67	0.27		0.43			
Dual Air Space	48	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6 mm SunGuard SN 70/37 HT	6mm SunGuard 70/37 HT /035 SGP/6mm Clear	1.191	0.230	0.486	0.283	0.283	KRY	KRY	90	90			0.022	0.022			CL	ZF-S	N	0.37	67	0.27		0.43			
Dual Air Space	49	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm ClimaGuard 70/36 LE	3mm ClimaGuard 70/36/035 SGP/3mm Clear	1.191	0.117	0.269	0.443	0.443	KRY	KRY	90	90			0.036	0.036			CL	ZF-S	N	0.37	67	0.30		0.44			
Dual Air Space	50	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm ClimaGuard 70/36 LE	3mm ClimaGuard 70/36/035 SGP/3mm Clear	1.191	0.117	0.269	0.443	0.443	KRY	KRY	90	90			0.036	0.036			CL	ZF-S	N	0.37	67	0.30		0.43			
Dual Air Space	51	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm Solarban® 70XL	3mm Clear/035 SGP/3mm Clear	1.191	0.129	0.269	0.443	0.443	KRY	KRY	90	90			0.018				CL	ZF-S	N	0.37	67	0.26		0.47			
Dual Air Space	52	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm Solarban® 70XL	3mm Clear/035 SGP/3mm Clear	1.191	0.129	0.269	0.443	0.443	KRY	KRY	90	90			0.018				CL	ZF-S	N	0.37	67	0.27		0.48			
Dual Air Space	53	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm Solarban® 70XL	3mm Solarban 70XL/035 SGP/3mm Clear	1.191	0.129	0.281	0.437	0.437	KRY	KRY	90	90			0.018	0.018			CL	ZF-S	N	0.37	68	0.25		0.37			
Dual Air Space	54	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm Solarban® 70XL	3mm Solarban 70XL/035 SGP/3mm Clear	1.191	0.129	0.281	0.437	0.437	KRY	KRY	90	90			0.018	0.018			CL	ZF-S	N	0.37	68	0.26		0.37			
Dual Air Space	55	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6 mm SunGuard SN 70/37 HT	6mmClear /035 SGP/6mm Clear	1.191	0.230	0.477	0.283	0.283	KRY	KRY	90	90			0.022				CL	ZF-S	N	0.37	67	0.29		0.51			
Dual Air Space	56	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6 mm SunGuard SN 70/37 HT	6mmClear /035 SGP/6mm Clear	1.191	0.230	0.477	0.283	0.283	KRY	KRY	90	90			0.022				CL	ZF-S	N	0.37	67	0.28		0.50			
Dual Air Space	57	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm Solarban® 90	3mm Solarban 90/035 SGP/3mm Clear	1.191	0.129	0.281	0.437	0.437	KRY	KRY	90	90			0.023	0.023			CL	ZF-S	N	0.37	68	0.23		0.25			
Dual Air Space	58	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm Solarban® 90	3mm Solarban 90/035 SGP/3mm Clear	1.191	0.129	0.281	0.437	0.437	KRY	KRY	90	90			0.023	0.023			CL	ZF-S	N	0.37	68	0.22		0.25			
Dual Air Space	59	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm Solarban® 90	3mm Clear/035 SGP/3mm Clear	1.191	0.129	0.269	0.443	0.443	KRY	KRY	90	90			0.023				CL	ZF-S	N	0.37	67	0.24		0.39			
Dual Air Space	60	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm Solarban® 90	3mm Clear/035 SGP/3mm Clear	1.191	0.129	0.269	0.443	0.443	KRY	KRY	90	90			0.023				CL	ZF-S	N	0.37	67	0.24		0.38			
Dual Air Space	61	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4 mm SunGuard SN 70/37 HT	4mm SunGuard 70/37 HT /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90			0.022	0.022			CL	ZF-S	N	0.37	68	0.28		0.43			
Dual Air Space	62	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	4 mm SunGuard SN 70/37 HT	4mm SunGuard 70/37 HT /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90			0.022	0.022			CL	ZF-S	N	0.37	68	0.28		0.44			
Dual Air Space	63	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm Solarban® 60	3mm Clear/035 SGP/3mm Clear	1.191	0.129	0.269	0.443	0.443	KRY	KRY	90	90			0.035				CL	ZF-S	N	0.37	67	0.32		0.54			
Dual Air Space	64	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm Solarban® 60	3mm Clear/035 SGP/3mm Clear	1.191	0.129	0.269	0.443	0.443	KRY	KRY	90	90			0.035				CL	ZF-S	N	0.37	67	0.31		0.53			
Dual Air Space	65	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm ClimaGuard 70/36 LE	3mm Clear/035 SGP/3mm Clear	1.191	0.117	0.269	0.443	0.443	KRY	KRY	90	90			0.036				CL	ZF-S	N	0.37	67	0.31		0.51			
Dual Air Space	66	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm ClimaGuard 70/36 LE	3mm Clear/035 SGP/3mm Clear	1.191	0.117	0.269	0.443	0.443	KRY	KRY	90	90			0.036				CL	ZF-S	N	0.37	67	0.31		0.52			
Dual Air Space	67	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	4 mm SunGuard SN 70/37 HT	4mmClear /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90			0.022				CL	ZF-S	N	0.37	68	0.29		0.52			
Dual Air Space	68	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4 mm SunGuard SN 70/37 HT	4mmClear /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90			0.022				CL	ZF-S	N	0.37	68	0.29		0.51			
Dual Air Space	69	10mm ultra clear/060PVB/10mm ultra clear/060PVB/10mm ultra clear	4 mm ClimaGuard® Sun T	4mm Sun T/030PVB/4mm Clear	1.272	0.148	0.329	0.365	0.365	KRY	KRY	90	90			0.026	0.026			CL	ZF-S	N	0.37	67	0.30		0.47			
Dual Air Space	70	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm Solarban® 60	3mm Solarban 60/035 SGP/3mm Clear	1.191	0.129	0.281	0.437	0.437	KRY	KRY	90	90			0.035				CL	ZF-S	N	0.37	68	0.30		0.44			
Dual Air Space	71	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm Solarban® 60	3mm Solarban 60/035 SGP/3mm Clear	1.191	0.129	0.281	0.437	0.437	KRY	KRY	90	90			0.035				CL	ZF-S	N	0.37	68	0.30		0.45			
Dual Air Space	72	10mm clear/060SGP/10mm Clear/060SGP/10mm COOL-LITE XTREME 60-28	3 mm SGG COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear	1.227	0.118	0.269	0.425	0.425	KRY	KRY	90	90	0.021	0.021					CL	ZF-S	N	0.37	68	0.20		0.32			

PRODUCT	Product Number	Panel ID #1	Panel ID #2	Panel ID #3	Panel Thickness #1	Panel Thickness #2	Panel Thickness #3	Gap 1	Gap 2	Gap Fill 1	Gap Fill 2	% of Gap Fill 1	% of Gap Fill 2	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Spacer	Grid Type	Grid Size	U-factor	Condensation Resistance	SHGC NO GRID	SHGC GRID<1"	SHGC GRID>1"	VT GRID<1"	VT GRID>1"
Dual Air Space,	73	10mm clear/060pvb/10mm Clear/060pvb/10mm COOL-LITE XTREME 60-28	3 mm SGG COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear	1.227	0.118	0.269	0.425	0.425	KRY	KRY	90	90	0.021	0.021					CL	ZF-S	N	0.37	68	0.20		0.33		
Dual Air Space,	74	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	6 mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear	1.218	0.230	0.477	0.269	0.269	KRY	KRY	90	90	0.038	0.038					CL	ZF-S	N	0.37	68	0.34		0.56		
Dual Air Space,	75	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	6 mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear	1.218	0.230	0.477	0.269	0.269	KRY	KRY	90	90	0.038	0.038					CL	ZF-S	N	0.37	68	0.33		0.55		
Dual Air Space,	76	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3 mm SGG COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear	1.191	0.118	0.269	0.443	0.443	KRY	KRY	90	90		0.021					CL	ZF-S	N	0.38	68	0.27		0.45		
Dual Air Space,	77	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3 mm SGG COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear	1.191	0.118	0.269	0.443	0.443	KRY	KRY	90	90		0.021					CL	ZF-S	N	0.38	68	0.27		0.44		
Dual Air Space,	78	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	4 mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear	1.218	0.151	0.337	0.376	0.376	KRY	KRY	90	90	0.038	0.038					CL	ZF-S	N	0.38	68	0.33		0.56		
Dual Air Space,	79	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	4 mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear	1.218	0.151	0.337	0.376	0.376	KRY	KRY	90	90	0.038	0.038					CL	ZF-S	N	0.38	68	0.34		0.57		
Dual Air Space,	80	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm Clear	3mm Clear/035 SGP/3mm Clear	1.218	0.117	0.269	0.430	0.430	KRY	KRY	90	90	0.023						CL	ZF-S	N	0.38	68	0.30		0.51		
Dual Air Space,	81	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6 mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear	1.191	0.230	0.477	0.283	0.283	KRY	KRY	90	90		0.038					CL	ZF-S	N	0.38	68	0.36		0.56		
Dual Air Space,	82	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6 mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear	1.191	0.230	0.477	0.283	0.283	KRY	KRY	90	90		0.038					CL	ZF-S	N	0.38	68	0.36		0.57		
Dual Air Space,	83	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4 mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90		0.038					CL	ZF-S	N	0.38	68	0.36		0.57		
Dual Air Space,	84	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	4 mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear	1.191	0.151	0.337	0.390	0.390	KRY	KRY	90	90		0.038					CL	ZF-S	N	0.38	68	0.37		0.58		
Dual Air Space,	85	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	8 mm SunGuard SN 70/37 HT	8mmClear /035 SGP/8mm Clear	1.191	0.305	0.623	0.168	0.168	KRY	KRY	90	90			0.022				CL	ZF-S	N	0.39	64	0.29		0.50		
Dual Air Space,	86	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	8 mm SunGuard SN 70/37 HT	8mmClear /035 SGP/8mm Clear	1.191	0.305	0.623	0.168	0.168	KRY	KRY	90	90			0.022				CL	ZF-S	N	0.39	64	0.29		0.49		
Dual Air Space,	87	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	8 mm SunGuard SN 70/37 HT	8mm SunGuard 70/37 HT /035 SGP/8mm Clear	1.191	0.305	0.634	0.162	0.162	KRY	KRY	90	90			0.022	0.022			CL	ZF-S	N	0.39	64	0.28		0.42		
Dual Air Space,	88	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	8 mm SunGuard SN 70/37 HT	8mm SunGuard 70/37 HT /035 SGP/8mm Clear	1.191	0.305	0.634	0.162	0.162	KRY	KRY	90	90			0.022	0.022			CL	ZF-S	N	0.39	64	0.28		0.43		
Dual Air Space,	89	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	8 mm ClimaGuard Premium	8mmClear /035 SGP/8mm Clear	1.191	0.305	0.623	0.168	0.168	KRY	KRY	90	90		0.038					CL	ZF-S	N	0.39	66	0.36		0.55		
Dual Air Space,	90	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	8 mm ClimaGuard Premium	8mmClear /035 SGP/8mm Clear	1.191	0.305	0.623	0.168	0.168	KRY	KRY	90	90		0.038					CL	ZF-S	N	0.39	66	0.37		0.56		
Dual Air Space,	91	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	8 mm ClimaGuard Premium	8mmClear /035 SGP/8mm Clear	1.218	0.305	0.623	0.154	0.154	KRY	KRY	90	90	0.038	0.038					CL	ZF-S	N	0.40	66	0.34		0.54		
Dual Air Space,	92	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	8 mm ClimaGuard Premium	8mmClear /035 SGP/8mm Clear	1.218	0.305	0.623	0.154	0.154	KRY	KRY	90	90	0.038	0.038					CL	ZF-S	N	0.40	66	0.34		0.55		
Single Air Space,	93	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm Clear/035 SGP/3mm Clear		1.218	0.269		0.977		KRY		90		0.023						CL	ZF-S	N	0.40	68	0.33		0.56		
Single Air Space,	94	10mm clear/060SGP/10mm Clear/060SGP/10mm COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear		1.227	0.269		0.968		KRY		90		0.021						CL	ZF-S	N	0.40	68	0.24		0.48		
Single Air Space,	95	10mm clear/060pvb/10mm Clear/060pvb/10mm COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear		1.227	0.269		0.968		KRY		90		0.021						CL	ZF-S	N	0.40	68	0.24		0.49		
Single Air Space,	96	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm Solarban 70XL/035 SGP/3mm Clear		1.191	0.281		0.992		KRY		90			0.018					CL	ZF-S	N	0.40	67	0.31		0.51		
Single Air Space,	97	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm Solarban 70XL/035 SGP/3mm Clear		1.191	0.281		0.992		KRY		90			0.018					CL	ZF-S	N	0.40	67	0.32		0.52		
Single Air Space,	98	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm Solarban 60/035 SGP/3mm Clear		1.218	0.281		0.965		KRY		90		0.023						CL	ZF-S	N	0.40	68	0.30		0.47		
Single Air Space,	99	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.191	0.270		1.003		KRY		90			0.021					CL	ZF-S	N	0.40	67	0.30		0.48		
Single Air Space,	100	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.191	0.270		1.003		KRY		90			0.021					CL	ZF-S	N	0.40	67	0.30		0.49		
Single Air Space,	101	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.218	0.337		0.909		KRY		90		0.038	0.038					CL	ZF-S	N	0.40	68	0.37		0.63		
Single Air Space,	102	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.218	0.337		0.909		KRY		90		0.038	0.038					CL	ZF-S	N	0.40	68	0.37		0.62		
Single Air Space,	103	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm Solarban 90/035 SGP/3mm Clear		1.191	0.281		0.992		KRY		90			0.023					CL	ZF-S	N	0.40	67	0.30		0.43		
Single Air Space,	104	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm Solarban 90/035 SGP/3mm Clear		1.191	0.281		0.992		KRY		90			0.023					CL	ZF-S	N	0.40	67	0.29		0.42		
Single Air Space,	105	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909		KRY		90		0.022						CL	ZF-S	N	0.41	68	0.29		0.56		
Single Air Space,	106	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909		KRY		90		0.022						CL	ZF-S	N	0.41	68	0.30		0.57		
Single Air Space,	107	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 60	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991		KRY		90		0.035						CL	ZF-S	N	0.41	68	0.31		0.57		
Single Air Space,	108	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 60	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991		KRY		90		0.035						CL	ZF-S	N	0.41	68	0.32		0.58		

PRODUCT	Product Number	Panel ID #1	Panel ID #2	Panel ID #3	Panel Thickness #1	Panel Thickness #2	Panel Thickness #3	Gap 1	Gap 2	Gap Fill 1	Gap Fill 2	% of Gap Fill 1	% of Gap Fill 2	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Spacer	Grid Type	Grid Size	U-factor	Condensation Resistance	SHGC NO GRID	SHGC GRID<1"	SHGC GRID>1"	VT NO GRID	VT GRID<1"	VT GRID>1"
Single Air Space	109	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 60	3mm Solarban 60/035 SGP/3mm Clear		1.204	0.281		0.979	KRY	90				0.035						CL ZF-S	N	0.41	68	0.29		0.48				
Single Air Space	110	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 60	3mm Solarban 60/035 SGP/3mm Clear		1.204	0.281		0.979	KRY	90				0.035						CL ZF-S	N	0.41	68	0.30		0.49				
Single Air Space	111	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4mm SunGuard 70/37 HT /035 SGP/4mm Clear		1.191	0.337		0.936	KRY	90				0.022						CL ZF-S	N	0.41	68	0.33		0.56				
Single Air Space	112	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm ClimaGuard 70/36/035 SGP/3mm Clear		1.191	0.269		1.004	KRY	90				0.036						CL ZF-S	N	0.41	67	0.36		0.56				
Single Air Space	113	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm ClimaGuard 70/36/035 SGP/3mm Clear		1.191	0.269		1.004	KRY	90				0.036						CL ZF-S	N	0.41	67	0.37		0.57				
Single Air Space	114	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.218	0.486		0.774	KRY	90			0.022	0.022						CL ZF-S	N	0.41	68	0.28		0.47				
Single Air Space	115	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.218	0.486		0.774	KRY	90			0.022	0.022						CL ZF-S	N	0.41	68	0.28		0.48				
Single Air Space	116	10mm clear/060SGP/10mm Clear/060SGP/10mm ExtraClear	3mm ClimaGuard 70/36/035 SGP/3mm Clear		1.218	0.269		0.977	KRY	90				0.036						CL ZF-S	N	0.41	67	0.37		0.56				
Single Air Space	117	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909	KRY	90				0.038						CL ZF-S	N	0.41	68	0.38		0.63				
Single Air Space	118	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909	KRY	90				0.038						CL ZF-S	N	0.41	68	0.39		0.64				
Single Air Space	119	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.218	0.486		0.774	KRY	90			0.038	0.038						CL ZF-S	N	0.41	68	0.37		0.61				
Single Air Space	120	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.218	0.486		0.774	KRY	90			0.038	0.038						CL ZF-S	N	0.41	68	0.37		0.62				
Single Air Space	121	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.191	0.337		0.936	KRY	90				0.038						CL ZF-S	N	0.41	67	0.40		0.63				
Single Air Space	122	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.191	0.337		0.936	KRY	90				0.038						CL ZF-S	N	0.41	67	0.40		0.64				
Single Air Space	123	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	KRY	90			0.022							CL ZF-S	N	0.41	68	0.29		0.55				
Single Air Space	124	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	KRY	90			0.022							CL ZF-S	N	0.41	68	0.30		0.56				
Single Air Space	125	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	4mm ClimaGuard 1.0/035 SGP/4mm ClimaGuard Dry		1.218	0.337		0.909	ARG	95			0.023	0.023	0.200					CL ZF-S	N	0.41	57	0.29		0.46				
Single Air Space	126	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.191	0.486		0.801	KRY	90				0.022						CL ZF-S	N	0.41	68	0.33		0.55				
Single Air Space	127	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.191	0.486		0.801	KRY	90				0.022						CL ZF-S	N	0.41	68	0.34		0.56				
Single Air Space	128	10mm ultra clear/060PVB/10mm ultra clear/060PVB/10mm ultra clear	4mm Sun T/030PVB/4mm Clear		1.272	0.329		0.877	KRY	90				0.026						CL ZF-S	N	0.41	67	0.37		0.59				
Single Air Space	129	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	KRY	90			0.038							CL ZF-S	N	0.42	68	0.39		0.63				
Single Air Space	130	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	KRY	90			0.038							CL ZF-S	N	0.42	68	0.38		0.62				
Single Air Space	131	10mm clear/060SGP/10mm Clear/060SGP/10mm ExtraClear	4mm ClimaGuard 1.0/035 SGP/4mm ClimaGuard Dry		1.218	0.337		0.909	ARG	95			0.023	0.200						CL ZF-S	N	0.42	56	0.34		0.54				
Single Air Space	132	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.191	0.486		0.801	KRY	90				0.038						CL ZF-S	N	0.42	68	0.40		0.62				
Single Air Space	133	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.191	0.486		0.801	KRY	90				0.038						CL ZF-S	N	0.42	68	0.40		0.63				
Single Air Space	134	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	8mm SunGuard 70/37 HT /035 SGP/8mm Clear		1.218	0.634		0.612	KRY	90			0.022	0.022						CL ZF-S	N	0.42	68	0.28		0.48				
Single Air Space	135	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	8mm SunGuard 70/37 HT /035 SGP/8mm Clear		1.218	0.634		0.612	KRY	90			0.022	0.022						CL ZF-S	N	0.42	68	0.28		0.47				
Single Air Space	136	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	8mmClear /035 SGP/8mm Clear		1.218	0.623		0.623	KRY	90			0.022							CL ZF-S	N	0.42	68	0.30		0.55				
Single Air Space	137	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	8mmClear /035 SGP/8mm Clear		1.218	0.623		0.623	KRY	90			0.022							CL ZF-S	N	0.42	68	0.29		0.54				
Single Air Space	138	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	8mm ClimaGuard Premium /035 SGP/8mm Clear		1.218	0.634		0.612	KRY	90			0.038	0.038						CL ZF-S	N	0.42	68	0.37		0.61				
Single Air Space	139	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	8mm ClimaGuard Premium /035 SGP/8mm Clear		1.218	0.634		0.612	KRY	90			0.038	0.038						CL ZF-S	N	0.42	68	0.37		0.60				
Single Air Space	140	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	8mm SunGuard 70/37 HT /035 SGP/8mm Clear		1.191	0.634		0.639	KRY	90			0.022							CL ZF-S	N	0.42	68	0.33		0.54				
Single Air Space	141	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	8mm SunGuard 70/37 HT /035 SGP/8mm Clear		1.191	0.634		0.639	KRY	90			0.022							CL ZF-S	N	0.42	68	0.34		0.55				
Single Air Space	142	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	8mmClear /035 SGP/8mm Clear		1.218	0.623		0.623	KRY	90			0.038							CL ZF-S	N	0.43	68	0.39		0.63				
Single Air Space	143	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	8mmClear /035 SGP/8mm Clear		1.218	0.623		0.623	KRY	90			0.038							CL ZF-S	N	0.43	68	0.38		0.61				
Single Air Space	144	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	8mm ClimaGuard Premium /035 SGP/8mm Clear		1.191	0.634		0.639	KRY	90			0.038							CL ZF-S	N	0.43	68	0.40		0.61				

PRODUCT	Product Number	Panel ID #1	Panel ID #2	Panel ID #3	Panel Thickness #1	Panel Thickness #2	Panel Thickness #3	Gap 1	Gap 2	Gap Fill 1	Gap Fill 2	% of Gap Fill 1	% of Gap Fill 2	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Spacer	Grid Type	Grid Size	U-factor	Condensation Resistance	SHGC NO GRID	SHGC GRID<1"	SHGC GRID>1"	VT NO GRID	VT GRID<1"	VT GRID >=1"
Single Air Space	145	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	8mm ClimaGuard Premium /035 SGP/8mm Clear		1.191	0.634		0.639		KRY		90				0.038				CL	ZF-S	N	0.43	68	0.40		0.63			
Single Air Space	146	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	10mm SunGuard 70/37 HT /035 SGP/10mm Clear		1.218	0.776		0.470		KRY		90		0.022	0.022					CL	ZF-S	N	0.43	68	0.28		0.47			
Single Air Space	147	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	10mm SunGuard 70/37 HT /035 SGP/10mm Clear		1.218	0.776		0.470		KRY		90		0.022	0.022					CL	ZF-S	N	0.43	68	0.28		0.46			
Single Air Space	148	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	10mmClear /035 SGP/10mm Clear		1.218	0.749		0.497		KRY		90		0.022						CL	ZF-S	N	0.43	68	0.30		0.55			
Single Air Space	149	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	10mmClear /035 SGP/10mm Clear		1.218	0.749		0.497		KRY		90		0.022						CL	ZF-S	N	0.43	68	0.30		0.53			
Single Air Space	150	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	10mm ClimaGuard Premium /035 SGP/10mm Clear		1.218	0.776		0.470		KRY		90		0.038	0.038					CL	ZF-S	N	0.44	68	0.37		0.60			
Single Air Space	151	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	10mm ClimaGuard Premium /035 SGP/10mm Clear		1.218	0.776		0.470		KRY		90		0.038	0.038					CL	ZF-S	N	0.44	68	0.37		0.59			
Single Air Space	152	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	10mm SunGuard 70/37 HT /035 SGP/10mm Clear		1.191	0.776		0.497		KRY		90			0.022					CL	ZF-S	N	0.44	68	0.33		0.53			
Single Air Space	153	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	10mm SunGuard 70/37 HT /035 SGP/10mm Clear		1.191	0.776		0.497		KRY		90			0.022					CL	ZF-S	N	0.44	68	0.34		0.55			
Single Air Space	154	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	10mmClear /035 SGP/10mm Clear		1.218	0.749		0.497		KRY		90		0.038						CL	ZF-S	N	0.44	68	0.39		0.62			
Single Air Space	155	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	10mmClear /035 SGP/10mm Clear		1.218	0.749		0.497		KRY		90		0.038						CL	ZF-S	N	0.44	68	0.38		0.61			
Single Air Space	156	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 70XL	3mm Solarban 70XL/035 SGP/3mm Clear		1.204	0.281		0.979		ARG		95		0.018	0.018					CL	ZF-S	N	0.44	68	0.26		0.42			
Single Air Space	157	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 70XL	3mm Solarban 70XL/035 SGP/3mm Clear		1.204	0.281		0.979		ARG		95		0.018	0.018					CL	ZF-S	N	0.44	68	0.26		0.42			
Single Air Space	158	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 90	3mm Solarban 90/035 SGP/3mm Clear		1.204	0.281		0.979		ARG		95		0.023	0.023					CL	ZF-S	N	0.44	68	0.21		0.27			
Single Air Space	159	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 90	3mm Solarban 90/035 SGP/3mm Clear		1.204	0.281		0.979		ARG		95		0.023	0.023					CL	ZF-S	N	0.44	68	0.22		0.27			
Single Air Space	160	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm Solarban 70XL/035 SGP/3mm Clear		1.218	0.281		0.965		ARG		95		0.023	0.018					CL	ZF-S	N	0.44	68	0.28		0.44			
Single Air Space	161	10mm clear/060pvb/10mm Clear/060pvb/10mm COOL-LITE XTREME 60-28	3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.227	0.270		0.966		ARG		95		0.021	0.021					CL	ZF-S	N	0.44	68	0.23		0.36			
Single Air Space	162	10mm clear/060SGP/10mm Clear/060SGP/10mm COOL-LITE XTREME 60-28	3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.227	0.270		0.966		ARG		95		0.021	0.021					CL	ZF-S	N	0.44	68	0.23		0.35			
Single Air Space	163	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm ClimaGuard 70/36/035 SGP/3mm Clear		1.218	0.269		0.977		ARG		95		0.023	0.036					CL	ZF-S	N	0.44	68	0.31		0.48			
Single Air Space	164	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 70XL	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991		ARG		95		0.018						CL	ZF-S	N	0.44	68	0.27		0.53			
Single Air Space	165	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 70XL	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991		ARG		95		0.018						CL	ZF-S	N	0.44	68	0.27		0.54			
Single Air Space	166	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	10mm ClimaGuard Premium /035 SGP/10mm Clear		1.191	0.776		0.497		KRY		90			0.038					CL	ZF-S	N	0.44	68	0.40		0.62			
Single Air Space	167	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	10mm ClimaGuard Premium /035 SGP/10mm Clear		1.191	0.776		0.497		KRY		90			0.038					CL	ZF-S	N	0.44	68	0.39		0.61			
Single Air Space	168	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.218	0.270		0.976		ARG		95		0.023	0.021					CL	ZF-S	N	0.44	68	0.27		0.41			
Single Air Space	169	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm Solarban 90/035 SGP/3mm Clear		1.218	0.281		0.965		ARG		95		0.023	0.023					CL	ZF-S	N	0.44	68	0.26		0.36			
Single Air Space	170	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 90	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991		ARG		95		0.023						CL	ZF-S	N	0.44	68	0.24		0.42			
Single Air Space	171	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 90	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991		ARG		95		0.023						CL	ZF-S	N	0.44	68	0.23		0.41			
Single Air Space	172	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	4mm SunGuard 70/37 HT /035 SGP/4mm Clear		1.218	0.337		0.909		ARG		95		0.022	0.022					CL	ZF-S	N	0.44	68	0.29		0.48			
Single Air Space	173	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	4mm SunGuard 70/37 HT /035 SGP/4mm Clear		1.218	0.337		0.909		ARG		95		0.022	0.022					CL	ZF-S	N	0.44	68	0.29		0.49			
Single Air Space	174	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm Clear/035 SGP/3mm Clear		1.218	0.269		0.977		ARG		95		0.023						CL	ZF-S	N	0.44	68	0.34		0.56			
Single Air Space	175	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm Solarban 70XL/035 SGP/3mm Clear		1.191	0.281		0.992		ARG		95			0.018					CL	ZF-S	N	0.44	67	0.33		0.52			
Single Air Space	176	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm Solarban 70XL/035 SGP/3mm Clear		1.191	0.281		0.992		ARG		95			0.018					CL	ZF-S	N	0.44	67	0.32		0.51			
Single Air Space	177	10mm clear/060pvb/10mm Clear/060pvb/10mm COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear		1.227	0.269		0.968		ARG		95		0.021						CL	ZF-S	N	0.44	68	0.25		0.49			
Single Air Space	178	10mm clear/060SGP/10mm Clear/060SGP/10mm COOL-LITE XTREME 60-28	3mm Clear/035 SGP/3mm Clear		1.227	0.269		0.968		ARG		95		0.021						CL	ZF-S	N	0.44	68	0.25		0.48			
Single Air Space	179	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.191	0.270		1.003		ARG		95			0.021					CL	ZF-S	N	0.44	67	0.31		0.49			
Single Air Space	180	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard 1.0	3mm Solarban 60/035 SGP/3mm Clear		1.218	0.281		0.965		ARG		95		0.023						CL	ZF-S	N	0.44	68	0.31		0.47			

PRODUCT	Product Number	Panel ID #1	Panel ID #2	Panel ID #3	Panel Thickness #1	Panel Thickness #2	Panel Thickness #3	Gap 1	Gap 2	Gap Fill 1	Gap Fill 2	% of Gap Fill 1	% of Gap Fill 2	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Spacer	Grid Type	Grid Size	U-factor	Condensation Resistance	SHGC NO GRID	SHGC GRID<1"	SHGC GRID>1"	VT NO GRID	VT GRID<1"	VT GRID>1"
Single Air Space	181	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm COOL-LITE XTREME 60-28/035 SGP/3mm Clear		1.191	0.270		1.003	ARG	95						0.021				CL ZF-S	N	0.44	67	0.31		0.48				
Single Air Space	182	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm Solarban 90/035 SGP/3mm Clear		1.191	0.281		0.992	ARG	95						0.023				CL ZF-S	N	0.44	67	0.30		0.43				
Single Air Space	183	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm Solarban 90/035 SGP/3mm Clear		1.191	0.281		0.992	ARG	95						0.023				CL ZF-S	N	0.44	67	0.30		0.42				
Single Air Space	184	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 60	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991	ARG	95				0.035						CL ZF-S	N	0.45	67	0.33		0.58				
Single Air Space	185	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 60	3mm Clear/035 SGP/3mm Clear		1.204	0.269		0.991	ARG	95				0.035						CL ZF-S	N	0.45	67	0.32		0.57				
Single Air Space	186	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.218	0.337		0.909	ARG	95				0.038	0.038					CL ZF-S	N	0.45	68	0.37		0.62				
Single Air Space	187	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.218	0.337		0.909	ARG	95				0.038	0.038					CL ZF-S	N	0.45	68	0.38		0.63				
Single Air Space	188	10mm clear/060SGP/10mm Clear/060SGP/10mm Solarban 60	3mm Solarban 60/035 SGP/3mm Clear		1.204	0.281		0.979	ARG	95				0.035						CL ZF-S	N	0.45	67	0.30		0.48				
Single Air Space	189	10mm clear/060pvb/10mm Clear/060pvb/10mm Solarban 60	3mm Solarban 60/035 SGP/3mm Clear		1.204	0.281		0.979	ARG	95				0.035						CL ZF-S	N	0.45	67	0.31		0.49				
Single Air Space	190	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909	ARG	95				0.022						CL ZF-S	N	0.45	68	0.31		0.57				
Single Air Space	191	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909	ARG	95				0.022						CL ZF-S	N	0.45	68	0.30		0.56				
Single Air Space	192	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4mm SunGuard 70/37 HT /035 SGP/4mm Clear		1.191	0.337		0.936	ARG	95						0.022				CL ZF-S	N	0.45	67	0.34		0.56				
Single Air Space	193	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	3mm ClimaGuard 70/36/035 SGP/3mm Clear		1.191	0.269		1.004	ARG	95						0.036				CL ZF-S	N	0.45	67	0.37		0.56				
Single Air Space	194	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	3mm ClimaGuard 70/36/035 SGP/3mm Clear		1.191	0.269		1.004	ARG	95						0.036				CL ZF-S	N	0.45	67	0.37		0.57				
Single Air Space	195	10mm clear/060SGP/10mm Clear/060SGP/10mm ExtraClear	3mm ClimaGuard 70/36/035 SGP/3mm Clear		1.218	0.269		0.977	ARG	95						0.036				CL ZF-S	N	0.45	67	0.37		0.56				
Single Air Space	196	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909	ARG	95				0.038						CL ZF-S	N	0.45	67	0.40		0.64				
Single Air Space	197	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	4mmClear /035 SGP/4mm Clear		1.218	0.337		0.909	ARG	95				0.038						CL ZF-S	N	0.45	67	0.39		0.63				
Single Air Space	198	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.218	0.486		0.774	ARG	95				0.022	0.022					CL ZF-S	N	0.45	68	0.29		0.48				
Single Air Space	199	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.218	0.486		0.774	ARG	95				0.022	0.022					CL ZF-S	N	0.45	68	0.29		0.47				
Single Air Space	200	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.191	0.337		0.936	ARG	95						0.038				CL ZF-S	N	0.45	67	0.40		0.63				
Single Air Space	201	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	4mm ClimaGuard Premium /035 SGP/4mm Clear		1.191	0.337		0.936	ARG	95						0.038				CL ZF-S	N	0.45	67	0.41		0.64				
Single Air Space	202	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.218	0.486		0.774	ARG	95				0.038	0.038					CL ZF-S	N	0.45	68	0.37		0.61				
Single Air Space	203	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.218	0.486		0.774	ARG	95				0.038	0.038					CL ZF-S	N	0.45	68	0.38		0.62				
Single Air Space	204	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	ARG	95				0.022						CL ZF-S	N	0.45	68	0.30		0.55				
Single Air Space	205	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	ARG	95				0.022						CL ZF-S	N	0.45	68	0.31		0.56				
Single Air Space	206	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.191	0.486		0.801	ARG	95						0.022				CL ZF-S	N	0.45	68	0.35		0.56				
Single Air Space	207	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6mm SunGuard 70/37 HT /035 SGP/6mm Clear		1.191	0.486		0.801	ARG	95						0.022				CL ZF-S	N	0.45	68	0.34		0.55				
Single Air Space	208	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	ARG	95				0.038						CL ZF-S	N	0.46	67	0.39		0.62				
Single Air Space	209	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium	6mmClear /035 SGP/6mm Clear		1.218	0.477		0.774	ARG	95				0.038						CL ZF-S	N	0.46	67	0.39		0.63				
Single Air Space	210	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.191	0.486		0.801	ARG	95						0.038				CL ZF-S	N	0.46	68	0.40		0.62				
Single Air Space	211	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear	6mm ClimaGuard Premium /035 SGP/6mm Clear		1.191	0.486		0.801	ARG	95						0.038				CL ZF-S	N	0.46	68	0.41		0.63				
Single Air Space	212	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	8mm SunGuard 70/37 HT /035 SGP/8mm Clear		1.218	0.634		0.612	ARG	95				0.022	0.022					CL ZF-S	N	0.46	68	0.29		0.47				
Single Air Space	213	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	8mm SunGuard 70/37 HT /035 SGP/8mm Clear		1.218	0.634		0.612	ARG	95				0.022	0.022					CL ZF-S	N	0.46	68	0.29		0.48				
Single Air Space	214	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	10mm SunGuard 70/37 HT /035 SGP/10mm Clear		1.218	0.776		0.470	ARG	95				0.022	0.022					CL ZF-S	N	0.46	68	0.28		0.46				
Single Air Space	215	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT	10mm SunGuard 70/37 HT /035 SGP/10mm Clear		1.218	0.776		0.470	ARG	95				0.022	0.022					CL ZF-S	N	0.46	68	0.29		0.47				
Single Air Space	216	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT	8mmClear /035 SGP/8mm Clear		1.218	0.623		0.623	ARG	95				0.022						CL ZF-S	N	0.46	68	0.30		0.54				

PRODUCT	Product Number		Panel ID #1		Panel ID #2		Panel ID #3		Panel Thickness #1	Panel Thickness #2	Panel Thickness #3	Gap 1	Gap 2	Gap Fill 1	Gap Fill 2	% of Gap Fill 1	% of Gap Fill 2	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Spacer	Grid Type	Grid Size	U-factor	Condensation Resistance	SHGC NO GRID	SHGC GRID<1"	SHGC GRID>1"	V1 GRID<1"	V1 GRID >=1"
Single Air Space,	217	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT		8mmClear /035 SGP/8mm Clear			1.218	0.623		0.623	ARG			95			0.022						CL ZF-S	N	0.46	68	0.31		0.55				
Single Air Space,	218	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium		8mm ClimaGuard Premium /035 SGP/8mm Clear			1.218	0.634		0.612	ARG			95			0.038	0.038					CL ZF-S	N	0.46	68	0.37		0.60				
Single Air Space,	219	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium		8mm ClimaGuard Premium /035 SGP/8mm Clear			1.218	0.634		0.612	ARG			95			0.038	0.038					CL ZF-S	N	0.46	68	0.38		0.61				
Single Air Space,	220	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		8mm SunGuard 70/37 HT /035 SGP/8mm Clear			1.191	0.634		0.639	ARG			95				0.022					CL ZF-S	N	0.46	68	0.34		0.55				
Single Air Space,	221	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium		10mm ClimaGuard Premium /035 SGP/10mm Clear			1.218	0.776		0.470	ARG			95			0.038	0.038					CL ZF-S	N	0.46	67	0.37		0.59				
Single Air Space,	222	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium		10mm ClimaGuard Premium /035 SGP/10mm Clear			1.218	0.776		0.470	ARG			95			0.038	0.038					CL ZF-S	N	0.46	67	0.37		0.60				
Single Air Space,	223	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		8mm SunGuard 70/37 HT /035 SGP/8mm Clear			1.191	0.634		0.639	ARG			95				0.022					CL ZF-S	N	0.46	68	0.34		0.54				
Single Air Space,	224	10mm clear/060SGP/10mm Clear/060SGP/10mm SunGuard 70/37 HT		10mmClear /035 SGP/10mm Clear			1.218	0.749		0.497	ARG			95			0.022						CL ZF-S	N	0.47	67	0.30		0.53				
Single Air Space,	225	10mm clear/060PVB/10mm Clear/060PVB/10mm SunGuard 70/37 HT		10mmClear /035 SGP/10mm Clear			1.218	0.749		0.497	ARG			95			0.022						CL ZF-S	N	0.47	67	0.30		0.55				
Single Air Space,	226	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium		8mmClear /035 SGP/8mm Clear			1.218	0.623		0.623	ARG			95			0.038						CL ZF-S	N	0.47	67	0.39		0.63				
Single Air Space,	227	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium		8mmClear /035 SGP/8mm Clear			1.218	0.623		0.623	ARG			95			0.038						CL ZF-S	N	0.47	67	0.39		0.61				
Single Air Space,	228	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		8mm ClimaGuard Premium /035 SGP/8mm Clear			1.191	0.634		0.639	ARG			95				0.038					CL ZF-S	N	0.47	67	0.40		0.61				
Single Air Space,	229	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		8mm ClimaGuard Premium /035 SGP/8mm Clear			1.191	0.634		0.639	ARG			95				0.038					CL ZF-S	N	0.47	67	0.41		0.63				
Single Air Space,	230	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		10mm SunGuard 70/37 HT /035 SGP/10mm Clear			1.191	0.776		0.497	ARG			95			0.022						CL ZF-S	N	0.47	66	0.34		0.55				
Single Air Space,	231	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		10mm SunGuard 70/37 HT /035 SGP/10mm Clear			1.191	0.776		0.497	ARG			95			0.022						CL ZF-S	N	0.47	66	0.34		0.53				
Single Air Space,	232	10mm clear/060PVB/10mm Clear/060PVB/10mm ClimaGuard Premium		10mmClear /035 SGP/10mm Clear			1.218	0.749		0.497	ARG			95			0.038						CL ZF-S	N	0.47	66	0.39		0.62				
Single Air Space,	233	10mm clear/060SGP/10mm Clear/060SGP/10mm ClimaGuard Premium		10mmClear /035 SGP/10mm Clear			1.218	0.749		0.497	ARG			95			0.038						CL ZF-S	N	0.47	66	0.38		0.61				
Single Air Space,	234	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		10mm ClimaGuard Premium /035 SGP/10mm Clear			1.191	0.776		0.497	ARG			95				0.038					CL ZF-S	N	0.47	66	0.40		0.61				
Single Air Space,	235	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		10mm ClimaGuard Premium /035 SGP/10mm Clear			1.191	0.776		0.497	ARG			95				0.038					CL ZF-S	N	0.47	66	0.40		0.62				
Single Air Space,	236	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		3mm Clear/035 SGP/3mm Clear			1.191	0.269		1.004	KRY			90									CL ZF-S	N	0.57	57	0.49		0.66				
Single Air Space,	237	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		3mm Clear/035 SGP/3mm Clear			1.191	0.269		1.004	KRY			90									CL ZF-S	N	0.57	57	0.49		0.65				
Single Air Space,	238	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		3mm Solarban 60/035 SGP/3mm Clear			1.191	0.281		0.992	KRY			90									CL ZF-S	N	0.57	57	0.41		0.56				
Single Air Space,	239	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		3mm Solarban 60/035 SGP/3mm Clear			1.191	0.281		0.992	KRY			90									CL ZF-S	N	0.57	57	0.40		0.55				
Single Air Space,	240	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		3mm Clear/030 PVB/3mm Clear			1.191	0.264		1.009	KRY			90									CL ZF-S	N	0.57	57	0.49		0.67				
Single Air Space,	241	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		3mm Clear/035 SGP/3mm Clear			1.191	0.269		1.004	ARG			95									CL ZF-S	N	0.59	55	0.50		0.66				
Single Air Space,	242	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		3mm Clear/035 SGP/3mm Clear			1.191	0.269		1.004	ARG			95									CL ZF-S	N	0.59	55	0.49		0.65				
Single Air Space,	243	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		3mm Solarban 60/035 SGP/3mm Clear			1.191	0.281		0.992	ARG			95									CL ZF-S	N	0.59	55	0.41		0.56				
Single Air Space,	244	10mm clear/060SGP/10mm Clear/060SGP/10mm Clear		3mm Solarban 60/035 SGP/3mm Clear			1.191	0.281		0.992	ARG			95									CL ZF-S	N	0.59	55	0.41		0.55				
Single Air Space,	245	10mm clear/060pvb/10mm Clear/060pvb/10mm Clear		3mm Clear/030 PVB/3mm Clear			1.191	0.264		1.009	ARG			95									CL ZF-S	N	0.59	55	0.50		0.67				
Single Air Space,	246	10mm Clear/060PVB/10mm Clear/060PVB/10mm Clear		6mm SunGuard SN 70/37 HT/035PVB/4mm Clear			1.191	0.416		0.787	KRY			90				0.022					CL ZF-S	N	0.39	68	0.34		0.56				
Dual Air Space,	247	10mm Clear/060PVB/10mm Clear/060PVB/10mm Clear		4 mm SunGuard SN 70/37 HT	6mm SunGuard SN 70/37 HT/035PVB/4mm Clear		1.191	0.151	0.416	0.315	0.315	KRY	KRY	90	90			0.022		0.022			CL ZF-S	N	0.30	68	0.28		0.44				
Validation,	0	10mm ultra clear/060PVB/10mm ultra clear/060PVB/10mm ultra clear		4 mm ClimaGuard® Sun T	4mm Sun T/030PVB/4mm Clear		1.272	0.148	0.329	0.365	0.365	KRY	KRY	90	90					0.026	0.026		CL ZF-S	N	0.35	58	0.28		0.47				

Appendix A

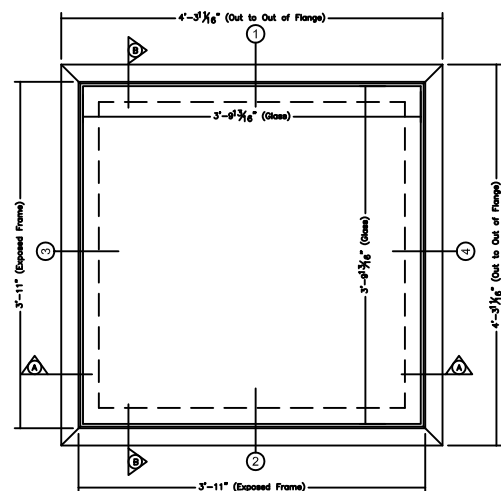
Revision Summary

<u>Identification</u>	<u>Date</u>	<u>Revision</u>
Original Issue	03/11/21	Report to Glass Flooring Systems Inc. and Inspection Agency

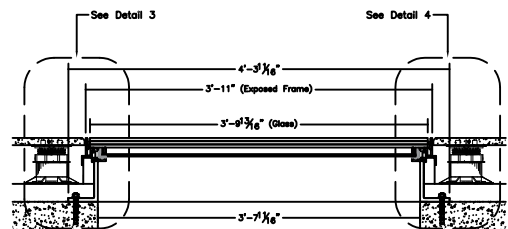
Appendix B
Product Drawings

2.0 Skyfloor System BOM

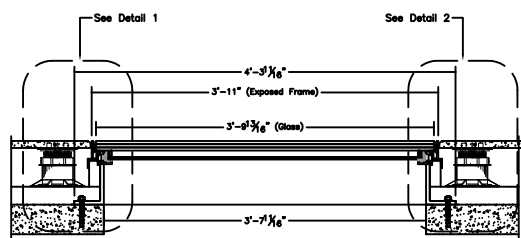
<u>Item #</u>	<u>Part Number</u>	<u>Part Name</u>	<u>Material</u>
1	dwg: 1	Perimeter Extrusion	Painted Aluminum
2	dwg: 2	Gutter Extrusion	Painted Aluminum
3	dwg: 3	Thermal Break	Insulbar
4	dwg: 4	Led Channel w/ Lens	Polymethylmethacrylate
5	dwg: 5	Black EPDM Setting Block	EPDM
6	dwg: 6	Z-Flashing	Painted Aluminum



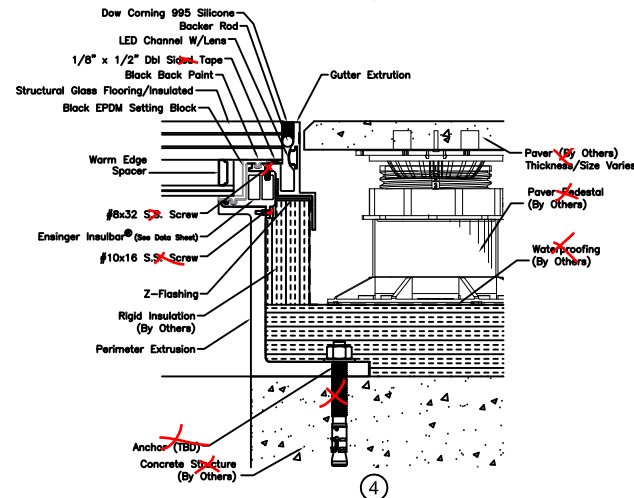
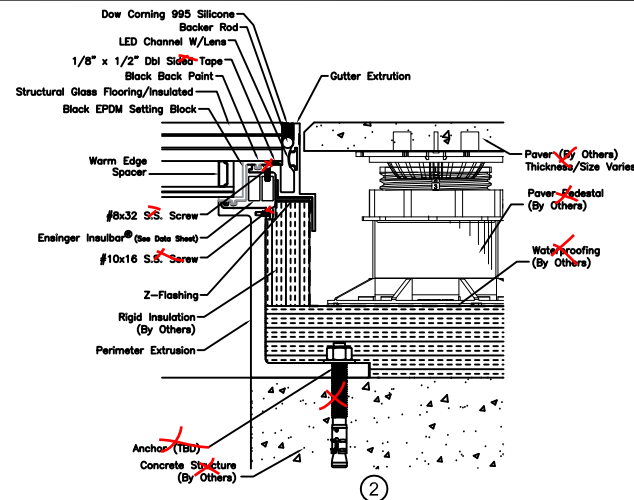
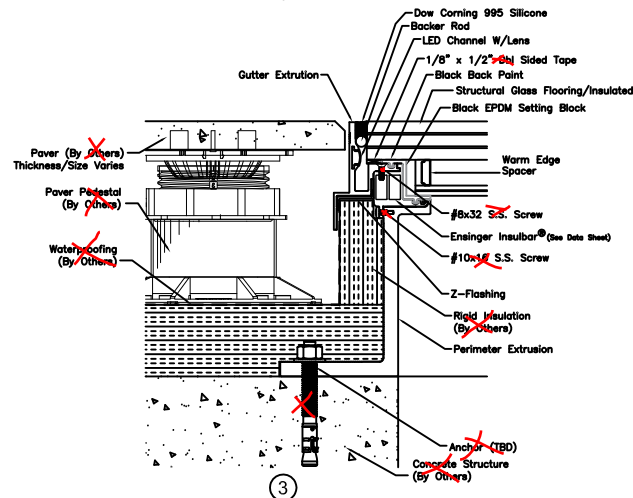
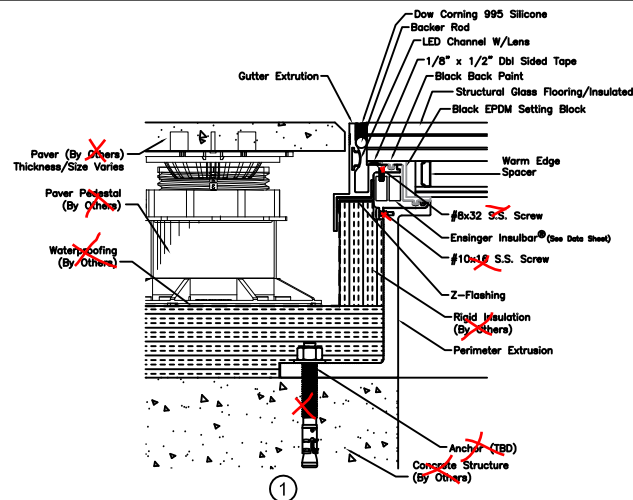
Elevation



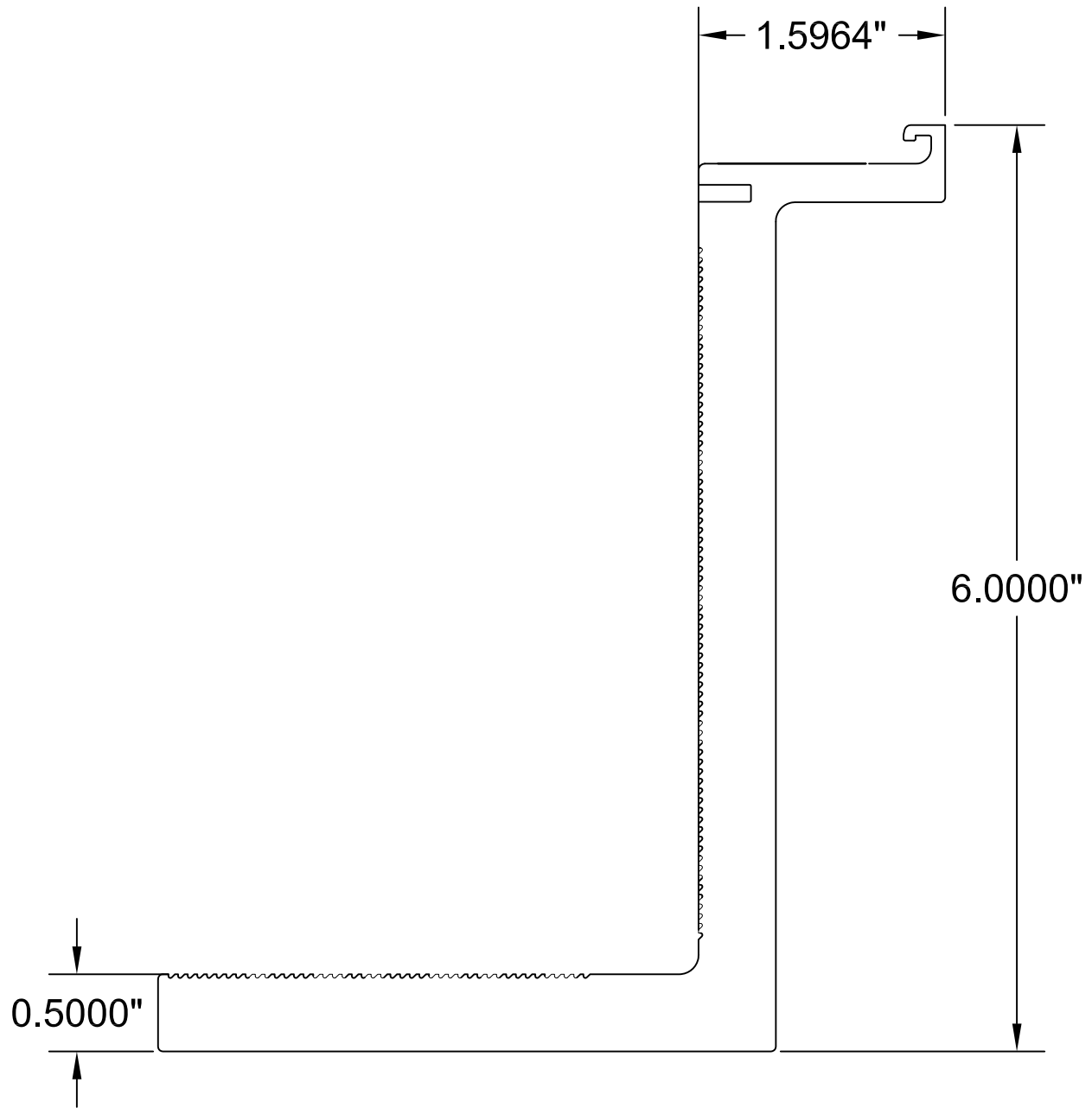
Section A - A

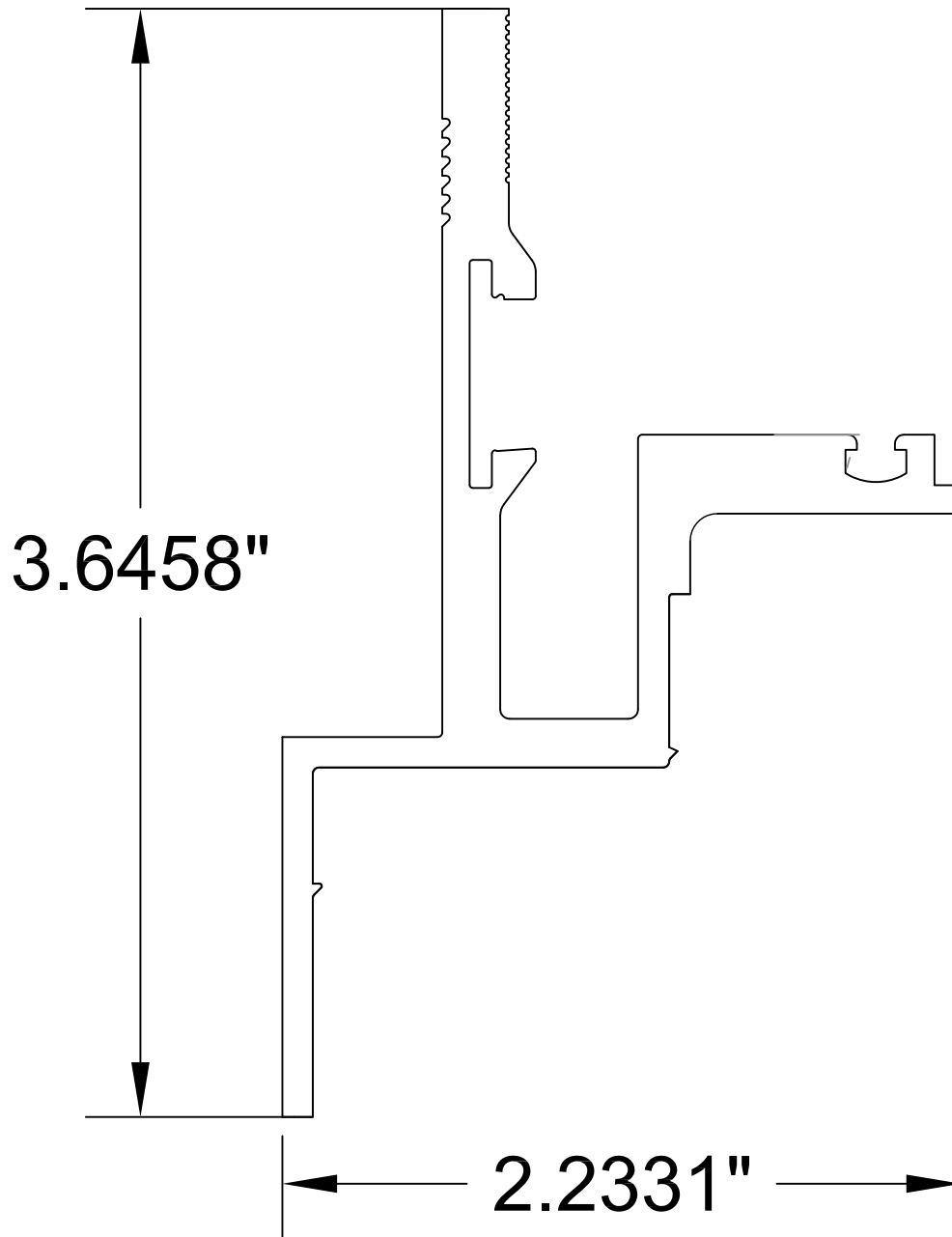


Section B - B

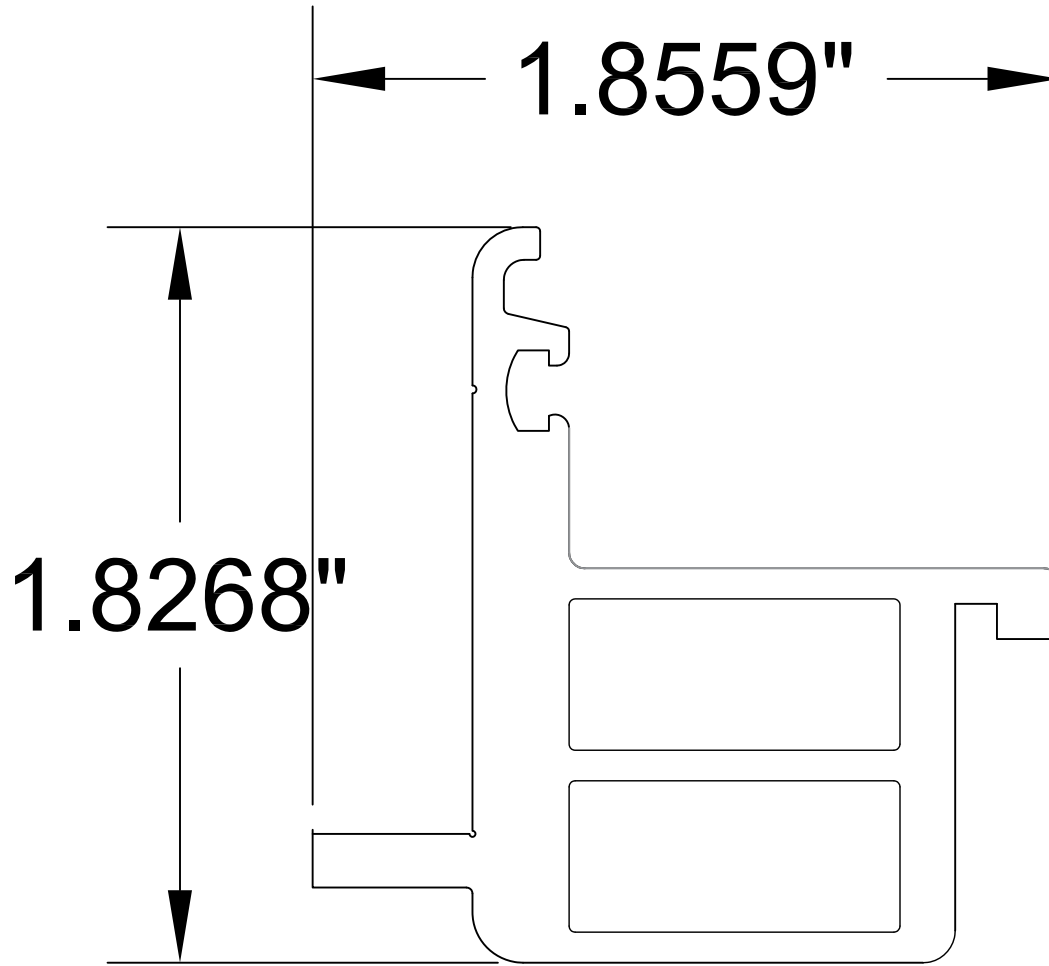


Rev. No.	Date	Description	ARCHITECT
1	1/24/18	Revised per m/s print dtd. 01/24/18	
Specifications			CONTRACTOR
Frame: Painted Aluminum 6063-T6			MANUFACTURER Glass Flooring Systems, Inc., 10 Leslie Court Whippany, NJ 07981
Glazing: 3/8" Top Layer - Clear Tempered 0.060 PVB Interlayer 3/8" Middle layer - Clear Tempered 0.060 PVB Interlayer 3/8" Bottom layer - Clear Tempered 1/8" Clear Tempered with 0.030 PVB Interlayer 1/8" Clear Tempered			PROJECT NCTL Testing of the Glass Flooring System's Skyfloor 2.0 48" x 48" Unit Air & Water Infiltration Test
SCALE: 1 : 2			ALL ELEVATIONS ARE VIEWED FROM EXTERIOR
DRAWN	DATE	TWO NO.	SHEET
JSM	1/8/2018	NCTL Skyfloor 2.0 48x48 Test Unit	1 OF 1

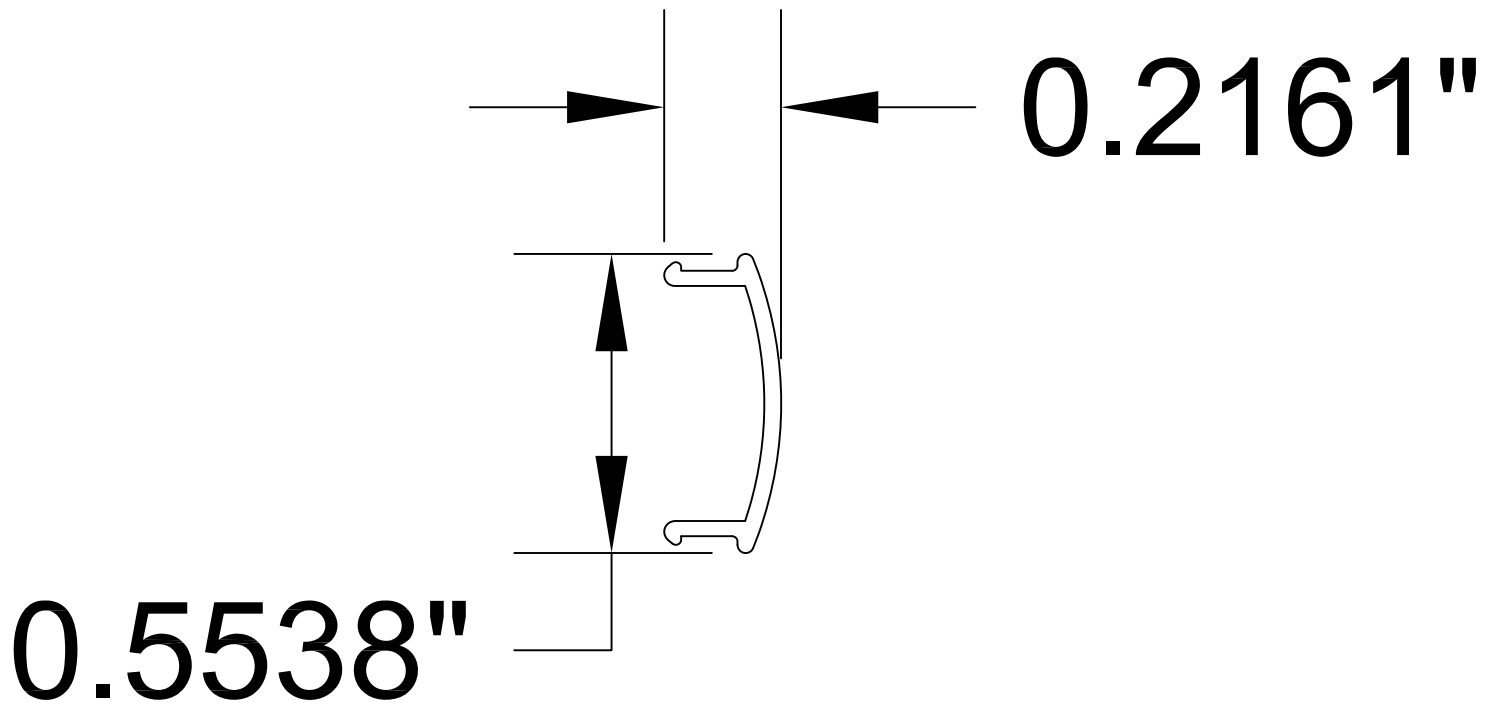




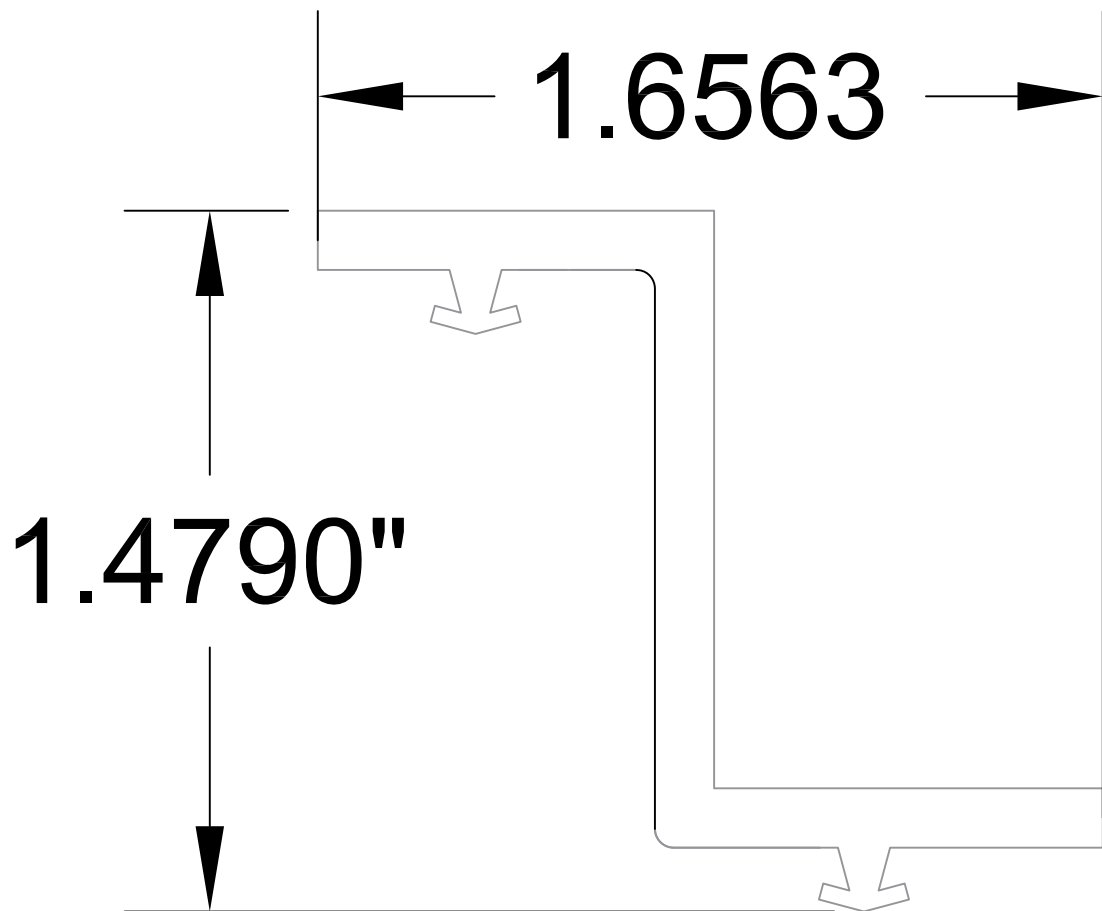
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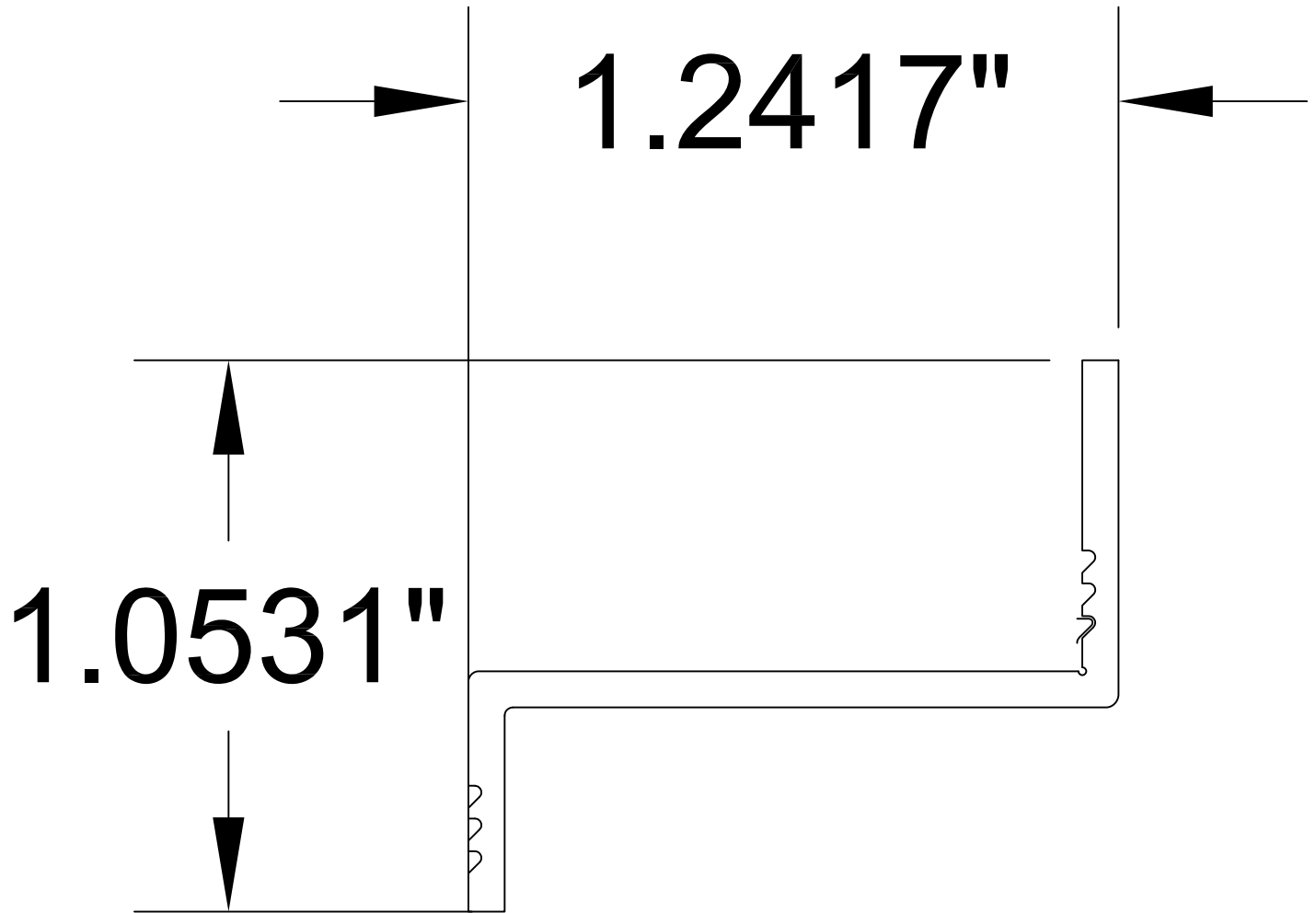
dwg: 3



dwg: 4

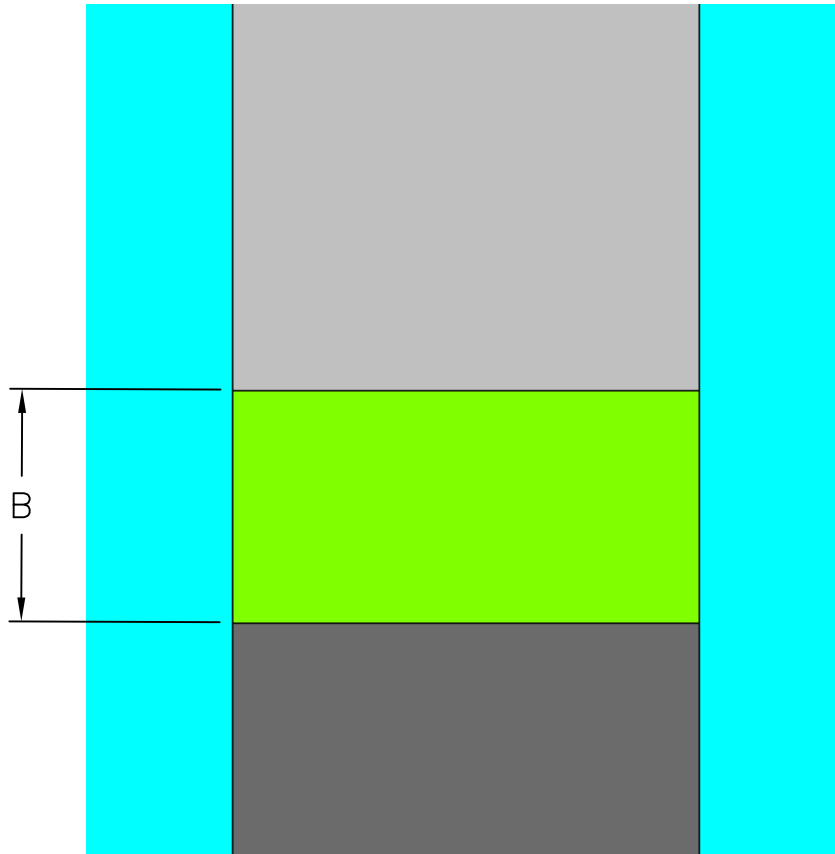


dwg: 5



dwg: 6

MANUFACTURER:			QUANEX			SPACER:			PREMIUM SUPER SPACER (ZF-S)		
SHEET:		REV:	GAS & PERCENTAGE:								
1/1		00	ARGON:95% KRYPTON: 90%								
GAP WIDTHS:											
.887", .992", .979", .991", 1.004", 1.003", .996", .968 .909", .977", .965", .976", 1.009", .936", .801", .774", .639", .612", .623", .497", .470", .497", .3645", .437", .443", .436", .4425", .4245", .376", .4235", .4295", .429", .390", .2825", .269", .162", .1675", .154", .787", .315"											



SPACER MATERIAL: SILICONE FOAM (.125 W/Mk)

PRIMARY SEALANT: BUTYL RUBBER (ISOBUTENE SOLID, HOT METAL)

SECONDARY SEALANT: N/A

B) SPACER HEIGHT: .187"

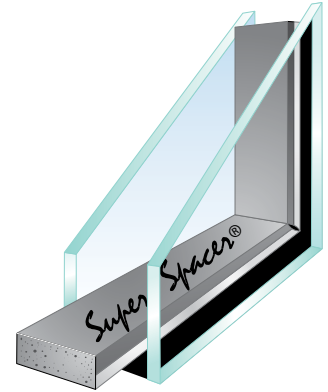
Quanex

building products

Insulating Glass Systems

Super Spacer® Premium is a flexible, silicone foam spacer product that provides the maximum in perimeter insulation for sealed glazing units. Desiccant-filled with pre-applied side adhesive, the structural foam spacer significantly simplifies insulating glass (IG) production.

Super Spacer® Premium Enhanced



Basic Use

Super Spacer is a dual seal insulating glass spacer system that uses a high-performance acrylic adhesive for its structural seal and is backed with a proprietary multi-layer moisture vapor seal.

Featuring a vapor barrier backing, the spacer must be used in combination with conventional IG sealants.

Colors

Super Spacer Premium is available in Black, Aluminum, Grey and Almond.

Composition

Silicone foam base with desiccant pre-fill.

Desiccant Fill

3A molecular-sieve; 47% minimum by weight.

Continuous Packaged Length

For regular insulating glass production, Super Spacer Premium is supplied on reels with the continuous packaged length varying depending on the spacer width.

Protective Packaging

To provide desiccant protection, the reels are vacuum-sealed in moisture-proof foil bags. The reels are then shipped in recyclable cardboard boxes.

Performance	Norm
Thermal conductivity 0.125 W/m ² K	ASTM C 518
Gas / Moisture vapor barrier WVTR < 0.020 gm/m ² /day Oxygen < 0.009 cc/m ² /day	ASTM F 1249 ASTM D 3985
Primary structural seal Acrylic adhesive	
Fogging No fog in visual area.	ASTM E 2190 EN 1279 - 6 CAN/CGSB 12.8
Gas Retention Pass with hot-melt butyl or curative butyl	EN 1279 - 3
I.G. Durability Pass with hot-melt butyl or curative butyl	ASTM E 2190 EN 1279 - 2



Insulating Glass Systems

Super Spacer® Premium Enhanced

Warm-Edge Silicone Foam Features & Benefits

- Superior silicone foam insulation
- Low thermal conductivity
- Substantially reduced perimeter condensation
- Typical overall 0.2 W/m²K (0.04 BTU/h-ft²-°F) U-value window improvement (vs. aluminum)
- Excellent UV resistance
- Extreme temperature performance
- Fast dew-point drop
- Superior compression-set resistance
- Excellent color stability
- Enhanced sound dampening

Edge-Seal Durability

- Continuous vapor barrier at corners
- No chemical fogging
- High desiccant content
- Same spacer material and edge-seal technology as the proven Premium Plus product.

Unique Dual-Seal Design

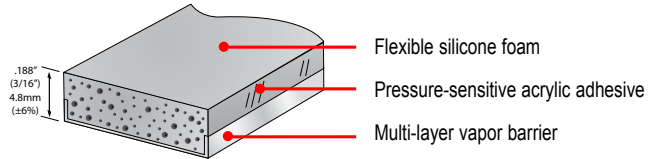
- Outer hot-melt butyl sealant for enhanced gas retention
- Inner structural acrylic side adhesive
- Immediate unit handling
- No cold flow or spacer/seal migration problems

Improved Productivity

- Fast application
- Elimination of desiccant filling
- No corner key assembly
- Simplified production of shaped units
- Limited equipment investment
- High-volume production with reduced labor force

Pleasing Aesthetic Appearance

- Black, Aluminum, Grey or Almond colors
- Smooth matte surface finish
- No surface blistering or bubbling
- Straight-line application with sharp 90° corners



Reel Sizes

Width mm	Width inches	Meter/ Reel	Feet/ Reel	Meter/ Auto Reel	Feet/ Auto Reel
4.8 mm	0.188"	610	2000	N/A	N/A
6.4 mm	0.250"	457	1500	1372	4500
7.9 mm	0.313"	335	1100	1006	3300
9.5 mm	0.375"	305	1000	914	3000
11.1 mm	0.438"	274	900	823	2700
11.9 mm	0.469"	244	800	731	2400
12.7 mm	0.500"	244	800	731	2400
14.3 mm	0.563"	213	700	640	2100
15.9 mm	0.625"	206	675	617	2025
17.5 mm	0.688"	183	600	549	1800
19.1 mm	0.750"	175	575	526	1725
20 mm*	0.787"	152	500	457	1500

* All even metric sizes are not available in North American market.

Note: Nominal sizes larger than 0.375" (3/8") have a tolerance of +/- 3% for the width (airspace) and +/- 6% for the height (thickness).

For nominal sizes 0.375" (3/8") and lower the tolerance is +/- 0.010" on the width (airspace) and +/- 6% for the height (thickness).

Note: All metric dimension equivalent sizes are for reference only.

Quanex's Quality Management System is certified to ISO 9001 by Smithers Quality Assessments

Rev. #	Revisions Made	Rev. Date
1	Smithers mark removed per Ashton Rentsch, W/mK performance changed per Vince Warne, Energy star mark removed per Lori Postak.	1/6/17

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