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*NFRC Accredited Computer Modeling & Simulation Laboratory***NFRC THERMAL SIMULATION REPORT****U-Factor (ANSI/NFRC 100-2017), CR (NFRC 500-2017)  
SHGC and VT (ANSI/NFRC 200-2017)**

**Fenestration Product:** **Vinyl Out-Swing French Door**  
**Series#:** **Venetian S-9500/9600**  
**Report#:** SIM18D-008  
**Submitted To:** Mr. Rey Nea  
**Manufacturer:** **GREEN WORLD WINDOWS**  
**Address:** 4195 Chino Hills Parkway, Ste. 508, Chino Hills, CA 91709  
**Phone#:** (909) 923-8618

**Baseline Product:** [960 mm (±25mm)] [37.75"(±1")] X [2090 mm (±25mm)] [82.375"(±1")]

**Test Option 017: SB90/ARG 90%/CLEAR\_3mm\_A8-D: [U = 0.26 Btu/hr\*ft<sup>2</sup>\*F] with (PUL = Polyurethane fiberglass reinforcement)**

Per ANSI/NFRC 100-2017: Sec. 4.2.6: The individual product selected as the baseline product shall have a simulated U-factor within 0.6 W/m<sup>2</sup>-K (0.1 Btu/h.ft<sup>2</sup>.deg F) or 20% of the lowest simulated U-factor, whichever is greater.

**Baseline Simulation Date:** 01/18/2018  
**Expiration Date:** Five years from the date of the oldest physical test conducted for the latest certification ratings  
**Revision Date:** n/a  
**Product Type:** Out-Swing Door (single leaf)  
**Simulator:** Anis Jan  
**Simulator-in-Charge:** Anis Jan  
**Simulation Method:** Approved NFRC software THERM7 and WINDOW7 and NFRC WINDOW/THERM simulation manual

<b>Model/Type:</b>	Out-Swing Door / EDSL (single leaf)
<b>Size:</b>	(960 mm x 2090 mm) / {37.75 in x 82.375 in}
<b>Frame Type and Finish:</b>	Vinyl w/steel reinforcement bars
<b>Sash Type and Finish:</b>	Vinyl w/ steel & aluminum reinforcement bars
<b>IG Glass Parameters:</b>	Glass from PPG. 3mm glass with 3/4" gap. Low-e coating glass from PPG: SB90/e=0.023, SB70/e=0.018 applied on srf# 2
<b>Glazing Method:</b>	Glass is drop glazed onto double sided foam tape from exterior with PVC glazing stop applied full perimeter from exterior
<b>Gas Fill Method:</b>	Argon 90% & Air 10% gas fill using Evacuated chamber fill technique
<b>Spacers:</b>	A8-D = supersure seal spacer II, dual sealed with hot melt butyl (with rigid pvc strip, both flat and corrugated strips) stated per client, and A8-D = supersure seal spacer regular, dual sealed with hot melt butyl (with rigid pvc strip for flat strip and corrugated aluminum-mill finish for bottom strip) stated per client
<b>Dividers:</b>	Aluminum painted exterior, unpainted interior Rectangular grid: 0.188" x 0.625" x 0.02" (<1", 0.75" grid size), and Contour grid: 0.313" x 0.984" x 0.02" (<1", 0.75" grid size). Grid pattern: NFRC Standard, 12" on-center or less.
<b>Grouping:</b>	
<b>Center-of-Glazing:</b>	No
<b>Validation matrix:</b>	ANSI/NFRC 100-2017: Sec 4.2.3.1.E
<b>Spacer:</b>	No
<b>Divider:</b>	No
<b>Miscellaneous:</b>	
<b>SHGC and VT:</b>	Default Frame Absorptivity 0.3, per ANSI/NFRC 200-2017 Sec. 4.5.D.

### Glazing Matrix

Glz ID	Name	Group	UCOG	Thick. (inch)	ID1	Gap fill (%)	ID2
1	CLEAR / AIR / CLEAR_(DS-DS)	L1	0.486	0.986	5009	AIR	5009
2	SB90 / AIR / CLEAR_(DS-DS)	L2	0.307	0.986	5444	AIR	5009
3	SB70 / AIR / CLEAR_(DS-DS)	L3	0.305	0.986	5432	AIR	5009
4	CLEAR / ARG90% / CLEAR_(DS-DS)	L4	0.462	0.986	5009	ARG(90)	5009
5	SB90 / ARG90% / CLEAR_(DS-DS)	L5	0.258	0.986	5444	ARG(90)	5009
6	SB70 / ARG90% / CLEAR_(DS-DS)	L6	0.256	0.986	5432	ARG(90)	5009

Note: L denotes the group leader per ANSI/NFRC 100-2017. (if, applicable)

#### SHGC 0 and 1 & VT 0 and 1

	No-divider	Divider < 25.4 mm	Divider >= 25.4 mm
SHGC0	0.010859	0.013710	0.016348
SHGC1	0.619572	0.535701	0.458127
VT0	0	0	0
VT1	0.608713	0.521990	0.441779

#### SHGC 0 and 1 & VT 0 and 1 (ADA Sill)

	No-divider	Divider < 25.4 mm	Divider >= 25.4 mm
SHGC0	0.012959	0.015679	0.018186
SHGC1	0.574424	0.494418	0.420709
VT0	0	0	0
VT1	0.561465	0.478739	0.402524

$$SHGC = SHGC0 + SHGCc * (SHGC1 - SHGC0)$$

$$VT = VT0 + Vtc * (VT1 - VT0)$$

SHGCc = center of glass SHGC value only  
 Vtc = center of glass VT value only

Series#: Venetian S-9500/9600  
 Product: PVC Out-Swing Door

### Total Window U-Factor, SHGC & VT Values

Report#: SIM18D-008  
 Report Date: 01/18/2018

				<b>Sim Lab Code:</b> SFSE			
		<b>Operator Type:</b> EDSL (single door)	<b>2014 Model Size:</b> 960 mm x 2090 mm	<b>Sim Report#:</b> SIM18D-008			
<b>Mfr Name:</b> GREEN WORLD WINDOWS	<b>Frame Type:</b> VA	<b>Residential Size:</b>		<b>Sim Rpt date:</b> 01/18/2018			
<b>Series/Model#:</b> Out-Swing Door / Venetian S-9500/9600	<b>Sash Type:</b> VP	<b>Non Res Size:</b>		<b>Sim Rpt revision date:</b>			
<b>Thermal Break Type:</b> None				<b>Frame Absorptance:</b> 0.3			
				<b>Rating Procedure:</b> 2014			

Mfr Prod. Code	Product Num	Pane Thick. 1	Pane Thick. 2	Pane Thick. 3	Gap 1	Gap 2	Emiss 1	Emiss 2	Emiss 3	Emiss 4	Emiss 5	Emiss 6	Spacer Type	Grid	Grid Size	U factor cog	SHGC cog	VT cog	Total U-factor	Total SHGC	Total VT	CR
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer-II	001	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	0.45	0.47	0.50	47
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer-II - rectangular & contour grid	001-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.41	0.42	
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II	002	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	0.34	0.15	0.32	59
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II - rectangular & contour grid	002-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.27	
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II	003	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	0.34	0.18	0.39	59
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II - rectangular & contour grid	003-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.16	0.33	
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II	004	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	0.43	0.47	0.50	48
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II - rectangular & contour grid	004-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.41	0.42	
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II	005	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	0.31	0.15	0.32	59
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II - rectangular & contour grid	005-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.13	0.27	
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II	006	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	0.31	0.18	0.39	59
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II - rectangular & contour grid	006-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.16	0.33	
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular	007	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	0.45	0.47	0.50	46
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular - rectangular & contour grid	007-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.41	0.42	
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular	008	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	0.35	0.15	0.32	58
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular - rectangular & contour grid	008-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.27	
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular	009	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	0.35	0.18	0.39	58
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular - rectangular & contour grid	009-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.16	0.33	
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular	010	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	0.44	0.47	0.50	48
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular - rectangular & contour grid	010-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.41	0.42	
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular	011	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	0.32	0.15	0.32	58
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular - rectangular & contour grid	011-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.13	0.27	
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular	012	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	0.32	0.18	0.39	58

Series#: Venetian S-9500/9600  
 Product: PVC Out-Swing Door

### Total Window U-Factor, SHGC & VT Values

Report#: SIM18D-008  
 Report Date: 01/18/2018

Mfr. Prod. Code	Product Num	Pane Thick. 1	Pane Thick. 2	Pane Thick. 3	Gap 1	Gap 2	Emiss 1	Emiss 2	Emiss 3	Emiss 4	Emiss 5	Emiss 6	Spacer Type	Grid	Grid Size	U factor cog	SHGC cog	VT cog	Total U-factor	Total SHGC	Total VT	CR
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular - rectangular & contour grid	012-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.16	0.33	
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement)	013	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	<b>0.39</b>	0.47	0.50	47
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	013-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.41	0.42	
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement)	014	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	<b>0.29</b>	0.15	0.32	63

Series#: Venetian S-9500/9600  
 Product: PVC Out-Swing Door

**Total Window U-Factor, SHGC & VT Values**

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Mfr. Prod. Code	Product Num	Pane Thick. 1	Pane Thick. 2	Pane Thick. 3	Gap 1	Gap 2	Emiss 1	Emiss 2	Emiss 3	Emiss 4	Emiss 5	Emiss 6	Spacer Type	Grid	Grid Size	U factor cog	SHGC cog	VT cog	Total U-factor	Total SHGC	Total VT	CR
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	014-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.27	
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement)	015	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	<b>0.28</b>	0.18	0.39	63
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	015-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.16	0.33	
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement)	016	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	<b>0.38</b>	0.47	0.50	49
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	016-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.41	0.42	
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement)	017	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	<b>0.26</b>	0.15	0.32	67
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	017-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.13	0.27	
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement)	018	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	<b>0.26</b>	0.18	0.39	67
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	018-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.16	0.33	
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement)	019	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	<b>0.40</b>	0.47	0.50	46
CLEAR / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	019-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.41	0.42	
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement)	020	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	<b>0.29</b>	0.15	0.32	61
SB90 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	020-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.27	
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement)	021	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	<b>0.29</b>	0.18	0.39	61
SB70 / AIR / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	021-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.16	0.33	
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement)	022	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	<b>0.39</b>	0.47	0.50	48
CLEAR / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	022-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.41	0.42	
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement)	023	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	<b>0.26</b>	0.15	0.32	65
SB90 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	023-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.13	0.27	
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement)	024	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	<b>0.26</b>	0.18	0.39	65
SB70 / ARG90% / CLEAR_(DS-DS)-supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	024-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.16	0.33	
CLEAR / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II	025	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	<b>0.45</b>	0.44	0.46	47
CLEAR / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II - rectangular & contour grid	025-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.38	0.39	
SB90 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II	026	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	<b>0.35</b>	0.14	0.29	56

Mfr. Prod. Code	Product Num	Pane Thick. 1	Pane Thick. 2	Pane Thick. 3	Gap 1	Gap 2	Emiss 1	Emiss 2	Emiss 3	Emiss 4	Emiss 5	Emiss 6	Spacer Type	Grid	Grid Size	U factor cog	SHGC cog	VT cog	Total U-factor	Total SHGC	Total VT	CR
SB90 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II - rectangular & contour grid	026-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.25	
SB70 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II	027	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	<b>0.35</b>	0.17	0.36	56
SB70 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II - rectangular & contour grid	027-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.15	0.31	
CLEAR / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II	028	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	<b>0.44</b>	0.44	0.46	48
CLEAR / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II - rectangular & contour grid	028-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.38	0.39	
SB90 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II	029	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	<b>0.32</b>	0.14	0.29	56
SB90 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II - rectangular & contour grid	029-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.12	0.25	
SB70 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II	030	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	<b>0.32</b>	0.17	0.36	56
SB70 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II - rectangular & contour grid	030-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.15	0.31	
CLEAR / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular	031	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	<b>0.46</b>	0.44	0.46	46
CLEAR / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular - rectangular & contour grid	031-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.38	0.39	
SB90 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular	032	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	<b>0.36</b>	0.14	0.29	55
SB90 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular - rectangular & contour grid	032-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.25	
SB70 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular	033	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	<b>0.36</b>	0.17	0.36	55
SB70 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular - rectangular & contour grid	033-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.15	0.31	
CLEAR / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular	034	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	<b>0.44</b>	0.44	0.46	48
CLEAR / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular - rectangular & contour grid	034-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.38	0.39	
SB90 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular	035	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	<b>0.33</b>	0.14	0.29	56
SB90 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular - rectangular & contour grid	035-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.12	0.25	
SB70 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular	036	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	<b>0.33</b>	0.17	0.36	56
SB70 / ARG90% / CLEAR_DS-DS_ADA SILL_supersure seal spacer_regular - rectangular & contour grid	036-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.15	0.31	
CLEAR / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II_(PUL reinforcement)	037	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	<b>0.40</b>	0.44	0.46	47
CLEAR / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	037-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.38	0.39	
SB90 / AIR / CLEAR_DS-DS_ADA SILL_supersure seal spacer-II_(PUL reinforcement)	038	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	<b>0.30</b>	0.14	0.29	63

Mfr. Prod. Code	Product Num	Pane Thick. 1	Pane Thick. 2	Pane Thick. 3	Gap 1	Gap 2	Emiss 1	Emiss 2	Emiss 3	Emiss 4	Emiss 5	Emiss 6	Spacer Type	Grid	Grid Size	U factor cog	SHGC cog	VT cog	Total U-factor	Total SHGC	Total VT	CR
SB90 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	038-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.25	
SB70 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement)	039	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	<b>0.30</b>	0.17	0.36	63
SB70 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	039-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.15	0.31	
CLEAR / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement)	040	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	<b>0.39</b>	0.44	0.46	49
CLEAR / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	040-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.38	0.39	
SB90 / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement)	041	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	<b>0.27</b>	0.14	0.29	64
SB90 / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	041-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.12	0.25	
SB70 / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement)	042	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	<b>0.27</b>	0.17	0.36	64
SB70 / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer-II_(PUL reinforcement) - rectangular & contour grid	042-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.15	0.31	
CLEAR / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement)	043	0.118	0.118		0.750								A8-D	N		0.49	0.756705	0.813306	<b>0.41</b>	0.44	0.46	46
CLEAR / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	043-0001	0.118	0.118		0.750								A8-D	G	0.75	0.49	0.756705	0.813306		0.38	0.39	
SB90 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement)	044	0.118	0.118		0.750			0.023					A8-D	N		0.31	0.228707	0.524806	<b>0.31</b>	0.14	0.29	61
SB90 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	044-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.31	0.228707	0.524806		0.13	0.25	
SB70 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement)	045	0.118	0.118		0.750			0.018					A8-D	N		0.31	0.274294	0.641005	<b>0.31</b>	0.17	0.36	61
SB70 / AIR / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	045-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.31	0.274294	0.641005		0.15	0.31	
CLEAR / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement)	046	0.118	0.118		0.750								A8-D	N		0.46	0.757106	0.813306	<b>0.39</b>	0.44	0.46	48
CLEAR / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement)	046-0001	0.118	0.118		0.750								A8-D	G	0.75	0.46	0.757106	0.813306		0.38	0.39	
SB90 / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement)	047	0.118	0.118		0.750			0.023					A8-D	N		0.26	0.225189	0.524806	<b>0.28</b>	0.14	0.29	64
SB90 / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	047-0001	0.118	0.118		0.750			0.023					A8-D	G	0.75	0.26	0.225189	0.524806		0.12	0.25	
SB70 / ARG90% / CLEAR_(DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement)	048	0.118	0.118		0.750			0.018					A8-D	N		0.26	0.271166	0.641005	<b>0.28</b>	0.17	0.36	64



Series#: Venetian S-9500/9600  
 Product: PVC Out-Swing Door

### Total Window U-Factor, SHGC & VT Values

Report#: SIM18D-008  
 Report Date: 01/18/2018

Mfr Prod. Code	Product Num	Pane Thick. 1	Pane Thick. 2	Pane Thick. 3	Gap 1	Gap 2	Emiss 1	Emiss 2	Emiss 3	Emiss 4	Emiss 5	Emiss 6	Spacer Type	Grid	Grid Size	U factor cog	SHGC cog	VT cog	Total U-factor	Total SHGC	Total VT	CR
SB70 / ARG90% / CLEAR_DS-DS)_ADA SILL_supersure seal spacer_regular_(PUL reinforcement) - rectangular & contour grid	048-0001	0.118	0.118		0.750			0.018					A8-D	G	0.75	0.26	0.271166	0.641005		0.15	0.31	

SUMMARY AND ASSUMPTIONS:

1. For glass info., refer to Glazing Matrix detail this report
2. This PVC Out-Swing (single panel) door (as stated per client), consists of 4 frame cross-sections. This product is offered with regular Sill and ADA Sill, each sill types were simulated as an individual product within product line and listed here in this report.  
Frame weather-strip: strip of polyurethane foam bulb facing interior full perimeter.  
Sash weather-strip: polyurethane foam full perimeter, facing exterior & interior.  
  
PVC frame members with steel-galvanized reinforcement bars and  
PVC Sash members, with following reinforcements:  
Aluminum (mill finish) & steel galvanized reinforcement bars in both jambs, and  
All galvanized steel reinforcement bars are also offered in PUL = polyurethane fiberglass reinforcements, which was used from NFRC 101-2017\_E2A4: Baydur PUL-2500, with  $K_{eff} = 0.219 \text{ w/m}^2\text{-K}$  (stated per client)
3. Manufacturer offers this product with 2 different types of muntin bar:  
Aluminum painted white on exterior and unpainted on interior.  
Rolled formed aluminum rectangular muntin bar: 0.188" x 0.625" x 0.02" and  
Contoured muntin bar: 0.313" x 0.984" x 0.02"  
Per ANSI/NFRC 100-2017, Sec. 4.2.4.1.D.ii.a "Products with glazing dividers between layers of an IG unit shall be permitted to be assumed to have the same U-factors as identical products without such dividers, providing there is at least 3.0 mm (0.118 in.) air/gas space between the divider and both adjacent glazing surfaces."  
  
Grid pattern: NFRC standard Model size = 37.75 in x 82.375 in -- (6H x 3V) strips
4. 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.
5. As per ANSI/NFRC 200:2017: For SHGC & VT, actual glazing infill pane thicknesses in Table 4-1 for the range of glazing infill pane thicknesses were used.
6. For SHGC ratings, the values are calculated for the best glazing option model with the highest frame and edge U-factor frame per ANSI/NFRC 200-2017. The values calculated from that one case are then used to calculate the SHGC & VT for any other glazing options using Equations 4-1 and 4-2 in ANSI/NFRC 200-2017.
7. Drawings will be sent as a separate package and that the product simulated confirms to drawings supplied by manufacturer.

### **WINDOW SIMULATION REPORT:**

The fenestration products documented in this report were simulated in accordance with the ANSI/NFRC 100-2017: Procedure for Determining Fenestration Product Thermal Performance & NFRC 500-2017. The fenestration products were simulated using computer programs Therm 7.4.4, Window 7.4.14 & Spectral Data # 59.0 as specified in ANSI/NFRC 100-2017 and ANSI/NFRC 200-2017 (SHGC/VT). The WINDOW program models the one-dimensional heat flow through the center-of-glass portion of the window. The Therm program models the two-dimensional heat flow through the frame, edge-of-glass, divider, and divider-edge portions of the fenestration product. The input data for both programs is based on manufacturer's specifications. Defaults for material thermal and optical properties are given in the computer programs. When values other than defaults were used, they are documented.

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It is the policy for this laboratory to verify as much information about the product being tested and simulated. However, not all information provided to the laboratory can be verified, such as physical properties of low-e coating, heat mirror, gas fills spacer, and others. Therefore, all information provided to the laboratory is the manufacturer's responsibility as to its accuracy.

It is the policy of this laboratory to prepare a report and submit it to the manufacturer for his approval. Upon notification in writing from the manufacturer that he approves of the report, (in approving report, manufacturer takes responsibility of all information provided to this laboratory) the report is sent to the certification agency. The data shall be kept for a period of five years after which they may be destroyed.

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- B. This report shall not be reproduced, except in full, without the approval of this laboratory.
- C. This report relates only to the fenestration products simulated.
- D. Rounding is per NFRC 601, NFRC Unit and Measurement Policy.
- E. 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 values identified on a valid Certification Authorization Report (CAR) by an NFRC Accredited Inspection Agency (IA) are to be used for labeling purposes.**
- F. Name and signature of the individual performing the simulations and accepting the responsibility for the technical accuracy of this simulation report.

*Anis Jan*

*Anis Jan*

*Simulator-in-responsible-charge*