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FENESTRATION SIMULATION ENGINEERING ***S***

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NFRC Accredited Computer Modeling & Simulation Laboratory

NFRC THERMAL SIMULATION REPORT

U-Factor (ANSI/NFRC 100-2017), CR (NFRC 500-2014)
SHGC and VT (ANSI/NFRC 200-2017)

Fenestration Product:	**Vinyl Sliding Glass Door**
Report#:	SIM13D-045-3
Series#:	**S-6000/6500 SGD**
Submitted To:	Rey Nea
Manufacturer:	**GREEN WORLD WINDOWS**
Address:	4195 Chino Hills Parkway, Ste. 508, Chino Hills, CA 91709
Phone#:	(909) 923-8618

Baseline Product:

This is an simple addendum report to original simulation report# SIM13D-045, prepared on 01/28/2014 by FSE. Revised to add “SB90 Low-e glass.” No other changes were made per client. For baseline product detail, refer to original sim report# SIM13D-045. No additional validation test required.

Baseline Simulation Date:	01/28/2014
Expiration Date:	Five years from the date of the oldest physical test conducted for the latest certification ratings
Revision Date:	09/12/2017
Product Type:	Sliding Glass Door
Simulator:	Anis Jan
Simulator-in-Charge:	Anis Jan
Simulation Method:	Approved NFRC software THERM7 and WINDOW7 and NFRC WINDOW/THERM simulation manual

Model/Type:	DDSG
Size:	[2000 mm x 2000 mm] / {79 in x 79 in}
Frame Type and Finish:	Vinyl
Sash Type and Finish:	Vinyl w/ Reinforcement – Partial
IG Glass Parameters:	Glass from PPG. Solarban 90/e=0.023 applied on srf# 2. (stated per client)
Glazing Method:	Glass is drop glazed onto foam tape from exterior, with PVC glazing bead applied full perimeter from exterior.
Gas Fill Method:	Argon 90% & Air 10% gas fill using Evacuated chamber fill technique.
Spacers:	A8-D = supersure seal spacer II, dual sealed with hot melt butyl (with rigid PVC strip for both strips, per client) and A8-D = supersure seal spacer regular, dual sealed with hot melt butyl (with rigid PVC on top strip and corrugated aluminum-mill finish for bottom strip, per client)
Dividers:	Aluminum painted exterior/ mill finish 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: 6 horizontal x 3 vertical strips per panel
Grouping:	
Center-of-Glazing:	No
Frame:	No
Spacer:	No
Divider:	No
Miscellaneous:	
SHGC and VT:	Default Frame Absorptivity 0.3, per ANSI/NFRC 200-2017 Sec. 4.5.D.

Glazing Matrix

Glz ID	Name	Group	UCOG	Thick.	ID1	Gap Fill1	ID2	Gap Fill2	ID3
6	SB90 / AIR / CLEAR_3mm	L1	0.29	0.736	5444	AIR	5009		
17	SB90 / ARG / CLEAR_3mm	L2	0.243	0.736	5444	ARG(90)	5009		
50	SB70 / ARG / SB70 / ARG / CLEAR_3mm	L50	0.153	1.104	5432	ARG(90)	5432	ARG(90)	5009

Note: L denotes the group leader

SHGC 0 and 1 & VT 0 and 1

	No-divider	Divider < 25.4 mm	Divider >= 25.4 mm
SHGC0	0.003160	0.006347	0.009322
SHGC1	0.788805	0.693934	0.605383
VT0	0	0	0
VT1	0.785646	0.687587	0.596061

Shgc/Vt “0 & 1” values from SIM13D-045 per TI-2010-001.

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-6000/6500 SGD

U-Factor, SHGC & VT Values

Report#: SIM13D-045-3

Product: Vinyl Sliding Glass Door

Report Date: 9/12/2017

						Sim Lab Code:	SFSE
		Operator Type:	DDSG	***2014 Model Size:***	2000 mm x 2000 mm	***Sim Report#:***	SIM13D-045-3
Mfr Name:	GREEN WORLD WINDOWS	***Frame Type:***	VY	***Residential Size:***		***Sim Rpt date:***	2/24/2014
Series/Model#:	Venetian S-6000/6500 SGD	***Sash Type:***	VP	***Non Res Size:***		***Sim Rpt revision date:***	9/12/2017
		Thermal Break Type:	N			***Frame Absorptance:***	0.3
						Rating Procedure:	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
SB90 / AIR / CLEAR_3mm	001	0.118	0.118		0.500			0.023					A8-D	N		0.29	0.231486	0.524806	**0.31**	0.19	0.41	54
SB90 / AIR / CLEAR_3mm – rectangular grid	001-0001	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.29	0.231486	0.524806		0.17	0.36	
SB90 / AIR / CLEAR_3mm - contour grid	002	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.29	0.231486	0.524806	**0.34**	0.17	0.36	54
SB90 / ARG / CLEAR_3mm	003	0.118	0.118		0.500			0.023					A8-D	N		0.24	0.226010	0.524806	**0.28**	0.18	0.41	57
SB90 / ARG / CLEAR_3mm – rectangular grid	003-0001	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.24	0.226010	0.524806		0.16	0.36	
SB90 / ARG / CLEAR_3mm - contour grid	004	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.24	0.226010	0.524806	**0.30**	0.16	0.36	57
SB90 / AIR / CLEAR_3mm	005	0.118	0.118		0.500			0.023					A8-D	N		0.29	0.231486	0.524806	**0.31**	0.19	0.41	58
SB90 / AIR / CLEAR_3mm – rectangular grid	005-0001	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.29	0.231486	0.524806		0.17	0.36	
SB90 / AIR / CLEAR_3mm - contour grid	006	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.29	0.231486	0.524806	**0.33**	0.17	0.36	58
SB90 / ARG / CLEAR_3mm	007	0.118	0.118		0.500			0.023					A8-D	N		0.24	0.226010	0.524806	**0.27**	0.18	0.41	61
SB90 / ARG / CLEAR_3mm – rectangular grid	007-0001	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.24	0.226010	0.524806		0.16	0.36	
SB90 / ARG / CLEAR_3mm - contour grid	008	0.118	0.118		0.500			0.023					A8-D	G	0.75	0.24	0.226010	0.524806	**0.29**	0.16	0.36	61

A8-D = supersure seal spacer, dual sealed with hot melt butyl

Product# 001 to 004 with supersure seal spacer regular (see page 2 for more detail)
Product# 005 to 008 with supersure seal spacer II (see page 2 for more detail)

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 & ANSI/NFRC 500-2014. The fenestration products were simulated using computer programs Therm 7.4.4, Window 7.4.14 & Spectral Data # 55.0 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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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.
The data shall be kept for a period of five years after which they may be destroyed.

Anis Jan

Anis Jan
Simulator-in-responsible-charge