



ETC Laboratories

ETC Laboratories
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Simulation Report (Revised)

Rendered To:

Showcase Custom Vinyl Windows
1002 Olde Towne Drive
Irving, TX 75061

Productline Series/Model

Series 200 Single Hung Window

Report Number

ETC-07-738-19079.1

Report Number: ETC-07-738-19079.1
 Job Number: ETC-08-738-20621-3
 Simulation Date: June 12, 2007
 Report Date: June 12, 2007
 Expiration Date: June 12, 2011
 Revision Date: February 19, 2008

NFRC 100-2004, 200-2004, 500-2004 Simulation Report

Rendered To:

Showcase Custom Vinyl Windows
 1002 Olde Towne Drive
 Irving, TX 75061

Product Series/Model	Operating Type	Model Size (mm x mm)
Series 200 Single Hung Window	Vertical Slider, XO	1200 x 1500

Validation Test Unit Description*

Item	Unit	Value
Frame type	-	VI
Sash type	-	VY
Overall width	in.	36.00
Overall height	in.	60.00
Overall IG nominal thickness	-	0.750
Number of glazing layers	-	2
Glass type	-	Float
Glass 1 thickness	in.	0.118
Glass 2 thickness	in.	0.118
Glass 3 thickness	in.	-
Spacer type	-	A8-D
Gap 1 thickness	in.	0.514
Gap 2 thickness	in.	-
Low-e emissivity	-	0.036
Low-e surface	-	2
IG gap fill	-	AIR
Percent gap fill	-	-

* Aluminum reinforcement in fixed meeting rail.

Validation Test Unit U-factor

Item	Unit	Value
Simulated U-Factor	Btu/hr-ft ² -°F	0.34

Notes: The validation unit was submitted by Showcase Custom Vinyl Windows.

NFRC 100-2004 (U-factor), 200-2004 (SHGC and VT), and 500-2004 (CR-value) Productline Matrix

Manufacturer Name: Showcase Custom Vinyl Windows
 Product Series / Model: Series 200 Single Hung Window
 Operator Type: Vertical Slider, XO
 Frame Type: VI
 Sash Type: VY

Job Number: ETC-07-738-20621-3
 Sim Lab Code: SETC
 Model Size (mm x mm) 1200 x 1500
 Thermal Break Type:

Report Number: ETC-07-738-19079.1

Product Number	Grouping ID Number	Overall IG Thickness	Pane Thickness #[1]	Pane Thickness #[2]	Pane Thickness #[3]	Gap 1	Gap 2	Gap Fill 1	% of Gap fill 1	Gap Fill 2	% of Gap fill 1	Spacer	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Tint	C-O-G U-factor	C-O-G SHGC	C-O-G VT	Grid Type	Grid Size	Total Product U-factor	CR - Value	Total Product SHGC	Total Product VT	Additional Comments
001	00	0.750	0.098	0.098		0.553		AIR				A8-D	0.036							0.30	0.37	0.70	N		0.34	54	0.30	0.56	RLE/Clr
	01	0.750	0.098	0.098		0.553		AIR				A8-D	0.036							0.30	0.37	0.70	G	< 1"	0.34	54	0.27	0.50	
	02	0.750	0.098	0.098		0.553		AIR				A8-D	0.036							0.30	0.37	0.70	S	>1"	0.34	54	0.24	0.44	
	03	0.750	0.118	0.118		0.514		AIR				A8-D	0.036							0.30	0.37	0.70	N		0.34	54	0.29	0.55	RLE/Clr
	04	0.750	0.118	0.118		0.514		AIR				A8-D	0.036							0.30	0.37	0.70	G	< 1"	0.34	54	0.27	0.49	
	05	0.750	0.118	0.118		0.514		AIR				A8-D	0.036							0.30	0.37	0.70	S	>1"	0.34	54	0.24	0.44	
002	00	0.750	0.098	0.098		0.553		ARG	90			A8-D	0.036							0.25	0.36	0.70	N		0.30	57	0.29	0.56	RLE/Clr, Arg
	01	0.750	0.098	0.098		0.553		ARG	90			A8-D	0.036							0.25	0.36	0.70	G	< 1"	0.30	57	0.26	0.50	
	02	0.750	0.098	0.098		0.553		ARG	90			A8-D	0.036							0.25	0.36	0.70	S	>1"	0.30	57	0.24	0.44	
	03	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.036							0.25	0.36	0.70	N		0.30	57	0.29	0.55	RLE/Clr, Arg
	04	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.036							0.25	0.36	0.70	G	< 1"	0.30	57	0.26	0.49	
	05	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.036							0.25	0.36	0.70	S	>1"	0.30	57	0.24	0.44	
003	00	0.750	0.197	0.197		0.356		AIR				A8-D	0.036							0.33	0.37	0.68	N		0.37	50	0.29	0.54	RLE/Clr
	01	0.750	0.197	0.197		0.356		AIR				A8-D	0.036							0.33	0.37	0.68	S	>1"	0.37	50	0.24	0.43	
004	00	0.750	0.197	0.197		0.356		AIR				A8-D	0.036							0.33	0.37	0.68	G	< 1"	0.38	50	0.27	0.48	

Report Number: ETC-07-738-19079.1

Product Number	Grouping ID Number	Overall IG Thickness	Pane Thickness #[1]	Pane Thickness #[2]	Pane Thickness #[3]	Gap 1	Gap 2	Gap Fill 1	% of Gap fill 1	Gap Fill 2	% of Gap fill 1	Spacer	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Tint	C-O-G U-factor	C-O-G SHGC	C-O-G VT	Grid Type	Grid Size	Total Product U-factor	CR - Value	Total Product SHGC	Total Product VT	Additional Comments
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005	00	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.036							0.27	0.36	0.68	N		0.32	54	0.29	0.54	RLE/Clr, Arg
	01	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.036							0.27	0.36	0.68	S	>1"	0.32	54	0.24	0.43	
006	00	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.036							0.27	0.36	0.68	G	< 1"	0.33	54	0.26	0.48	
007	00	0.750	0.118	0.315		0.317		AIR				A8-D	0.036							0.35	0.36	0.68	N		0.37	50	0.29	0.54	RLE/060-Lami
	01	0.750	0.118	0.315		0.317		AIR				A8-D	0.036							0.35	0.36	0.68	S	>1"	0.37	50	0.24	0.43	
	02	0.750	0.118	0.266		0.366		AIR				A8-D	0.036							0.32	0.36	0.68	N		0.37	50	0.29	0.54	RLE/030-Lami
	03	0.750	0.118	0.266		0.366		AIR				A8-D	0.036							0.32	0.36	0.68	S	>1"	0.37	50	0.24	0.43	
	04	0.750	0.118	0.315		0.317		AIR				A8-D	0.036							0.34	0.36	0.67	N		0.37	50	0.29	0.53	RLE/090-Lami
	05	0.750	0.118	0.315		0.317		AIR				A8-D	0.036							0.34	0.36	0.67	S	>1"	0.37	50	0.24	0.42	
008	00	0.750	0.118	0.315		0.317		AIR				A8-D	0.036							0.35	0.36	0.68	G	< 1"	0.39	50	0.26	0.48	
	01	0.750	0.118	0.266		0.366		AIR				A8-D	0.036							0.32	0.36	0.68	G	< 1"	0.39	50	0.26	0.48	
	02	0.750	0.118	0.315		0.317		AIR				A8-D	0.036							0.34	0.36	0.67	G	< 1"	0.39	50	0.26	0.48	
009	00	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.036							0.28	0.36	0.68	N		0.33	54	0.29	0.54	RLE/060-Lami, Arg
	01	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.036							0.28	0.36	0.68	S	>1"	0.33	54	0.24	0.43	
	02	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.036							0.26	0.36	0.68	N		0.33	54	0.29	0.54	RLE/030-Lami, Arg
	03	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.036							0.26	0.36	0.68	S	>1"	0.33	54	0.24	0.43	
	04	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.036							0.28	0.36	0.67	N		0.33	54	0.29	0.53	RLE/090-Lami, Arg
	05	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.036							0.28	0.36	0.67	S	>1"	0.33	54	0.24	0.42	
010	00	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.036							0.28	0.36	0.68	G	< 1"	0.34	54	0.26	0.48	
	01	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.036							0.26	0.36	0.68	G	< 1"	0.34	54	0.26	0.48	

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Product Number	Grouping ID Number	Overall IG Thickness	Pane Thickness #[1]	Pane Thickness #[2]	Pane Thickness #[3]	Gap 1	Gap 2	Gap Fill 1	% of Gap fill 1	Gap Fill 2	% of Gap fill 1	Spacer	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Tint	C-O-G U-factor	C-O-G SHGC	C-O-G VT	Grid Type	Grid Size	Total Product U-factor	CR - Value	Total Product SHGC	Total Product VT	Additional Comments
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	02	0.750	0.118	0.315		0.317		ARG	90			A8-D		0.036						0.28	0.36	0.67	G	< 1"	0.34	54	0.26	0.48	
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011	00	0.750	0.098	0.098		0.553		AIR				A8-D		0.042						0.30	0.42	0.73	N		0.34	53	0.34	0.58	EE272/Clr
	01	0.750	0.098	0.098		0.553		AIR				A8-D		0.042						0.30	0.42	0.73	G	< 1"	0.34	53	0.30	0.52	
	04	0.750	0.098	0.098		0.553		AIR				A8-D		0.042						0.30	0.42	0.73	S	>1"	0.34	53	0.27	0.46	
	05	0.750	0.098	0.098		0.553		AIR				A8-D		0.022						0.29	0.28	0.65	N		0.34	53	0.22	0.52	EE366/Clr
	06	0.750	0.098	0.098		0.553		AIR				A8-D		0.022						0.29	0.28	0.65	G	< 1"	0.34	53	0.20	0.46	
	09	0.750	0.098	0.098		0.553		AIR				A8-D		0.022						0.29	0.28	0.65	S	>1"	0.34	53	0.18	0.41	
	10	0.750	0.118	0.118		0.514		AIR				A8-D		0.042						0.30	0.42	0.72	N		0.34	53	0.34	0.57	EE272/Clr
	11	0.750	0.118	0.118		0.514		AIR				A8-D		0.042						0.30	0.42	0.72	G	< 1"	0.34	53	0.30	0.51	
	14	0.750	0.118	0.118		0.514		AIR				A8-D		0.042						0.30	0.42	0.72	S	>1"	0.34	53	0.27	0.45	
	15	0.750	0.118	0.118		0.514		AIR				A8-D		0.022						0.29	0.28	0.65	N		0.34	53	0.22	0.51	EE366/Clr
	16	0.750	0.118	0.118		0.514		AIR				A8-D		0.022						0.29	0.28	0.65	G	< 1"	0.34	53	0.20	0.46	
	19	0.750	0.118	0.118		0.514		AIR				A8-D		0.022						0.29	0.28	0.65	S	>1"	0.34	53	0.18	0.41	
012	00	0.750	0.098	0.098		0.553		ARG	90			A8-D		0.042						0.25	0.42	0.73	N		0.31	57	0.34	0.58	EE272/Clr, Arg
	01	0.750	0.098	0.098		0.553		ARG	90			A8-D		0.042						0.25	0.42	0.73	G	< 1"	0.31	57	0.30	0.52	
	04	0.750	0.098	0.098		0.553		ARG	90			A8-D		0.042						0.25	0.42	0.73	S	>1"	0.31	57	0.27	0.46	
	05	0.750	0.098	0.098		0.553		ARG	90			A8-D		0.022						0.25	0.27	0.65	N		0.31	57	0.22	0.52	EE366/Clr, Arg
	06	0.750	0.098	0.098		0.553		ARG	90			A8-D		0.022						0.25	0.27	0.65	G	< 1"	0.31	57	0.20	0.46	
	09	0.750	0.098	0.098		0.553		ARG	90			A8-D		0.022						0.25	0.27	0.65	S	>1"	0.31	57	0.18	0.41	
	10	0.750	0.118	0.118		0.514		ARG	90			A8-D		0.042						0.25	0.41	0.72	N		0.31	57	0.33	0.57	EE272/Clr, Arg

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Product Number	Grouping ID Number	Overall IG Thickness	Pane Thickness #[1]	Pane Thickness #[2]	Pane Thickness #[3]	Gap 1	Gap 2	Gap Fill 1	% of Gap fill 1	Gap Fill 2	% of Gap fill 1	Spacer	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Tint	C-O-G U-factor	C-O-G SHGC	C-O-G VT	Grid Type	Grid Size	Total Product U-factor	CR - Value	Total Product SHGC	Total Product VT	Additional Comments
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	11	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.042							0.25	0.41	0.72	G	< 1"	0.31	57	0.30	0.51	
	14	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.042							0.25	0.41	0.72	S	>1"	0.31	57	0.27	0.45	
	15	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.022							0.24	0.27	0.65	N		0.31	57	0.22	0.51	EE366/Clr, Arg
	16	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.022							0.24	0.27	0.65	G	< 1"	0.31	57	0.20	0.46	
	19	0.750	0.118	0.118		0.514		ARG	90			A8-D	0.022							0.24	0.27	0.65	S	>1"	0.31	57	0.18	0.41	
013	00	0.750	0.197	0.197		0.356		AIR				A8-D	0.042							0.33	0.41	0.71	N		0.37	50	0.33	0.56	EE272/Clr
	01	0.750	0.197	0.197		0.356		AIR				A8-D	0.042							0.33	0.41	0.71	S	>1"	0.37	50	0.27	0.44	
	02	0.750	0.197	0.197		0.356		AIR				A8-D	0.022							0.32	0.28	0.64	N		0.37	50	0.23	0.51	EE366/Clr
	03	0.750	0.197	0.197		0.356		AIR				A8-D	0.022							0.32	0.28	0.64	S	>1"	0.37	50	0.19	0.40	
014	00	0.750	0.197	0.197		0.356		AIR				A8-D	0.042							0.33	0.41	0.71	G	< 1"	0.38	50	0.30	0.50	
	01	0.750	0.197	0.197		0.356		AIR				A8-D	0.022							0.32	0.28	0.64	G	< 1"	0.38	50	0.21	0.45	
015	00	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.042							0.27	0.41	0.71	N		0.32	53	0.33	0.56	EE272/Clr, Arg
	01	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.042							0.27	0.41	0.71	S	>1"	0.32	53	0.27	0.44	
	02	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.022							0.26	0.28	0.64	N		0.32	53	0.22	0.51	EE366/Clr, Arg
	03	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.022							0.26	0.28	0.64	S	>1"	0.32	53	0.18	0.40	
016	00	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.042							0.27	0.41	0.71	G	< 1"	0.33	53	0.30	0.50	
	01	0.750	0.197	0.197		0.356		ARG	90			A8-D	0.022							0.26	0.28	0.64	G	< 1"	0.33	53	0.20	0.45	
017	00	0.750	0.118	0.315		0.317		AIR				A8-D	0.042							0.35	0.41	0.70	N		0.38	50	0.33	0.56	EE272/060-Lami
	01	0.750	0.118	0.315		0.317		AIR				A8-D	0.042							0.35	0.41	0.70	S	>1"	0.38	50	0.27	0.44	
	02	0.750	0.118	0.266		0.366		AIR				A8-D	0.042							0.32	0.41	0.70	N		0.38	50	0.33	0.56	EE272/030-Lami

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Product Number	Grouping ID Number	Overall IG Thickness	Pane Thickness #[1]	Pane Thickness #[2]	Pane Thickness #[3]	Gap 1	Gap 2	Gap Fill 1	% of Gap fill 1	Gap Fill 2	% of Gap fill 1	Spacer	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Tint	C-O-G U-factor	C-O-G SHGC	C-O-G VT	Grid Type	Grid Size	Total Product U-factor	CR - Value	Total Product SHGC	Total Product VT	Additional Comments
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	03	0.750	0.118	0.266		0.366		AIR				A8-D	0.042							0.32	0.41	0.70	S	>1"	0.38	50	0.27	0.44	
	04	0.750	0.118	0.315		0.317		AIR				A8-D	0.042							0.35	0.41	0.70	N		0.38	50	0.33	0.55	EE272/090-Lami
	05	0.750	0.118	0.315		0.317		AIR				A8-D	0.042							0.35	0.41	0.70	S	>1"	0.38	50	0.27	0.44	
	06	0.750	0.118	0.315		0.317		AIR				A8-D	0.022							0.34	0.28	0.63	N		0.38	50	0.23	0.50	EE366/060-Lami
	07	0.750	0.118	0.315		0.317		AIR				A8-D	0.022							0.34	0.28	0.63	S	>1"	0.38	50	0.19	0.40	
	08	0.750	0.118	0.266		0.366		AIR				A8-D	0.022							0.32	0.28	0.63	N		0.38	50	0.23	0.50	EE366/030-Lami
	09	0.750	0.118	0.266		0.366		AIR				A8-D	0.022							0.32	0.28	0.63	S	>1"	0.38	50	0.19	0.40	
	10	0.750	0.118	0.315		0.317		AIR				A8-D	0.022							0.34	0.28	0.63	N		0.38	50	0.23	0.50	EE366/090-Lami
	11	0.750	0.118	0.315		0.317		AIR				A8-D	0.022							0.34	0.28	0.63	S	>1"	0.38	50	0.19	0.39	
018	00	0.750	0.118	0.315		0.317		AIR				A8-D	0.042							0.35	0.41	0.70	G	< 1"	0.40	50	0.30	0.50	
	01	0.750	0.118	0.266		0.366		AIR				A8-D	0.042							0.32	0.41	0.70	G	< 1"	0.40	50	0.30	0.50	
	02	0.750	0.118	0.315		0.317		AIR				A8-D	0.042							0.35	0.41	0.70	G	< 1"	0.40	50	0.30	0.49	
	03	0.750	0.118	0.315		0.317		AIR				A8-D	0.022							0.34	0.28	0.63	G	< 1"	0.40	50	0.21	0.45	
	04	0.750	0.118	0.266		0.366		AIR				A8-D	0.022							0.32	0.28	0.63	G	< 1"	0.40	50	0.21	0.45	
	05	0.750	0.118	0.315		0.317		AIR				A8-D	0.022							0.34	0.28	0.63	G	< 1"	0.40	50	0.21	0.44	
019	00	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.042							0.28	0.41	0.70	N		0.33	54	0.33	0.56	EE272/060-Lami, Arg
	01	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.042							0.28	0.41	0.70	S	>1"	0.33	54	0.27	0.44	
	02	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.042							0.26	0.41	0.70	N		0.33	54	0.33	0.56	EE272/030-Lami, Arg
	03	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.042							0.26	0.41	0.70	S	>1"	0.33	54	0.27	0.44	
	04	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.042							0.28	0.41	0.70	N		0.33	54	0.33	0.55	EE272/090-Lami, Arg

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Product Number	Grouping ID Number	Overall IG Thickness	Pane Thickness #[1]	Pane Thickness #[2]	Pane Thickness #[3]	Gap 1	Gap 2	Gap Fill 1	% of Gap fill 1	Gap Fill 2	% of Gap fill 1	Spacer	Emissivity Surface 1	Emissivity Surface 2	Emissivity Surface 3	Emissivity Surface 4	Emissivity Surface 5	Emissivity Surface 6	Tint	C-O-G U-factor	C-O-G SHGC	C-O-G VT	Grid Type	Grid Size	Total Product U-factor	CR - Value	Total Product SHGC	Total Product VT	Additional Comments
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	05	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.042							0.28	0.41	0.70	S	>1"	0.33	54	0.27	0.44	
	06	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.022							0.27	0.28	0.63	N		0.33	54	0.22	0.50	EE366/060-Lami, Arg
	07	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.022							0.27	0.28	0.63	S	>1"	0.33	54	0.18	0.40	
	08	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.022							0.25	0.27	0.63	N		0.33	54	0.22	0.50	EE366/030-Lami, Arg
	09	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.022							0.25	0.27	0.63	S	>1"	0.33	54	0.18	0.40	
	10	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.022							0.27	0.27	0.63	N		0.33	54	0.22	0.50	EE366/090-Lami, Arg
	11	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.022							0.27	0.27	0.63	S	>1"	0.33	54	0.18	0.39	
020	00	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.042							0.28	0.41	0.70	G	< 1"	0.35	54	0.30	0.50	
	01	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.042							0.26	0.41	0.70	G	< 1"	0.35	54	0.30	0.50	
	02	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.042							0.28	0.41	0.70	G	< 1"	0.35	54	0.30	0.49	
	03	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.022							0.27	0.28	0.63	G	< 1"	0.35	54	0.20	0.45	
	04	0.750	0.118	0.266		0.366		ARG	90			A8-D	0.022							0.25	0.27	0.63	G	< 1"	0.35	54	0.20	0.45	
	05	0.750	0.118	0.315		0.317		ARG	90			A8-D	0.022							0.27	0.27	0.63	G	< 1"	0.35	54	0.20	0.44	

Comments : Vertical Slider window with vinyl frame and sashes.
 Aluminum reinforcement in fixed meeting rail.
 ARG - Argon with Single Probe filling method.
 A8-D - Duraseal Spacer - Dual Sealed.
 N - Products with no internal grids.
 G (Grid Size: >1") - Products with 0.188" x 0.802" size internal grids.
 S - Products with 1.121" size simulated divided lites.
 Low-e: 0.036 - Acclimate RLE 70/36 (Guardian); 0.042 - LoE²-272 (Cardinal IG); 0.022 - LoE³-366 (Cardinal IG)

Revision History: ETC-07-738-19079.1 - Options 011 - 020 were added.

Specialty Products

Series 200 Single Hung Window

Report Number: ETC-07-738-19079.1

	No Dividers	Divider <1"	Divider >1"
SHGC0	0.005	0.007	0.010
SHGC1	0.796	0.714	0.636
VT0	0.000	0.000	0.000
VT1	0.792	0.707	0.626

$$SHGC = SHGC_0 + SHGC_c * (SHGC_1 - SHGC_0)$$

$$VT = VT_0 + VT_c * (VT_1 - VT_0)$$

Where $SHGC_c$ = Center of Glass Solar Heat Gain Coefficient
& VT_c = Center of Glass Visible transmittance

Modeling Assumptions

1. Grouping Performed: 1) Center-of-Glazing

Product Description

Series 200 Single Hung Window

Report Number: ETC-07-738-19079.1

Frame:

Size (mm)	1200 x 1500
Material	Vinyl - Rigid
Glazing Method	Interior Glazed
Glazing Sealant	Silicone

Sash (1):

Operation Type	Vertical Sliding
Material	Vinyl - Rigid
Glazing Method	Exterior Glazed
Glazing Sealant	Silicone

Sash (2):

Operation Type	
Material	
Glazing Method	
Glazing Sealant	

Reinforcement Material & Locations:

Aluminum reinforcement in fixed meeting rail.

Weatherstripping Type and Locations:

Fin pile weatherstripping used in frame sill, fixed meeting rail, and all members of sash.

Others:

ARG - Argon with Single Probe filling method.
 Low-e: 0.036 - Acclimate RLE 70/36 (Guardian); 0.042 - LoE²-272 (Cardinal IG); 0.022 - LoE³-366 (Cardinal IG)
 A8-D - Duraseal Spacer - Dual Sealed.

This report, in its original form contains product drawings and a Bill of Materials.

Report Number: ETC-07-738-19079.1

Conditions, Terms, and General Notes Regarding The Simulation

The individual products were simulated in full accordance with NFRC 100-2004, 200-2004 & 500-2004, using NFRC approved programs Window 5.2 and THERM 5.2. All window specifications were received from drawings and bill of materials supplied by the manufacturer. This report may not be reproduced except in full, without the approval of ETC Laboratories. This report relates only to the items simulated. Rounding is per NFRC unit conversion and rounding Policy. **The rating values included in this report are for submittal to an NFRC-licensed IA and 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.

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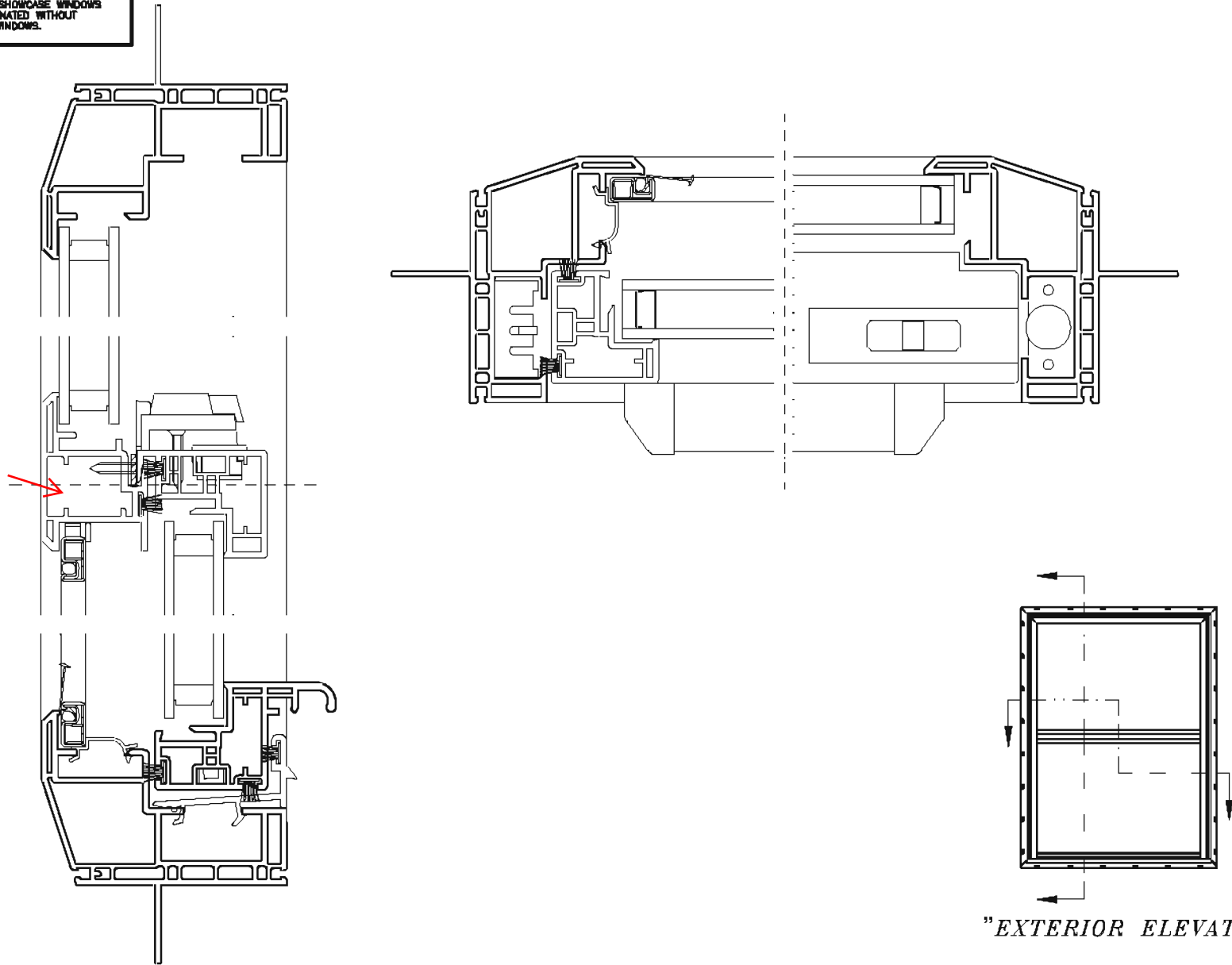
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Simulator-in-Responsible Charge, NFRC Certified Simulator
Thermal Simulation Department

200 SH	
Location	Part Number
Glass Stop Sash	A224
Glass Stop Fixed Panel	A226
Meeting Rail	A227
Frame Extender	A229
Sill Extender	A231
Stile	9222-2
Sill Expander	A231 ALCF
Sash Stop	A223

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"EXTERIOR ELEVATION"

REVISIONS		
NO.	DATE	DESCRIPTION

PURCHASED PART DWG.	USED ON	
NEXT ASSY.		



PART DESC: 200 SERIES SH CROSS-SECTIONS			
MATERIAL: RIGID PVC		AREA:	DATE: 05/31/07
DRAWN BY: RRH	SCALE: .75=1"	WTG/FT:	DRAWING: 901-0001