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NFRC U-FACTOR, SHGC, VT, & CONDENSATION RESISTANCE COMPUTER SIMULATION REPORT

Rendered to:
REMODELERS SUPPLY CENTER / CLIMATE GUARD MANUFACTURING

SERIES/MODEL:
CG Thermaforce Double Hung

Report Number: **E2985.02-116-45**
Report Date: **02/05/15**

130 Derry Court
York, PA 17406

www.archtest.com . www.intertek.com/building

p. 717.764.7700
f. 717.764.4129

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Rendered to:
REMODELERS SUPPLY CENTER / CLIMATE GUARD MANUFACTURING
2622 N. Pulaski Road
Chicago, Illinois 60639

Report Number:	E2985.02-116-45
Simulation Date:	02/05/15
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Project Summary:
Architectural Testing, Inc. was contracted to perform U-Factor, Solar Heat Gain Coefficient, Visible Transmittance, and Condensation Resistance* computer simulations in accordance with the National Fenestration Rating Council (NFRC). The products were evaluated in full compliance with NFRC requirements to the standards listed below.

**NFRC's Condensation Resistance rating is NOT equivalent to a Condensation Resistance Factor (CRF) determined in accordance with AAMA 1503.*

Standards:

NFRC 100-2014:	*Procedure for Determining Fenestration Product U-Factors*
NFRC 200-2014:	*Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence*
NFRC 500-2014:	*Procedure for Determining Fenestration Product Condensation Resistance Values*

Software:

Frame and Edge Modeling:	THERM 6.3.46
Center-of-Glass Modeling:	WINDOW 6.3.74
Total Product Calculations:	WINDOW 6.3.74
Spectral Data Library:	IGDB 39.0

Simulations Specimen Description:

Series/Model:	CG Thermaforce Double Hung
Type:	Vertical Slider, Double Hung
Frame Material:	VY Vinyl
Sash Material:	VI Vinyl w/ Reinforcement - Interlock
Standard Size:	1200mm x 1500mm

Modeling Assumptions/Technical Interpretations:

1) To prevent air infiltration, tape was applied to all interior sash crack locations.

Specialty Products Table:

The specialty products method allow the manufacturer to determine the overall product SHGC and VT for any glazing option. The center of glass SHGC and/or VT must be determined using WINDOW 6.3.74. The method gives overall product SHGC and VT indexed on center of glass properties. All values used in the calculations are truncated to six decimal place precision.

	No Dividers	Dividers < 1	Dividers > 1
SHGC0	0.002844	0.005567	0.008132
SHGC1	0.765489	0.684698	0.608589
VT0	0.000000	0.000000	0.000000
VT1	0.762645	0.679131	0.600456

SHGC = SHGC0 + SHGCc (SHGC1 - SHGC0)

VT = VT0 + VTc (VT1 - VT0)

Validation Matrix:

The following products are part of a validation matrix. Only one is required for validation testing.

Product Line	*Report Number*
None	-

Spacer Option Description

	Sealant		
Spacer Type	*Primary*	*Secondary*	*Code*
GED Tinplate Intercept Spacer	Butyl Rubber	Butyl Rubber	CU-D
GED Ultra Intercept Spacer	Butyl Rubber	Butyl Rubber	SU-D

Grid Option Description

Grid Size	*Grid Type*	*Grid Pattern*
3/16" x 5/8"	Aluminum Flat Grid (Painted)	NFRC Standard

Reinforcement Option Description

Location	*Material*
Lock and keeper rails	Bayer Sci.

Gas Filling Technique Description

Fill Type	*Method*
95% Argon	Dual probe

Edge-of-Glass Construction

Interior Condition	Silicone between sash leg and glass
Exterior Condition	PVC glazing bead with flexible vinyl strip against glass

Weatherstripping

Type	*Quantity*	*Location*
Finpile	3 rows	Stiles
Finpile	1 row	All rails, sill
Foam bulb gasket	1 row	Top, bottom, and keeper rail

Frame/Sash Materials Finish

Interior	Vinyl
Exterior	Vinyl

NFRC 100/200/500 Summary Sheet
CG Thermaforce Double Hung

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
1	clr / air / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					AIR		CL	CU-D	N,G
	U-Factor		0.45	SHGC (N / <1)			0.61 / 0.54		VT (N / <1)	0.64 / 0.57	CR	44
2	CS73 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.086					ARG95	0.148(#2)	CL	CU-D	N,G
	U-Factor		0.31	SHGC (N / <1)			0.52 / 0.47		VT (N / <1)	0.59 / 0.53	CR	55
3	E366 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.022(#2)	CL	CU-D	N,G
	U-Factor		0.28	SHGC (N / <1)			0.21 / 0.19		VT (N / <1)	0.50 / 0.44	CR	58
4	E270 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.037(#2)	CL	CU-D	N,G
	U-Factor		0.28	SHGC (N / <1)			0.28 / 0.26		VT (N / <1)	0.54 / 0.48	CR	57
5	E270 / arg95 / CS73 (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.037(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor		0.24	SHGC (N / <1)			0.27 / 0.25		VT (N / <1)	0.50 / 0.45	CR	46
6	E272 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.042(#2)	CL	CU-D	N,G
	U-Factor		0.29	SHGC (N / <1)			0.32 / 0.29		VT (N / <1)	0.56 / 0.49	CR	57
7	clr / air / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					AIR		CL	CU-D	N,G
	U-Factor		0.46	SHGC (N / <1)			0.61 / 0.54		VT (N / <1)	0.64 / 0.57	CR	44
	clr / air / clr (DS/DS) - 7/8" IG											
	0.118	0.625	0.118					AIR		CL	CU-D	N,G
	U-Factor		0.46	SHGC (N / <1)			0.60 / 0.53		VT (N / <1)	0.63 / 0.56	CR	44
8	clr / air / clr / air / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			AIR		CL	CU-D	N
	U-Factor		0.36	SHGC (N)			0.55		VT (N)	0.58	CR	53
9	clr / air / clr / air / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			AIR		CL	CU-D	G
	U-Factor		0.37	SHGC (<1)			0.49		VT (<1)	0.52	CR	53

NFRC 100/200/500 Summary Sheet
CG Thermaforce Double Hung

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
10	CS73 / arg95 / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.086					ARG95	0.148(#2)	CL	CU-D	N,G
	U-Factor		**0.32**	**SHGC (N / <1)**			**0.52 / 0.47**		**VT (N / <1)**	**0.59 / 0.53**	**CR**	**53**
	CS73 / arg95 / clr (DS/DS) - 7/8" IG											
	0.123	0.625	0.123					ARG95	0.148(#2)	CL	CU-D	N,G
	U-Factor		**0.32**	**SHGC (N / <1)**			**0.50 / 0.44**		**VT (N / <1)**	**0.57 / 0.51**	**CR**	**53**
11	CS73 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.086	0.297	0.086			ARG95	0.148(#2)	CL	CU-D	N
	U-Factor		**0.28**	**SHGC (N)**			**0.48**		**VT (N)**	**0.54**	**CR**	**61**
12	CS73 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.086	0.297	0.086			ARG95	0.148(#2)	CL	CU-D	G
	U-Factor		**0.29**	**SHGC (<1)**			**0.43**		**VT (<1)**	**0.48**	**CR**	**61**
13	E366 / arg95 / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.022(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**			**0.21 / 0.19**		**VT (N / <1)**	**0.50 / 0.44**	**CR**	**55**
	E366 / arg95 / clr (DS/DS) - 7/8" IG											
	0.117	0.625	0.118					ARG95	0.022(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**			**0.21 / 0.19**		**VT (N / <1)**	**0.49 / 0.44**	**CR**	**55**
14	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.022(#2)	CL	CU-D	N
	U-Factor		**0.26**	**SHGC (N)**			**0.20**		**VT (N)**	**0.46**	**CR**	**62**
15	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.022(#2)	CL	CU-D	G
	U-Factor		**0.27**	**SHGC (<1)**			**0.18**		**VT (<1)**	**0.41**	**CR**	**62**
16	E270 / arg95 / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.037(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**			**0.28 / 0.26**		**VT (N / <1)**	**0.54 / 0.48**	**CR**	**55**
	E270 / arg95 / clr (DS/DS) - 7/8" IG											
	0.118	0.625	0.118					ARG95	0.037(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**			**0.28 / 0.25**		**VT (N / <1)**	**0.54 / 0.48**	**CR**	**55**

NFRC 100/200/500 Summary Sheet
CG Thermaforce Double Hung

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
17	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2)	CL	CU-D	N
	U-Factor		**0.27**	**SHGC (N)**				**0.27**	**VT (N)**	**0.50**	**CR**	**62**
18	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2)	CL	CU-D	G
	U-Factor		**0.27**	**SHGC (<1)**				**0.24**	**VT (<1)**	**0.44**	**CR**	**62**
19	E270 / arg95 / CS73 (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.037(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor		**0.25**	**SHGC (N / <1)**				**0.27 / 0.24**	**VT (N / <1)**	**0.50 / 0.45**	**CR**	**44**
	E270 / arg95 / CS73 (DS/DS) - 7/8" IG											
	0.118	0.625	0.123					ARG95	0.037(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor		**0.25**	**SHGC (N / <1)**				**0.27 / 0.24**	**VT (N / <1)**	**0.48 / 0.43**	**CR**	**44**
20	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	CU-D	N
	U-Factor		**0.22**	**SHGC (N)**				**0.24**	**VT (N)**	**0.42**	**CR**	**65**
21	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	CU-D	G
	U-Factor		**0.23**	**SHGC (<1)**				**0.22**	**VT (<1)**	**0.38**	**CR**	**65**
22	E272 / arg95 / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.042(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**				**0.32 / 0.29**	**VT (N / <1)**	**0.56 / 0.49**	**CR**	**55**
	E272 / arg95 / clr (DS/DS) - 7/8" IG											
	0.117	0.625	0.118					ARG95	0.042(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**				**0.32 / 0.29**	**VT (N / <1)**	**0.55 / 0.49**	**CR**	**55**
23	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2)	CL	CU-D	N
	U-Factor		**0.27**	**SHGC (N)**				**0.30**	**VT (N)**	**0.51**	**CR**	**62**
24	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2)	CL	CU-D	G
	U-Factor		**0.27**	**SHGC (<1)**				**0.27**	**VT (<1)**	**0.45**	**CR**	**62**

NFRC 100/200/500 Summary Sheet
CG Thermaforce Double Hung

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
25	E272 / arg95 / CS73 (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.042(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor 0.25			SHGC (N / <1) 0.31 / 0.28					VT (N / <1) 0.52 / 0.46		CR 44	
	E272 / arg95 / CS73 (DS/DS) - 7/8" IG											
	0.117	0.625	0.123					ARG95	0.042(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor 0.25			SHGC (N / <1) 0.30 / 0.27					VT (N / <1) 0.50 / 0.44		CR 44	
26	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	CU-D	N
	U-Factor 0.23			SHGC (N) 0.27					VT (N) 0.45		CR 65	
27	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	CU-D	G
	U-Factor 0.23			SHGC (<1) 0.25					VT (<1) 0.40		CR 65	
28	clr / air / clr (SS/SS) - 1" IG											
	0.087	0.813	0.087					AIR		CL	CU-D	N,G
	U-Factor 0.46			SHGC (N / <1) 0.61 / 0.54					VT (N / <1) 0.64 / 0.57		CR 43	
	clr / air / clr (DS/DS) - 1" IG											
	0.118	0.750	0.118					AIR		CL	CU-D	N,G
	U-Factor 0.46			SHGC (N / <1) 0.60 / 0.53					VT (N / <1) 0.63 / 0.56		CR 43	
29	clr / air / clr / air / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			AIR		CL	CU-D	N
	U-Factor 0.35			SHGC (N) 0.55					VT (N) 0.58		CR 54	
30	clr / air / clr / air / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			AIR		CL	CU-D	G
	U-Factor 0.35			SHGC (<1) 0.49					VT (<1) 0.52		CR 54	
31	CS73 / arg95 / clr (SS/SS) - 1" IG											
	0.087	0.813	0.086					ARG95	0.148(#2)	CL	CU-D	N,G
	U-Factor 0.32			SHGC (N / <1) 0.52 / 0.47					VT (N / <1) 0.59 / 0.53		CR 53	
	CS73 / arg95 / clr (DS/DS) - 1" IG											
	0.123	0.750	0.123					ARG95	0.148(#2)	CL	CU-D	N,G
	U-Factor 0.32			SHGC (N / <1) 0.50 / 0.44					VT (N / <1) 0.57 / 0.51		CR 53	

NFRC 100/200/500 Summary Sheet
CG Thermaforce Double Hung

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
32	CS73 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.086	0.359	0.086			ARG95	0.148(#2)	CL	CU-D	N
	U-Factor		**0.27**	**SHGC (N)**				**0.48**	**VT (N)**	**0.54**	**CR**	**62**
33	CS73 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.086	0.359	0.086			ARG95	0.148(#2)	CL	CU-D	G
	U-Factor		**0.27**	**SHGC (<1)**				**0.43**	**VT (<1)**	**0.48**	**CR**	**62**
34	E366 / arg95 / clr (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.022(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**				**0.21 / 0.19**	**VT (N / <1)**	**0.50 / 0.44**	**CR**	**55**
	E366 / arg95 / clr (DS/DS) - 1" IG											
	0.117	0.750	0.118					ARG95	0.022(#2)	CL	CU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**				**0.21 / 0.19**	**VT (N / <1)**	**0.49 / 0.44**	**CR**	**55**
35	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.022(#2)	CL	CU-D	N
	U-Factor		**0.25**	**SHGC (N)**				**0.20**	**VT (N)**	**0.46**	**CR**	**63**
36	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.022(#2)	CL	CU-D	G
	U-Factor		**0.25**	**SHGC (<1)**				**0.18**	**VT (<1)**	**0.41**	**CR**	**63**
37	E270 / arg95 / clr (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.037(#2)	CL	CU-D	N,G
	U-Factor		**0.30**	**SHGC (N / <1)**				**0.28 / 0.26**	**VT (N / <1)**	**0.54 / 0.48**	**CR**	**55**
	E270 / arg95 / clr (DS/DS) - 1" IG											
	0.118	0.750	0.118					ARG95	0.037(#2)	CL	CU-D	N,G
	U-Factor		**0.30**	**SHGC (N / <1)**				**0.28 / 0.25**	**VT (N / <1)**	**0.54 / 0.48**	**CR**	**55**
38	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2)	CL	CU-D	N
	U-Factor		**0.25**	**SHGC (N)**				**0.27**	**VT (N)**	**0.50**	**CR**	**63**
39	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2)	CL	CU-D	G
	U-Factor		**0.25**	**SHGC (<1)**				**0.24**	**VT (<1)**	**0.44**	**CR**	**63**

NFRC 100/200/500 Summary Sheet
CG Thermaforce Double Hung

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			**Solar Heat Gain Coefficient (SHGC)** Grids (None / <1 / >=1)					**Visible Transmittance (VT)** Grids (None / <1 / >=1)		**Condensation Resistance**	
40	E270 / arg95 / CS73 (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.037(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor	**0.25**		**SHGC (N / <1)**			**0.27 / 0.24**		**VT (N / <1)**	**0.50 / 0.45**	**CR**	**44**
	E270 / arg95 / CS73 (DS/DS) - 1" IG											
	0.118	0.750	0.123					ARG95	0.037(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor	**0.25**		**SHGC (N / <1)**			**0.27 / 0.24**		**VT (N / <1)**	**0.48 / 0.43**	**CR**	**44**
41	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	CU-D	N
	U-Factor	**0.21**		**SHGC (N)**			**0.24**		**VT (N)**	**0.42**	**CR**	**67**
42	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	CU-D	G
	U-Factor	**0.21**		**SHGC (<1)**			**0.22**		**VT (<1)**	**0.38**	**CR**	**67**
43	E272 / arg95 / clr (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.042(#2)	CL	CU-D	N,G
	U-Factor	**0.30**		**SHGC (N / <1)**			**0.32 / 0.29**		**VT (N / <1)**	**0.56 / 0.49**	**CR**	**55**
	E272 / arg95 / clr (DS/DS) - 1" IG											
	0.117	0.750	0.118					ARG95	0.042(#2)	CL	CU-D	N,G
	U-Factor	**0.30**		**SHGC (N / <1)**			**0.32 / 0.29**		**VT (N / <1)**	**0.55 / 0.49**	**CR**	**55**
44	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2)	CL	CU-D	N
	U-Factor	**0.25**		**SHGC (N)**			**0.30**		**VT (N)**	**0.51**	**CR**	**63**
45	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2)	CL	CU-D	G
	U-Factor	**0.26**		**SHGC (<1)**			**0.27**		**VT (<1)**	**0.45**	**CR**	**63**
46	E272 / arg95 / CS73 (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.042(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor	**0.25**		**SHGC (N / <1)**			**0.31 / 0.28**		**VT (N / <1)**	**0.52 / 0.46**	**CR**	**44**
	E272 / arg95 / CS73 (DS/DS) - 1" IG											
	0.117	0.750	0.123					ARG95	0.042(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor	**0.25**		**SHGC (N / <1)**			**0.30 / 0.27**		**VT (N / <1)**	**0.50 / 0.44**	**CR**	**44**

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ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
47	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	CU-D	N
	U-Factor		**0.21**	**SHGC (N)**				**0.27**	**VT (N)**	**0.45**	**CR**	**67**
48	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	CU-D	G
	U-Factor		**0.21**	**SHGC (<1)**				**0.25**	**VT (<1)**	**0.40**	**CR**	**67**
49	E366 / arg95 / clr / arg95 / E366 (SS/SS/SS) - 1-1/4" IG											
	0.087	0.484	0.087	0.484	0.087			ARG95	0.022(#2) / 0.022(#5)	CL	CU-D	N,G
	U-Factor		**0.19**	**SHGC (N / <1)**				**0.18 / 0.17**	**VT (N / <1)**	**0.36 / 0.32**	**CR**	**67**
50	E366 / arg95 / clr / arg95 / E366 (DS/DS/DS) - 1-1/4" IG											
	0.117	0.438	0.118	0.438	0.117			ARG95	0.022(#2) / 0.022(#5)	CL	CU-D	N,G
	U-Factor		**0.19**	**SHGC (N / <1)**				**0.18 / 0.17**	**VT (N / <1)**	**0.36 / 0.32**	**CR**	**66**
51	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 1-1/4" IG											
	0.087	0.484	0.087	0.484	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	CU-D	N,G
	U-Factor		**0.19**	**SHGC (N / <1)**				**0.24 / 0.22**	**VT (N / <1)**	**0.42 / 0.38**	**CR**	**67**
52	E270 / arg95 / clr / arg95 / E270 (DS/DS/DS) - 1-1/4" IG											
	0.118	0.438	0.118	0.438	0.118			ARG95	0.037(#2) / 0.037(#5)	CL	CU-D	N,G
	U-Factor		**0.20**	**SHGC (N / <1)**				**0.24 / 0.22**	**VT (N / <1)**	**0.42 / 0.37**	**CR**	**66**
53	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 1-1/4" IG											
	0.087	0.484	0.087	0.484	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	CU-D	N,G
	U-Factor		**0.19**	**SHGC (N / <1)**				**0.27 / 0.25**	**VT (N / <1)**	**0.45 / 0.40**	**CR**	**67**
54	E272 / arg95 / clr / arg95 / E272 (DS/DS/DS) - 1-1/4" IG											
	0.117	0.438	0.118	0.438	0.117			ARG95	0.042(#2) / 0.042(#5)	CL	CU-D	N,G
	U-Factor		**0.20**	**SHGC (N / <1)**				**0.27 / 0.24**	**VT (N / <1)**	**0.44 / 0.39**	**CR**	**66**
55	E366 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.022(#2)	CL	SU-D	N,G
	U-Factor		**0.27**	**SHGC (N / <1)**				**0.21 / 0.19**	**VT (N / <1)**	**0.50 / 0.44**	**CR**	**61**
56	E270 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.037(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**				**0.28 / 0.26**	**VT (N / <1)**	**0.54 / 0.48**	**CR**	**60**

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ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
57	E270 / arg95 / CS73 (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.037(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor		**0.24**	**SHGC (N / <1)**			**0.27 / 0.25**		**VT (N / <1)**	**0.50 / 0.45**	**CR**	**48**
58	E272 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.042(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**			**0.32 / 0.29**		**VT (N / <1)**	**0.56 / 0.49**	**CR**	**60**
59	E366 / arg95 / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.022(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**			**0.21 / 0.19**		**VT (N / <1)**	**0.50 / 0.44**	**CR**	**58**
	E366 / arg95 / clr (DS/DS) - 7/8" IG											
	0.117	0.625	0.118					ARG95	0.022(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**			**0.21 / 0.19**		**VT (N / <1)**	**0.49 / 0.44**	**CR**	**58**
60	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.022(#2)	CL	SU-D	N
	U-Factor		**0.26**	**SHGC (N)**			**0.20**		**VT (N)**	**0.46**	**CR**	**65**
61	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.022(#2)	CL	SU-D	G
	U-Factor		**0.26**	**SHGC (<1)**			**0.18**		**VT (<1)**	**0.41**	**CR**	**65**
62	E270 / arg95 / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.037(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**			**0.28 / 0.26**		**VT (N / <1)**	**0.54 / 0.48**	**CR**	**58**
	E270 / arg95 / clr (DS/DS) - 7/8" IG											
	0.118	0.625	0.118					ARG95	0.037(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**			**0.28 / 0.25**		**VT (N / <1)**	**0.54 / 0.48**	**CR**	**58**
63	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2)	CL	SU-D	N
	U-Factor		**0.26**	**SHGC (N)**			**0.27**		**VT (N)**	**0.50**	**CR**	**64**
64	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2)	CL	SU-D	G
	U-Factor		**0.27**	**SHGC (<1)**			**0.24**		**VT (<1)**	**0.44**	**CR**	**64**

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ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
65	E270 / arg95 / CS73 (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.037(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor 0.24			SHGC (N / <1) 0.27 / 0.24					VT (N / <1) 0.50 / 0.45		CR 46	
	E270 / arg95 / CS73 (DS/DS) - 7/8" IG											
	0.118	0.625	0.123					ARG95	0.037(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor 0.24			SHGC (N / <1) 0.27 / 0.24					VT (N / <1) 0.48 / 0.43		CR 46	
66	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	SU-D	N
	U-Factor 0.22			SHGC (N) 0.24					VT (N) 0.42		CR 69	
67	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	SU-D	G
	U-Factor 0.22			SHGC (<1) 0.22					VT (<1) 0.38		CR 68	
68	E272 / arg95 / clr (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.042(#2)	CL	SU-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.32 / 0.29					VT (N / <1) 0.56 / 0.49		CR 58	
	E272 / arg95 / clr (DS/DS) - 7/8" IG											
	0.117	0.625	0.118					ARG95	0.042(#2)	CL	SU-D	N,G
	U-Factor 0.28			SHGC (N / <1) 0.32 / 0.29					VT (N / <1) 0.55 / 0.49		CR 58	
69	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2)	CL	SU-D	N
	U-Factor 0.26			SHGC (N) 0.30					VT (N) 0.51		CR 64	
70	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2)	CL	SU-D	G
	U-Factor 0.27			SHGC (<1) 0.27					VT (<1) 0.45		CR 64	
71	E272 / arg95 / CS73 (SS/SS) - 7/8" IG											
	0.087	0.688	0.087					ARG95	0.042(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor 0.24			SHGC (N / <1) 0.31 / 0.28					VT (N / <1) 0.52 / 0.46		CR 46	
	E272 / arg95 / CS73 (DS/DS) - 7/8" IG											
	0.117	0.625	0.123					ARG95	0.042(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor 0.24			SHGC (N / <1) 0.30 / 0.27					VT (N / <1) 0.50 / 0.44		CR 46	

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ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
72	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	SU-D	N
	U-Factor		**0.22**	**SHGC (N)**				**0.27**	**VT (N)**	**0.45**	**CR**	**68**
73	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 7/8" IG											
	0.087	0.297	0.087	0.297	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	SU-D	G
	U-Factor		**0.22**	**SHGC (<1)**				**0.25**	**VT (<1)**	**0.40**	**CR**	**68**
74	E366 / arg95 / clr (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.022(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**				**0.21 / 0.19**	**VT (N / <1)**	**0.50 / 0.44**	**CR**	**58**
	E366 / arg95 / clr (DS/DS) - 1" IG											
	0.117	0.750	0.118					ARG95	0.022(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**				**0.21 / 0.19**	**VT (N / <1)**	**0.49 / 0.44**	**CR**	**58**
75	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.022(#2)	CL	SU-D	N
	U-Factor		**0.24**	**SHGC (N)**				**0.20**	**VT (N)**	**0.46**	**CR**	**66**
76	E366 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.022(#2)	CL	SU-D	G
	U-Factor		**0.24**	**SHGC (<1)**				**0.18**	**VT (<1)**	**0.41**	**CR**	**66**
77	E270 / arg95 / clr (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.037(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**				**0.28 / 0.26**	**VT (N / <1)**	**0.54 / 0.48**	**CR**	**58**
	E270 / arg95 / clr (DS/DS) - 1" IG											
	0.118	0.750	0.118					ARG95	0.037(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**				**0.28 / 0.25**	**VT (N / <1)**	**0.54 / 0.48**	**CR**	**58**
78	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2)	CL	SU-D	N
	U-Factor		**0.24**	**SHGC (N)**				**0.27**	**VT (N)**	**0.50**	**CR**	**66**
79	E270 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2)	CL	SU-D	G
	U-Factor		**0.25**	**SHGC (<1)**				**0.24**	**VT (<1)**	**0.44**	**CR**	**66**

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ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)					Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance	
80	E270 / arg95 / CS73 (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.037(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor		**0.24**	**SHGC (N / <1)**			**0.27 / 0.24**		**VT (N / <1)**	**0.50 / 0.45**	**CR**	**46**
	E270 / arg95 / CS73 (DS/DS) - 1" IG											
	0.118	0.750	0.123					ARG95	0.037(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor		**0.24**	**SHGC (N / <1)**			**0.27 / 0.24**		**VT (N / <1)**	**0.48 / 0.43**	**CR**	**46**
81	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	SU-D	N
	U-Factor		**0.20**	**SHGC (N)**			**0.24**		**VT (N)**	**0.42**	**CR**	**70**
82	E270 / arg95 / clr / arg95 / E270 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.037(#2) / 0.037(#5)	CL	SU-D	G
	U-Factor		**0.20**	**SHGC (<1)**			**0.22**		**VT (<1)**	**0.38**	**CR**	**70**
83	E272 / arg95 / clr (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.042(#2)	CL	SU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**			**0.32 / 0.29**		**VT (N / <1)**	**0.56 / 0.49**	**CR**	**58**
	E272 / arg95 / clr (DS/DS) - 1" IG											
	0.117	0.750	0.118					ARG95	0.042(#2)	CL	SU-D	N,G
	U-Factor		**0.29**	**SHGC (N / <1)**			**0.32 / 0.29**		**VT (N / <1)**	**0.55 / 0.49**	**CR**	**58**
84	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2)	CL	SU-D	N
	U-Factor		**0.24**	**SHGC (N)**			**0.30**		**VT (N)**	**0.51**	**CR**	**66**
85	E272 / arg95 / clr / arg95 / clr (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2)	CL	SU-D	G
	U-Factor		**0.25**	**SHGC (<1)**			**0.27**		**VT (<1)**	**0.45**	**CR**	**66**
86	E272 / arg95 / CS73 (SS/SS) - 1" IG											
	0.087	0.813	0.087					ARG95	0.042(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor		**0.24**	**SHGC (N / <1)**			**0.31 / 0.28**		**VT (N / <1)**	**0.52 / 0.46**	**CR**	**46**
	E272 / arg95 / CS73 (DS/DS) - 1" IG											
	0.117	0.750	0.123					ARG95	0.042(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor		**0.24**	**SHGC (N / <1)**			**0.30 / 0.27**		**VT (N / <1)**	**0.50 / 0.44**	**CR**	**46**

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ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			**Solar Heat Gain Coefficient (SHGC)** Grids (None / <1 / >=1)					**Visible Transmittance (VT)** Grids (None / <1 / >=1)		**Condensation Resistance**	
87	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	SU-D	N
	U-Factor	**0.20**		**SHGC (N)**	**0.27**				**VT (N)**	**0.45**	**CR**	**70**
88	E272 / arg95 / clr / arg95 / E272 (SS/SS/SS) - 1" IG											
	0.087	0.359	0.087	0.359	0.087			ARG95	0.042(#2) / 0.042(#5)	CL	SU-D	G
	U-Factor	**0.20**		**SHGC (<1)**	**0.25**				**VT (<1)**	**0.40**	**CR**	**70**
89	clr / air / clr (DS/DS) - 3/4" IG											
	0.118	0.500	0.118					AIR		CL	CU-D	N,G
	U-Factor	**0.45**		**SHGC (N / <1)**	**0.60 / 0.53**				**VT (N / <1)**	**0.63 / 0.56**	**CR**	**43**
90	CS73 / arg95 / clr (DS/DS) - 3/4" IG											
	0.123	0.500	0.123					ARG95	0.148(#2)	CL	CU-D	N,G
	U-Factor	**0.31**		**SHGC (N / <1)**	**0.50 / 0.44**				**VT (N / <1)**	**0.57 / 0.51**	**CR**	**54**
91	E366 / arg95 / clr (DS/DS) - 3/4" IG											
	0.117	0.500	0.118					ARG95	0.022(#2)	CL	CU-D	N,G
	U-Factor	**0.28**		**SHGC (N / <1)**	**0.21 / 0.19**				**VT (N / <1)**	**0.49 / 0.44**	**CR**	**57**
92	E270 / arg95 / clr (DS/DS) - 3/4" IG											
	0.118	0.500	0.118					ARG95	0.037(#2)	CL	CU-D	N,G
	U-Factor	**0.28**		**SHGC (N / <1)**	**0.28 / 0.26**				**VT (N / <1)**	**0.54 / 0.48**	**CR**	**56**
93	E270 / arg95 / CS73 (DS/DS) - 3/4" IG											
	0.118	0.500	0.123					ARG95	0.037(#2) / 0.148(#4)	CL	CU-D	N,G
	U-Factor	**0.24**		**SHGC (N / <1)**	**0.27 / 0.24**				**VT (N / <1)**	**0.48 / 0.43**	**CR**	**45**
94	E272 / arg95 / clr (SS/SS) - 3/4" IG											
	0.087	0.563	0.087					ARG95	0.042(#2)	CL	CU-D	N,G
	U-Factor	**0.29**		**SHGC (N / <1)**	**0.32 / 0.29**				**VT (N / <1)**	**0.56 / 0.49**	**CR**	**56**
95	clr / air / clr (DS/DS) - 3/4" IG											
	0.118	0.500	0.118					AIR		CL	SU-D	N,G
	U-Factor	**0.45**		**SHGC (N / <1)**	**0.60 / 0.53**				**VT (N / <1)**	**0.63 / 0.56**	**CR**	**44**
96	CS73 / arg95 / clr (DS/DS) - 3/4" IG											
	0.123	0.500	0.123					ARG95	0.148(#2)	CL	SU-D	N,G
	U-Factor	**0.31**		**SHGC (N / <1)**	**0.50 / 0.44**				**VT (N / <1)**	**0.57 / 0.51**	**CR**	**57**

NFRC 100/200/500 Summary Sheet
CG Thermaforce Double Hung

ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			**Solar Heat Gain Coefficient (SHGC)** Grids (None / <1 / >=1)					**Visible Transmittance (VT)** Grids (None / <1 / >=1)		**Condensation Resistance**	
97	E366 / arg95 / clr (DS/DS) - 3/4" IG											
	0.117	0.500	0.118					ARG95	0.022(#2)	CL	SU-D	N,G
	U-Factor		**0.27**	**SHGC (N / <1)**			**0.21 / 0.19**		**VT (N / <1)**	**0.49 / 0.44**	**CR**	**60**
98	E270 / arg95 / clr (DS/DS) - 3/4" IG											
	0.118	0.500	0.118					ARG95	0.037(#2)	CL	SU-D	N,G
	U-Factor		**0.27**	**SHGC (N / <1)**			**0.28 / 0.26**		**VT (N / <1)**	**0.54 / 0.48**	**CR**	**59**
99	E270 / arg95 / CS73 (DS/DS) - 3/4" IG											
	0.118	0.500	0.123					ARG95	0.037(#2) / 0.148(#4)	CL	SU-D	N,G
	U-Factor		**0.24**	**SHGC (N / <1)**			**0.27 / 0.24**		**VT (N / <1)**	**0.48 / 0.43**	**CR**	**48**
100	E272 / arg95 / clr (DS/DS) - 3/4" IG											
	0.117	0.500	0.118					ARG95	0.042(#2)	CL	SU-D	N,G
	U-Factor		**0.28**	**SHGC (N / <1)**			**0.32 / 0.29**		**VT (N / <1)**	**0.55 / 0.49**	**CR**	**59**

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.

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. The ratings values were rounded in accordance to NFRC 601, NFRC Unit and Measurement Policy.

Architectural Testing, Inc. is an NFRC accredited simulation laboratory and all simulations were conducted in full compliance with NFRC approved procedures and specifications. The NFRC procedure requires that the computational results be verified through actual test results.

This report is reissued in the name of Climate Guard Manufacturing through written authorization of Deceuninck North America, LLC, to whom the original report was rendered. The original Deceuninck North America, LLC report number is E2985.01-116-45.

Architectural Testing will service this report for the entire test record retention period. Test records that are retained such as detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Architectural Testing, Inc. for the entire test record retention period. The test record retention end date for this report is February 5, 2019.

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For ARCHITECTURAL TESTING, INC.:

SIMULATED BY:

Eric S. Leitner
Simulation Technician

REVIEWED BY:

Kristen L. Louder
Senior Simulation Technician
Simulator-In-Responsible-Charge

ESL:esl
E2985.02-116-45

Attachments (pages): This report is complete only when all attachments listed are included.
Appendix A: Drawings and Bills of Material (19)