

**Modeling Assumptions/Technical Interpretations:**

- 1) To prevent air infiltration, tape was applied to all interior sash crack locations.
- 2) 3900 frames were grouped per ANSI/NFRC 100-2017 Section 4.2.4.3.A. The 3900 frame was the group leader.

**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 7.4.14. 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	0.005128	0.007935	0.010582
SHGC1	0.793566	0.711372	0.633857
VT0	0.000000	0.000000	0.000000
VT1	0.788438	0.703437	0.623274

$$\text{SHGC} = \text{SHGC0} + \text{SHGCc} (\text{SHGC1} - \text{SHGC0})$$

$$\text{VT} = \text{VT0} + \text{VTc} (\text{VT1} - \text{VT0})$$

**Validation Matrix:**

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

<i>Product Line</i>	<i>Report Number</i>
None	-

**Spacer Option Description**

			<i>Sealant</i>
<i>Spacer Type</i>	<i>Primary</i>	<i>Secondary</i>	<i>Code</i>
GED Tinplate Intercept Spacer	Butyl Rubber	Butyl Rubber	CU-D

**Grid Option Description**

<i>Grid Size</i>	<i>Grid Type</i>	<i>Grid Pattern</i>
1/4" x 5/8"	Aluminum Rectangular Grid (Painted)	NFRC Standard

**Reinforcement Option Description**

<i>Location</i>	<i>Material</i>
Keeper Rail	Galv. Steel

**Gas Filling Technique Description**

<i>Fill Type</i>	<i>Method</i>
95% Argon	Two-probe with concentration sensor

**Edge-of-Glass Construction**

<i>Interior Condition</i>	Active Lite: Foam tape between sash and glass. Fixed Lite: PVC glazing bead against glass.
<i>Exterior Condition</i>	Active Lite: PVC glazing bead against glass. Fixed Lite: Foam tape between frame leg and glass.

**Weatherstripping**

<i>Type</i>	<i>Quantity</i>	<i>Location</i>
Finpile	2 rows	Stiles
Finpile	1 row	Sill, bottom rail, lock rail
Vinyl bulb seal	1 row	Bottom rail

**Frame/Sash Materials Finish**

<i>Interior</i>	Vinyl
<i>Exterior</i>	Vinyl

**NFRC 100/200/500 Summary Sheet  
3900 Series Single Hung**

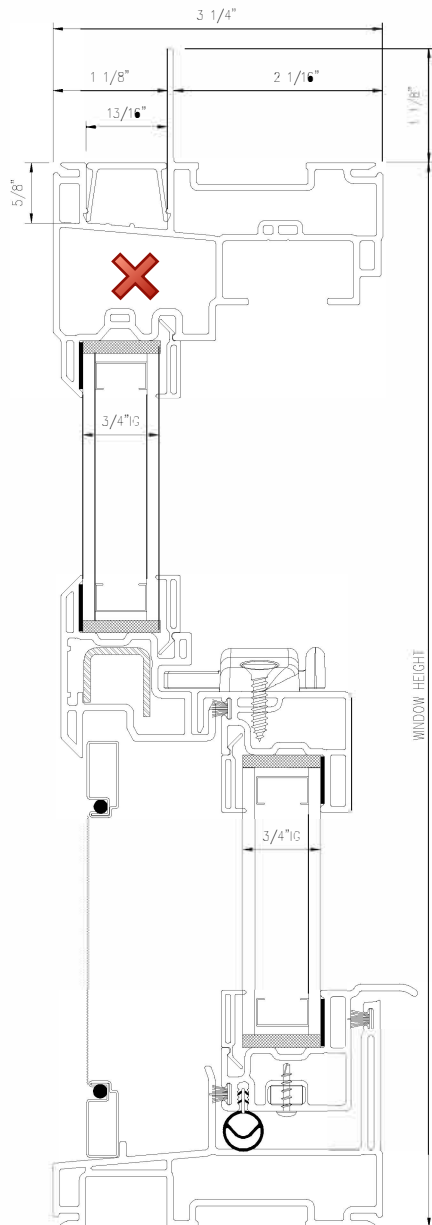
ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)		Condensation Resistance		
1	CLR/AIR/CLR (SS/SS) 11/16"											
	0.090	0.500	0.090					AIR		CL	CU-D	N,G
	U-Factor 0.48			SHGC (N / <1) 0.64 / 0.57				VT (N / <1) 0.65 / 0.58		CR 42		
2	CLR/AIR/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					AIR		CL	CU-D	N
	U-Factor 0.48			SHGC (N) 0.63				VT (N) 0.65		CR 41		
3	CLR/AIR/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					AIR		CL	CU-D	G
	U-Factor 0.49			SHGC (<1) 0.56				VT (<1) 0.58		CR 41		
4	CG5527/ARG95/CLR (SS/SS) 11/16"											
	0.090	0.500	0.090					ARG95	0.031(#2)	CL	CU-D	N,G
	U-Factor 0.30			SHGC (N / <1) 0.22 / 0.20				VT (N / <1) 0.44 / 0.39		CR 55		
5	CG5527/ARG95/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.031(#2)	CL	CU-D	N
	U-Factor 0.30			SHGC (N) 0.22				VT (N) 0.44		CR 54		
6	CG5527/ARG95/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.031(#2)	CL	CU-D	G
	U-Factor 0.31			SHGC (<1) 0.20				VT (<1) 0.39		CR 54		
7	CG7036/ARG95/CLR (SS/SS) 11/16"											
	0.090	0.500	0.090					ARG95	0.036(#2)	CL	CU-D	N,G
	U-Factor 0.30			SHGC (N / <1) 0.31 / 0.28				VT (N / <1) 0.56 / 0.50		CR 55		
8	CG7036/ARG95/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.036(#2)	CL	CU-D	N
	U-Factor 0.30			SHGC (N) 0.31				VT (N) 0.55		CR 54		
9	CG7036/ARG95/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.036(#2)	CL	CU-D	G
	U-Factor 0.31			SHGC (<1) 0.28				VT (<1) 0.49		CR 54		
10	CG7036/ARG95/IS20 (SS/SS) 11/16"											
	0.090	0.500	0.090					ARG95	0.036(#2) / 0.198(#4)	CL	CU-D	N,G
	U-Factor 0.26			SHGC (N / <1) 0.30 / 0.27				VT (N / <1) 0.54 / 0.48		CR 45		

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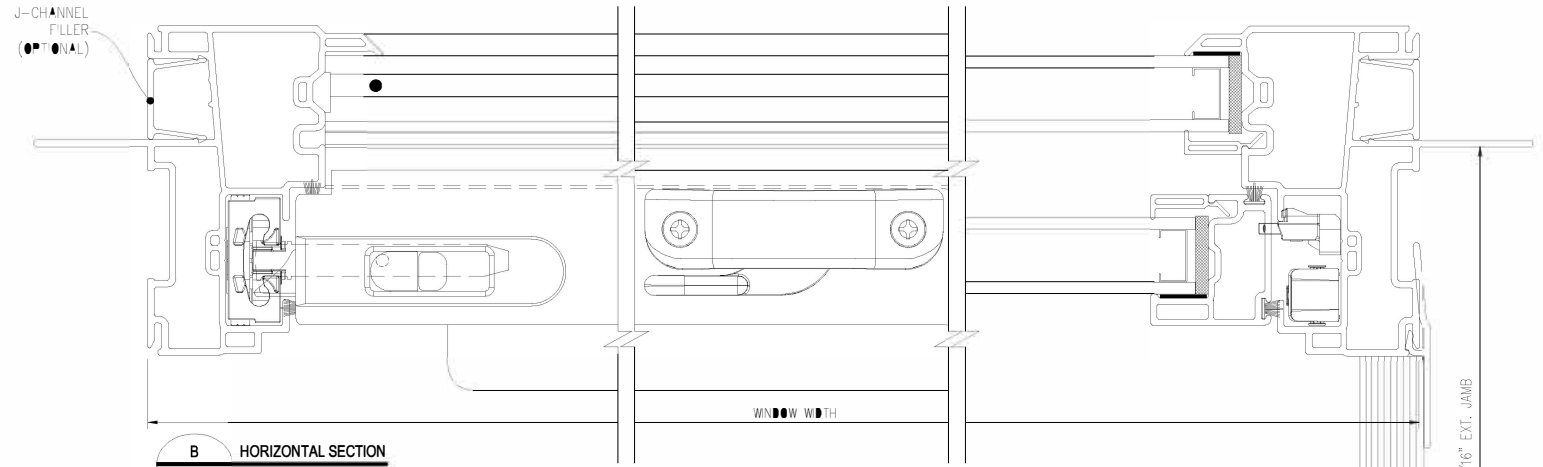
ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
11	CG7036/ARG95/IS20 (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.036(#2) / 0.198(#4)	CL	CU-D	N
	U-Factor 0.26			SHGC (N) 0.30				VT (N) 0.54			CR 43	
12	CG7036/ARG95/IS20 (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.036(#2) / 0.198(#4)	CL	CU-D	G
	U-Factor 0.27			SHGC (<1) 0.27				VT (<1) 0.48			CR 43	
13	CLR/ARG95/CG7257 (SS/SS) 11/16"											
	0.090	0.500	0.090					ARG95	0.045(#3)	CL	CU-D	N,G
	U-Factor 0.30			SHGC (N / <1) 0.46 / 0.42				VT (N / <1) 0.56 / 0.50			CR 54	
14	CLR/ARG95/CG7257 (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.045(#3)	CL	CU-D	N
	U-Factor 0.30			SHGC (N) 0.46				VT (N) 0.56			CR 53	
15	CLR/ARG95/CG7257 (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.045(#3)	CL	CU-D	G
	U-Factor 0.31			SHGC (<1) 0.41				VT (<1) 0.50			CR 53	
16	CG7036/ARG95/CLR (DS/4mm) 11/16"											
	0.117	0.406	0.151					ARG95	0.036(#2)	CL	CU-D	N
	U-Factor 0.30			SHGC (N) 0.31				VT (N) 0.55			CR 53	
17	CG7036/ARG95/CLR (DS/4mm) 11/16"											
	0.117	0.406	0.151					ARG95	0.036(#2)	CL	CU-D	G
	U-Factor 0.32			SHGC (<1) 0.28				VT (<1) 0.49			CR 53	
18	CG7036/ARG95/CLRLami (DS/2.7mm 090PVB 2.7mm) 11/16"											
	0.117	0.254	0.298					ARG95	0.036(#2)	CL	CU-D	N
	U-Factor 0.35			SHGC (N) 0.31				VT (N) 0.55			CR 51	
19	CG7036/ARG95/CLRLami (DS/2.7mm 090PVB 2.7mm) 11/16"											
	0.117	0.254	0.298					ARG95	0.036(#2)	CL	CU-D	G
	U-Factor 0.40			SHGC (<1) 0.28				VT (<1) 0.49			CR 51	
20	CG7036/ARG95/CLR (SS/DS) 11/16"											
	0.090	0.469	0.117					ARG95	0.036(#2)	CL	CU-D	N
	U-Factor 0.30			SHGC (N) 0.31				VT (N) 0.55			CR 54	

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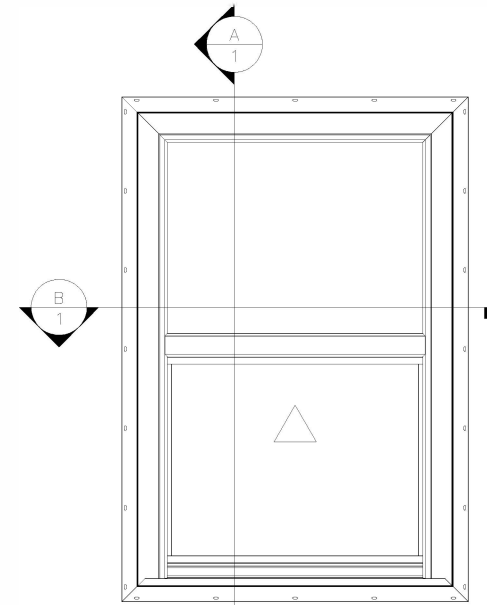
ID	Pane Thickness 1	Gap Width 1	Pane Thickness 2	Gap Width 2	Pane Thickness 3	Gap Width 3	Pane Thickness 4	Gap Fill	Low-e (Surface#)	Tint	Spacer	Grid Type
	U-Factor			Solar Heat Gain Coefficient (SHGC) Grids (None / <1 / >=1)				Visible Transmittance (VT) Grids (None / <1 / >=1)			Condensation Resistance	
21	CG7036/ARG95/CLR (SS/DS) 11/16"											
	0.090	0.469	0.117					ARG95	0.036(#2)	CL	CU-D	G
	U-Factor 0.31			SHGC (<1) 0.28				VT (<1) 0.50			CR	54
22	CG7036/AIR/CLR (SS/SS) 11/16"											
	0.090	0.500	0.090					AIR	0.036(#2)	CL	CU-D	N,G
	U-Factor 0.34			SHGC (N / <1) 0.31 / 0.28				VT (N / <1) 0.56 / 0.50			CR	51
23	CG7036/AIR/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					AIR	0.036(#2)	CL	CU-D	N
	U-Factor 0.34			SHGC (N) 0.31				VT (N) 0.55			CR	50
24	CG7036/AIR/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					AIR	0.036(#2)	CL	CU-D	G
	U-Factor 0.36			SHGC (<1) 0.28				VT (<1) 0.49			CR	50
25	Foam: CG7036/ARG95/CLR (SS/SS) 11/16"											
	0.090	0.500	0.090					ARG95	0.036(#2)	CL	CU-D	N,G
	U-Factor 0.2948			SHGC (N / <1) 0.31 / 0.28				VT (N / <1) 0.56 / 0.50			CR	55
26	Foam: CG7036/ARG95/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.036(#2)	CL	CU-D	N
	U-Factor 0.2948			SHGC (N) 0.31				VT (N) 0.55			CR	54
27	Foam: CG7036/ARG95/CLR (DS/DS) 11/16"											
	0.117	0.438	0.117					ARG95	0.036(#2)	CL	CU-D	G
	U-Factor 0.3062			SHGC (<1) 0.28				VT (<1) 0.49			CR	54



**A VERTICAL SECTION**  
SHEET 1 OF 1 Scale: FULL



**B HORIZONTAL SECTION**  
SHEET 1 OF 1 Scale: FULL



**X Polyurethane Spray Foam**

ALL DIMENSIONS IN INCHES EXCEPT AS NOTED			<b>UNITED Window &amp; Door Mfg, Inc.</b> 24-36 Fadem Road Springfield, NJ 07061 (973) 912-0600	
.XXXX ± .0005	.XXX ± .005		<b>Released</b> DGN BY Martin Pezo DATE 03/09/2018 DWN BY Martin Pezo DATE 03/09/2018 CHKD BY DATE APPR BY DATE	
.XX ± .010	.X/X ± 1/32	<b>SERIES 3900 SH</b> <b>Flat Frame New Construction</b>		
THREAD LENGTH DIMENSIONS SHOW USEABLE THREAD. BREAK OUTSIDE AND INSIDE CORNERS .004 to .032 MAX EXCEPT AS NOTED		PROJECT NO	PART NO	REV
THIRD ANGLE PROJECTION		3800SH-01NC		
		FILE NAME	Engineering\Products\3900_SH\04 Assembly\01 dwg\3800SH-01NC	
		SCALE	SHEET	1 OF 1
		3:4		

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