

Results Comparison Versions W 7.7.10/ T 7.7.10 to W 7.7.16/ T 7.7.12

Whole Products

03/03/2020 -- calculated W 7.7.10/ T 7.7.10

01/04/2022 -- calculated W 7.7.16/ T 7.7.12

Results are identical between the two versions

Product Ref.	Product Type	Material: Frame / Spacer	Glazing System	Size		U (W/m2-K)				SHGC				VT				CR			
				Width (mm)	Height (mm)	W7.7.10 / T7.7.10	W7.7.16 / T7.7.12	diff (if >= 0.0005)	Diff %	W7.7.10 / T7.7.10	W7.7.16 / T7.7.12	diff	Diff %	W7.7.10 / T7.7.10	W7.7.16 / T7.7.12	diff	Diff %	W7.7.10 / T7.7.10	W7.7.16 / T7.7.12	diff	Diff %
Kawneer 1600 S1	Curtain Wall	TI AL / AL	Clr-6_Air_Clr-6	2032.0	2032.0	3.48148	3.481485	0.00000	0.00%	0.600979	0.600982	0.000	0.00%	0.66378	0.663784	0.000	0.00%	30.136316	30.136162	0.00000	0.0%
CW3	Curtain Wall	TI AL (e=0.2) / AL	Clr-6_Air_Clr-6	2032.0	2032.0	3.12785	3.12785	0.00000	0.00%	0.607401	0.607401	0.000	0.00%	0.672392	0.672392	0.000	0.00%	16.068394	16.068394	0.00000	0.0%
		TI AL (e=0.9) / AL		2032.0	2032.0	3.43927	3.43927	0.00000	0.00%	0.61019	0.61019	0.000	0.00%	0.672392	0.672392	0.000	0.00%	21.73918	21.73918	0.00000	0.0%
Fiberglass	Casement	Fiberglass / AL	Clr-6_Air_LowE2-72-6	600.0	1500.0	1.96103	1.96103	0.00000	0.00%	0.338036	0.338036	0.000	0.00%	0.483322	0.483322	0.000	0.00%	48.127037	48.127037	0.00000	0.0%
PFM	Casement	Wood / AL	Clr-5-Air-Clr-5	914.4	1219.2	2.683719	2.683719	0.00000	0.00%	0.629168	0.629168	0.000	0.00%	0.682002	0.682002	0.000	0.00%	39.734173	39.734173	0.00000	0.0%
			LowE179-5_Air_Clr5	914.4	1219.2	2.017673	2.017673	0.00000	0.00%	0.529966	0.529966	0.000	0.00%	0.654087	0.654087	0.000	0.00%	46.801956	46.801956	0.00000	0.0%
PVC	Casement	PVC / AL Swiggle	LowE_037-Air-Clr	609.6	1219.2	1.789401	1.789401	0.00000	0.00%	0.254834	0.254834	0.000	0.00%	0.38176	0.38176	0.000	0.00%	56.554569	56.554569	0.00000	0.0%
Velux - FS87	Skylight	AL Clad Wood / SST	LowE270-3_Ar_Clr-3	547.9	1314.4	3.093277	3.093277	0.00000	0.00%	0.352362	0.352362	0.000	0.00%	0.665323	0.665323	0.000	0.00%	48.814278	48.814278	0.00000	0.0%
TRR01	Fixed	TB AL / AL	CmftE2-3_Air_HMSC75_Air_CmftE2-3	1016.0	1016.0	1.89341	1.89341	0.00000	0.00%	0.275227	0.275227	0.000	0.00%	0.414402	0.414402	0.000	0.00%	40.442394	40.442394	0.00000	0.0%
TRR97	Fixed	AL Clad Wood / Galv. Steel	LowE272-5_Air_Clr-5	1219.2	1219.2	1.952107	1.952107	0.00000	0.00%	0.346445	0.346445	0.000	0.00%	0.596056	0.596056	0.000	0.00%	47.163074	47.163074	0.00000	0.0%
TRR99	Hor. Slider	AL / Galv. Steel	Clr-3_Air_HMSC75_Air_S500CL-3	1524.0	914.4	2.760363	2.760365	0.00000	0.00%	0.314968	0.314968	0.000	0.00%	0.499902	0.499902	0.000	0.00%	14.576894	14.576882	0.00000	0.0%
Max Diff						0.00000	0.00%			0.000	0.00%			0.000	0.00%			0.00000	0.00%		

Note: TRR99: Made slight geometry adjustment to 7.7.07 THERM files due to new error about bad points which may have affected the U-factor slightly
 Recalculated TRR99 window with new geometry for both 7.4 and 7.7

Results Comparison THERM Version 7.7.10 to 7.7.12

Frames

Note: Nominal Glass thickness was used when importing the glazing systems into the THERM models

Results are identical between the two versions

NOTE: Glazing systems recalculated, frame files calculated using BC condition #2

01/04/20226 -- ran W7.7.16 / T 7.7.12

03/03/2020 -- ran W7.7.10 / T 7.7.10

ID	Name	W7.7.10 - T7.7.10					W7.7.16 - T7.7.12					Uval (W/m2K)		U_edge (W/m2K)		Pfd		Ucenter (W/m2K)		
		Uval	U_edge	Pfd	Ucenter	Abs	ID	Uval	U_edge	Pfd	Ucenter	Abs	DIFF	Diff (%)	DIFF	Diff (%)	DIFF	Diff (%)	DIFF	Diff (%)
11	1600S1_hd.thm	7.227078	2.861175	67.361816	2.689528	0.3	11	7.227078	2.861175	67.361816	2.689528	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
12	1600S1_jb.thm	7.217208	2.858271	67.361328	2.689528	0.3	12	7.217208	2.858271	67.361328	2.689528	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
13	1600S1_mr.thm	9.803711	2.792672	71.24585	2.689528	0.3	13	9.805065	2.792671	71.233887	2.689528	0.3	0.001	0.01%	0.00000	0.00%	0.01196	0.02%	0.00000	0.00%
14	1600S1_si.thm	7.206437	2.860169	67.361328	2.689528	0.3	14	7.206437	2.860169	67.361328	2.689528	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
21	CW3_hd_02.thm	5.25582	3.092388	59.556183	2.681182	0.3	21	5.25582	3.092388	59.556183	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
22	CW3_jb_02.thm	5.244606	3.090606	59.55603	2.681182	0.3	22	5.244606	3.090606	59.55603	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
23	CW3_mr_02.thm	6.938507	3.084737	68.312256	2.681182	0.3	23	6.938507	3.084737	68.312256	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
24	CW3_si_02.thm	5.26776	3.097395	57.777527	2.681182	0.3	24	5.26776	3.097395	57.777527	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
25	CW3_hd_09.thm	7.518789	2.900505	59.556183	2.681182	0.3	25	7.518789	2.900505	59.556183	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
26	CW3_jb_09.thm	7.514261	2.906071	59.55603	2.681182	0.3	26	7.514261	2.906071	59.55603	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
27	CW3_mr_09.thm	9.571283	2.908318	68.312256	2.681182	0.3	27	9.571283	2.908318	68.312256	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
28	CW3_si_09.thm	7.627611	2.9064	57.777527	2.681182	0.3	28	7.627611	2.9064	57.777527	2.681182	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
31	Fiberglass_hd.thm	2.115198	2.352837	70.637405	1.677865	0.3	31	2.115198	2.352837	70.637405	1.677865	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
32	Fiberglass_jb.thm	2.095289	2.350777	70.63623	1.677865	0.3	32	2.095289	2.350777	70.63623	1.677865	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
33	Fiberglass_si.thm	2.11355	2.352675	70.63623	1.677865	0.3	33	2.11355	2.352675	70.63623	1.677865	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
41	PFM01_hd.thm	2.20664	3.012841	42.87616	2.714314	0.3	41	2.20664	3.012841	42.87616	2.714314	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
42	PFM01_jb.thm	2.20444	3.013326	42.876221	2.714314	0.3	42	2.20444	3.013326	42.876221	2.714314	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
43	PFM01_si.thm	2.20822	3.013447	42.876221	2.714314	0.3	43	2.20822	3.013447	42.876221	2.714314	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
44	PFM02_hd.thm	2.183683	2.418898	42.87616	1.853738	0.3	44	2.183683	2.418898	42.87616	1.853738	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
45	PFM02_jb.thm	2.181394	2.419343	42.876221	1.853738	0.3	45	2.181394	2.419343	42.876221	1.853738	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
46	PFM02_si.thm	2.185318	2.419544	42.876221	1.853738	0.3	46	2.185318	2.419544	42.876221	1.853738	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
51	PVC_hd.thm	1.760401	2.021321	72.357208	1.723423	0.3	51	1.760401	2.021321	72.357208	1.723423	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
52	PVC_jb.thm	1.694594	2.042318	89.807007	1.723423	0.3	52	1.694594	2.042318	89.807007	1.723423	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
53	PVC_si.thm	1.755174	2.020876	72.357193	1.723423	0.3	53	1.755174	2.020876	72.357193	1.723423	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
61	FS95_hd_75_c_20.thm	24.375933	2.416465	8.60376	2.014867	0.3	61	24.375933	2.416465	8.60376	2.014867	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
62	FS95_jb_75_c_20.thm	24.421024	2.415344	8.600586	2.014867	0.3	62	24.421024	2.415344	8.600586	2.014867	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
63	FS95_si_75_c_20.thm	11.114959	2.129982	19.075211	2.014867	0.3	63	11.114959	2.129982	19.075211	2.014867	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
71	TRR01_hd.thm	3.595419	1.75223	61.035721	1.265482	0.3	71	3.595419	1.75223	61.035721	1.265482	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
72	TRR01_jb.thm	3.616276	1.752918	61.035828	1.265482	0.3	72	3.616276	1.752918	61.035828	1.265482	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
73	TRR01_si.thm	3.594953	1.75215	61.035828	1.265482	0.3	73	3.594953	1.75215	61.035828	1.265482	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
81	TRR97_hd.thm	2.500365	2.36067	50.013748	1.721165	0.3	81	2.500365	2.36067	50.013748	1.721165	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
82	TRR97_jb.thm	2.499379	2.356269	50.013779	1.721165	0.3	82	2.499379	2.356269	50.013779	1.721165	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
83	TRR97_si.thm	2.483982	2.352191	50.013779	1.721165	0.3	83	2.483982	2.352191	50.013779	1.721165	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
91	TRR99_hf.thm	9.34186	2.148648	37.613419	1.732537	0.3	91	9.34186	2.148648	37.613419	1.732537	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
92	TRR99_hv.thm	4.560084	2.555945	37.700272	1.732537	0.3	92	4.560084	2.555945	37.700272	1.732537	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
93	TRR99_jf.thm	10.219017	2.136627	22.236633	1.732537	0.3	93	10.219017	2.136627	22.236633	1.732537	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
94	TRR99_jv.thm	4.442121	2.565615	36.218216	1.732537	0.3	94	4.442121	2.565615	36.218216	1.732537	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
95	TRR99_mr.thm	9.707779	2.346953	40.82782	1.732537	0.3	95	9.707779	2.346953	40.82782	1.732537	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
96	TRR99_sf.thm	12.586723	2.241881	37.594925	1.732537	0.3	96	12.586723	2.241881	37.594925	1.732537	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
97	TRR99_sv.thm	4.546428	2.554169	36.589401	1.732537	0.3	97	4.546428	2.554169	36.589401	1.732537	0.3	0.000	0.00%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%

Max

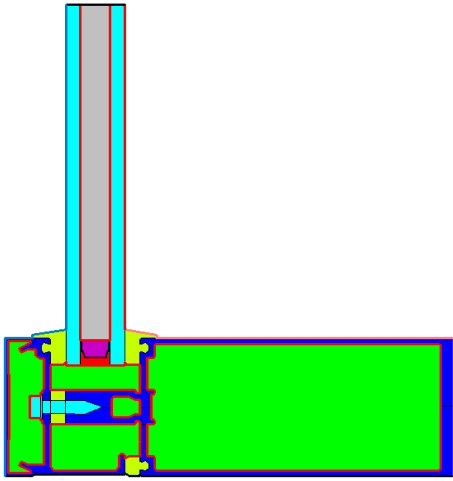
0.001	0.01%	0.000	0.00%	0.012	0.02%	-	0.00%
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Results Comparison WINDOW Version 7.7.10 to 7.7.16
Glazing Systems

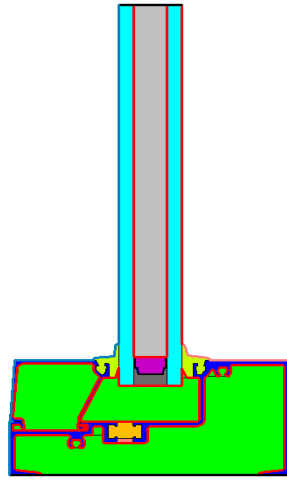
03/03/2020 -- calculated 7.7.10
01/04/2022 -- calculated 7.7.16

Results are identical between the two versions
Results are for **actual** (not nominal) thickness

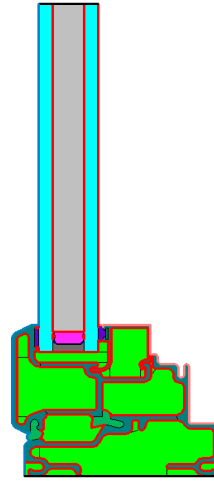
GlzSys ID	IG Name	Glass Layers	Glass	emiss.	Glass / Gap / Glass layers	Glass /Gap / Glass (mm)	Gas	U-factor (W/m ² -K)				SHGC				VT			
								W7.7.10	W7.7.16	DIFF	DIFF (%)	W7.7.10	W7.7.16	DIFF	DIFF (%)	W7.7.10	W7.7.16	DIFF	DIFF (%)
1	Kawneer IGU	2	Un-Coated	0.84	5012/Air/5012	6/12.7/6	Air	2.689528	2.689528	0.00000	0.00%	0.702964	0.702964	0.000	0.00%	0.791102	0.791102	0.000	0.00%
2	No3	2	Un-Coated	0.84	103/Air/103	6/13.4/6	Air	2.681182	2.681182	0.00000	0.00%	0.704438	0.704438	0.000	0.00%	0.786104	0.786104	0.000	0.00%
3	Clr-Air-LowE_042	2	Coated #3	0.042	2004/Air/2014	6/13.4/6	Air	1.677865	1.677865	0.00000	0.00%	0.47784	0.47784	0.000	0.00%	0.697898	0.697898	0.000	0.00%
4	PFM01	2	Un-Coated	0.84	2003/Air/2003	5/16.5/5	Air	2.714314	2.714314	0.00000	0.00%	0.742617	0.742617	0.000	0.00%	0.809516	0.809516	0.000	0.00%
5	PFM02	2	Coated #2	0.11	2186/Air/2003	5/16.5/5	Air	1.853738	1.853738	0.00000	0.00%	0.624722	0.624722	0.000	0.00%	0.776382	0.776382	0.000	0.00%
6	LowE_037-Air-Clr	2	Coated #2	0.037	917/Air/102	3/15.9/3	Air	1.723423	1.723423	0.00000	0.00%	0.397977	0.397977	0.000	0.00%	0.614123	0.614123	0.000	0.00%
7	Velux FS87 Type 75	2	Coated #2	0.037	2026/Argon 95	3/9.9/3	Argon 95	2.014867	2.014867	0.00000	0.00%	0.370629	0.370629	0.000	0.00%	0.701664	0.701664	0.000	0.00%
8	TRR01	3	Coated #2,#3,#5	0.204/0.055/0.204	0907/Air/1510/Air/907	3/8.6/.1/8.6/3	Air	1.265482	1.265482	0.00000	0.00%	0.341514	0.341514	0.000	0.00%	0.535309	0.535309	0.000	0.00%
9	TRR97	2	Coated #2	0.042	2013/Air/2003	5/15.9/5	Air	1.721165	1.721165	0.00000	0.00%	0.407306	0.407306	0.000	0.00%	0.707364	0.707364	0.000	0.00%
10	TRR99	3	Coated #3,#5	0.055, 0.215	5009/Air/1510/Air/5242	3/6.2/0.1/6.2/3	Air	1.732537	1.732537	0.00000	0.00%	0.356202	0.356202	0.000	0.00%	0.582346	0.582346	0.000	0.00%
												0.00%		0.00%		0.00%		0.00%	
												0.00%		0.00%		0.00%		0.00%	
										Max Diff		0.00%		0.00%		0.00%		0.00%	



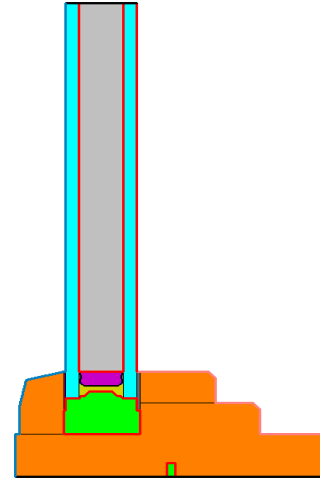
Kawneer 1600 S1



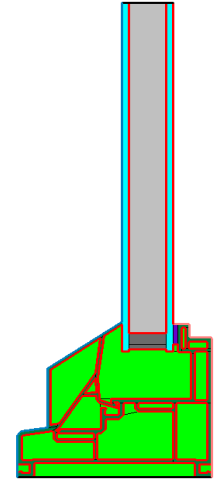
CW3



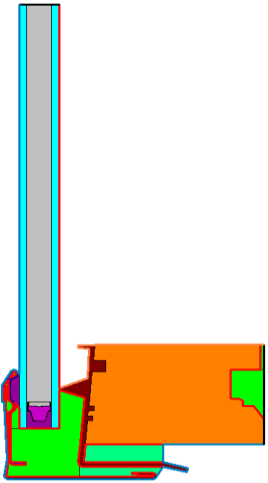
Fiberglass



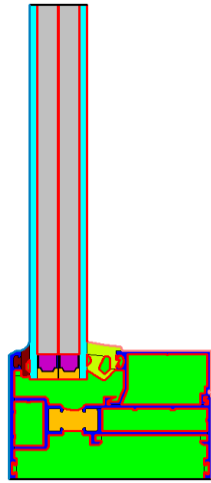
PFM



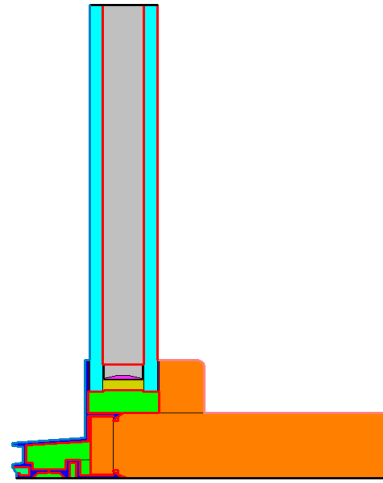
PVC



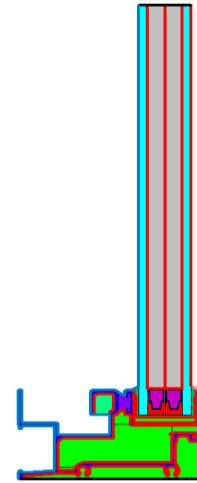
Skylight



TRR01



TRR97



TRR99