

Results Comparison Versions W 7.8.49/ T 7.8.36 to 7.4.14/ T 7.4.04

Whole Products

07/15/2022 -- calculated W 7.8.49/ T 7.8.36

12/09/2016 -- calculated W 7.4.14 / T 7.4.04

Product Ref.	Product Type	Material: Frame / Spacer	Glazing System	Size		U (W/m2-K)				SHGC				VT				CR			
				Width (mm)	Height (mm)	W7.4.14 / T7.4.04	W7.8.49 / T7.8.36	diff (if >= 0.0005)	Diff %	W7.4.14 / T7.4.04	W7.8.49 / T7.8.36	diff	Diff %	W7.4.14 / T7.4.04	W7.8.49 / T7.8.36	diff	Diff %	W7.4.14 / T7.4.04	W7.8.49 / T7.8.36	diff	Diff %
Kawneer 1600 S1	Curtain Wall	TI AL / AL	Clr-6_Air_Clr-6	2032.0	2032.0	3.482569	3.560851	0.07828	2.25%	0.60099	0.582036	-0.019	-3.15%	0.66378	0.63921	-0.025	-3.70%	30.451071	28.445076	-2.00600	-6.6%
CW3	Curtain Wall	TI AL (e=0.2) / AL	Clr-6_Air_Clr-6	2032.0	2032.0	3.127849	3.127928	0.00000	0.00%	0.607401	0.607401	0.000	0.00%	0.672392	0.672392	0.000	0.00%	16.066938	16.063749	-0.00319	0.0%
		TI AL (e=0.9) / AL		2032.0	2032.0	3.439269	3.439398	0.00000	0.00%	0.61019	0.610191	0.000	0.00%	0.672392	0.672392	0.000	0.00%	21.737284	21.733385	-0.00390	0.0%
Fiberglass	Casement	Fiberglass / AL	Clr-6_Air_LowE2-72-6	600.0	1500.0	1.961189	1.973812	0.01262	0.64%	0.338038	0.338189	0.000	0.00%	0.483322	0.483322	0.000	0.00%	48.124462	48.137314	0.01285	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%	39.731155	39.734173	0.00302	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%	46.798634	46.801956	0.00332	0.0%
PVC	Casement	PVC / AL Swiggle	LowE_037-Air-Clr	609.6	1219.2	1.789399	1.790276	0.00088	0.05%	0.254834	0.254844	0.000	0.00%	0.38176	0.38176	0.000	0.00%	56.539352	56.551159	0.01181	0.0%
Velux - FS87	Skylight	AL Clad Wood / SST	Lowe270-3_Ar_Clr-3 CmfE2-	547.9	1314.4	3.093089	3.09251	-0.00058	-0.02%	0.352362	0.352361	0.000	0.00%	0.665323	0.665323	0.000	0.00%	48.816185	48.857265	0.04108	0.1%
TRR01	Fixed	TB AL / AL	3_Air_HMSC 75_Air_CmfE2-3	1016.0	1016.0	1.893416	1.89341	0.00000	0.00%	0.275227	0.275227	0.000	0.00%	0.414402	0.414402	0.000	0.00%	40.439362	40.442394	0.00303	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%	47.159756	47.163074	0.00332	0.0%
TRR99	Hor. Slider	AL / Galv. Steel	Clr-3_Air_HMSC 75_Air_S500 CL-3	1524.0	914.4	2.760405	2.760558	0.00000	0.00%	0.314964	0.314969	0.000	0.00%	0.499894	0.499902	0.000	0.00%	14.57423	14.569366	-0.00486	0.0%

Max Diff

0.07828 2.25%

0.019 3.15%

0.025 3.70%

2.00600 6.59%

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 7.4.04 to 7.8.36

Frames

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

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

12/09/2016 -- ran W7.4.14 / T 7.4.04

07/15/2022 -- ran W7.8.49 / T 7.8.36

ID	Name	W7.4.14-T7.4.04					W7.8.49 - T7.8.36					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	7.217207	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	9.803758	2.792631	71.24585	2.689528	0.3	13	9.805065	2.792671	71.233887	2.689528	0.3	0.001	0.01%	-0.00004	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	5.255822	3.092388	59.556183	2.681182	0.3	21	5.256989	3.092469	59.556183	2.681182	0.3	0.001	0.02%	-0.00008	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	5.245121	3.090606	59.55603	2.681182	0.3	0.001	0.01%	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	6.93888	3.084777	68.312256	2.681182	0.3	0.000	0.00%	-0.00004	0.00%	0.00000	0.00%	0.00000	0.00%
24	CW3_si_02.thm	5.267759	3.097396	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	7.521026	2.900585	59.556183	2.681182	0.3	0.002	0.03%	-0.00008	0.00%	0.00000	0.00%	0.00000	0.00%
26	CW3_jb_09.thm	7.514257	2.906071	59.55603	2.681182	0.3	26	7.515224	2.906112	59.55603	2.681182	0.3	0.001	0.01%	-0.00004	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	9.571445	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	2.115713	2.352837	70.637405	1.677865	0.3	31	2.185568	2.351746	70.637405	1.677865	0.3	0.070	3.30%	0.00109	0.05%	0.00000	0.00%	0.00000	0.00%
32	Fiberglass_jb.thm	2.095859	2.350737	70.63623	1.677865	0.3	32	2.126909	2.350252	70.63623	1.677865	0.3	0.031	1.48%	0.00049	0.02%	0.00000	0.00%	0.00000	0.00%
33	Fiberglass_si.thm	2.114017	2.352594	70.63623	1.677865	0.3	33	2.183917	2.351504	70.63623	1.677865	0.3	0.070	3.31%	0.00109	0.05%	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	2.419342	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	1.760321	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	1.694587	2.042317	89.807007	1.723423	0.3	52	1.697629	2.042479	89.807007	1.723423	0.3	0.003	0.18%	-0.00016	-0.01%	0.00000	0.00%	0.00000	0.00%
53	PVC_si.thm	1.755217	2.020916	72.357193	1.723423	0.3	53	1.75528	2.020876	72.357193	1.723423	0.3	0.000	0.00%	0.00004	0.00%	0.00000	0.00%	0.00000	0.00%
61	FS95_hd_75_c_20.thm	24.373428	2.416143	8.60376	2.014867	0.3	61	24.36483	2.416385	8.60376	2.014867	0.3	-0.009	-0.04%	-0.00024	-0.01%	0.00000	0.00%	0.00000	0.00%
62	FS95_jb_75_c_20.thm	24.417957	2.415061	8.600586	2.014867	0.3	62	24.41263	2.415304	8.600586	2.014867	0.3	-0.005	-0.02%	-0.00024	-0.01%	0.00000	0.00%	0.00000	0.00%
63	FS95_si_75_c_20.thm	11.11496	2.129941	19.075211	2.014867	0.3	63	11.08703	2.129416	19.075211	2.014867	0.3	-0.028	-0.25%	0.00053	0.02%	0.00000	0.00%	0.00000	0.00%
71	TRR01_hd.thm	3.595428	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	3.616319	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	3.594959	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	2.483977	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	4.560494	2.556227	37.700272	1.732537	0.3	92	4.560099	2.555985	37.700272	1.732537	0.3	0.000	0.00%	0.00024	0.01%	0.00000	0.00%	0.00000	0.00%
93	TRR99_jf.thm	10.219016	2.136627	22.236633	1.732537	0.3	93	10.21902	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	4.441864	2.565274	36.233765	1.732537	0.3	94	4.442008	2.565494	36.218216	1.732537	0.3	0.000	0.00%	-0.00022	-0.01%	0.01555	0.04%	0.00000	0.00%
95	TRR99_mr.thm	9.70772	2.346953	40.82782	1.732537	0.3	95	9.708306	2.346953	40.82782	1.732537	0.3	0.001	0.01%	0.00000	0.00%	0.00000	0.00%	0.00000	0.00%
96	TRR99_sf.thm	12.586541	2.242086	37.594925	1.732537	0.3	96	12.58672	2.241881	37.594925	1.732537	0.3	0.000	0.00%	0.00021	0.01%	0.00000	0.00%	0.00000	0.00%
97	TRR99_sv.thm	4.546428	2.554209	36.599998	1.732537	0.3	97	4.552389	2.55643	36.589401	1.732537	0.3	0.006	0.13%	-0.00222	-0.09%	0.01060	0.03%	0.00000	0.00%

Max

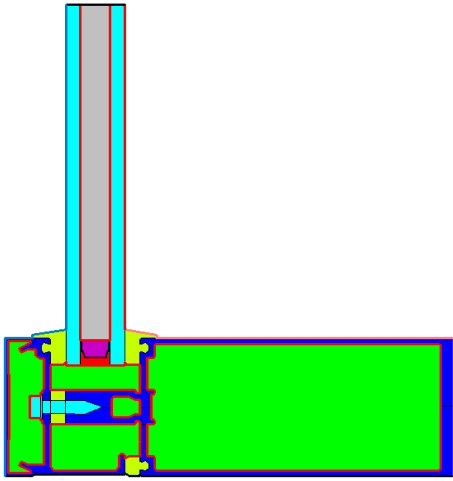
0.070	3.31%	0.002	0.09%	0.016	0.04%	-	0.00%
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Results Comparison WINDOW Version 7.4.14 to 7.8.49
Glazing Systems

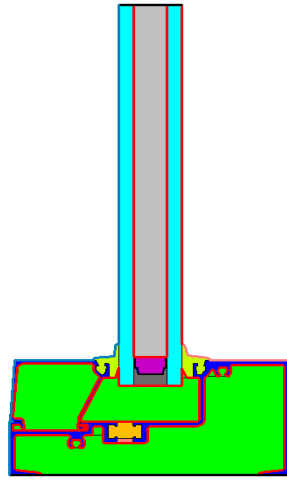
07/15/2022 -- calculated 7.8.49
12/09/2016 -- calculated 7.4.14

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

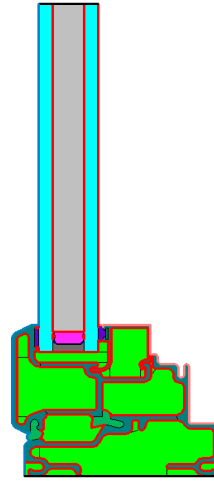
GlzSys ID	IG Name	Glass Layers	Glass	emiss.	Glass / Gap / Glass layers	Glass /Gap / Glass (mm)	Gas	U-factor (W/m ² -K)				SHGC				VT			
								W7.4.14	W7.8.49	DIFF	DIFF (%)	W7.4.14	W7.8.49	DIFF	DIFF (%)	W7.4.14	W7.8.49	DIFF	DIFF (%)
1	Kawneer IGU	2	Un-Coated	0.84	5012/Air/5012	6/12.7/6	Air	2.689528	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%				
Max Diff											0.00%		0.00%		0.00%				



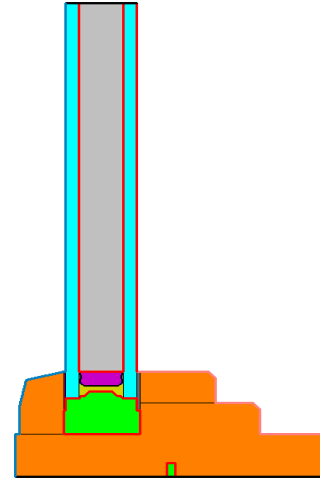
Kawneer 1600 S1



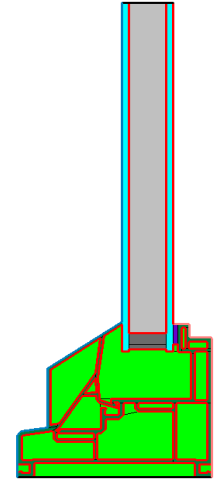
CW3



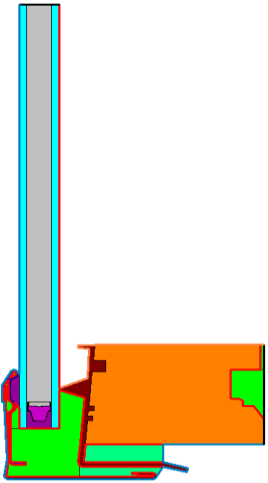
Fiberglass



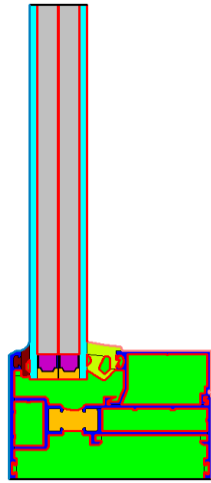
PFM



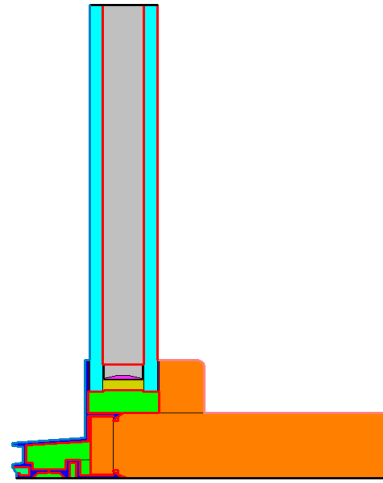
PVC



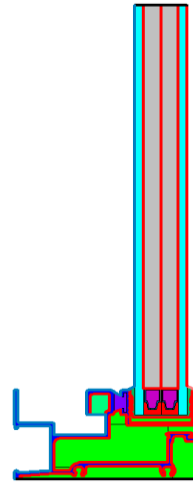
Skylight



TRR01



TRR97



TRR99