

The ESSENTIAL

*to choose
the right energy
efficient glazing*

Average performance values of DGU (6+12+6 mm) with coating on surface #2, according to the standards ISO 9050 m1 and EN 673¹

PRODUCT	Light Transmittance LT (%)	Solar Factor g -value	Shading Coefficient SC	Selectivity LT/g	External Light Reflectance LRe (%)	Internal Light Reflectance LRI (%)	U-Value (EN 673) W/(m².K)		Possible use as single glazing (coating on surface #)	Processing					Maximum size (cm)
							12mm air	16mm argon		To be tempered coating	Temperable coating (one single stock)	Lamination (coating on #2 inside the laminate)	Bending	Screen-printing and enamelling	
NEUTRAL															
SGG COOL-LITE XTREME 60/28	60	0.28	0.32	2.14	14	16	1.5	1.0		XTREME 60/28 II					600×321 ⁵
SGG COOL-LITE SKN 174	68	0.41	0.47	1.66	11	12	1.6	1.1		SKN 174 II		✓ ²	✓ ³		600×321 ⁵
SGG COOL-LITE SKN 165	60	0.33	0.38	1.82	16	17	1.5	1.0		SKN 165 II		✓ ²			600×321
SGG COOL-LITE SKN 163 II	58	0.34	0.39	1.71	15	16	1.6	1.1		SKN 163 II					450×254
SGG COOL-LITE SKN 154	50	0.27	0.31	1.85	18	22 ⁴	1.5	1.0		SKN 154 II		✓ ²	✓ ³		600×321 ⁵
SGG COOL-LITE SKN 145	41	0.23	0.26	1.78	19	15	1.6	1.1							600×321
SGG COOL-LITE SKN 144 II	40	0.23	0.27	1.74	20	12	1.6	1.1		SKN 144 II					600×321
SGG COOL-LITE KNT 164	57	0.46	0.53	1.24	14	10	1.9	1.5			✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE KNT 155	47	0.37	0.43	1.27	17	10	1.9	1.5			✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE KNT 140	37	0.28	0.33	1.32	23	12	1.8	1.3			✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE KN 170 II	60	0.42	0.49	1.43	13	11	1.7	1.2		KN 170 II					450×254
SGG COOL-LITE KN 165 II	59	0.40	0.46	1.48	19	13	1.7	1.2		KN 165 II					450×254
SGG COOL-LITE KN 160 II	51	0.38	0.43	1.34	19	12	1.7	1.2		KN 160 II					450×254
SGG COOL-LITE KN 153 II	46	0.34	0.40	1.35	14	13	1.7	1.2		KN 153 II					450×254
SGG COOL-LITE E 150 II	45	0.42	0.48	1.07	15	17	2.6	2.3	#2	E 150 II					366×244
SGG COOL-LITE E 125 II	25	0.24	0.27	1.04	29	15	2.0	1.6	#2	E 125 II					366×244
SGG COOL-LITE ST 167	60	0.59	0.68	1.02	23	23	2.8	2.6	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE ST 150	46	0.47	0.53	0.98	20	22	2.8	2.6	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG ANTELIO CLEAR	42	0.51	0.58	0.82	28	34	2.8	2.6	#1 or #2		✓	✓ ²	✓ ³	✓ ⁶	600×321
EXTRA CLEAR															
SGG COOL-LITE XTREME 60/28 DIAMANT	62	0.28	0.32	2.21	14	16	1.5	1.0		XTREME 60/28 II					600×321
SGG COOL-LITE SKN 074	71	0.42	0.49	1.69	11	12	1.6	1.1		SKN 074 II		✓ ²			600×321
SGG COOL-LITE SKN 065	62	0.34	0.39	1.82	16	17	1.5	1.0		SKN 065 II		✓ ²			600×321
SGG COOL-LITE SKN 063 II	60	0.35	0.40	1.71	15	17	1.6	1.1		SKN 063 II					450×254
SGG COOL-LITE SKN 054	52	0.28	0.32	1.86	19	23	1.5	1.0		SKN 054 II		✓ ²			600×321
SGG COOL-LITE SKN 044 II	42	0.24	0.28	1.75	21	12	1.6	1.1		SKN 044 II					600×321
SILVER															
SGG COOL-LITE SKS 146 II	42	0.23	0.27	1.83	30	18	1.6	1.1		SKS 146 II					366×254
SGG COOL-LITE KS 150 II	46	0.35	0.40	1.31	29	16	1.6	1.2		KS 150 II					450×254
SGG COOL-LITE KS 050 II	47	0.37	0.42	1.27	30	17	1.6	1.2		KS 050 II					450×254
SGG COOL-LITE KS 147	43	0.29	0.34	1.48	44	40	1.6	1.2							600×321
SGG COOL-LITE KS 146 II	42	0.29	0.33	1.45	33	19	1.6	1.2		KS 146 II					366×244
SGG COOL-LITE KS 145 II	40	0.28	0.32	1.43	33	26	1.6	1.1		KS 145 II					366×254
SGG COOL-LITE KS 138 II	36	0.26	0.30	1.38	40	19	1.6	1.2		KS 138 II					366×244
SGG COOL-LITE ST 120	18	0.22	0.25	0.82	32	30	2.6	2.4	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE ST 108	7	0.10	0.12	0.70	44	39	1.9	1.4	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG ANTELIO SILVER	61	0.61	0.70	1.00	33	33	2.8	2.6	#1 or #2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG MIRASTAR	3	0.09	0.10	0.33	55	59	2.0	1.6	#2		✓	✓ ²			600×321
GREY															
SGG COOL-LITE ST 136	34	0.35	0.40	0.97	23	23	2.7	2.5	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG REFLECTASOL Dark grey	5	0.25	0.28	0.20	5	52	2.8	2.6	#2		✓	✓ ²		✓ ⁶	321×225
GOLD															
SGG COOL-LITE KG 137 annealed	34	0.28	0.33	1.21	30	28	1.7	1.2			✓				600×321
SGG COOL-LITE KG 137 tempered	34	0.28	0.32	1.21	33	31	1.7	1.2			✓				600×321
SGG REFLECTASOL Light gold	30	0.45	0.52	0.67	47	53	2.8	2.6	#2		✓	✓ ²		✓ ⁶	321×225

¹ DGU values calculated with SGG PLANILUX as inner pane, except for extra clear appearance for which SGG DIAMANT is used

² Solar control coating in contact with PVB modifies performances and aesthetics. Please contact us to get the approved PVB list

³ Bending results depend on the process; trials should be done for validation

⁴ SGG COOL-LITE SKN 154 II: LRI=26%

⁵ Overlength until 850 cm is possible on request for XTREME II / SKN 174 II / SKN 154 II

⁶ Validation should be taken with digital printing inks and enamels

PRODUCT	Light Transmittance LT (%)	Solar Factor g -value	Shading Coefficient SC	Selectivity LT/g	External Light Reflectance LRe (%)	Internal Light Reflectance LRI (%)	U-Value (EN 673) W/(m².K)		Possible use as single glazing (coating on surface #)	Processing					Maximum size (cm)
							12mm air	16mm argon		To be tempered coating	Temperable coating (one single stock)	Lamination (coating on #2 inside the laminate)	Bending	Screen-printing and enamelling	
GREEN															
SGG COOL-LITE SKN 465 II	50	0.27	0.31	1.85	12	16	1.5	1.0		SKN 465 II					366×244
SGG COOL-LITE SKN 454 II	41	0.23	0.26	1.78	14	26	1.5	1.0		SKN 454II					366×244
SGG COOL-LITE SKN 444 II	33	0.20	0.23	1.65	15	12	1.6	1.1		SKN 444 II			✓ ³		366×244
SGG COOL-LITE KNT 464	47	0.30	0.35	1.57	11	9	1.9	1.5			✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE KNT 455	38	0.26	0.29	1.46	13	10	1.9	1.5			✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE KNT 440	30	0.21	0.24	1.43	17	12	1.8	1.3			✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE KS 446 II	35	0.23	0.26	1.52	24	19	1.6	1.2		KS 446 II					366×244
SGG COOL-LITE KS 438 II	30	0.20	0.23	1.50	29	19	1.6	1.2		KS 438 II					366×244
SGG COOL-LITE E 425 II	21	0.18	0.21	1.17	21	15	2.0	1.6	#2	E 425 II					366×244
SGG COOL-LITE E 450 II	37	0.30	0.35	1.23	12	17	2.6	2.3	#2	E 450 II					366×244
SGG COOL-LITE ST 467	49	0.36	0.42	1.36	17	23	2.8	2.6	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE ST 450	38	0.30	0.35	1.27	15	21	2.8	2.6	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE ST 436	27	0.25	0.28	1.08	17	22	2.7	2.5	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE ST 420	15	0.17	0.20	0.88	23	30	2.6	2.4	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG COOL-LITE ST 408	6	0.10	0.11	0.60	31	39	1.9	1.4	#2		✓	✓ ²	✓ ³	✓ ⁶	600×321
SGG REFLECTASOL 'H Green'	24	0.30	0.34	0.80	34	53	2.8	2.6	#2		✓	✓ ²		✓ ⁶	321×225
SGG ANTELIO EMERALD	48	0.38	0.43	1.26	22	32	2.8	2.6	#1 or #2		✓	✓ ²	✓ ³	✓ ⁶	600×321
BLUE															
SGG COOL-LITE SKN 765 II	39	0.24	0.27	1.63	9	16	1.5	1.0		SKN 765 II					366×244
SGG COOL-LITE SKN 754 II	32	0.20	0.23	1.60	10	25	1.5	1.0		SKN 754 II					366×244
SGG COOL-LITE SKN 744 II	26	0.18	0.21	1.44	11	12	1.6	1.1		SKN 744 II					366×244
SGG COOL-LITE KS 746 II	27	0.21	0.24	1.29	16	19	1.6	1.2		KS 746 II					366×244
SGG COOL-LITE KS 738 II	23	0.19	0.21	1.21	19	19	1.6	1.2		KS 738 II					366×244
SGG COOL-LITE KBT 140	36	0.30	0.34	1.20	24	17	1.8	1.4			✓	✓ ²		✓ ⁶	600×321
SGG COOL-LITE KNT 764	37	0.29	0.34	1.28	8	9	1.9	1.5			✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG COOL-LITE KNT 755	30	0.25	0.29	1.20	10	10	1.9	1.5			✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG COOL-LITE KNT 740	24	0.20	0.23	1.20	12	12	1.8	1.3			✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG COOL-LITE E 750 II	29	0.28	0.32	1.04	9	16	2.6	2.3	#2	E 750 II					366×244
SGG COOL-LITE E 725 II	16	0.17	0.20	0.94	14	15	2.0	1.6	#2	E 725 II					366×244
SGG COOL-LITE STB 136	33	0.35	0.40	0.94	18	22	2.7	2.5	#2		✓	✓ ²		✓ ⁶	600×321
SGG COOL-LITE STB 120	20	0.24	0.28	0.83	21	32	2.7	2.4	#2		✓	✓ ²		✓ ⁶	600×321
SGG COOL-LITE ST 767	38	0.37	0.43	1.03	12	22	2.8	2.6	#2		✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG COOL-LITE ST 750	30	0.31	0.35	0.97	11	21	2.8	2.6	#2		✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG COOL-LITE ST 736	22	0.25	0.28	0.88	12	22	2.7	2.5	#2		✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG COOL-LITE ST 720	12	0.18	0.20	0.67	16	30	2.6	2.4	#2		✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG COOL-LITE ST 708	5	0.10	0.11	0.50	21	39	1.9	1.4	#2		✓	✓ ²	✓ ³	✓ ⁶	366×244
SGG REFLECTASOL Blue	19	0.28	0.33	0.68	22	52	2.8	2.6	#2		✓	✓ ²		✓ ⁶	321×225
BLUE-GREEN															
SGG COOL-LITE STB 436	27	0.24	0.28	1.13	14	22	2.7	2.5	#2		✓	✓ ²		✓ ⁶	600×321
SGG COOL-LITE STB 420	16	0.18	0.21	0.89	16	32	2.7	2.4	#2		✓	✓ ²		✓ ⁶	600×321
BRONZE															
SGG COOL-LITE KNT 264	31	0.30	0.35	1.03	7	9	1.9	1.5			✓	✓ ²		✓ ⁶	366×244
SGG COOL-LITE KNT 255	26	0.25	0.29	1.04	8	10	1.9	1.5			✓	✓ ²		✓ ⁶	366×244
SGG COOL-LITE KNT 240	20	0.20	0.23	1.00	10	12	1.8	1.3			✓	✓ ²		✓ ⁶	366×244
SGG COOL-LITE ST 267	33	0.41	0.47	0.80	10	22	2.8	2.6	#2		✓	✓ ²		✓ ⁶	366×244
SGG COOL-LITE ST 250	25	0.33	0.38	0.76	9	21	2.8	2.6	#2		✓	✓ ²		✓ ⁶	366×244
SGG COOL-LITE ST 236	18	0.26	0.30	0.69	10	22	2.7	2.5	#2		✓	✓ ²		✓ ⁶	366×244
SGG COOL-LITE ST 220	10	0.18	0.21	0.56	13	30	2.6	2.4	#2		✓	✓ ²		✓ ⁶	366×244
SGG COOL-LITE ST 208	4	0.10	0.11	0.40	16	39	1.9	1.4	#2		✓	✓ ²		✓ ⁶	366×244
SGG REFLECTASOL Bronze	16	0.34	0.39	0.47	17	52	2.8	2.6	#2		✓	✓ ²		✓ ⁶	321×225
SGG ANTELIO BRONZE	22	0.34	0.39	0.65	12	34	2.8	2.6	#1 or #2		✓	✓ ²	✓ ³	✓ ⁶	600×321

Average values given according to the standards ISO 9050 m1 and EN 673

PRODUCT	Aesthetics in exterior reflection	Coating position	Light Transmittance LT (%)	Solar Factor g-value	Shading Coefficient SC	External Light Reflectance LRe (%)	Internal Light Reflectance LRi (%)	U-Value (EN 673) W/(m².K)	Processing		Maximum size (cm)	Benefits
									To be tempered coating	Temperable coating (one single stock)		

LOW-E GLASS RANGE

High Light Transmission low-E glass (DGU 6+12+6mm)								12 mm air	16 mm argon				• Heating energy savings in winter time due to high level of thermal insulation • Cooling energy savings in summertime in combination with solar control glass • No cold area around windows in heating dominating climate • Environmentally friendly thanks to the CO₂ emission reduction • High color neutrality for windows and façade applications
SGG PLANITHERM ONE	Neutral	# 3	70	0.48	0.56	22	23	1.5	1.0	ONE II		600×321	
SGG PLANITHERM ULTRA N	Neutral	# 3	78	0.60	0.69	12	12	1.6	1.1	ULTRA N II		600×321 ¹	
SGG PLANITHERM ULTRA N DIAMANT	Extra clear	# 3	81	0.64	0.74	12	13	1.6	1.1	ULTRA N II DIAMANT		600×321 ¹	
SGG PLANITHERM 1.16	Neutral	# 3	78	0.62	0.71	12	12	1.7	1.2	1.16 II		450×254	
SGG PLANITHERM TOTAL +	Neutral	# 3	78	0.68	0.78	12	12	1.7	1.2		✓	600×321	
SGG PLANITHERM 1.3 T	Neutral	# 3	75	0.64	0.74	12	12	1.8	1.3		✓	450×254	
Low-E on tinted glass (DGU 6+12+6mm)								12 mm air	16 mm argon				• Cooling energy savings • Good level of thermal insulation • Blue or green color appearance from the exterior
SGG PLANITHERM 1.3 T on green	Green	# 2	62	0.40	0.45	9	11	1.8	1.3		✓	366×244	
SGG PLANITHERM 1.3 T on blue	Blue	# 2	48	0.35	0.41	7	11	1.8	1.3		✓	366×244	
«Four seasons» low-E glass (DGU 6+12+6mm)								12 mm air	16 mm argon				• In wintertime - Energy savings due to reduced heating requirement - No cold areas around windows • In summertime - Improved comfort due to reduced overheating - Less running cost for air conditioning • Environmentally friendly thanks to the CO₂ emission reduction • SGG PLANITHERM BRONZE has a bronze appearance from the exterior, fitting well with wooden frames
SGG PLANISTAR SUN	Neutral	# 2	70	0.37	0.43	13	15	1.5	1.0			600×321	
SGG PLANITHERM 4S	Neutral	# 2	64	0.41 ²	0.47 ²	26	24	1.5	1.0	4S II		600×321	
SGG PLANITHERM 4S EVO	Neutral	# 2	59	0.37	0.43	22	25	1.5	1.0			600×321	
SGG PLANITHERM BRONZE	Bronze	# 2	41	0.28	0.32	9	26	1.5	1.0			600×321	
Low-E glass for triple glazing units (TGU 4+16+4+16+4)								14 mm Argon 90%	10 mm Krypton 92%				• Excellent energy balance for cold and mixed climates • High solar heat gain • Extreme level of thermal insulation • Very high light transmittance • High neutrality and transparency
SGG PLANITHERM LUX	Neutral	# 2 # 5	73	0.62	0.72	17	17	0.8	0.6	LUX II		600×321	
SGG PLANITHERM LUX DIAMANT	Extra Clear	# 2 # 5	75	0.67	0.76	17	17	0.7	0.6	LUX II DIAMANT		600×321	
SGG PLANITHERM MAX	Extra Clear	# 2 # 5	74	0.60	0.69	15	15	0.7	0.6	MAX II		600×321	

SELF-CLEANING GLASS

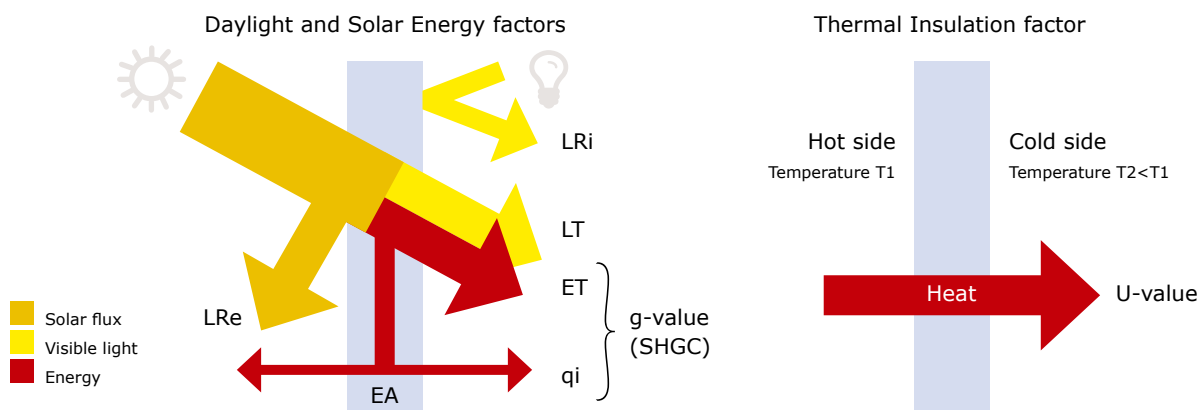
Self-cleaning glass (DGU 6+12+6mm)								12 mm air	16 mm argon				• Less frequent and much easier cleaning • Maintenance cost saving • Ideal for hard to reach areas • Very long lifetime coating • Available with energy efficient coatings • Neutrality and transparency close to normal glass
SGG BIOCLEAN II	Neutral	# 1	78	0.73	0.84	17	17	2.8	2.6	BIOCLEAN II		600×321	
SGG BIOCLEAN II ULTRA N II ³	Neutral	# 1 # 2	77	0.57	0.65	15	15	1.6	1.1	BIOCLEAN II ULTRA N II		600×321	
SGG BIOCLEAN SC II clear	Neutral	# 1	45	0.45	0.52	24	23	2.8	2.6	BIOCLEAN SC II clear		600×321	
SGG BIOCLEAN SC II green	Green	# 1	37	0.29	0.33	23	19	2.8	2.6	BIOCLEAN SC II green		600×321	
SGG BIOCLEAN-e	Neutral	# 1	75	0.72	0.83	20	19	2.8	2.6			600×321	
SGG BIOCLEAN-e PLANISTAR SUN	Neutral	# 1 # 2	66	0.34	0.40	18	18	1.5	1.0			600×321	
SGG BIOCLEAN-e SKN 174	Neutral	# 1 # 2	64	0.38	0.44	17	15	1.6	1.1			600×321	
SGG BIOCLEAN-e SKN 165	Neutral	# 1 # 2	56	0.31	0.35	21	20	1.5	1.0			600×321	

ANTI-REFLECTIVE

Anti-reflective glass													• Extreme transparence • Very low visible light reflection • High color neutrality • Safety and security
SGG VISION LITE (Laminated Glass 44.1)	Extra Clear	# 1 # 4	97	0.85	0.98	1	1	5.7				600×321	
SGG VISION LITE (Laminated Glass 1010.1)	Extra Clear	# 1 # 4	95	0.82	0.95	1	1	5.3				600×321	
SGG VISION LITE II (4 mm)	Neutral	# 1 # 2	97	0.85	0.98	1	1	5.7		VISION-LITE II		600×321	
SGG VISION LITE II (10 mm)	Neutral	# 1 # 2	95	0.79	0.91	1	1	5.5		VISION-LITE II		600×321	

¹ Overlength until 850cm possible on request for ULTRA N II and ULTRA N II DIAMANT ²SGG PLANITHERM 4S II g= 0.42 and SC=0.48 ³DGU 4+12+4

Definition of key performance factors of a glazing



Visible Light transmittance (LT):	% of visible light passing through the glazing
External Light Reflectance (LRe):	% of visible light, reflected outside the glazing
Internal Light Reflectance (LRI):	% of visible light, reflected to the inside of the building
Energy Transmittance (ET):	% of solar energy directly transmitted through the glazing
Energy Absorbance (EA):	% of solar energy absorbed by the glazing
g-value:	Solar Factor or Solar Heat Gain Coefficient. Total solar energy entering into the building. Figure between 0 and 1. The lower the g value, the more efficient is the glazing in blocking the entry of solar energy
Shading Coefficient (SC):	$SC = g/0.87$
Selectivity (or LSG):	ratio between the light transmittance (LT) and the solar factor (g-value). The higher the selectivity value, the better is the glazing to cut more solar energy than visible light
U-value:	Thermal Transfer Coefficient. Quantity of heat transferred through the glazing due to the temperature difference between inside and outside. The lower the U-value, the better the thermal insulation performance

Solutions from Saint-Gobain Glass

Saint-Gobain Glass is offering a complete range of energy efficient glazings — solar control, low-E, daylight and low maintenance — for façade and windows, that meet the requirements of low energy consumption buildings

- Energy and cost savings for cooling and heating
- Electricity and cost savings for artificial lighting
- Glare control
- Reduced emission of greenhouse gas CO₂
- Maintenance cost savings
- Wide range of aesthetics, in term of colors, reflectivity and transparency
- Glass sheets available in various sizes up to XXL jumbo size
- Easy to process products.
- Technical certification programme available for fabricators (please contact us)

Temperable or 'to be tempered'?

- A "temperable coated glass" (ex: Cool-Lite ST, KT, PLANITHERM 1.3 T) can be used tempered or not tempered. It's a 'one single stock' product.
- A "to be tempered coated glass" (ex: SKN 174 II), must be heat-treated to get its performances and aesthetics. Its properties are then equivalent to the not temperable version (ex: SKN 174).



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