

Data Sheet



GG455

Density	
ρ [g/cm ³]	2.56

Notes	
Colloidally colored glass	
Longpass filter	

Reflection factor	
P_d	0.918

Bubble content	
Bubble class	3

Reference thickness	
d [mm]	3

Chemical Resistance	
FR class	0
SR class	1.0
AR class	1.0

Spectral values guaranteed	
λ_c ($\tau_i = 0.5$) [nm]	= 455 ± 6
λ_s ($\tau_{i,U} = 10^{-5}$) [nm]	= 390
λ_p ($\tau_{i,L} = 0.92$) [nm]	= 530

Transformation temperature	
Tg [°C]	529

Thermal expansion	
$\alpha_{30/+70^\circ\text{C}}$ [10 ⁻⁶ /K]	8.2
$\alpha_{20/300^\circ\text{C}}$ [10 ⁻⁶ /K]	9.5
$\alpha_{20/200^\circ\text{C}}$ [10 ⁻⁶ /K]	

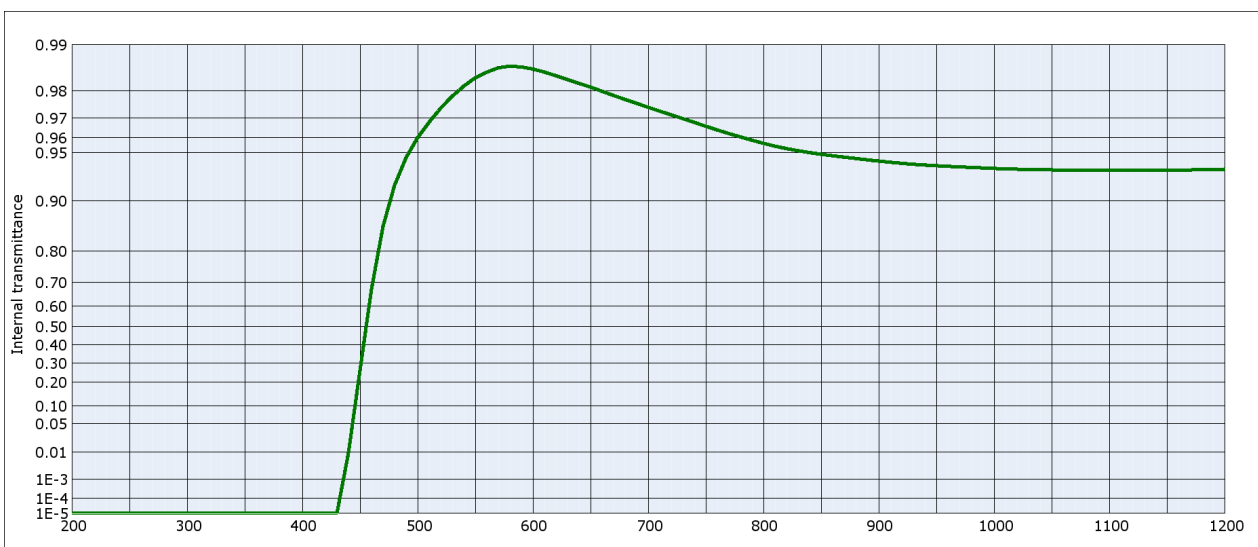
Refractive Index n	
n_e (546.1 nm) = 1.530	
n_d (587.6 nm) = 1.520	
n_s (852.1 nm) = 1.520	
n_i (1014.0 nm) = 1.510	

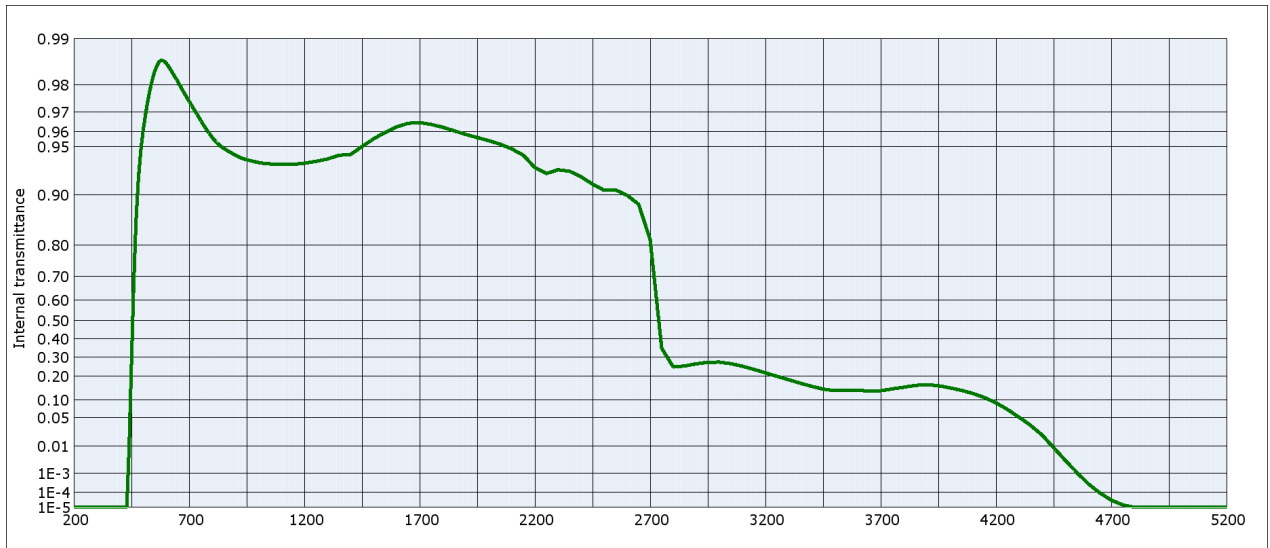
Temperature coefficient	
T_K [nm/°C]	0.09

All data without tolerances are to be understood to be reference values. Guaranteed values are only those values listed in the section "Spectral values guaranteed".

Colorimetric evaluation

Illuminant	A (Planck T = 2856 K)			Illuminant	Planck T = 3200 K			Illuminant	D65 (T _c = 6504 K)		
	d [mm]	1	2		3	d [mm]	1		2	3	d [mm]
x	0.465	0.470	0.473	x	0.444	0.451	0.455	x	0.344	0.354	0.361
y	0.431	0.437	0.441	y	0.429	0.438	0.443	y	0.394	0.414	0.426
Y	91	90	90	Y	91	90	90	Y	91	90	89
λ_d [nm]	579	580	580	λ_d [nm]	577	578	578	λ_d [nm]	568	568	568
P_e	0.28	0.36	0.41	P_e	0.29	0.37	0.42	P_e	0.27	0.36	0.41





Internal transmittance τ_i at reference thickness $d = 3 \text{ mm}$ The internal transmittance values, tabulated and graphically represented, are reference values only											
λ [nm]	τ_i	λ [nm]	τ_i	λ [nm]	τ_i	λ [nm]	τ_i	λ [nm]	τ_i	λ [nm]	τ_i
200	$< 10^{-5}$	500	0.960	800	0.956	1100	0.935	2200	0.932	3700	0.135
210	$< 10^{-5}$	510	0.968	810	0.955	1110	0.935	2250	0.926	3750	0.143
220	$< 10^{-5}$	520	0.974	820	0.953	1120	0.935	2300	0.930	3800	0.150
230	$< 10^{-5}$	530	0.978	830	0.951	1130	0.935	2350	0.929	3850	0.158
240	$< 10^{-5}$	540	0.981	840	0.950	1140	0.935	2400	0.923	3900	0.161
250	$< 10^{-5}$	550	0.984	850	0.949	1150	0.936	2450	0.914	3950	0.157
260	$< 10^{-5}$	560	0.985	860	0.948	1160	0.936	2500	0.906	4000	0.147
270	$< 10^{-5}$	570	0.986	870	0.947	1170	0.936	2550	0.907	4050	0.137
280	$< 10^{-5}$	580	0.986	880	0.946	1180	0.936	2600	0.899	4100	0.124
290	$< 10^{-5}$	590	0.986	890	0.945	1190	0.936	2650	0.885	4150	0.109
300	$< 10^{-5}$	600	0.986	900	0.944	1200	0.937	2700	0.813	4200	$9.1 \cdot 10^{-2}$
310	$< 10^{-5}$	610	0.985	910	0.943	1250	0.938	2750	0.348	4250	$7.1 \cdot 10^{-2}$
320	$< 10^{-5}$	620	0.984	920	0.942	1300	0.940	2800	0.247	4300	$5.1 \cdot 10^{-2}$
330	$< 10^{-5}$	630	0.983	930	0.941	1350	0.943	2850	0.252	4350	$3.5 \cdot 10^{-2}$
340	$< 10^{-5}$	640	0.982	940	0.940	1400	0.944	2900	0.263	4400	$2.0 \cdot 10^{-2}$
350	$< 10^{-5}$	650	0.981	950	0.940	1450	0.950	2950	0.271	4450	$9.1 \cdot 10^{-3}$
360	$< 10^{-5}$	660	0.980	960	0.939	1500	0.956	3000	0.272	4500	$3.4 \cdot 10^{-3}$
370	$< 10^{-5}$	670	0.979	970	0.939	1550	0.959	3050	0.264	4550	$1.1 \cdot 10^{-3}$
380	$< 10^{-5}$	680	0.977	980	0.938	1600	0.963	3100	0.251	4600	$3.1 \cdot 10^{-4}$
390	$< 10^{-5}$	690	0.976	990	0.938	1650	0.965	3150	0.234	4650	$9.5 \cdot 10^{-5}$
400	$< 10^{-5}$	700	0.974	1000	0.937	1700	0.965	3200	0.217	4700	$3.2 \cdot 10^{-5}$
410	$< 10^{-5}$	710	0.973	1010	0.937	1750	0.964	3250	0.200	4750	$1.5 \cdot 10^{-5}$
420	$< 10^{-5}$	720	0.971	1020	0.937	1800	0.963	3300	0.184	4800	$< 10^{-5}$
430	$< 10^{-5}$	730	0.970	1030	0.936	1850	0.960	3350	0.168	4850	$< 10^{-5}$
440	$9.6 \cdot 10^{-3}$	740	0.968	1040	0.936	1900	0.958	3400	0.154	4900	$< 10^{-5}$
450	0.260	750	0.966	1050	0.936	1950	0.956	3450	0.142	4950	$< 10^{-5}$
460	0.673	760	0.964	1060	0.936	2000	0.954	3500	0.136	5000	$< 10^{-5}$
470	0.857	770	0.962	1070	0.936	2050	0.952	3550	0.136	5050	$< 10^{-5}$
480	0.920	780	0.960	1080	0.935	2100	0.948	3600	0.138	5100	$< 10^{-5}$
490	0.946	790	0.958	1090	0.935	2150	0.943	3650	0.133	5150	$< 10^{-5}$