DATA SHEET

SCHOTT RG645

RG645

Reflection factor	
P_d	0.918

Reference thickness	
d [mm]	3

Spectral values guaranteed		
λ_c (τ_i = 0.5) [nm]	=	645 ± 6
λ_s ($\tau_{i,U}$ = 0.00001) [nm]	=	560
λ_p ($\tau_{i,L}$ = 0.94) [nm]	=	720

Refractive Index n
n_d (587.6 nm) = 1.520
n_s (852.1 nm) = 1.520
n_t (1014.0 nm) = 1.510

Density	
ρ [g/cm^3]	2.65

Bubble content	
Bubble class	3

Chemical Resistance	
FR class	0
SR class	1.0
AR class	1.0

Transformation temperature	
Tg [°C]	519

Thermal expansion	
$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.0
$\alpha_{20/300°C}$ [10^{-6}/K]	9.2
$\alpha_{20/200°C}$ [10^{-6}/K]	

Temperature coefficient	
T_K [nm/°C]	0.16

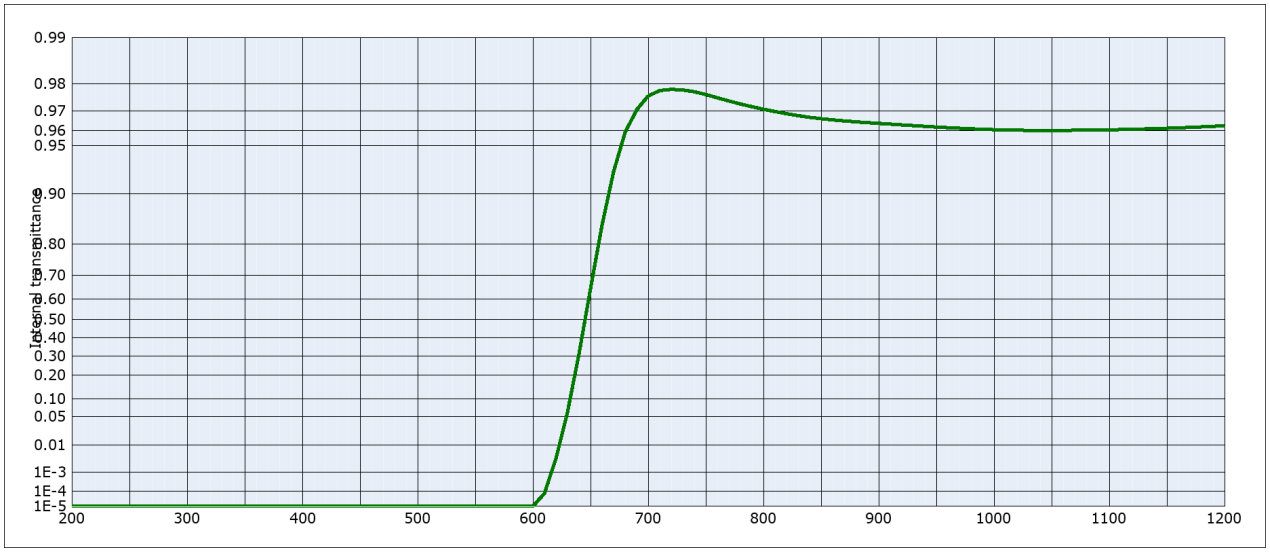
Notes
Colloidally colored glass
Longpass filter
All data wihout tolerances are to be understood to be reference values. Guaranteed values are only those values listed in the section "Spectral values guaranteed".

Colorimetric evaluation

Illuminant	A (Planck T = 2856 K)		
d [mm]	1	2	3
x	0.672	0.722	0.726
y	0.303	0.277	0.274
Y	9	5	4
λ_d [nm]	640	647	651
P_e	0.83	0.99	1.00

Illuminant	Planck T = 3200 K		
d [mm]	1	2	3
x	0.662	0.722	0.726
y	0.304	0.277	0.274
Y	8	4	3
λ_d [nm]	640	646	651
P_e	0.81	0.99	1.00

Illuminant	D65 (T_C = 6504 K)		
d [mm]	1	2	3
x	0.584	0.717	0.726
y	0.298	0.278	0.274
Y	5	2	2
λ_d [nm]	638	645	650
P_e	0.67	0.98	1.00



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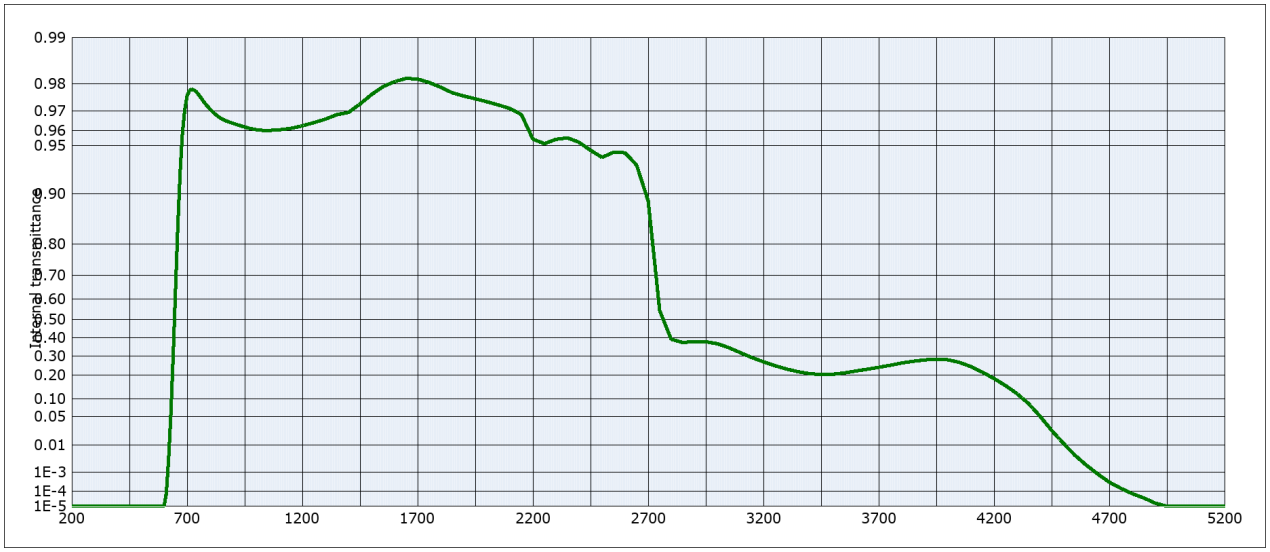

Internal transmittance τ_i at reference thickness d = 3 mm
The internal transmittance values, tabulated and graphically represented, are reference values only

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	$< 10^{-5}$	800	0.971	1100	0.960	2200	0.955	3700	0.240
210	$< 10^{-5}$	510	$< 10^{-5}$	810	0.970	1110	0.961	2250	0.952	3750	0.250
220	$< 10^{-5}$	520	$< 10^{-5}$	820	0.969	1120	0.961	2300	0.955	3800	0.262
230	$< 10^{-5}$	530	$< 10^{-5}$	830	0.968	1130	0.961	2350	0.956	3850	0.271
240	$< 10^{-5}$	540	$< 10^{-5}$	840	0.967	1140	0.961	2400	0.953	3900	0.279
250	$< 10^{-5}$	550	$< 10^{-5}$	850	0.966	1150	0.961	2450	0.947	3950	0.283
260	$< 10^{-5}$	560	$< 10^{-5}$	860	0.966	1160	0.962	2500	0.941	4000	0.279
270	$< 10^{-5}$	570	$< 10^{-5}$	870	0.965	1170	0.962	2550	0.945	4050	0.266
280	$< 10^{-5}$	580	$< 10^{-5}$	880	0.965	1180	0.962	2600	0.945	4100	0.244
290	$< 10^{-5}$	590	$< 10^{-5}$	890	0.964	1190	0.962	2650	0.934	4150	0.215
300	$< 10^{-5}$	600	$< 10^{-5}$	900	0.964	1200	0.963	2700	0.889	4200	0.184
310	$< 10^{-5}$	610	$7.6 \cdot 10^{-5}$	910	0.964	1250	0.964	2750	0.544	4250	0.153
320	$< 10^{-5}$	620	$3.6 \cdot 10^{-3}$	920	0.963	1300	0.966	2800	0.392	4300	0.120
330	$< 10^{-5}$	630	$6.1 \cdot 10^{-2}$	930	0.963	1350	0.968	2850	0.374	4350	$8.5 \cdot 10^{-2}$
340	$< 10^{-5}$	640	0.311	940	0.962	1400	0.969	2900	0.379	4400	$5.1 \cdot 10^{-2}$
350	$< 10^{-5}$	650	0.645	950	0.962	1450	0.973	2950	0.378	4450	$2.5 \cdot 10^{-2}$
360	$< 10^{-5}$	660	0.845	960	0.962	1500	0.977	3000	0.367	4500	$1.2 \cdot 10^{-2}$
370	$< 10^{-5}$	670	0.927	970	0.961	1550	0.979	3050	0.346	4550	$4.8 \cdot 10^{-3}$
380	$< 10^{-5}$	680	0.959	980	0.961	1600	0.981	3100	0.318	4600	$2.0 \cdot 10^{-3}$
390	$< 10^{-5}$	690	0.971	990	0.961	1650	0.982	3150	0.291	4650	$8.3 \cdot 10^{-4}$
400	$< 10^{-5}$	700	0.976	1000	0.961	1700	0.981	3200	0.269	4700	$3.3 \cdot 10^{-4}$
410	$< 10^{-5}$	710	0.978	1010	0.960	1750	0.980	3250	0.248	4750	$1.5 \cdot 10^{-4}$
420	$< 10^{-5}$	720	0.978	1020	0.960	1800	0.979	3300	0.231	4800	$7.3 \cdot 10^{-5}$
430	$< 10^{-5}$	730	0.978	1030	0.960	1850	0.977	3350	0.218	4850	$3.8 \cdot 10^{-5}$
440	$< 10^{-5}$	740	0.977	1040	0.960	1900	0.976	3400	0.208	4900	$1.7 \cdot 10^{-5}$
450	$< 10^{-5}$	750	0.977	1050	0.960	1950	0.975	3450	0.204	4950	$< 10^{-5}$
460	$< 10^{-5}$	760	0.975	1060	0.960	2000	0.974	3500	0.205	5000	$< 10^{-5}$
470	$< 10^{-5}$	770	0.974	1070	0.960	2050	0.973	3550	0.211	5050	$< 10^{-5}$
480	$< 10^{-5}$	780	0.973	1080	0.960	2100	0.971	3600	0.221	5100	$< 10^{-5}$
490	$< 10^{-5}$	790	0.972	1090	0.960	2150	0.968	3650	0.230	5150	$< 10^{-5}$

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