Data Sheet

SCHOTT

BG39

Reflection factor	
P_d	0.914

Reference thickness	
d [mm]	1

Spectral values guaranteed		
τ_i (350nm)	≥	0.6
τ_i (405nm)	≥	0.85
τ_i (514nm)	≥	0.93
τ_i (633nm)	≤	0.3
τ_i (694nm)	≤	0.03
τ_i (1060nm)	≤	0.001

Refractive Index n
n_h (404.7 nm) = 1.550
n_d (587.6 nm) = 1.540

Density	
ρ [g/cm^3]	2.74

Bubble content	
Bubble class	2

Chemical Resistance	
FR class	0
SR class	5.1
AR class	3.0

Transformation temperature	
Tg [°C]	322

Thermal expansion	
$\alpha_{-30/+70°C}$ [10^{-6}/K]	11.6
$\alpha_{20/300°C}$ [10^{-6}/K]	
$\alpha_{20/200°C}$ [10^{-6}/K]	13.1

Temperature coefficient	
T_K [nm/°C]	

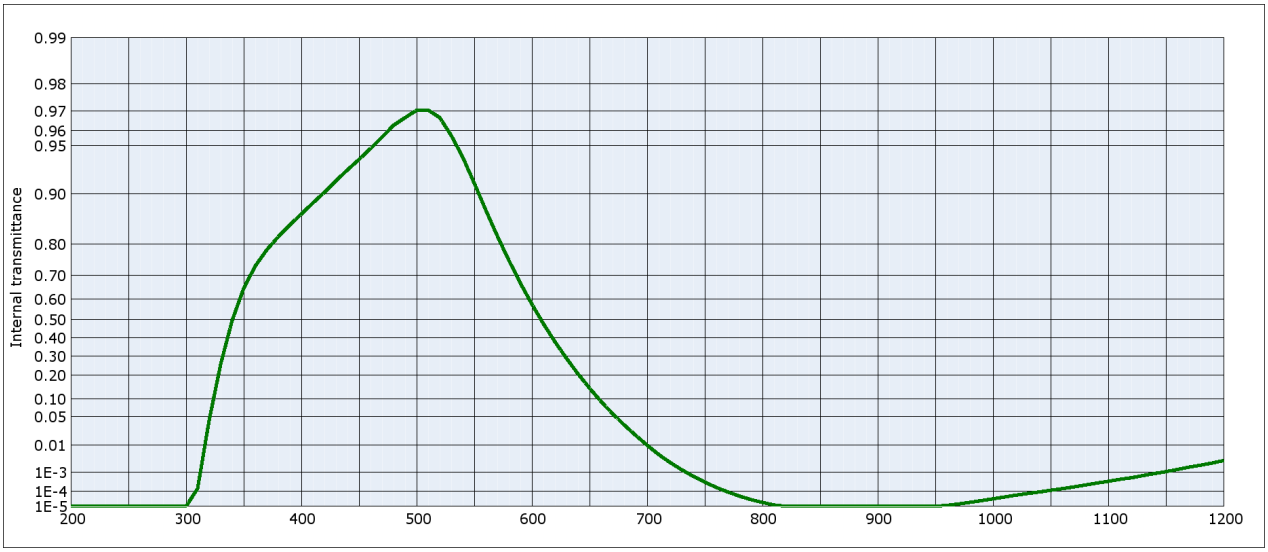
Notes
Ionically colored glass
Bandpass filter / shortpass filter
Long-term changes in the polished surface are possible
All data wihout tolerances are to be understood to be reference values. Guaranteed values are only those values listed in the section "Spectral values guaranteed".

Colorimetric evaluation

Illuminant	A (Planck T = 2856 K)		
d [mm]	1	2	3
x	0.365	0.314	0.279
y	0.434	0.445	0.450
Y	66	53	45
λ_d [nm]	500	500	499
P_e	0.19	0.31	0.39

Illuminant	Planck T = 3200 K		
d [mm]	1	2	3
x	0.344	0.296	0.264
y	0.419	0.425	0.427
Y	67	55	47
λ_d [nm]	498	498	497
P_e	0.19	0.31	0.39

Illuminant	D65 (T_C = 6504 K)		
d [mm]	1	2	3
x	0.257	0.226	0.207
y	0.326	0.322	0.318
Y	73	62	55
λ_d [nm]	491	490	490
P_e	0.21	0.32	0.39



Further explanations see 'Optical Filters 2013' catalogue

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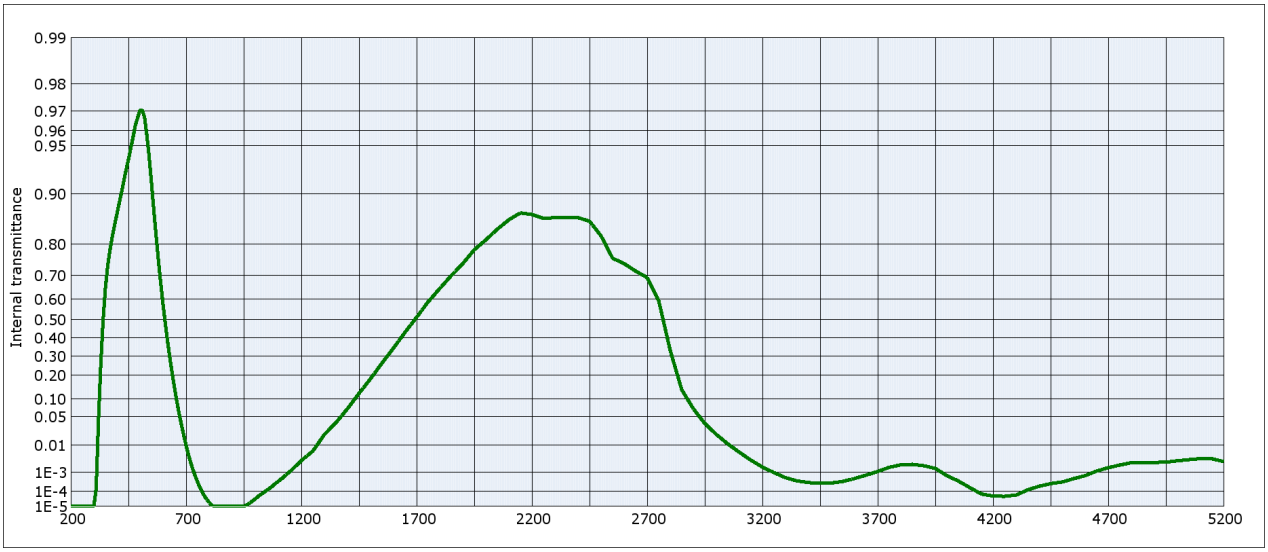

Internal transmittance τ_i at reference thickness d = 1 mm
The internal transmittance values, tabulated and graphically represented, are reference values only

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	0.970	800	$1.9 \cdot 10^{-5}$	1100	$3.7 \cdot 10^{-4}$	2200	0.866	3700	$1.1 \cdot 10^{-3}$
210	$< 10^{-5}$	510	0.970	810	$1.3 \cdot 10^{-5}$	1110	$4.6 \cdot 10^{-4}$	2250	0.859	3750	$1.6 \cdot 10^{-3}$
220	$< 10^{-5}$	520	0.967	820	$< 10^{-5}$	1120	$5.5 \cdot 10^{-4}$	2300	0.860	3800	$2.1 \cdot 10^{-3}$
230	$< 10^{-5}$	530	0.957	830	$< 10^{-5}$	1130	$7.0 \cdot 10^{-4}$	2350	0.860	3850	$2.2 \cdot 10^{-3}$
240	$< 10^{-5}$	540	0.941	840	$< 10^{-5}$	1140	$8.8 \cdot 10^{-4}$	2400	0.860	3900	$1.9 \cdot 10^{-3}$
250	$< 10^{-5}$	550	0.914	850	$< 10^{-5}$	1150	$1.1 \cdot 10^{-3}$	2450	0.853	3950	$1.5 \cdot 10^{-3}$
260	$< 10^{-5}$	560	0.874	860	$< 10^{-5}$	1160	$1.3 \cdot 10^{-3}$	2500	0.820	4000	$7.0 \cdot 10^{-4}$
270	$< 10^{-5}$	570	0.820	870	$< 10^{-5}$	1170	$1.7 \cdot 10^{-3}$	2550	0.758	4050	$3.8 \cdot 10^{-4}$
280	$< 10^{-5}$	580	0.751	880	$< 10^{-5}$	1180	$2.0 \cdot 10^{-3}$	2600	0.740	4100	$1.7 \cdot 10^{-4}$
290	$< 10^{-5}$	590	0.668	890	$< 10^{-5}$	1190	$2.4 \cdot 10^{-3}$	2650	0.714	4150	$7.0 \cdot 10^{-5}$
300	$< 10^{-5}$	600	0.575	900	$< 10^{-5}$	1200	$3.1 \cdot 10^{-3}$	2700	0.690	4200	$5.2 \cdot 10^{-5}$
310	$1.5 \cdot 10^{-4}$	610	0.476	910	$< 10^{-5}$	1250	$6.6 \cdot 10^{-3}$	2750	0.592	4250	$5.0 \cdot 10^{-5}$
320	$4.2 \cdot 10^{-2}$	620	0.378	920	$< 10^{-5}$	1300	$2.0 \cdot 10^{-2}$	2800	0.330	4300	$6.0 \cdot 10^{-5}$
330	0.256	630	0.287	930	$< 10^{-5}$	1350	$3.8 \cdot 10^{-2}$	2850	0.136	4350	$1.2 \cdot 10^{-4}$
340	0.494	640	0.207	940	$< 10^{-5}$	1400	$7.0 \cdot 10^{-2}$	2900	$7.0 \cdot 10^{-2}$	4400	$2.0 \cdot 10^{-4}$
350	0.647	650	0.142	950	$1.0 \cdot 10^{-5}$	1450	0.121	2950	$3.6 \cdot 10^{-2}$	4450	$2.8 \cdot 10^{-4}$
360	0.732	660	$9.2 \cdot 10^{-2}$	960	$1.2 \cdot 10^{-5}$	1500	0.184	3000	$2.0 \cdot 10^{-2}$	4500	$3.4 \cdot 10^{-4}$
370	0.783	670	$5.7 \cdot 10^{-2}$	970	$1.5 \cdot 10^{-5}$	1550	0.262	3050	$1.1 \cdot 10^{-2}$	4550	$5.0 \cdot 10^{-4}$
380	0.818	680	$3.4 \cdot 10^{-2}$	980	$1.9 \cdot 10^{-5}$	1600	0.344	3100	$6.0 \cdot 10^{-3}$	4600	$7.0 \cdot 10^{-4}$
390	0.845	690	$1.9 \cdot 10^{-2}$	990	$2.6 \cdot 10^{-5}$	1650	0.431	3150	$3.1 \cdot 10^{-3}$	4650	$1.1 \cdot 10^{-3}$
400	0.867	700	$1.0 \cdot 10^{-2}$	1000	$3.4 \cdot 10^{-5}$	1700	0.510	3200	$1.7 \cdot 10^{-3}$	4700	$1.6 \cdot 10^{-3}$
410	0.886	710	$5.0 \cdot 10^{-3}$	1010	$4.5 \cdot 10^{-5}$	1750	0.586	3250	$9.6 \cdot 10^{-4}$	4750	$2.0 \cdot 10^{-3}$
420	0.902	720	$2.6 \cdot 10^{-3}$	1020	$5.9 \cdot 10^{-5}$	1800	0.646	3300	$5.6 \cdot 10^{-4}$	4800	$2.5 \cdot 10^{-3}$
430	0.917	730	$1.3 \cdot 10^{-3}$	1030	$7.5 \cdot 10^{-5}$	1850	0.697	3350	$3.9 \cdot 10^{-4}$	4850	$2.6 \cdot 10^{-3}$
440	0.929	740	$6.5 \cdot 10^{-4}$	1040	$9.2 \cdot 10^{-5}$	1900	0.740	3400	$3.1 \cdot 10^{-4}$	4900	$2.6 \cdot 10^{-3}$
450	0.939	750	$3.3 \cdot 10^{-4}$	1050	$1.2 \cdot 10^{-4}$	1950	0.783	3450	$2.9 \cdot 10^{-4}$	4950	$2.6 \cdot 10^{-3}$
460	0.948	760	$1.7 \cdot 10^{-4}$	1060	$1.5 \cdot 10^{-4}$	2000	0.810	3500	$3.0 \cdot 10^{-4}$	5000	$3.0 \cdot 10^{-3}$
470	0.956	770	$9.3 \cdot 10^{-5}$	1070	$1.8 \cdot 10^{-4}$	2050	0.836	3550	$3.6 \cdot 10^{-4}$	5050	$3.3 \cdot 10^{-3}$
480	0.963	780	$5.1 \cdot 10^{-5}$	1080	$2.3 \cdot 10^{-4}$	2100	0.856	3600	$5.1 \cdot 10^{-4}$	5100	$3.6 \cdot 10^{-3}$
490	0.967	790	$3.0 \cdot 10^{-5}$	1090	$3.0 \cdot 10^{-4}$	2150	0.869	3650	$7.4 \cdot 10^{-4}$	5150	$3.5 \cdot 10^{-3}$

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