Data Sheet

BG59

Optical properties			
Reflection factor			
	P_d	=	0,911
Spectral values guaranteed			
τ_i (405 nm)		≥	0,37
τ_i (430 nm)		≥	0,42
τ_i (514 nm)		≥	0,72
τ_i (565 nm)		≥	0,42
τ_i (633 nm)		≤	0,02
τ_i (1500 nm)		≤	0,02
Refractive indices			
n_F (486 nm)		=	1,56
n_e (546 nm)		=	1,553
n_d (587,6 nm)		=	1,55
Sellmeier coefficients			
valid from 440 nm to 1550 nm			
B_1			1,3353
B_2			0,0436
B_3			122,4367
C_2			1,3411E-01 µm²
C_3			13784,523 µm²
Internal quality			
Bubble class			0

Mechanical properties			
Reference thickness			
	d	=	1,00 mm
Density			
	ρ	=	2,82 g/cm³
Knoop hardness			
	HK[0.1/20]	=	431

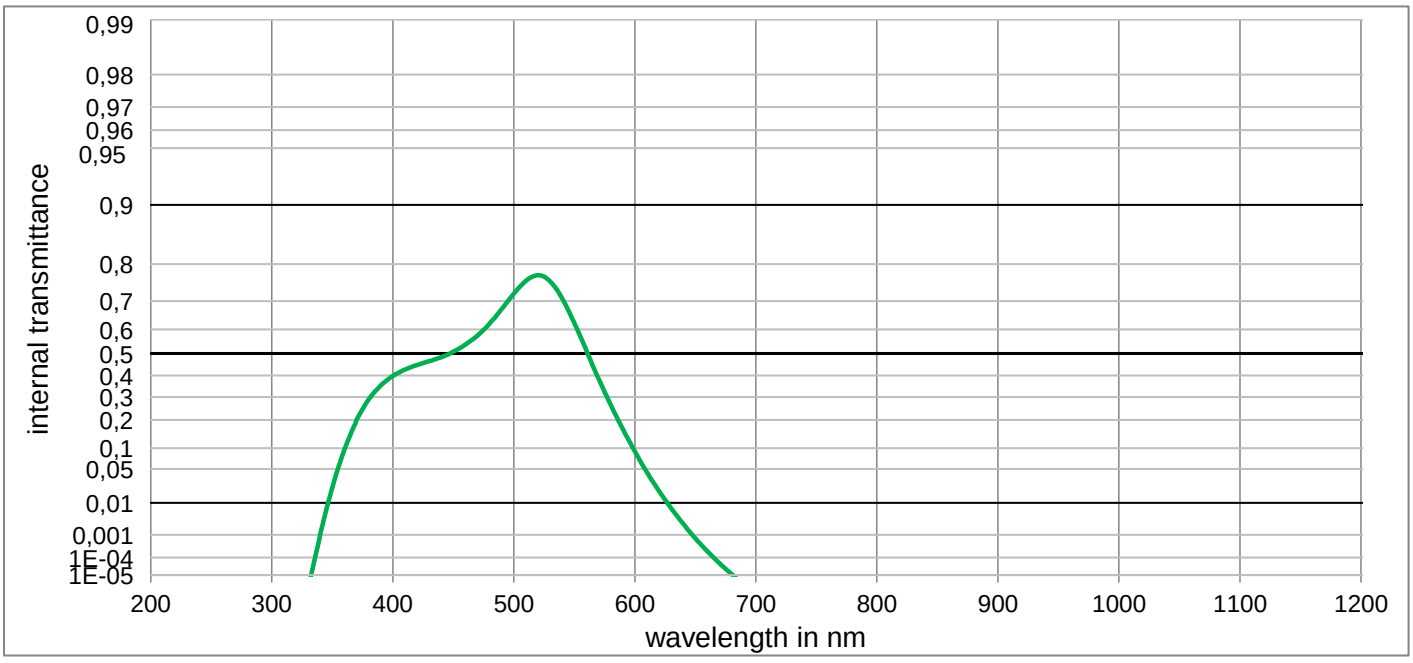
Thermal properties			
Transformation temperature			
	Tg	=	411 °C
Thermal expansion in			10^{-6}/K
	$\alpha_{(-30°C/+70°C)}$	=	9,7
	$\alpha_{(20°C/300°C)}$	=	11,6

Chemical properties			
Chemical resistance			
	FR class		
	SR class	=	5.2
	AR class	=	3
Resistance against humidity			
Sensitive glass			
see pocket catalogue "Optical Filter Glass 2024", chapter 5.5			

Colormetric properties				
		1 mm	2 mm	3 mm
Illuminant D65	x	0,200	0,172	0,157
	y	0,356	0,395	0,440
	Y	42,8	26,7	17,9
	λ_d	494 nm	497 nm	500 nm
	P_e	0,393	0,474	0,510
Illuminant A	x	0,261	0,208	0,183
	y	0,484	0,523	0,559
	Y	34,3	20,1	13,1
	λ_d	502 nm	503 nm	505 nm
	P_e	0,421	0,539	0,597

Notes
Ionically colored glass
Bandpass filter / Shortpass filter
NIR cutoff filter
lambda_50%(d=0.11mm) @ 636 nm
ISO 23364:2021

Disclaimer
All data without tolerances are to be understood to be reference values.



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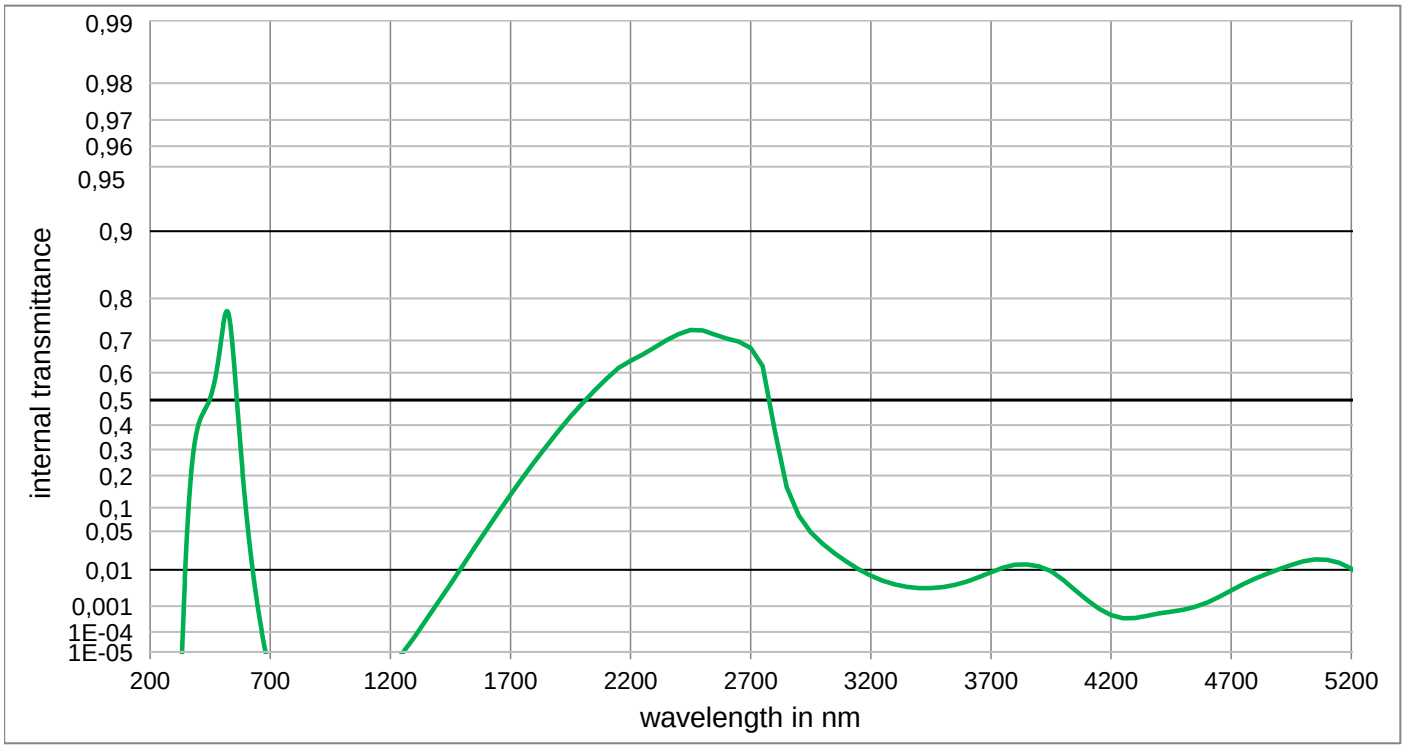

Internal transmittance ti at reference thickness
The internal transmittance values, tabulated and graphically represented, are reference values only

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	< 1,000E-05	500	7,226E-01	800	< 1,000E-05	1100	< 1,000E-05	2200	6,389E-01	3700	8,820E-03
210	< 1,000E-05	510	7,591E-01	810	< 1,000E-05	1110	< 1,000E-05	2250	6,587E-01	3750	1,117E-02
220	< 1,000E-05	520	7,735E-01	820	< 1,000E-05	1120	< 1,000E-05	2300	6,798E-01	3800	1,287E-02
230	< 1,000E-05	530	7,579E-01	830	< 1,000E-05	1130	< 1,000E-05	2350	7,007E-01	3850	1,311E-02
240	< 1,000E-05	540	7,078E-01	840	< 1,000E-05	1140	< 1,000E-05	2400	7,176E-01	3900	1,192E-02
250	< 1,000E-05	550	6,239E-01	850	< 1,000E-05	1150	< 1,000E-05	2450	7,281E-01	3950	9,336E-03
260	< 1,000E-05	560	5,117E-01	860	< 1,000E-05	1160	< 1,000E-05	2500	7,270E-01	4000	5,822E-03
270	< 1,000E-05	570	3,863E-01	870	< 1,000E-05	1170	< 1,000E-05	2550	7,160E-01	4050	3,096E-03
280	< 1,000E-05	580	2,657E-01	880	< 1,000E-05	1180	< 1,000E-05	2600	7,055E-01	4100	1,568E-03
290	< 1,000E-05	590	1,642E-01	890	< 1,000E-05	1190	< 1,000E-05	2650	6,965E-01	4150	8,159E-04
300	< 1,000E-05	600	9,059E-02	900	< 1,000E-05	1200	< 1,000E-05	2700	6,787E-01	4200	4,886E-04
310	< 1,000E-05	610	4,407E-02	910	< 1,000E-05	1250	< 1,000E-05	2750	6,223E-01	4250	3,681E-04
320	< 1,000E-05	620	1,888E-02	920	< 1,000E-05	1300	5,930E-05	2800	3,784E-01	4300	3,728E-04
330	< 1,000E-05	630	7,188E-03	930	< 1,000E-05	1350	3,273E-04	2850	1,604E-01	4350	4,568E-04
340	1,027E-03	640	2,439E-03	940	< 1,000E-05	1400	1,361E-03	2900	8,072E-02	4400	5,594E-04
350	2,251E-02	650	7,312E-04	950	< 1,000E-05	1450	4,512E-03	2950	4,828E-02	4450	6,493E-04
360	9,632E-02	660	1,998E-04	960	< 1,000E-05	1500	1,204E-02	3000	3,175E-02	4500	7,558E-04
370	1,987E-01	670	4,929E-05	970	< 1,000E-05	1550	2,697E-02	3050	2,156E-02	4550	9,438E-04
380	2,886E-01	680	1,139E-05	980	< 1,000E-05	1600	5,205E-02	3100	1,474E-02	4600	1,304E-03
390	3,537E-01	690	< 1,000E-05	990	< 1,000E-05	1650	8,870E-02	3150	1,021E-02	4650	1,959E-03
400	3,982E-01	700	< 1,000E-05	1000	< 1,000E-05	1700	1,363E-01	3200	7,304E-03	4700	3,029E-03
410	4,273E-01	710	< 1,000E-05	1010	< 1,000E-05	1750	1,914E-01	3250	5,506E-03	4750	4,508E-03
420	4,480E-01	720	< 1,000E-05	1020	< 1,000E-05	1800	2,513E-01	3300	4,428E-03	4800	6,243E-03
430	4,655E-01	730	< 1,000E-05	1030	< 1,000E-05	1850	3,140E-01	3350	3,805E-03	4850	8,173E-03
440	4,836E-01	740	< 1,000E-05	1040	< 1,000E-05	1900	3,758E-01	3400	3,515E-03	4900	1,037E-02
450	5,076E-01	750	< 1,000E-05	1050	< 1,000E-05	1950	4,342E-01	3450	3,501E-03	4950	1,279E-02
460	5,386E-01	760	< 1,000E-05	1060	< 1,000E-05	2000	4,878E-01	3500	3,751E-03	5000	1,509E-02
470	5,759E-01	770	< 1,000E-05	1070	< 1,000E-05	2050	5,362E-01	3550	4,305E-03	5050	1,650E-02
480	6,225E-01	780	< 1,000E-05	1080	< 1,000E-05	2100	5,797E-01	3600	5,247E-03	5100	1,628E-02
490	6,740E-01	790	< 1,000E-05	1090	< 1,000E-05	2150	6,165E-01	3650	6,721E-03	5150	1,419E-02