

## BG64

Optical properties	
<b>Reflection factor</b>	
$P_d = 0,916$	
<b>Spectral values guaranteed</b>	
$\tau_i$ (405 nm)	$\geq 0,99$
$\tau_i$ (514 nm)	$\geq 0,99$
$\tau_i$ (633 nm)	$\geq 0,72$
$\tau_i$ (694 nm)	$\leq 0,55$
$\tau_i$ (1060 nm)	$\leq 0,45$
<b>Refractive indices</b>	
$n_F$ (486 nm)	= 1,54
$n_e$ (546 nm)	= 1,53
$n_d$ (587,6 nm)	= 1,53
<b>Sellmeier coefficients</b>	
valid from 365 nm to 2325 nm	
$B_1$	1,3031
$B_2$	0,0067
$B_3$	0,4940
$C_1$	8,159E-03 $\mu\text{m}^2$
$C_2$	5,5599E-02 $\mu\text{m}^2$
$C_3$	69,869 $\mu\text{m}^2$
<b>Internal quality</b>	
Bubble class	2

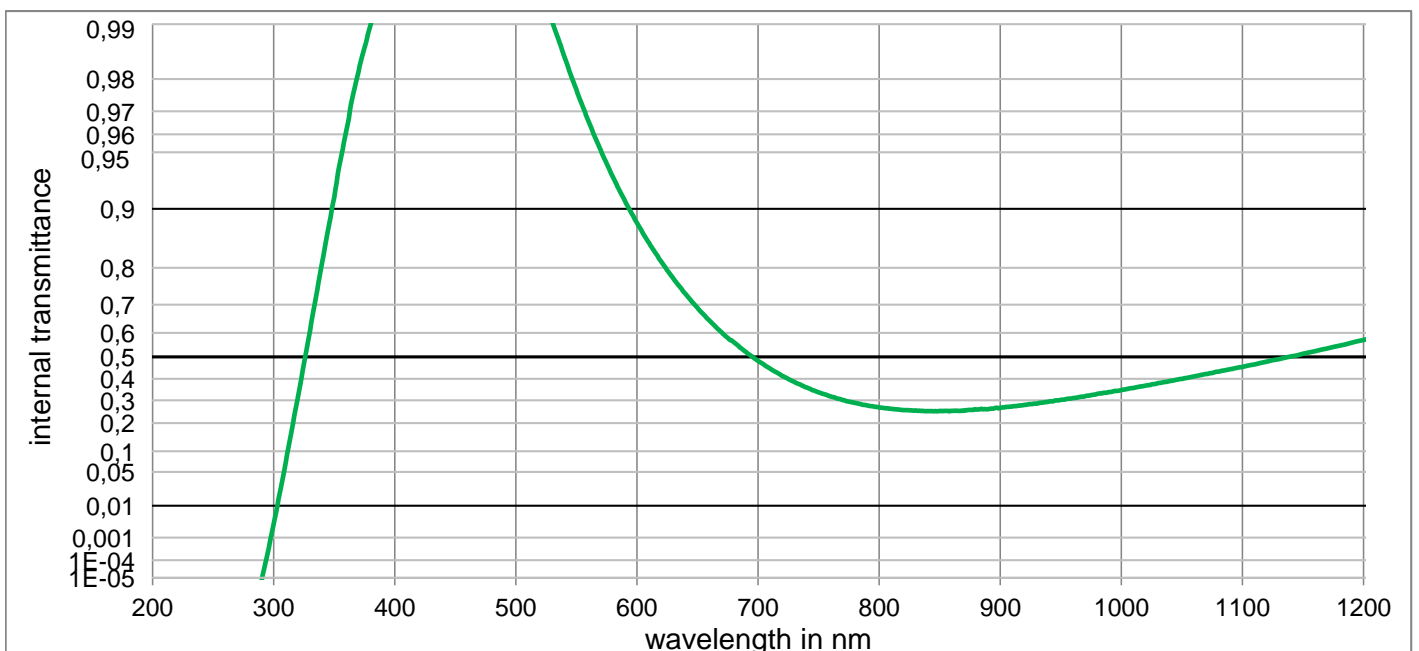
Mechanical properties	
<b>Reference thickness</b>	
$d = 1,00 \text{ mm}$	
<b>Density</b>	
$\rho = 2,78 \text{ g/cm}^3$	
<b>Knoop hardness</b>	
HK[0.1/20] = 371	

Thermal properties	
<b>Transformation temperature</b>	
$T_g = 417 \text{ }^\circ\text{C}$	
<b>Thermal expansion in <math>10^{-6}/\text{K}</math></b>	
$\alpha$ (-30°C/+70°C)	= 12,0
$\alpha$ (20°C/300°C)	= 13,8

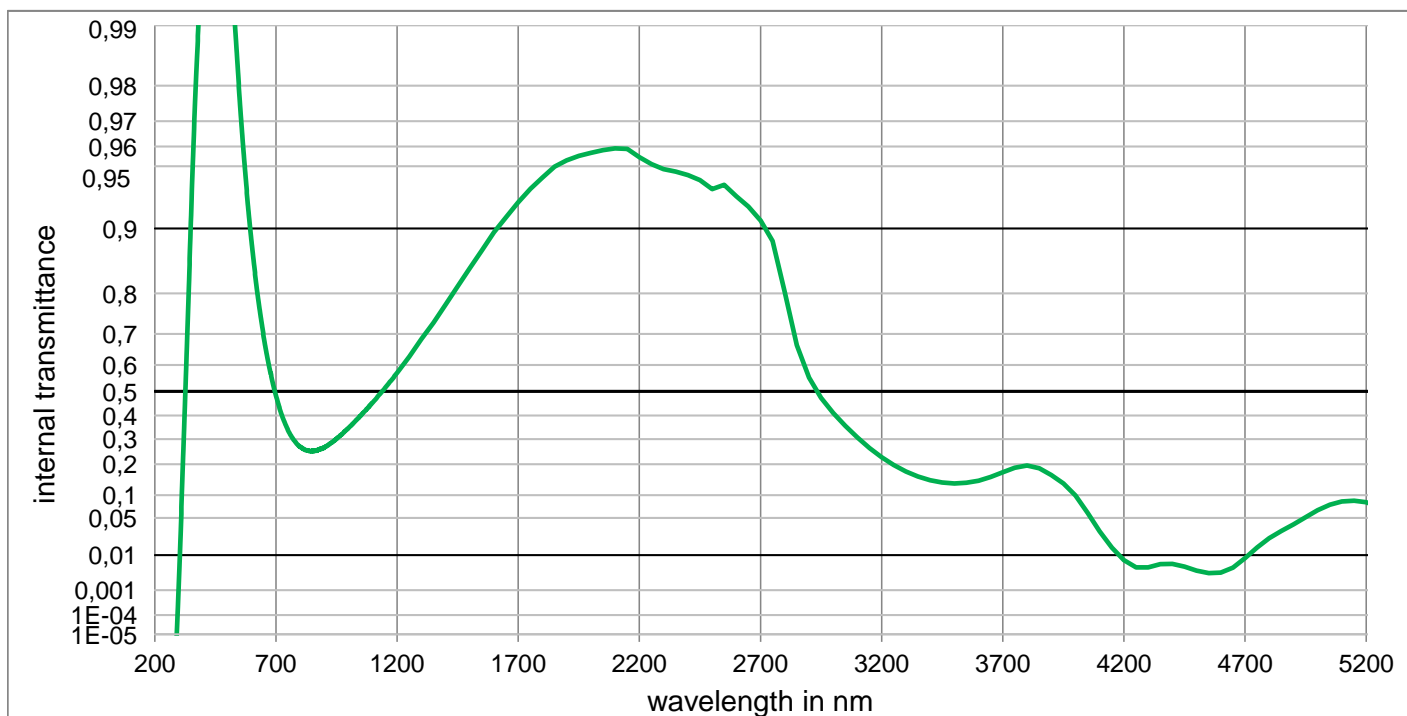
Chemical properties	
<b>Chemical resistance</b>	
FR class	= 1
SR class	= 52.3
AR class	= 3.3
<b>Resistance against humidity</b>	
Resistant glass	
see pocket catalogue "Optical Filter Glass 2020", chapter 5.5	

Colormetric properties				
		1 mm	2 mm	3 mm
Illuminant D65	x	0,297	0,284	0,272
	y	0,327	0,325	0,323
	Y	86,6	82,4	78,6
	$\lambda_d$	490 nm	490 nm	490 nm
	$P_e$	0,058	0,109	0,154
Illuminant A	x	0,427	0,408	0,391
	y	0,414	0,419	0,423
	Y	84,4	78,4	73,3
	$\lambda_d$	500 nm	500 nm	500 nm
	$P_e$	0,047	0,089	0,129

Notes	
Ionically colored glass	
Bandpass filter / Shortpass filter	
NIR cutoff filter	
$\lambda_{50\%}(d=3\text{mm}) = 619 \text{ nm}$	
DIN 58131	
Disclaimer	
All data without tolerances are to be understood to be reference values.	



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**Internal transmittance  $\tau_i$  at reference thickness**  
 The internal transmittance values, tabulated and graphically represented, are reference values only

$\lambda$ /nm	$\tau_i$	$\lambda$ /nm	$\tau_i$	$\lambda$ /nm	$\tau_i$	$\lambda$ /nm	$\tau_i$	$\lambda$ /nm	$\tau_i$	$\lambda$ /nm	$\tau_i$
200	< 1,0E-05	500	9,971E-01	800	2,682E-01	1100	4,553E-01	2200	9,549E-01	3700	1,706E-01
210	< 1,0E-05	510	9,959E-01	810	2,611E-01	1110	4,666E-01	2250	9,512E-01	3750	1,874E-01
220	< 1,0E-05	520	9,938E-01	820	2,558E-01	1120	4,786E-01	2300	9,484E-01	3800	1,951E-01
230	< 1,0E-05	530	9,903E-01	830	2,539E-01	1130	4,896E-01	2350	9,469E-01	3850	1,849E-01
240	< 1,0E-05	540	9,850E-01	840	2,511E-01	1140	5,017E-01	2400	9,447E-01	3900	1,614E-01
250	< 1,0E-05	550	9,770E-01	850	2,523E-01	1150	5,137E-01	2450	9,416E-01	3950	1,338E-01
260	< 1,0E-05	560	9,660E-01	860	2,522E-01	1160	5,248E-01	2500	9,354E-01	4000	9,910E-02
270	< 1,0E-05	570	9,513E-01	870	2,539E-01	1170	5,370E-01	2550	9,383E-01	4050	5,906E-02
280	< 1,0E-05	580	9,324E-01	880	2,592E-01	1180	5,479E-01	2600	9,299E-01	4100	3,025E-02
290	< 1,0E-05	590	9,093E-01	890	2,601E-01	1190	5,602E-01	2650	9,214E-01	4150	1,459E-02
300	3,0E-03	600	8,816E-01	900	2,661E-01	1200	5,719E-01	2700	9,084E-01	4200	7,556E-03
310	7,2E-02	610	8,496E-01	910	2,722E-01	1250	6,292E-01	2750	8,853E-01	4250	4,980E-03
320	3,138E-01	620	8,137E-01	920	2,787E-01	1300	6,842E-01	2800	8,020E-01	4300	4,985E-03
330	6,101E-01	630	7,745E-01	930	2,850E-01	1350	7,313E-01	2850	6,664E-01	4350	6,061E-03
340	8,116E-01	640	7,328E-01	940	2,938E-01	1400	7,753E-01	2900	5,540E-01	4400	6,099E-03
350	9,134E-01	650	6,894E-01	950	3,014E-01	1450	8,142E-01	2950	4,734E-01	4450	5,149E-03
360	9,618E-01	660	6,452E-01	960	3,100E-01	1500	8,461E-01	3000	4,106E-01	4500	4,072E-03
370	9,818E-01	670	6,013E-01	970	3,187E-01	1550	8,733E-01	3050	3,560E-01	4550	3,468E-03
380	9,899E-01	680	5,625E-01	980	3,291E-01	1600	8,959E-01	3100	3,067E-01	4600	3,580E-03
390	9,935E-01	690	5,212E-01	990	3,379E-01	1650	9,119E-01	3150	2,634E-01	4650	4,884E-03
400	9,950E-01	700	4,821E-01	1000	3,475E-01	1700	9,252E-01	3200	2,268E-01	4700	8,466E-03
410	9,959E-01	710	4,471E-01	1010	3,575E-01	1750	9,356E-01	3250	1,972E-01	4750	1,487E-02
420	9,962E-01	720	4,140E-01	1020	3,681E-01	1800	9,432E-01	3300	1,740E-01	4800	2,278E-02
430	9,966E-01	730	3,852E-01	1030	3,793E-01	1850	9,497E-01	3350	1,565E-01	4850	3,076E-02
440	9,970E-01	740	3,593E-01	1040	3,898E-01	1900	9,532E-01	3400	1,440E-01	4900	3,956E-02
450	9,973E-01	750	3,369E-01	1050	3,999E-01	1950	9,556E-01	3450	1,367E-01	4950	5,139E-02
460	9,976E-01	760	3,175E-01	1060	4,107E-01	2000	9,570E-01	3500	1,339E-01	5000	6,452E-02
470	9,977E-01	770	3,011E-01	1070	4,223E-01	2050	9,583E-01	3550	1,362E-01	5050	7,625E-02
480	9,977E-01	780	2,879E-01	1080	4,326E-01	2100	9,591E-01	3600	1,428E-01	5100	8,386E-02
490	9,977E-01	790	2,763E-01	1090	4,452E-01	2150	9,589E-01	3650	1,544E-01	5150	8,586E-02