

RG645

Optical properties	
Reflection factor	
P_d	= 0,918
Spectral values guaranteed (d = 3 mm)	
λ_c ($\tau_i = 0,5$)	= 645 nm \pm 6 nm
λ_s ($\tau_{i,U} = 1E-05$)	= 560 nm
λ_p ($\tau_{i,L} = 0,94$)	= 720 nm
Refractive indices	
n_d (587,6 nm)	= 1,52
n_s (852 nm)	= 1,52
n_t (1014 nm)	= 1,51
Sellmeier coefficients	
on request	
Internal quality	
Bubble class	3

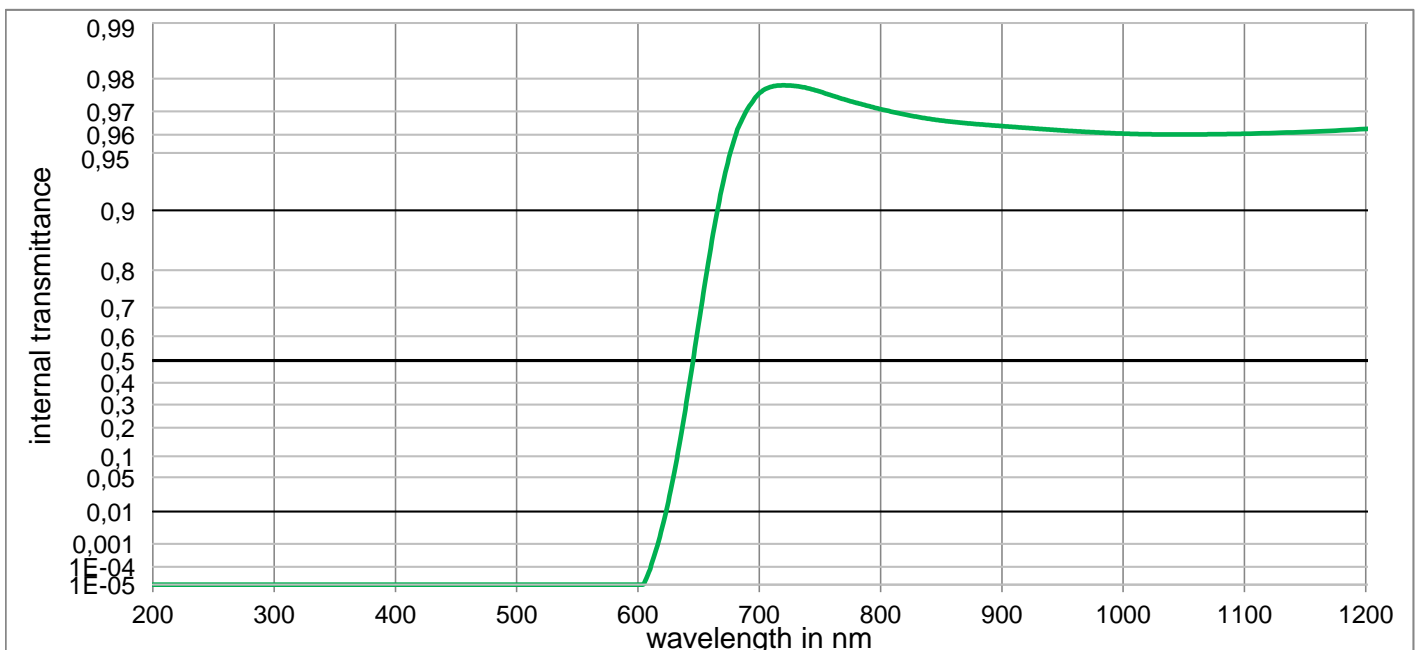
Mechanical properties	
Reference thickness	
d	= 3,00 mm
Density	
ρ	= 2,65 g/cm ³
Knoop hardness	
$HK_{[0.1/20]}$	= 456

Thermal properties	
Transformation temperature	
T_g	= 519 °C
Thermal expansion in 10⁻⁶/K	
α (-30°C/+70°C)	= 8,0
α (20°C/300°C)	= 9,2
Temperature coefficient	
Tk	= 0,16 nm/K

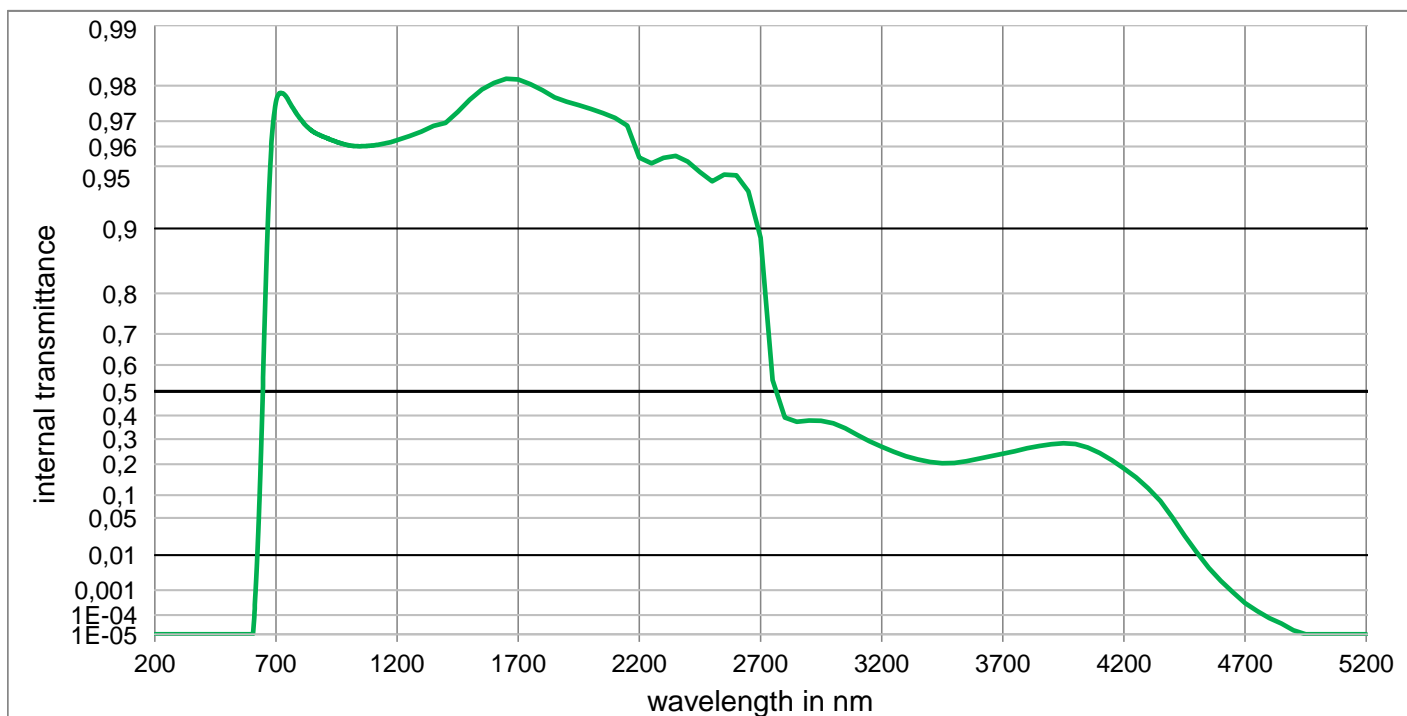
Chemical properties	
Chemical resistance	
FR class	= 0
SR class	= 1
AR class	= 1
Resistance against humidity	
Resistant glass	
see pocket catalogue "Optical Filter Glass 2020", chapter 5.5	

Colormetric properties				
	1 mm	2 mm	3 mm	
Illuminant D65	x	0,584	0,717	0,726
	y	0,298	0,278	0,274
	Y	5,4	2,4	1,8
	λ_d	638 nm	645 nm	650 nm
Illuminant A	P_e	0,670	0,984	0,999
	x	0,672	0,722	0,726
	y	0,303	0,277	0,274
	Y	8,6	4,7	3,6
	λ_d	640 nm	647 nm	651 nm
	P_e	0,828	0,993	0,999

Notes	
Stricking glass	
Longpass filter	
DIN 58131	
Disclaimer	
All data without tolerances are to be understood to be reference values.	



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Internal transmittance τ_i 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	< 1,0E-05	500	< 1,000E-05	800	9,708E-01	1100	9,605E-01	2200	9,547E-01	3700	2,399E-01
210	< 1,0E-05	510	< 1,000E-05	810	9,698E-01	1110	9,606E-01	2250	9,516E-01	3750	2,503E-01
220	< 1,0E-05	520	< 1,000E-05	820	9,688E-01	1120	9,608E-01	2300	9,545E-01	3800	2,623E-01
230	< 1,0E-05	530	< 1,000E-05	830	9,679E-01	1130	9,610E-01	2350	9,555E-01	3850	2,714E-01
240	< 1,0E-05	540	< 1,000E-05	840	9,671E-01	1140	9,611E-01	2400	9,525E-01	3900	2,787E-01
250	< 1,0E-05	550	< 1,000E-05	850	9,664E-01	1150	9,613E-01	2450	9,466E-01	3950	2,827E-01
260	< 1,0E-05	560	< 1,000E-05	860	9,658E-01	1160	9,616E-01	2500	9,408E-01	4000	2,792E-01
270	< 1,0E-05	570	< 1,000E-05	870	9,653E-01	1170	9,618E-01	2550	9,451E-01	4050	2,656E-01
280	< 1,0E-05	580	< 1,000E-05	880	9,649E-01	1180	9,621E-01	2600	9,447E-01	4100	2,436E-01
290	< 1,0E-05	590	< 1,000E-05	890	9,644E-01	1190	9,624E-01	2650	9,337E-01	4150	2,152E-01
300	< 1,0E-05	600	< 1,000E-05	900	9,641E-01	1200	9,628E-01	2700	8,894E-01	4200	1,844E-01
310	< 1,0E-05	610	7,607E-05	910	9,636E-01	1250	9,644E-01	2750	5,439E-01	4250	1,529E-01
320	< 1,000E-05	620	3,586E-03	920	9,632E-01	1300	9,662E-01	2800	3,916E-01	4300	1,199E-01
330	< 1,000E-05	630	6,056E-02	930	9,628E-01	1350	9,684E-01	2850	3,738E-01	4350	8,517E-02
340	< 1,000E-05	640	3,112E-01	940	9,624E-01	1400	9,694E-01	2900	3,791E-01	4400	5,083E-02
350	< 1,000E-05	650	6,454E-01	950	9,621E-01	1450	9,730E-01	2950	3,779E-01	4450	2,517E-02
360	< 1,000E-05	660	8,449E-01	960	9,617E-01	1500	9,765E-01	3000	3,671E-01	4500	1,162E-02
370	< 1,000E-05	670	9,271E-01	970	9,614E-01	1550	9,791E-01	3050	3,455E-01	4550	4,841E-03
380	< 1,000E-05	680	9,589E-01	980	9,611E-01	1600	9,806E-01	3100	3,177E-01	4600	2,037E-03
390	< 1,000E-05	690	9,706E-01	990	9,608E-01	1650	9,815E-01	3150	2,911E-01	4650	8,337E-04
400	< 1,000E-05	700	9,760E-01	1000	9,605E-01	1700	9,814E-01	3200	2,687E-01	4700	3,327E-04
410	< 1,000E-05	710	9,779E-01	1010	9,604E-01	1750	9,804E-01	3250	2,482E-01	4750	1,524E-04
420	< 1,000E-05	720	9,783E-01	1020	9,602E-01	1800	9,789E-01	3300	2,309E-01	4800	7,289E-05
430	< 1,000E-05	730	9,781E-01	1030	9,602E-01	1850	9,772E-01	3350	2,176E-01	4850	3,837E-05
440	< 1,000E-05	740	9,775E-01	1040	9,601E-01	1900	9,760E-01	3400	2,081E-01	4900	1,694E-05
450	< 1,000E-05	750	9,765E-01	1050	9,601E-01	1950	9,750E-01	3450	2,036E-01	4950	< 1,000E-05
460	< 1,000E-05	760	9,754E-01	1060	9,602E-01	2000	9,739E-01	3500	2,049E-01	5000	< 1,000E-05
470	< 1,000E-05	770	9,742E-01	1070	9,602E-01	2050	9,726E-01	3550	2,113E-01	5050	< 1,000E-05
480	< 1,000E-05	780	9,730E-01	1080	9,603E-01	2100	9,711E-01	3600	2,208E-01	5100	< 1,000E-05
490	< 1,000E-05	790	9,719E-01	1090	9,604E-01	2150	9,684E-01	3650	2,302E-01	5150	< 1,000E-05