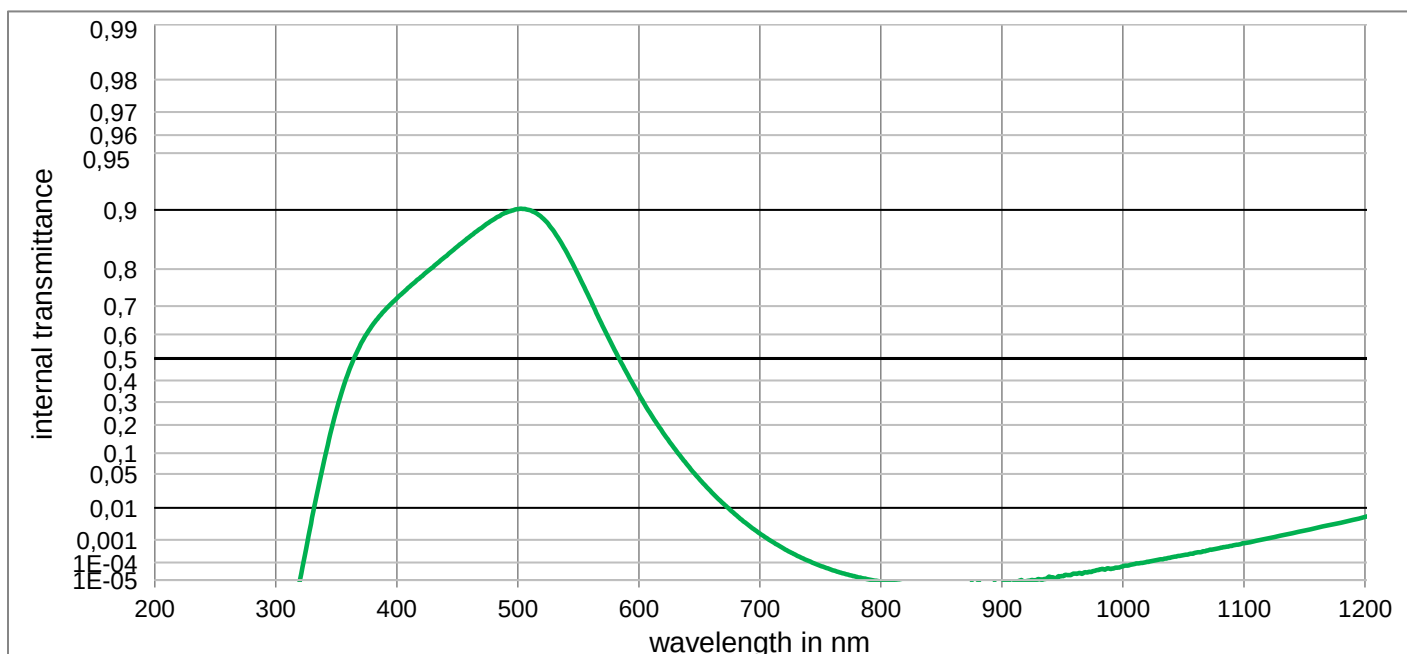
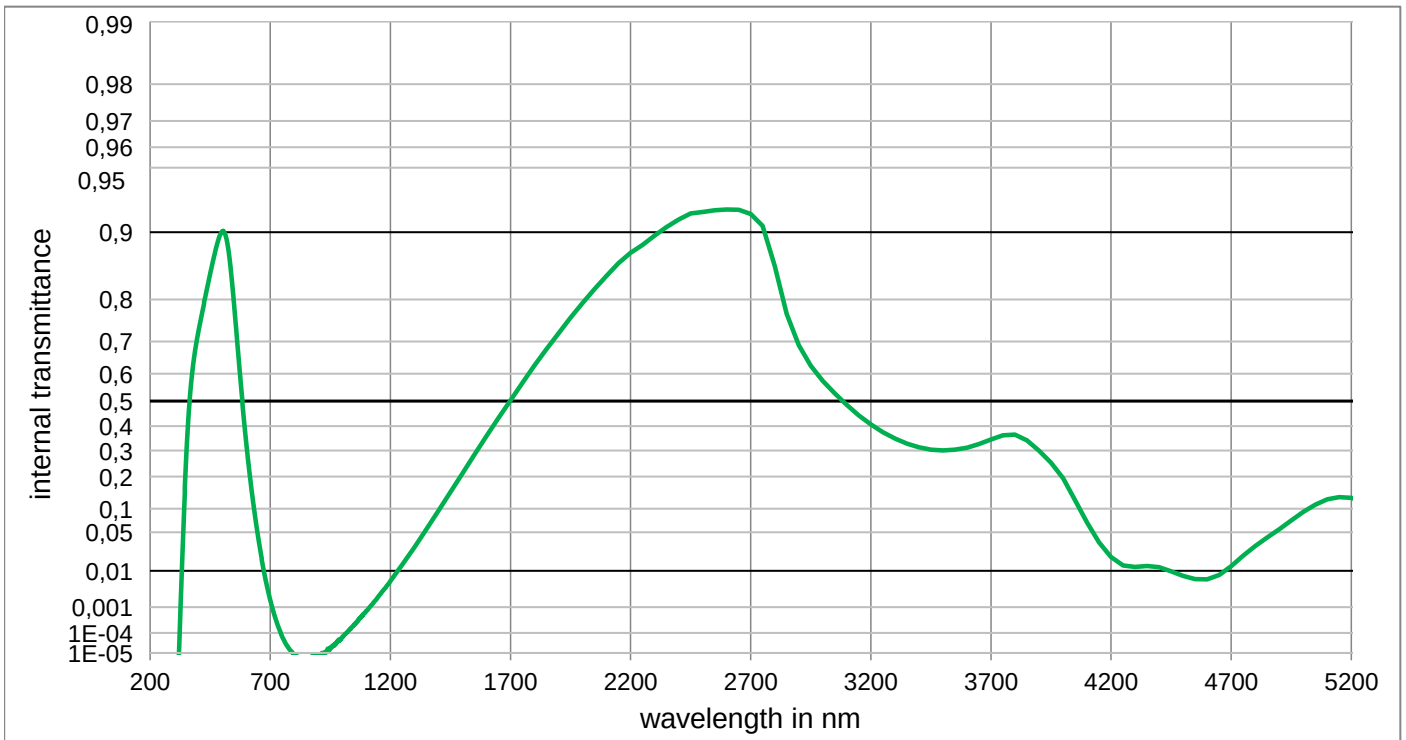


Optical properties		Mechanical properties		Colorimetric properties				
Reflection factor		Reference thickness		1 mm2 mm3 mm				
P _d = 0,915		d = 1,00 mm		Illuminant D65	x	0,229	0,194	0,175
Spectral values guaranteed		Density			y	0,320	0,311	0,305
τ _i (405 nm)	≥ 0,73	ρ = 2,85 g/cm³			Y	60,0	45,1	35,8
τ _i (514 nm)	≥ 0,89	Knoop hardness			λ _d	490 nm	490 nm	489 nm
τ _i (633 nm)	≥ 0,08	HK[0.1/20] = 368			P _e	0,312	0,446	0,520
τ _i (694 nm)	≤ 0,005	Thermal properties		Illuminant A	x	0,321	0,257	0,220
τ _i (1060 nm)	≤ 0,0005	Transformation temperature			y	0,441	0,447	0,445
		Tg = 410 °C			Y	51,6	36,0	27,2
		Thermal expansion in 10 ⁻⁶ /K			λ _d	499 nm	498 nm	498 nm
		α _(-30°C/+70°C) = 11,9			P _e	0,290	0,438	0,524
		α _(20°C/300°C) = 13,6		Notes				
Refractive indices		Ionically colored glass Bandpass filter / Shortpass filter NIR cutoff filter lambda_50%(d=0.21mm) = 644 nm ISO 23364:2021						
n _F (486 nm)	= 1,546							
n _e (546 nm)	= 1,542							
n _d (587,6 nm)	= 1,54							
Sellmeier coefficients		Chemical properties		Disclaimer All data without tolerances are to be understood to be reference values.				
valid from 340 nm to 1550 nm		Chemical resistance						
B ₁	1,2129	FR class = 1						
B ₂	0,1238	SR class = 52.3						
B ₃	0,0621	AR class = 3.3						
C ₁	6,667E-03 μm²	Resistance against humidity						
C ₂	3,0034E-02 μm²							
C ₃	12,219 μm²							
Internal quality								
Bubble class	2							



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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	< 1,000E-05	500	9,010E-01	800	< 1,000E-05	1100	7,390E-04	2200	8,757E-01	3700	3,448E-01
210	< 1,000E-05	510	8,996E-01	810	< 1,000E-05	1110	9,134E-04	2250	8,858E-01	3750	3,621E-01
220	< 1,000E-05	520	8,902E-01	820	< 1,000E-05	1120	1,135E-03	2300	8,963E-01	3800	3,647E-01
230	< 1,000E-05	530	8,704E-01	830	< 1,000E-05	1130	1,415E-03	2350	9,053E-01	3850	3,416E-01
240	< 1,000E-05	540	8,363E-01	840	< 1,000E-05	1140	1,732E-03	2400	9,126E-01	3900	2,998E-01
250	< 1,000E-05	550	7,859E-01	850	< 1,000E-05	1150	2,149E-03	2450	9,180E-01	3950	2,524E-01
260	< 1,000E-05	560	7,179E-01	860	< 1,000E-05	1160	2,620E-03	2500	9,193E-01	4000	1,940E-01
270	< 1,000E-05	570	6,330E-01	870	< 1,000E-05	1170	3,235E-03	2550	9,208E-01	4050	1,235E-01
280	< 1,000E-05	580	5,365E-01	880	< 1,000E-05	1180	3,803E-03	2600	9,215E-01	4100	6,781E-02
290	< 1,000E-05	590	4,347E-01	890	< 1,000E-05	1190	4,695E-03	2650	9,213E-01	4150	3,506E-02
300	< 1,000E-05	600	3,347E-01	900	< 1,000E-05	1200	5,724E-03	2700	9,177E-01	4200	1,926E-02
310	< 1,000E-05	610	2,446E-01	910	< 1,000E-05	1250	1,361E-02	2750	9,065E-01	4250	1,309E-02
320	1,091E-05	620	1,691E-01	920	< 1,000E-05	1300	2,886E-02	2800	8,575E-01	4300	1,218E-02
330	5,414E-03	630	1,115E-01	930	1,165E-05	1350	5,506E-02	2850	7,696E-01	4350	1,280E-02
340	7,963E-02	640	6,907E-02	940	1,541E-05	1400	9,391E-02	2900	6,891E-01	4400	1,197E-02
350	2,609E-01	650	4,086E-02	950	1,755E-05	1450	1,474E-01	2950	6,267E-01	4450	9,752E-03
360	4,385E-01	660	2,302E-02	960	2,479E-05	1500	2,108E-01	3000	5,754E-01	4500	7,643E-03
370	5,592E-01	670	1,251E-02	970	2,870E-05	1550	2,833E-01	3050	5,287E-01	4550	6,426E-03
380	6,359E-01	680	6,564E-03	980	4,020E-05	1600	3,593E-01	3100	4,846E-01	4600	6,306E-03
390	6,861E-01	690	3,364E-03	990	4,506E-05	1650	4,329E-01	3150	4,432E-01	4650	8,001E-03
400	7,241E-01	700	1,703E-03	1000	6,306E-05	1700	5,028E-01	3200	4,065E-01	4700	1,261E-02
410	7,548E-01	710	8,557E-04	1010	8,451E-05	1750	5,686E-01	3250	3,749E-01	4750	2,046E-02
420	7,817E-01	720	4,359E-04	1020	1,094E-04	1800	6,275E-01	3300	3,489E-01	4800	3,035E-02
430	8,047E-01	730	2,284E-04	1030	1,406E-04	1850	6,784E-01	3350	3,284E-01	4850	4,167E-02
440	8,263E-01	740	1,222E-04	1040	1,816E-04	1900	7,221E-01	3400	3,129E-01	4900	5,510E-02
450	8,455E-01	750	6,774E-05	1050	2,297E-04	1950	7,604E-01	3450	3,039E-01	4950	7,229E-02
460	8,620E-01	760	3,935E-05	1060	2,932E-04	2000	7,928E-01	3500	3,002E-01	5000	9,193E-02
470	8,761E-01	770	2,448E-05	1070	3,653E-04	2050	8,197E-01	3550	3,034E-01	5050	1,109E-01
480	8,878E-01	780	1,610E-05	1080	4,627E-04	2100	8,428E-01	3600	3,118E-01	5100	1,255E-01
490	8,965E-01	790	1,109E-05	1090	5,805E-04	2150	8,618E-01	3650	3,260E-01	5150	1,323E-01