Data Sheet

NG11

Optical properties			
Reflection factor			
P_d	=	0,923	
Spectral values guaranteed			
τ_i (405 nm)	=	0,76	± 0,02
τ_i (546 nm)	=	0,77	± 0,02
τ_i (694 nm)	=	0,79	± 0,02
Refractive indices			
n_F (486 nm)	=	1,5	
n_e (546 nm)	=	1,5	
n_d (587,6 nm)	=	1,5	
Sellmeier coefficients			
valid from 365 nm to 1530 nm			
B_1		1,1839	
B_2		0,0336	
B_3		1,1111	
C_1		7,634E-03	µm²
C_2		4,3272E-02	µm²
C_3		116,448	µm²
Internal quality			
Bubble class		2	

Mechanical properties		
Reference thickness		
d	=	1,00 mm
Density		
ρ	=	2,41 g/cm³
Knoop hardness		
HK[0.1/20]	=	460

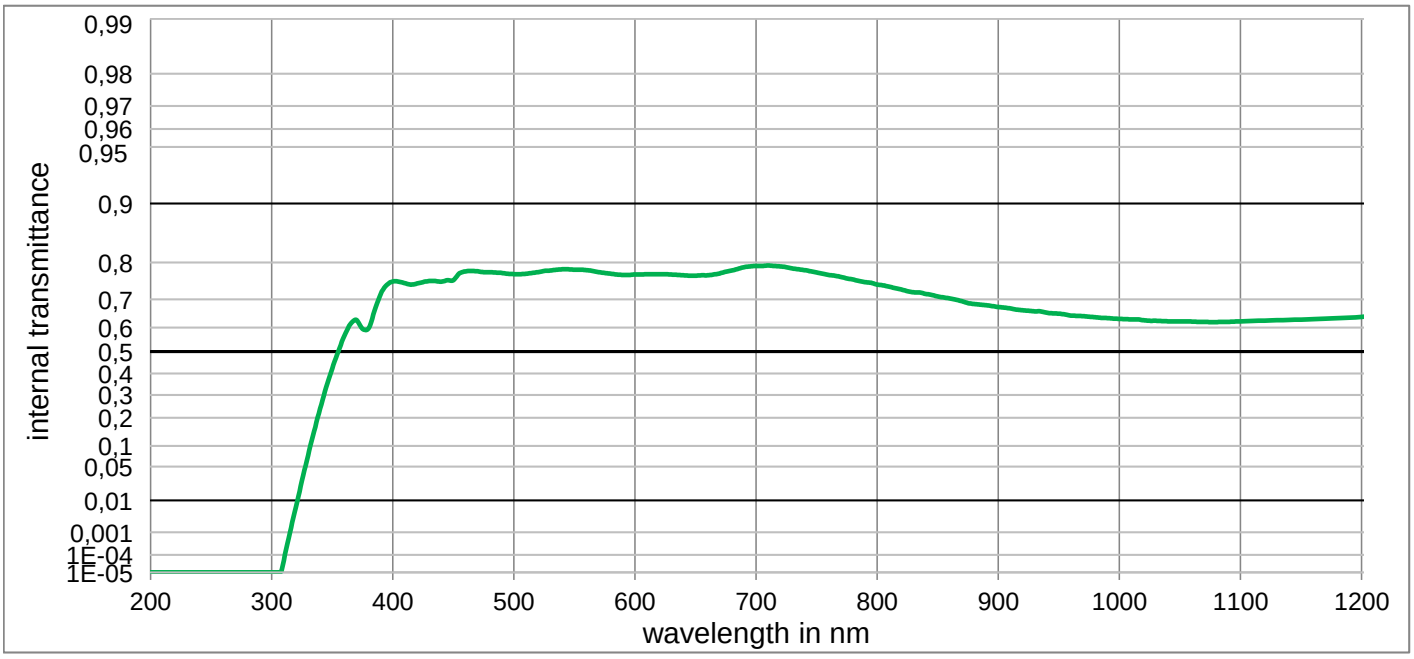
Thermal properties		
Transformation temperature		
Tg	=	481 °C
Thermal expansion in		**10^{-6}/K**
$\alpha_{(-30°C/+70°C)}$	=	6,7
$\alpha_{(20°C/300°C)}$	=	7,2
$\alpha_{(20°C/200°C)}$	=	7

Chemical properties		
Chemical resistance		
FR class	=	1
SR class	=	3.4
AR class	=	2

Colormetric properties		1 mm	2 mm	3 mm
Illuminant D65	x			
	y			
	Y			
	λ_d			
	P_e			
Illuminant A	x			
	y			
	Y			
	λ_d			
	P_e			

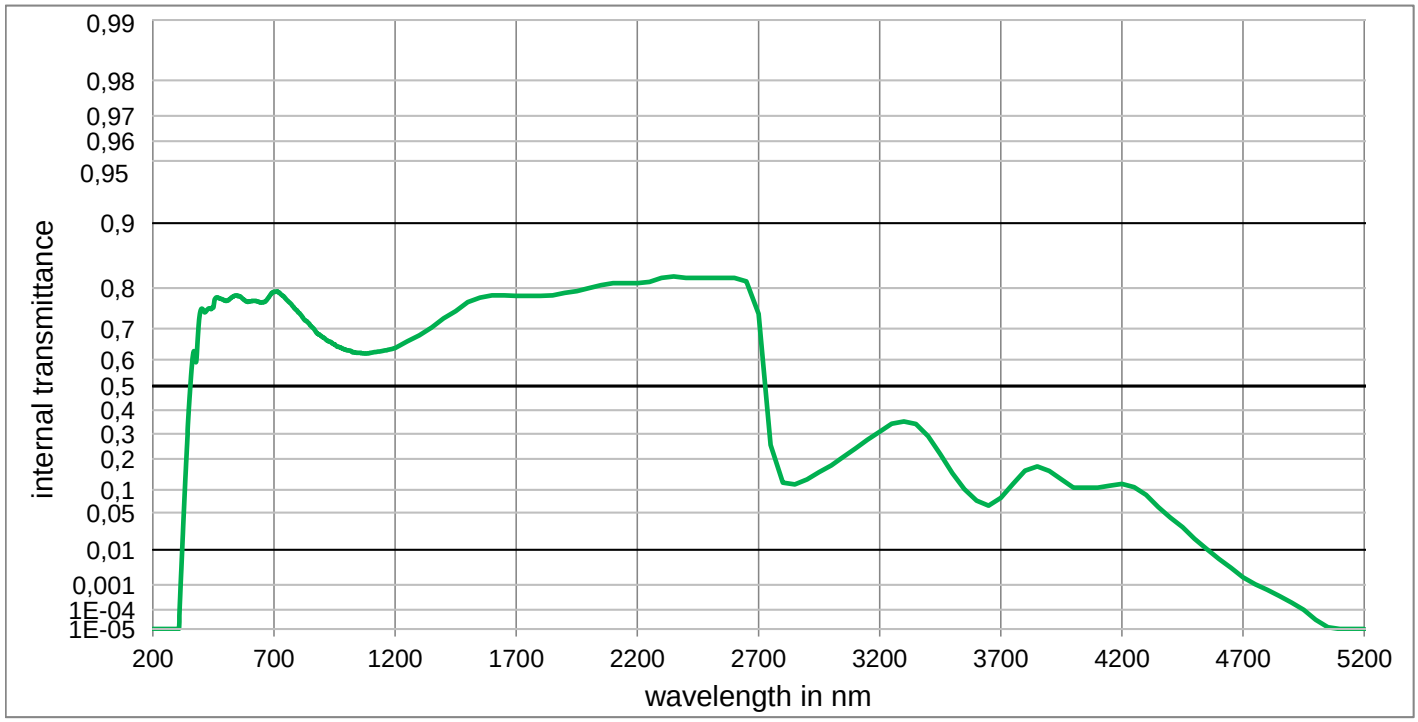
Notes
Ionically colored glass
Neutral density filter
DIN 58131

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



Data Sheet

NG11



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	< 1,0E-05	500	7,720E-01	800	7,440E-01	1100	6,240E-01	2200	8,100E-01	3700	8,000E-02
210	< 1,0E-05	510	7,730E-01	810	7,380E-01	1110	6,254E-01	2250	8,124E-01	3750	1,159E-01
220	< 1,0E-05	520	7,770E-01	820	7,300E-01	1120	6,266E-01	2300	8,200E-01	3800	1,583E-01
230	< 1,0E-05	530	7,810E-01	830	7,220E-01	1130	6,278E-01	2350	8,227E-01	3850	1,725E-01
240	< 1,0E-05	540	7,840E-01	840	7,170E-01	1140	6,290E-01	2400	8,200E-01	3900	1,574E-01
250	< 1,0E-05	550	7,830E-01	850	7,090E-01	1150	6,304E-01	2450	8,200E-01	3950	1,300E-01
260	< 1,0E-05	560	7,820E-01	860	7,030E-01	1160	6,318E-01	2500	8,200E-01	4000	1,060E-01
270	< 1,0E-05	570	7,770E-01	870	6,940E-01	1170	6,335E-01	2550	8,200E-01	4050	1,060E-01
280	< 1,0E-05	580	7,730E-01	880	6,850E-01	1180	6,353E-01	2600	8,200E-01	4100	1,058E-01
290	< 1,0E-05	590	7,700E-01	890	6,810E-01	1190	6,375E-01	2650	8,133E-01	4150	1,117E-01
300	< 1,0E-05	600	7,710E-01	900	6,750E-01	1200	6,400E-01	2700	7,400E-01	4200	1,162E-01
310	5,1E-05	610	7,720E-01	910	6,700E-01	1250	6,616E-01	2750	2,545E-01	4250	1,072E-01
320	6,622E-03	620	7,720E-01	920	6,640E-01	1300	6,800E-01	2800	1,200E-01	4300	8,710E-02
330	7,396E-02	630	7,710E-01	930	6,600E-01	1350	7,030E-01	2850	1,150E-01	4350	6,012E-02
340	2,387E-01	640	7,690E-01	940	6,550E-01	1400	7,285E-01	2900	1,300E-01	4400	4,169E-02
350	4,241E-01	650	7,680E-01	950	6,520E-01	1450	7,473E-01	2950	1,527E-01	4450	2,904E-02
360	5,667E-01	660	7,690E-01	960	6,450E-01	1500	7,690E-01	3000	1,762E-01	4500	1,720E-02
370	6,290E-01	670	7,740E-01	970	6,430E-01	1550	7,794E-01	3050	2,073E-01	4550	1,038E-02
380	5,968E-01	680	7,810E-01	980	6,390E-01	1600	7,841E-01	3100	2,400E-01	4600	6,000E-03
390	7,166E-01	690	7,890E-01	990	6,360E-01	1650	7,841E-01	3150	2,752E-01	4650	3,459E-03
400	7,530E-01	700	7,920E-01	1000	6,330E-01	1700	7,831E-01	3200	3,091E-01	4700	1,778E-03
410	7,480E-01	710	7,930E-01	1010	6,310E-01	1750	7,831E-01	3250	3,421E-01	4750	1,052E-03
420	7,470E-01	720	7,910E-01	1020	6,280E-01	1800	7,831E-01	3300	3,525E-01	4800	6,607E-04
430	7,540E-01	730	7,860E-01	1030	6,260E-01	1850	7,841E-01	3350	3,412E-01	4850	3,846E-04
440	7,520E-01	740	7,820E-01	1040	6,240E-01	1900	7,900E-01	3400	2,900E-01	4900	2,089E-04
450	7,559E-01	750	7,760E-01	1050	6,240E-01	1950	7,935E-01	3450	2,186E-01	4950	1,007E-04
460	7,790E-01	760	7,700E-01	1060	6,230E-01	2000	8,000E-01	3500	1,500E-01	5000	3,236E-05
470	7,790E-01	770	7,650E-01	1070	6,220E-01	2050	8,058E-01	3550	1,018E-01	5050	1,271E-05
480	7,770E-01	780	7,580E-01	1080	6,210E-01	2100	8,100E-01	3600	7,350E-02	5100	< 1,000E-05
490	7,750E-01	790	7,510E-01	1090	6,220E-01	2150	8,100E-01	3650	6,310E-02	5150	< 1,000E-05