

# Data Sheet



## NG3

Density	
$\rho$ [g/cm <sup>3</sup> ]	2.44

Notes
Ionically colored glass
Neutral density filter

Reflection factor	
$P_d$	0.921

Bubble content	
Bubble class	2

Reference thickness	
d [mm]	1

Chemical Resistance	
FR class	1.0
SR class	2.2
AR class	1.0

Spectral values guaranteed	
$\tau_i$ (405nm)	= 0.06 ± 0.02
$\tau_i$ (546nm)	= 0.1 ± 0.02
$\tau_i$ (694nm)	= 0.17 ± 0.03

Transformation temperature	
$T_g$ [°C]	462

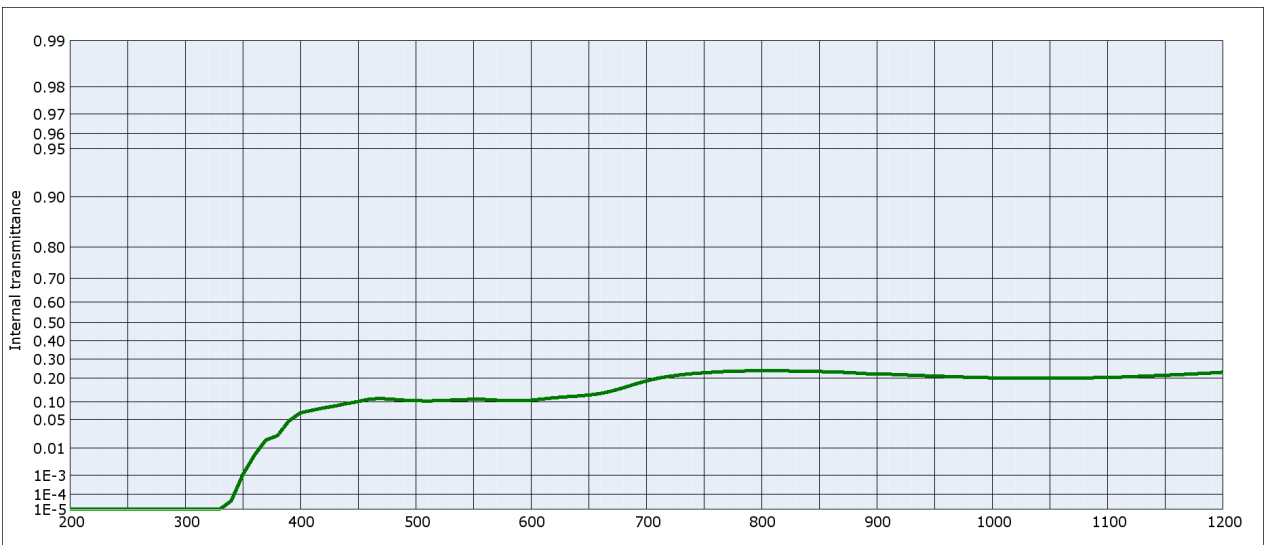
Refractive Index n	
$n_d$ (587.6 nm) =	1.510

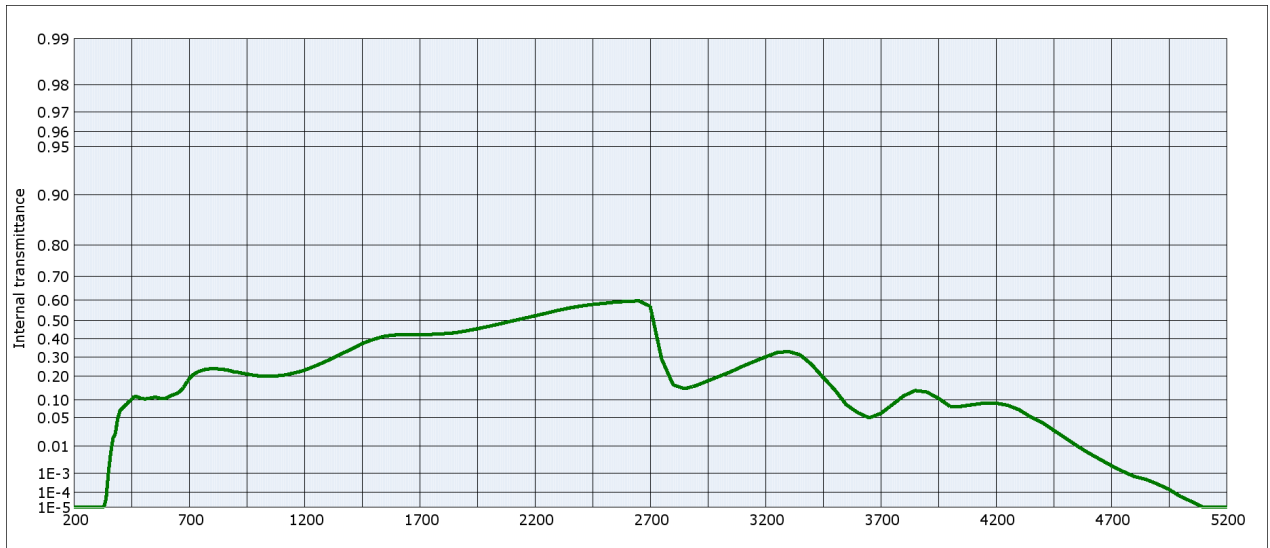
Thermal expansion	
$\alpha_{30/+70^\circ C}$ [10 <sup>-6</sup> /K]	6.5
$\alpha_{20/300^\circ C}$ [10 <sup>-6</sup> /K]	7.3
$\alpha_{20/200^\circ C}$ [10 <sup>-6</sup> /K]	

Temperature coefficient	
$T_K$ [nm/°C]	

All data without tolerances are to be understood to be reference values. Guaranteed values are only those values listed in the section "Spectral values guaranteed".

Colorimetric evaluation											
Illuminant A (Planck T = 2856 K)				Illuminant Planck T = 3200 K				Illuminant D65 (T <sub>C</sub> = 6504 K)			
d [mm]	1	2	3	d [mm]	1	2	3	d [mm]	1	2	3
x				x				x			
y				y				y			
Y				Y				Y			
$\lambda_d$ [nm]				$\lambda_d$ [nm]				$\lambda_d$ [nm]			
$P_e$				$P_e$				$P_e$			





**Internal transmittance  $\tau_i$  at reference thickness  $d = 1$  mm**  
**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	$< 10^{-5}$	500	0.105	800	0.238	1100	0.203	2200	0.523	3700	$6.0 \cdot 10^{-2}$
210	$< 10^{-5}$	510	0.104	810	0.237	1110	0.205	2250	0.536	3750	$8.5 \cdot 10^{-2}$
220	$< 10^{-5}$	520	0.105	820	0.237	1120	0.208	2300	0.550	3800	0.116
230	$< 10^{-5}$	530	0.107	830	0.236	1130	0.210	2350	0.562	3850	0.136
240	$< 10^{-5}$	540	0.109	840	0.235	1140	0.212	2400	0.571	3900	0.130
250	$< 10^{-5}$	550	0.110	850	0.234	1150	0.215	2450	0.579	3950	0.107
260	$< 10^{-5}$	560	0.110	860	0.231	1160	0.218	2500	0.584	4000	$8.0 \cdot 10^{-2}$
270	$< 10^{-5}$	570	0.107	870	0.230	1170	0.220	2550	0.590	4050	$8.0 \cdot 10^{-2}$
280	$< 10^{-5}$	580	0.105	880	0.227	1180	0.223	2600	0.593	4100	$8.5 \cdot 10^{-2}$
290	$< 10^{-5}$	590	0.105	890	0.223	1190	0.226	2650	0.596	4150	$9.0 \cdot 10^{-2}$
300	$< 10^{-5}$	600	0.107	900	0.221	1200	0.230	2700	0.570	4200	$9.0 \cdot 10^{-2}$
310	$< 10^{-5}$	610	0.111	910	0.220	1250	0.253	2750	0.288	4250	$8.3 \cdot 10^{-2}$
320	$< 10^{-5}$	620	0.116	920	0.218	1300	0.280	2800	0.160	4300	$7.0 \cdot 10^{-2}$
330	$< 10^{-5}$	630	0.119	930	0.215	1350	0.311	2850	0.144	4350	$5.2 \cdot 10^{-2}$
340	$3.9 \cdot 10^{-5}$	640	0.122	940	0.213	1400	0.340	2900	0.157	4400	$4.0 \cdot 10^{-2}$
350	$1.0 \cdot 10^{-3}$	650	0.126	950	0.211	1450	0.373	2950	0.178	4450	$2.7 \cdot 10^{-2}$
360	$5.9 \cdot 10^{-3}$	660	0.132	960	0.209	1500	0.397	3000	0.200	4500	$1.7 \cdot 10^{-2}$
370	$1.7 \cdot 10^{-2}$	670	0.142	970	0.207	1550	0.415	3050	0.222	4550	$1.0 \cdot 10^{-2}$
380	$2.2 \cdot 10^{-2}$	680	0.156	980	0.205	1600	0.422	3100	0.250	4600	$6.2 \cdot 10^{-3}$
390	$4.7 \cdot 10^{-2}$	690	0.172	990	0.204	1650	0.424	3150	0.275	4650	$3.7 \cdot 10^{-3}$
400	$6.7 \cdot 10^{-2}$	700	0.187	1000	0.202	1700	0.423	3200	0.300	4700	$2.1 \cdot 10^{-3}$
410	$7.4 \cdot 10^{-2}$	710	0.200	1010	0.202	1750	0.424	3250	0.324	4750	$1.2 \cdot 10^{-3}$
420	$8.1 \cdot 10^{-2}$	720	0.209	1020	0.201	1800	0.427	3300	0.330	4800	$7.1 \cdot 10^{-4}$
430	$8.7 \cdot 10^{-2}$	730	0.217	1030	0.201	1850	0.433	3350	0.312	4850	$5.2 \cdot 10^{-4}$
440	$9.5 \cdot 10^{-2}$	740	0.223	1040	0.200	1900	0.443	3400	0.260	4900	$3.0 \cdot 10^{-4}$
450	0.102	750	0.227	1050	0.201	1950	0.455	3450	0.195	4950	$1.5 \cdot 10^{-4}$
460	0.111	760	0.231	1060	0.202	2000	0.467	3500	0.140	5000	$5.6 \cdot 10^{-5}$
470	0.113	770	0.234	1070	0.201	2050	0.481	3550	$8.5 \cdot 10^{-2}$	5050	$2.5 \cdot 10^{-5}$
480	0.110	780	0.236	1080	0.202	2100	0.496	3600	$6.2 \cdot 10^{-2}$	5100	$< 10^{-5}$
490	0.107	790	0.237	1090	0.203	2150	0.509	3650	$5.0 \cdot 10^{-2}$	5150	$< 10^{-5}$