

## NG9

Reflection factor	
$P_d$	0.92

Reference thickness	
d [mm]	1

Spectral values guaranteed	
$\tau_i$ (405 nm)	= 0.025 ± 0.01
$\tau_i$ (546 nm)	= 0.04 ± 0.02
$\tau_i$ (694 nm)	= 0.08 ± 0.02

Refractive index n		
$\lambda$ [nm]	Element	n
587.6	He	1.51

Density	
$\rho$ [g/cm <sup>3</sup> ]	2.45

Bubble content	
Bubble class	2

Chemical resistance	
FR class	1
SR class	3.2
AR class	2.0

Transformation temperature	
$T_g$ [°C]	470

Thermal expansion	
$\alpha_{-30/+70^\circ\text{C}}$ [10 <sup>-6</sup> /K]	6.4
$\alpha_{20/300^\circ\text{C}}$ [10 <sup>-6</sup> /K]	7.2
$\alpha_{20/200^\circ\text{C}}$ [10 <sup>-6</sup> /K]	

Temperature coefficient	
$T_k$ [nm/°C]	

### Notes

Ionically colored glass

Neutral density filter

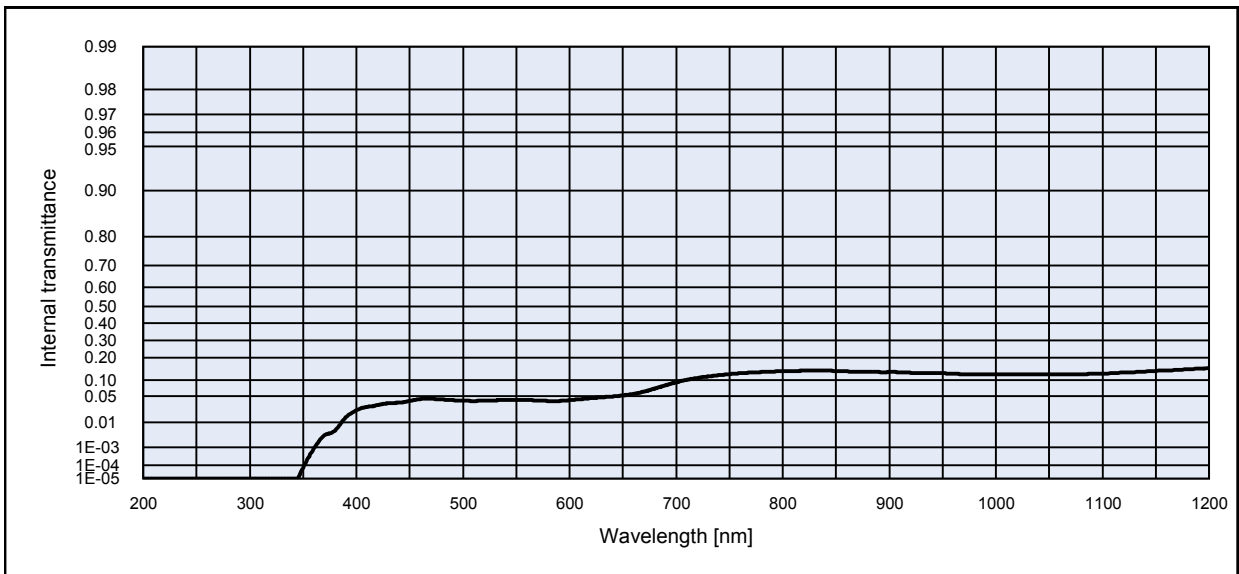
All data without tolerances are to be understood to be reference values. Guaranteed values are only those values listed in the section "Spectral values guaranteed".

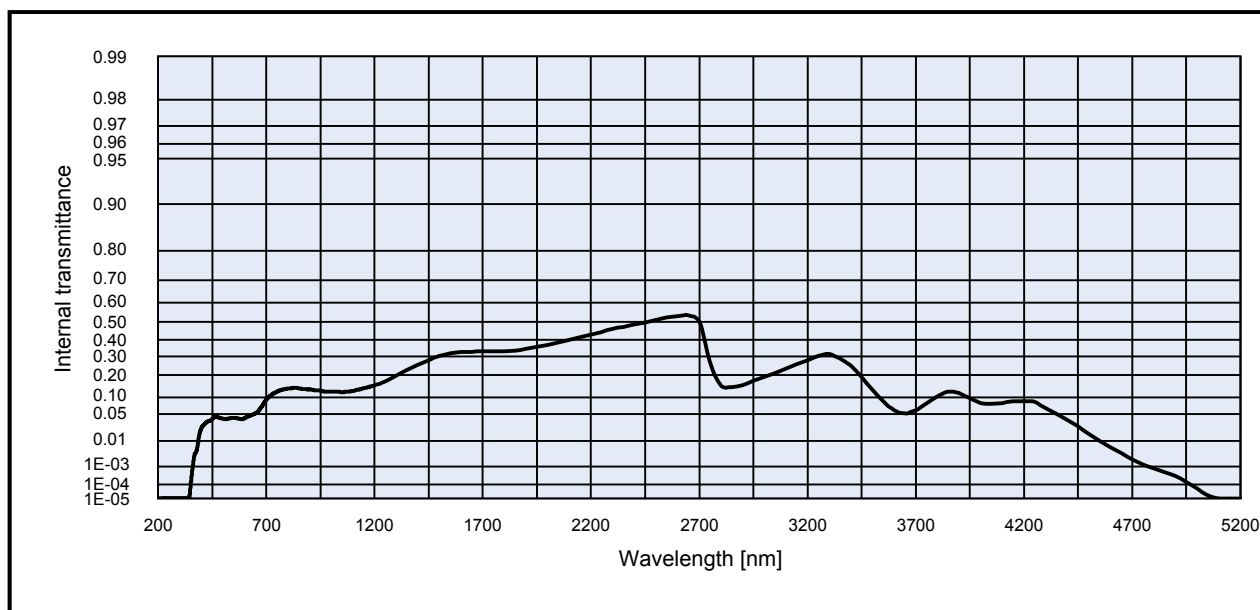
### Colorimetric evaluation

Illuminant	A ( Planck T = 2856 K )			
	d [mm]	1	2	3
x				
y				
Y				
$\lambda_d$ [nm]				
$P_e$				

Illuminant	Planck T = 3200 K			
	d [mm]	1	2	3
x				
y				
Y				
$\lambda_d$ [nm]				
$P_e$				

Illuminant	D65 ( T <sub>c</sub> = 6504 K )			
	d [mm]	1	2	3
x				
y				
Y				
$\lambda_d$ [nm]				
$P_e$				





**Internal transmittance  $\tau_i$  at reference thickness  $d$  [mm] = 1**  
**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	4.0E-02	800	1.4E-01	1100	1.3E-01	2200	4.3E-01	3700	6.0E-02
210	< 1.0E-05	510	3.9E-02	810	1.4E-01	1110	1.3E-01	2250	4.4E-01	3750	8.1E-02
220	< 1.0E-05	520	3.9E-02	820	1.4E-01	1120	1.3E-01	2300	4.6E-01	3800	1.1E-01
230	< 1.0E-05	530	4.0E-02	830	1.4E-01	1130	1.3E-01	2350	4.7E-01	3850	1.2E-01
240	< 1.0E-05	540	4.1E-02	840	1.4E-01	1140	1.3E-01	2400	4.9E-01	3900	1.2E-01
250	< 1.0E-05	550	4.2E-02	850	1.4E-01	1150	1.4E-01	2450	5.0E-01	3950	9.9E-02
260	< 1.0E-05	560	4.1E-02	860	1.3E-01	1160	1.4E-01	2500	5.1E-01	4000	8.0E-02
270	< 1.0E-05	570	4.0E-02	870	1.3E-01	1170	1.4E-01	2550	5.3E-01	4050	7.8E-02
280	< 1.0E-05	580	3.9E-02	880	1.3E-01	1180	1.4E-01	2600	5.3E-01	4100	8.0E-02
290	< 1.0E-05	590	3.9E-02	890	1.3E-01	1190	1.5E-01	2650	5.3E-01	4150	8.6E-02
300	< 1.0E-05	600	4.1E-02	900	1.3E-01	1200	1.5E-01	2700	5.0E-01	4200	8.6E-02
310	< 1.0E-05	610	4.3E-02	910	1.3E-01	1250	1.7E-01	2750	2.7E-01	4250	8.4E-02
320	< 1.0E-05	620	4.5E-02	920	1.3E-01	1300	2.0E-01	2800	1.5E-01	4300	6.5E-02
330	< 1.0E-05	630	4.7E-02	930	1.3E-01	1350	2.3E-01	2850	1.4E-01	4350	5.0E-02
340	< 1.0E-05	640	4.9E-02	940	1.3E-01	1400	2.5E-01	2900	1.5E-01	4400	3.7E-02
350	6.4E-05	650	5.2E-02	950	1.3E-01	1450	2.8E-01	2950	1.7E-01	4450	2.6E-02
360	8.5E-04	660	5.5E-02	960	1.2E-01	1500	3.1E-01	3000	1.9E-01	4500	1.6E-02
370	3.4E-03	670	6.2E-02	970	1.2E-01	1550	3.2E-01	3050	2.1E-01	4550	1.0E-02
380	5.3E-03	680	7.0E-02	980	1.2E-01	1600	3.3E-01	3100	2.3E-01	4600	6.2E-03
390	1.5E-02	690	8.1E-02	990	1.2E-01	1650	3.3E-01	3150	2.6E-01	4650	3.8E-03
400	2.3E-02	700	9.1E-02	1000	1.2E-01	1700	3.3E-01	3200	2.8E-01	4700	2.1E-03
410	2.8E-02	710	1.0E-01	1010	1.2E-01	1750	3.3E-01	3250	3.0E-01	4750	1.2E-03
420	3.1E-02	720	1.1E-01	1020	1.2E-01	1800	3.3E-01	3300	3.1E-01	4800	7.7E-04
430	3.4E-02	730	1.1E-01	1030	1.2E-01	1850	3.4E-01	3350	2.9E-01	4850	5.2E-04
440	3.6E-02	740	1.2E-01	1040	1.2E-01	1900	3.5E-01	3400	2.5E-01	4900	3.1E-04
450	3.9E-02	750	1.2E-01	1050	1.2E-01	1950	3.6E-01	3450	1.9E-01	4950	1.5E-04
460	4.3E-02	760	1.3E-01	1060	1.2E-01	2000	3.7E-01	3500	1.3E-01	5000	5.8E-05
470	4.4E-02	770	1.3E-01	1070	1.2E-01	2050	3.8E-01	3550	8.8E-02	5050	1.8E-05
480	4.2E-02	780	1.3E-01	1080	1.2E-01	2100	4.0E-01	3600	6.0E-02	5100	< 1.0E-05
490	4.1E-02	790	1.3E-01	1090	1.2E-01	2150	4.1E-01	3650	5.1E-02	5150	< 1.0E-05