

# Data Sheet



## S-8612

Density	
$\rho$ [g/cm <sup>3</sup> ]	2.66

### Notes

Ionically colored glass  
 Bandpass filter / shortpass filter  
 Color compensating filter / IR cut filter

Reflection factor	
$P_d$	0.914

Bubble content	
Bubble class	1


Reference thickness	
d [mm]	1

Chemical Resistance	
FR class	0
SR class	3.0
AR class	3.0

Spectral values guaranteed		
$\tau_i$ (500nm)	$\geq$	0.96
$\tau_i$ (600nm)	$\geq$	0.48
$\tau_i$ (700nm)	$<$	0.02
$\lambda$ ( $\tau_i$ .max) [nm]	$=$	500 $\pm$ 5

Transformation temperature	
$T_g$ [°C]	391

Thermal expansion	
$\alpha_{30/+70^\circ\text{C}}$ [10 <sup>-6</sup> /K]	
$\alpha_{20/300^\circ\text{C}}$ [10 <sup>-6</sup> /K]	9.5
$\alpha_{20/200^\circ\text{C}}$ [10 <sup>-6</sup> /K]	

 Long-term changes in the polished surface are possible under some circumstances.

Refractive Index n	
$n_d$ (587.6 nm) = 1.540	

Temperature coefficient	
$T_K$ [nm/°C]	

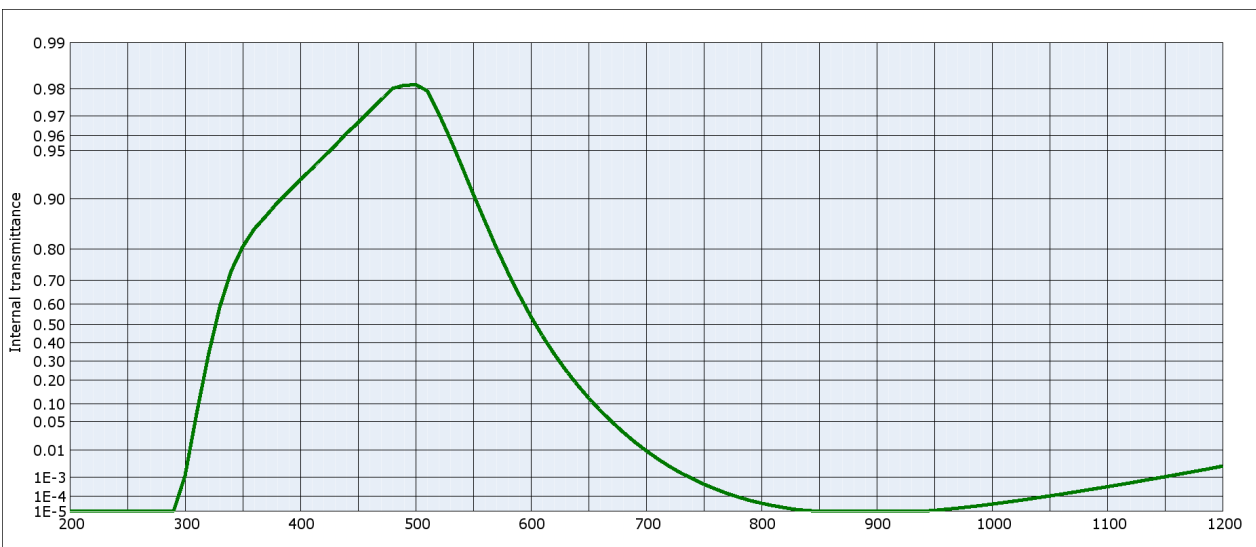
All data without tolerances are to be understood to be reference values.  
 Guaranteed values are only those values listed in the section "Spectral values guaranteed".

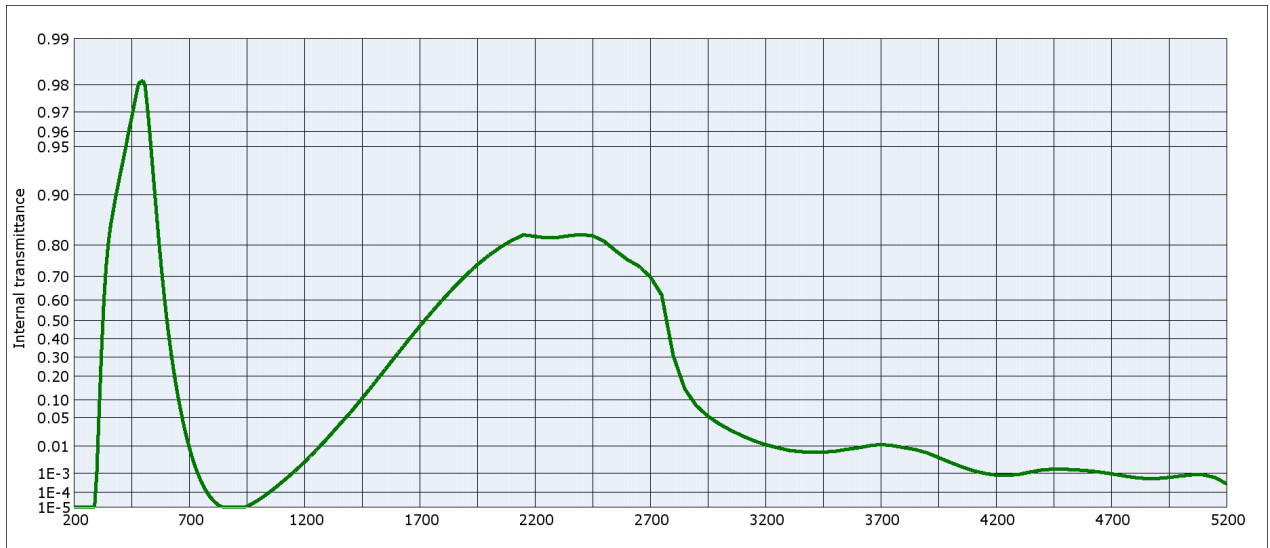
### Colorimetric evaluation

Illuminant	A (Planck T = 2856 K)		
	1	2	3
d [mm]			
x	0.356	0.301	0.265
y	0.433	0.440	0.440
Y	65	52	44
$\lambda_d$ [nm]	500	499	498
$P_e$	0.21	0.34	0.42

Illuminant	Planck T = 3200 K		
	1	2	3
d [mm]			
x	0.335	0.284	0.250
y	0.417	0.419	0.415
Y	66	54	46
$\lambda_d$ [nm]	498	497	496
$P_e$	0.21	0.34	0.43

Illuminant	D65 (T <sub>c</sub> = 6504 K)		
	1	2	3
d [mm]			
x	0.251	0.218	0.198
y	0.321	0.311	0.302
Y	72	62	54
$\lambda_d$ [nm]	490	489	489
$P_e$	0.23	0.36	0.44





**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	0.981	800	$3.7 \cdot 10^{-5}$	1100	$3.5 \cdot 10^{-4}$	2200	0.821	3700	$1.1 \cdot 10^{-2}$
210	$< 10^{-5}$	510	0.979	810	$2.5 \cdot 10^{-5}$	1110	$4.4 \cdot 10^{-4}$	2250	0.818	3750	$1.0 \cdot 10^{-2}$
220	$< 10^{-5}$	520	0.971	820	$1.8 \cdot 10^{-5}$	1120	$5.5 \cdot 10^{-4}$	2300	0.819	3800	$9.1 \cdot 10^{-3}$
230	$< 10^{-5}$	530	0.958	830	$1.4 \cdot 10^{-5}$	1130	$6.9 \cdot 10^{-4}$	2350	0.823	3850	$7.9 \cdot 10^{-3}$
240	$< 10^{-5}$	540	0.938	840	$1.1 \cdot 10^{-5}$	1140	$8.5 \cdot 10^{-4}$	2400	0.826	3900	$6.3 \cdot 10^{-3}$
250	$< 10^{-5}$	550	0.906	850	$< 10^{-5}$	1150	$1.1 \cdot 10^{-3}$	2450	0.823	3950	$4.3 \cdot 10^{-3}$
260	$< 10^{-5}$	560	0.863	860	$< 10^{-5}$	1160	$1.3 \cdot 10^{-3}$	2500	0.809	4000	$2.9 \cdot 10^{-3}$
270	$< 10^{-5}$	570	0.803	870	$< 10^{-5}$	1170	$1.6 \cdot 10^{-3}$	2550	0.783	4050	$1.9 \cdot 10^{-3}$
280	$< 10^{-5}$	580	0.728	880	$< 10^{-5}$	1180	$1.9 \cdot 10^{-3}$	2600	0.757	4100	$1.3 \cdot 10^{-3}$
290	$< 10^{-5}$	590	0.638	890	$< 10^{-5}$	1190	$2.4 \cdot 10^{-3}$	2650	0.735	4150	$9.9 \cdot 10^{-4}$
300	$1.2 \cdot 10^{-3}$	600	0.539	900	$< 10^{-5}$	1200	$2.9 \cdot 10^{-3}$	2700	0.697	4200	$8.2 \cdot 10^{-4}$
310	$7.0 \cdot 10^{-2}$	610	0.438	910	$< 10^{-5}$	1250	$7.4 \cdot 10^{-3}$	2750	0.622	4250	$8.1 \cdot 10^{-4}$
320	0.326	620	0.340	920	$< 10^{-5}$	1300	$1.7 \cdot 10^{-2}$	2800	0.307	4300	$8.9 \cdot 10^{-4}$
330	0.584	630	0.253	930	$< 10^{-5}$	1350	$3.5 \cdot 10^{-2}$	2850	0.143	4350	$1.1 \cdot 10^{-3}$
340	0.732	640	0.181	940	$< 10^{-5}$	1400	$6.3 \cdot 10^{-2}$	2900	$8.2 \cdot 10^{-2}$	4400	$1.4 \cdot 10^{-3}$
350	0.805	650	0.123	950	$1.2 \cdot 10^{-5}$	1450	0.106	2950	$5.3 \cdot 10^{-2}$	4450	$1.5 \cdot 10^{-3}$
360	0.847	660	$8.0 \cdot 10^{-2}$	960	$1.4 \cdot 10^{-5}$	1500	0.163	3000	$3.7 \cdot 10^{-2}$	4500	$1.5 \cdot 10^{-3}$
370	0.872	670	$5.0 \cdot 10^{-2}$	970	$1.7 \cdot 10^{-5}$	1550	0.233	3050	$2.7 \cdot 10^{-2}$	4550	$1.4 \cdot 10^{-3}$
380	0.894	680	$3.0 \cdot 10^{-2}$	980	$2.1 \cdot 10^{-5}$	1600	0.311	3100	$1.9 \cdot 10^{-2}$	4600	$1.3 \cdot 10^{-3}$
390	0.910	690	$1.7 \cdot 10^{-2}$	990	$2.6 \cdot 10^{-5}$	1650	0.391	3150	$1.4 \cdot 10^{-2}$	4650	$1.1 \cdot 10^{-3}$
400	0.924	700	$9.7 \cdot 10^{-3}$	1000	$3.3 \cdot 10^{-5}$	1700	0.467	3200	$1.1 \cdot 10^{-2}$	4700	$9.5 \cdot 10^{-4}$
410	0.935	710	$5.3 \cdot 10^{-3}$	1010	$4.1 \cdot 10^{-5}$	1750	0.538	3250	$9.2 \cdot 10^{-3}$	4750	$7.7 \cdot 10^{-4}$
420	0.945	720	$2.9 \cdot 10^{-3}$	1020	$5.2 \cdot 10^{-5}$	1800	0.601	3300	$7.5 \cdot 10^{-3}$	4800	$6.4 \cdot 10^{-4}$
430	0.954	730	$1.6 \cdot 10^{-3}$	1030	$6.6 \cdot 10^{-5}$	1850	0.656	3350	$6.8 \cdot 10^{-3}$	4850	$5.7 \cdot 10^{-4}$
440	0.961	740	$8.7 \cdot 10^{-4}$	1040	$8.5 \cdot 10^{-5}$	1900	0.702	3400	$6.4 \cdot 10^{-3}$	4900	$5.7 \cdot 10^{-4}$
450	0.967	750	$4.7 \cdot 10^{-4}$	1050	$1.1 \cdot 10^{-4}$	1950	0.740	3450	$6.6 \cdot 10^{-3}$	4950	$6.4 \cdot 10^{-4}$
460	0.972	760	$2.7 \cdot 10^{-4}$	1060	$1.4 \cdot 10^{-4}$	2000	0.770	3500	$6.9 \cdot 10^{-3}$	5000	$7.5 \cdot 10^{-4}$
470	0.976	770	$1.5 \cdot 10^{-4}$	1070	$1.7 \cdot 10^{-4}$	2050	0.793	3550	$8.0 \cdot 10^{-3}$	5050	$8.5 \cdot 10^{-4}$
480	0.980	780	$9.1 \cdot 10^{-5}$	1080	$2.2 \cdot 10^{-4}$	2100	0.811	3600	$8.9 \cdot 10^{-3}$	5100	$8.5 \cdot 10^{-4}$
490	0.981	790	$5.6 \cdot 10^{-5}$	1090	$2.8 \cdot 10^{-4}$	2150	0.825	3650	$1.0 \cdot 10^{-2}$	5150	$6.3 \cdot 10^{-4}$