

# Data Sheet



## BG62HS

Density	
$\rho$ [g/cm <sup>3</sup> ]	2.87

### Notes

Ionically colored glass  
 Bandpass filter / shortpass filter  
 Color compensating filter / IR cut filter  
 $\lambda_{50\%}$ (thickness=0.21mm) = 644 nm

Reflection factor	
$P_d$	0.913

Bubble content	
Bubble class	2

Reference thickness	
d [mm]	1

Chemical Resistance	
FR class	0
SR class	0
AR class	0

Spectral values guaranteed		
$\tau_i$ (405nm)	$\geq$	0.68
$\tau_i$ (514nm)	$\geq$	0.86
$\tau_i$ (633nm)	$\geq$	0.07
$\tau_i$ (694nm)	$\leq$	0.005
$\tau_i$ (1060nm)	$\leq$	0.001

Transformation temperature	
$T_g$ [°C]	419

Thermal expansion	
$\alpha_{30/+70^\circ\text{C}}$ [10 <sup>-6</sup> /K]	11.5
$\alpha_{20/300^\circ\text{C}}$ [10 <sup>-6</sup> /K]	13.3
$\alpha_{20/200^\circ\text{C}}$ [10 <sup>-6</sup> /K]	

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

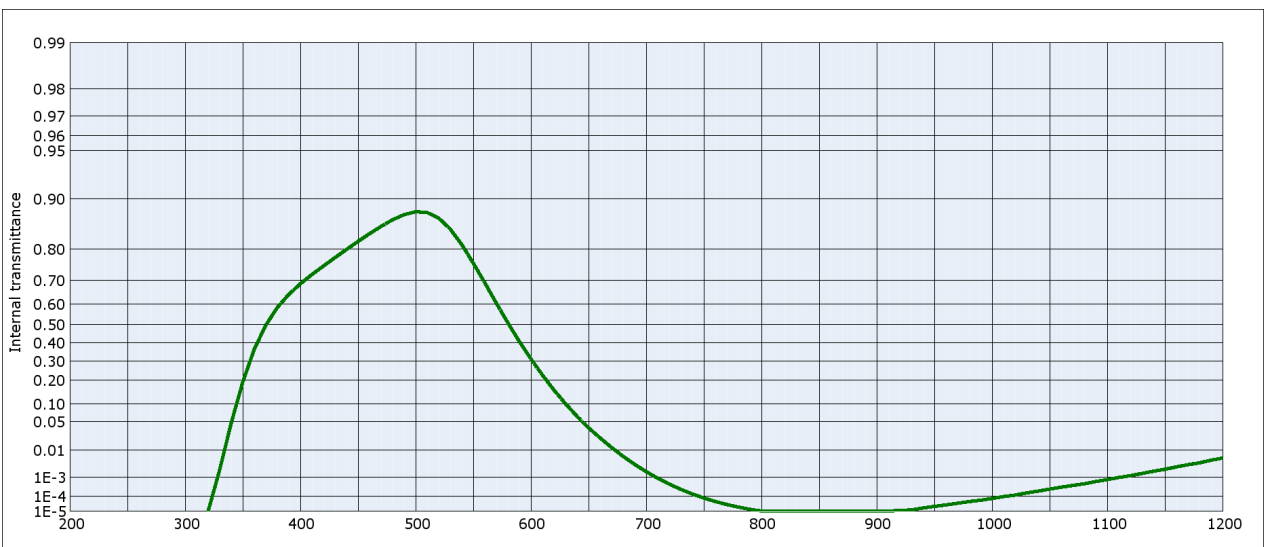
Knoop hardness HK (0.1/20) = 395

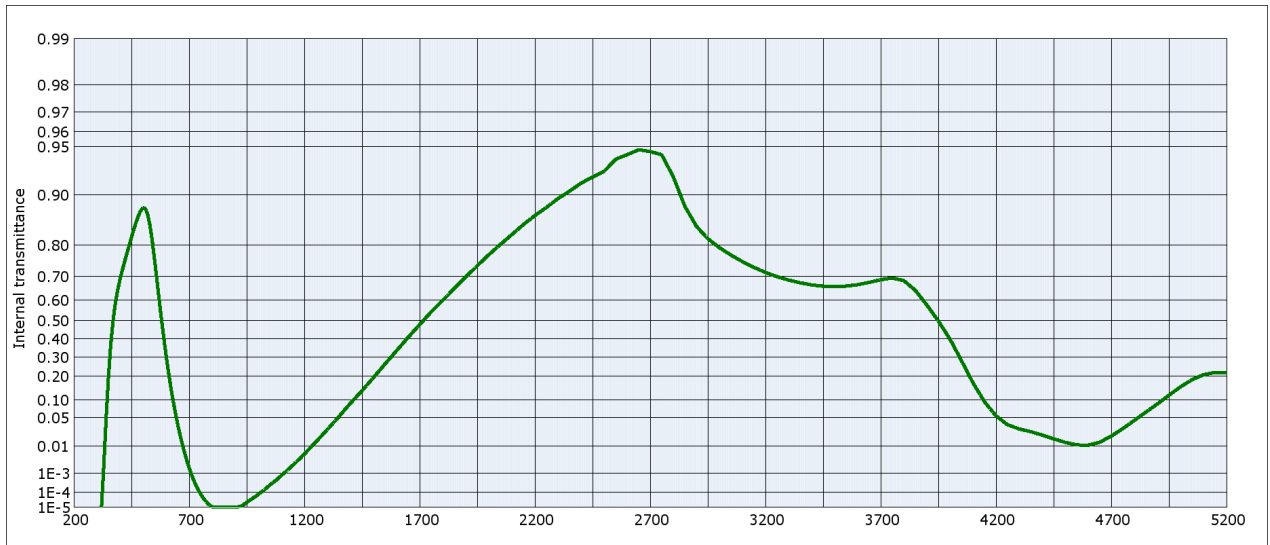
Refractive Index n	
$n_e$ (546.1 nm) = 1.541	

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]
x	0.317	0.252	0.216	x	0.298	0.239	0.206	x	0.227	0.191	0.172
y	0.442	0.447	0.446	y	0.422	0.423	0.420	y	0.320	0.311	0.305
Y	49	33	24	Y	51	35	26	Y	58	42	32
$\lambda_d$ [nm]	499	498	498	$\lambda_d$ [nm]	498	497	496	$\lambda_d$ [nm]	490	490	489
$P_e$	0.30	0.45	0.54	$P_e$	0.31	0.45	0.54	$P_e$	0.32	0.46	0.53





**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	0.880	800	$1.0 \cdot 10^{-5}$	1100	$7.8 \cdot 10^{-4}$	2200	0.866	3700	0.686
210	$< 10^{-5}$	510	0.878	810	$< 10^{-5}$	1110	$9.8 \cdot 10^{-4}$	2250	0.880	3750	0.692
220	$< 10^{-5}$	520	0.869	820	$< 10^{-5}$	1120	$1.2 \cdot 10^{-3}$	2300	0.894	3800	0.682
230	$< 10^{-5}$	530	0.847	830	$< 10^{-5}$	1130	$1.5 \cdot 10^{-3}$	2350	0.905	3850	0.643
240	$< 10^{-5}$	540	0.811	840	$< 10^{-5}$	1140	$1.8 \cdot 10^{-3}$	2400	0.915	3900	0.576
250	$< 10^{-5}$	550	0.758	850	$< 10^{-5}$	1150	$2.2 \cdot 10^{-3}$	2450	0.922	3950	0.496
260	$< 10^{-5}$	560	0.689	860	$< 10^{-5}$	1160	$2.7 \cdot 10^{-3}$	2500	0.928	4000	0.399
270	$< 10^{-5}$	570	0.603	870	$< 10^{-5}$	1170	$3.3 \cdot 10^{-3}$	2550	0.940	4050	0.280
280	$< 10^{-5}$	580	0.507	880	$< 10^{-5}$	1180	$3.8 \cdot 10^{-3}$	2600	0.944	4100	0.170
290	$< 10^{-5}$	590	0.407	890	$< 10^{-5}$	1190	$4.8 \cdot 10^{-3}$	2650	0.948	4150	$9.4 \cdot 10^{-2}$
300	$< 10^{-5}$	600	0.311	900	$< 10^{-5}$	1200	$5.6 \cdot 10^{-3}$	2700	0.946	4200	$5.4 \cdot 10^{-2}$
310	$< 10^{-5}$	610	0.226	910	$< 10^{-5}$	1250	$1.3 \cdot 10^{-2}$	2750	0.944	4250	$3.6 \cdot 10^{-2}$
320	$< 10^{-5}$	620	0.155	920	$1.2 \cdot 10^{-5}$	1300	$2.8 \cdot 10^{-2}$	2800	0.923	4300	$2.9 \cdot 10^{-2}$
330	$2.1 \cdot 10^{-3}$	630	0.102	930	$1.3 \cdot 10^{-5}$	1350	$5.2 \cdot 10^{-2}$	2850	0.883	4350	$2.5 \cdot 10^{-2}$
340	$4.7 \cdot 10^{-2}$	640	$6.3 \cdot 10^{-2}$	940	$1.7 \cdot 10^{-5}$	1400	$9.0 \cdot 10^{-2}$	2900	0.845	4400	$2.0 \cdot 10^{-2}$
350	0.191	650	$3.7 \cdot 10^{-2}$	950	$2.3 \cdot 10^{-5}$	1450	0.135	2950	0.816	4450	$1.6 \cdot 10^{-2}$
360	0.364	660	$2.2 \cdot 10^{-2}$	960	$2.9 \cdot 10^{-5}$	1500	0.194	3000	0.792	4500	$1.3 \cdot 10^{-2}$
370	0.494	670	$1.2 \cdot 10^{-2}$	970	$3.7 \cdot 10^{-5}$	1550	0.263	3050	0.771	4550	$1.1 \cdot 10^{-2}$
380	0.583	680	$6.5 \cdot 10^{-3}$	980	$4.8 \cdot 10^{-5}$	1600	0.334	3100	0.750	4600	$1.1 \cdot 10^{-2}$
390	0.642	690	$3.4 \cdot 10^{-3}$	990	$5.8 \cdot 10^{-5}$	1650	0.407	3150	0.731	4650	$1.3 \cdot 10^{-2}$
400	0.685	700	$1.7 \cdot 10^{-3}$	1000	$7.5 \cdot 10^{-5}$	1700	0.476	3200	0.713	4700	$1.9 \cdot 10^{-2}$
410	0.720	710	$9.1 \cdot 10^{-4}$	1010	$9.8 \cdot 10^{-5}$	1750	0.542	3250	0.697	4750	$2.9 \cdot 10^{-2}$
420	0.749	720	$4.7 \cdot 10^{-4}$	1020	$1.2 \cdot 10^{-4}$	1800	0.598	3300	0.684	4800	$4.4 \cdot 10^{-2}$
430	0.775	730	$2.5 \cdot 10^{-4}$	1030	$1.6 \cdot 10^{-4}$	1850	0.650	3350	0.674	4850	$6.3 \cdot 10^{-2}$
440	0.798	740	$1.4 \cdot 10^{-4}$	1040	$2.0 \cdot 10^{-4}$	1900	0.696	3400	0.665	4900	$8.7 \cdot 10^{-2}$
450	0.819	750	$8.0 \cdot 10^{-5}$	1050	$2.6 \cdot 10^{-4}$	1950	0.737	3450	0.660	4950	0.117
460	0.837	760	$4.8 \cdot 10^{-5}$	1060	$3.3 \cdot 10^{-4}$	2000	0.771	3500	0.658	5000	0.151
470	0.852	770	$3.1 \cdot 10^{-5}$	1070	$4.1 \cdot 10^{-4}$	2050	0.801	3550	0.660	5050	0.184
480	0.866	780	$2.0 \cdot 10^{-5}$	1080	$4.9 \cdot 10^{-4}$	2100	0.825	3600	0.666	5100	0.208
490	0.875	790	$1.4 \cdot 10^{-5}$	1090	$6.3 \cdot 10^{-4}$	2150	0.848	3650	0.675	5150	0.219