

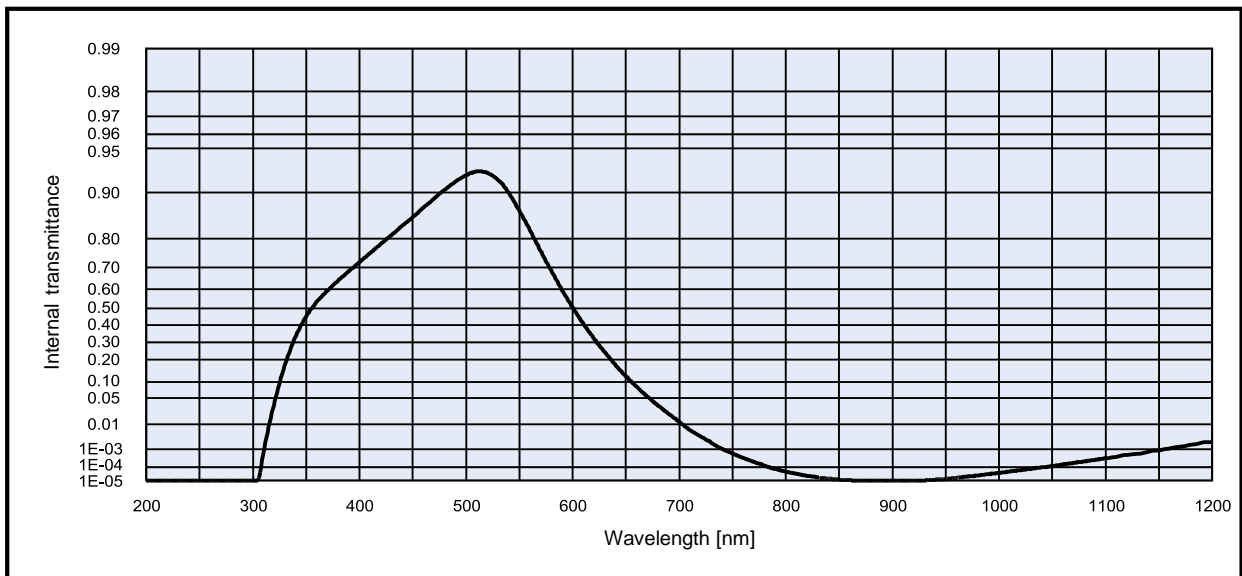
# DATA SHEET

# SCHOTT BG42

<h2>BG42</h2>			<b>Density</b>		<b>Notes</b>
			$\rho$ [g/cm <sup>3</sup> ]	2.69	
<b>Reflection factor</b>			<b>Bubble content</b>		
$P_d$	0.91		Bubble class	2	
<b>Reference thickness</b>			<b>Chemical resistance</b>		
$d$ [mm]	1		FR class	0	
<b>Spectral values guaranteed</b>			SR class	2.0	
$\tau_i$ (350 nm)	$\geq$	0.40	AR class	2.0	
$\tau_i$ (405 nm)	$\geq$	0.65	<b>Transformation temperature</b>		
$\tau_i$ (514 nm)	$\geq$	0.88	$T_g$ [°C]	475	
$\tau_i$ (633 nm)	$\leq$	0.27	<b>Thermal expansion</b>		
$\tau_i$ (694 nm)	$\leq$	0.03	$\alpha_{-30/+70^\circ\text{C}}$ [10 <sup>-7</sup> /K]	7.3	
$\tau_i$ (1060 nm)	$\leq$	0.002	$\alpha_{20/300^\circ\text{C}}$ [10 <sup>-7</sup> /K]	8.7	
			$\alpha_{20/200^\circ\text{C}}$ [10 <sup>-7</sup> /K]		
<b>Refractive index n</b>			<b>Temperature coefficient</b>		
$\lambda$ [nm]	Element	n	$T_k$ [nm/°C]		
405	Hg	1.55			
588	He	1.54			

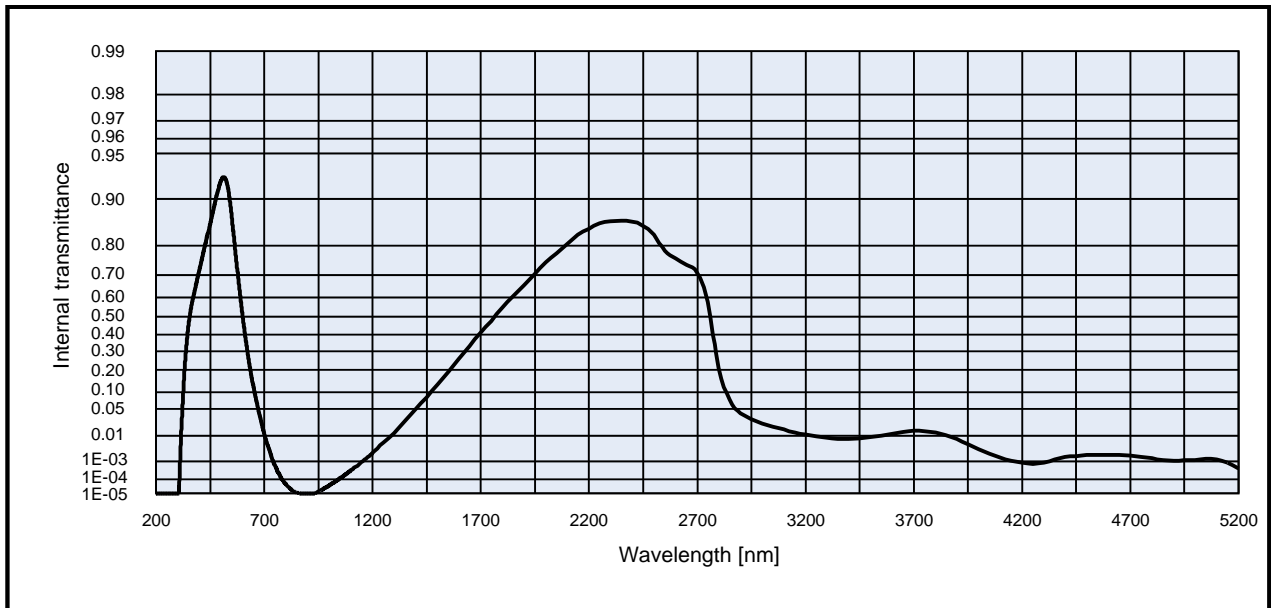
All data without tolerances are to be understood to be reference values.  
Guaranteed values are only those values listed in the section "Spectral values guaranteed".

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	0.359	0.305	0.270	x	0.338	0.288	0.256	x	0.254	0.222	0.203
y	0.439	0.456	0.466	y	0.424	0.437	0.445	y	0.332	0.334	0.337
Y	61	47	38	Y	63	48	39	Y	68	55	46
$\lambda_d$ [nm]	501	501	501	$\lambda_d$ [nm]	499	499	499	$\lambda_d$ [nm]	492	492	492
$P_e$	0.20	0.32	0.40	$P_e$	0.21	0.33	0.41	$P_e$	0.21	0.33	0.39



# DATA SHEET

# SCHOTT BG42



**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	9.2E-01	800	4.7E-05	1100	3.3E-04	2200	8.4E-01	3700	1.4E-02
210	< 1.0E-05	510	9.3E-01	810	3.3E-05	1110	4.1E-04	2250	8.6E-01	3750	1.4E-02
220	< 1.0E-05	520	9.3E-01	820	2.3E-05	1120	5.0E-04	2300	8.6E-01	3800	1.2E-02
230	< 1.0E-05	530	9.2E-01	830	1.8E-05	1130	6.0E-04	2350	8.6E-01	3850	1.0E-02
240	< 1.0E-05	540	9.0E-01	840	1.4E-05	1140	7.7E-04	2400	8.6E-01	3900	8.0E-03
250	< 1.0E-05	550	8.7E-01	850	1.2E-05	1150	9.0E-04	2450	8.5E-01	3950	5.2E-03
260	< 1.0E-05	560	8.2E-01	860	1.1E-05	1160	1.1E-03	2500	8.3E-01	4000	3.3E-03
270	< 1.0E-05	570	7.6E-01	870	< 1.0E-05	1170	1.3E-03	2550	7.9E-01	4050	2.2E-03
280	< 1.0E-05	580	6.9E-01	880	< 1.0E-05	1180	1.6E-03	2600	7.6E-01	4100	1.5E-03
290	< 1.0E-05	590	6.0E-01	890	< 1.0E-05	1190	1.9E-03	2650	7.4E-01	4150	1.1E-03
300	< 1.0E-05	600	5.1E-01	900	< 1.0E-05	1200	2.3E-03	2700	7.1E-01	4200	8.4E-04
310	5.7E-04	610	4.1E-01	910	< 1.0E-05	1250	5.7E-03	2750	5.8E-01	4250	7.4E-04
320	3.5E-02	620	3.2E-01	920	< 1.0E-05	1300	1.2E-02	2800	2.1E-01	4300	8.4E-04
330	1.7E-01	630	2.4E-01	930	1.0E-05	1350	2.6E-02	2850	7.6E-02	4350	1.2E-03
340	3.3E-01	640	1.8E-01	940	1.2E-05	1400	5.0E-02	2900	4.0E-02	4400	1.5E-03
350	4.5E-01	650	1.2E-01	950	1.3E-05	1450	8.3E-02	2950	2.9E-02	4450	1.7E-03
360	5.3E-01	660	8.3E-02	960	1.6E-05	1500	1.3E-01	3000	2.3E-02	4500	1.9E-03
370	5.9E-01	670	5.4E-02	970	2.0E-05	1550	1.9E-01	3050	1.9E-02	4550	2.0E-03
380	6.4E-01	680	3.4E-02	980	2.5E-05	1600	2.6E-01	3100	1.5E-02	4600	2.0E-03
390	6.8E-01	690	2.1E-02	990	3.2E-05	1650	3.3E-01	3150	1.3E-02	4650	1.9E-03
400	7.2E-01	700	1.2E-02	1000	3.9E-05	1700	4.1E-01	3200	1.1E-02	4700	1.8E-03
410	7.5E-01	710	6.5E-03	1010	4.8E-05	1750	4.8E-01	3250	9.5E-03	4750	1.6E-03
420	7.8E-01	720	3.7E-03	1020	6.0E-05	1800	5.5E-01	3300	8.7E-03	4800	1.4E-03
430	8.1E-01	730	2.0E-03	1030	7.4E-05	1850	6.1E-01	3350	8.1E-03	4850	1.2E-03
440	8.3E-01	740	1.0E-03	1040	9.2E-05	1900	6.6E-01	3400	8.0E-03	4900	1.1E-03
450	8.5E-01	750	6.1E-04	1050	1.2E-04	1950	7.0E-01	3450	8.3E-03	4950	1.1E-03
460	8.7E-01	760	3.5E-04	1060	1.4E-04	2000	7.5E-01	3500	9.0E-03	5000	1.2E-03
470	8.9E-01	770	2.1E-04	1070	1.8E-04	2050	7.8E-01	3550	1.0E-02	5050	1.3E-03
480	9.0E-01	780	1.2E-04	1080	2.2E-04	2100	8.0E-01	3600	1.2E-02	5100	1.2E-03
490	9.2E-01	790	7.2E-05	1090	2.7E-04	2150	8.3E-01	3650	1.3E-02	5150	8.6E-04