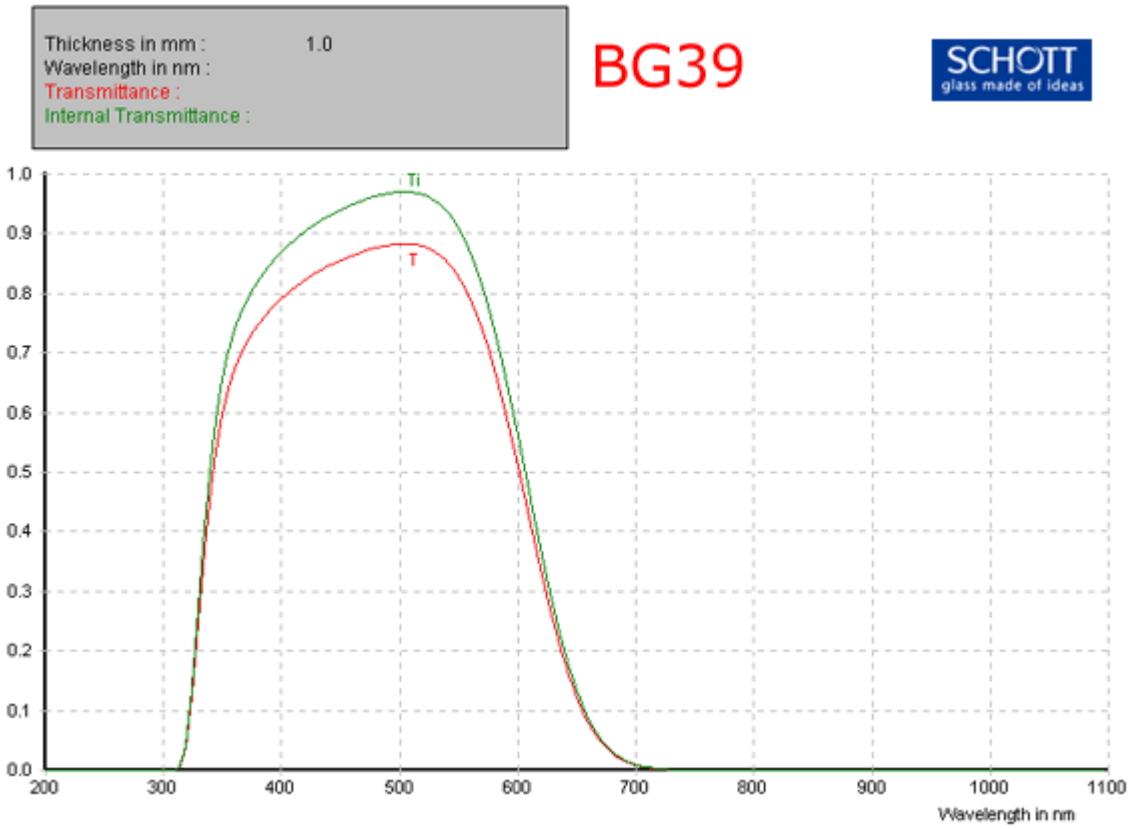
DATA SHEET

SCHOTT BG39



SCHOTT

BG39

Reflection factor
P_d 0.91

Bubble content
Bubble class 2

Chemical resistance
FR class 0
SR class 5.1
AR class 3.0

Density
ρ [g/cm³] 2.73

Transformation temperature
Tg [°C] 321

Thermal expansion
$\alpha_{-30/+70\,°C}$ [10^{-6}/K] 11.6
$\alpha_{20/200\,°C}$ [10^{-6}/K] 13.1

Temperature coefficient
T_k [nm/°C]

Per DIN 58191 **BP 475/269**
Per DIN 58191 **KP 609**

Ionically colored glass

Limit values of τ_i
for thickness d = 1 mm

Wave-length [nm]	Limits	Value from catalog curve
350	≥0.60	0.65
405	≥0.85	0.88
514	≥0.93	0.97
633	≤0.30	0.26
694	≤0.03	0.02
1060	≤0.001	$1 \cdot 10^{-4}$

Refractive index n

λ [nm]	Element	n
404.7	Hg	1.55
587.6	He	1.54

Tristimulus values

	d [mm]	x	y	Y	λ_d [nm]	P_e
A	1	0.365	0.434	66	500	0.19
2856	2	0.314	0.444	53	500	0.30
K	3	0.279	0.449	45	499	0.39
	5	0.235	0.450	35	498	0.49
	1	0.344	0.418	67	498	0.19
3200	2	0.296	0.425	55	498	0.31
K	3	0.264	0.426	47	497	0.39
	5	0.223	0.425	37	497	0.49
	1	0.257	0.326	73	491	0.21
D_{65}	2	0.226	0.321	62	490	0.32
	3	0.207	0.317	55	490	0.40
	5	0.183	0.311	45	490	0.49

Application notes
Band pass filter
- see section 6.7.3

Short pass filter
- see section 6.7.2

[!!]
Long-term changes in the polished surface are possible
- see section 5.5

Status June 1997

Transmittance τ and internal transmittance τ_i at d = 1 mm

λ [nm]	τ	τ_i	λ [nm]	τ	τ_i
200	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	700	0.009	0.01
210	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	710	0.005	0.005
220	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	720	0.003	0.003
230	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	730	$9 \cdot 10^{-4}$	0.001
240	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	740	$6 \cdot 10^{-4}$	$7 \cdot 10^{-4}$
250	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	750	$3 \cdot 10^{-4}$	$3 \cdot 10^{-4}$
260	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	760	$9 \cdot 10^{-5}$	$1 \cdot 10^{-4}$
270	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	770	$8 \cdot 10^{-5}$	$9 \cdot 10^{-5}$
280	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	780	$5 \cdot 10^{-5}$	$5 \cdot 10^{-5}$
290	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	790	$3 \cdot 10^{-5}$	$3 \cdot 10^{-5}$
300	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$	800	$2 \cdot 10^{-5}$	$2 \cdot 10^{-5}$
310	$9 \cdot 10^{-5}$	$1 \cdot 10^{-4}$	850	$<1 \cdot 10^{-5}$	$1 \cdot 10^{-5}$
320	0.04	0.04	900	$<1 \cdot 10^{-5}$	$<1 \cdot 10^{-5}$
330	0.23	0.26	950	$<1 \cdot 10^{-5}$	$1 \cdot 10^{-5}$
340	0.45	0.49	1000	$3 \cdot 10^{-5}$	$3 \cdot 10^{-5}$
350	0.59	0.65	1060	$9 \cdot 10^{-5}$	$1 \cdot 10^{-4}$
360	0.67	0.73	1100	$4 \cdot 10^{-4}$	$4 \cdot 10^{-4}$
370	0.71	0.78	1200	0.003	0.003
380	0.74	0.82	1300	0.02	0.02
390	0.77	0.85	1400	0.06	0.07
400	0.79	0.87	1500	0.16	0.18
410	0.81	0.89	1600	0.31	0.34
420	0.82	0.90	1700	0.46	0.51
430	0.83	0.92	1800	0.67	0.74
440	0.85	0.93	1900	0.67	0.74
450	0.85	0.94	2000	0.74	0.81
460	0.86	0.95	2100	0.78	0.86
470	0.87	0.96	2200	0.79	0.87
480	0.88	0.96	2300	0.78	0.86
490	0.88	0.97	2400	0.78	0.86
500	0.88	0.97	2500	0.75	0.82
510	0.88	0.97	2600	0.67	0.74
520	0.88	0.97	2700	0.63	0.69
530	0.87	0.96	2800	0.30	0.33
540	0.86	0.94	2900	0.06	0.07
550	0.83	0.91	3000	0.02	0.02
560	0.80	0.87	3200	0.002	0.002
570	0.75	0.82	3400	$3 \cdot 10^{-4}$	$3 \cdot 10^{-4}$
580	0.68	0.75	3600	$6 \cdot 10^{-4}$	$6 \cdot 10^{-4}$
590	0.61	0.67	3800	0.002	0.002
600	0.52	0.58	4000	$6 \cdot 10^{-4}$	$7 \cdot 10^{-4}$
610	0.43	0.48	4200	$2 \cdot 10^{-5}$	$2 \cdot 10^{-5}$
620	0.34	0.38	4400	$3 \cdot 10^{-4}$	$3 \cdot 10^{-4}$
630	0.26	0.29	4600	$6 \cdot 10^{-4}$	$7 \cdot 10^{-4}$
640	0.19	0.21	4800	0.003	0.003
650	0.13	0.14	5000	0.003	0.003
660	0.08	0.09	5200	0.003	0.003
670	0.05	0.06			
680	0.03	0.03			
690	0.02	0.02			

UQG OPTICS
THE NORMAN IND. EST, 99-101 CAMBRIDGE ROAD, MILTON, CAMBRIDGE, CB24 6AT
TEL: + 44 (0) 1223 420329 FAX: + 44 (0) 1223 420506 EMAIL: info@uqgoptics.com