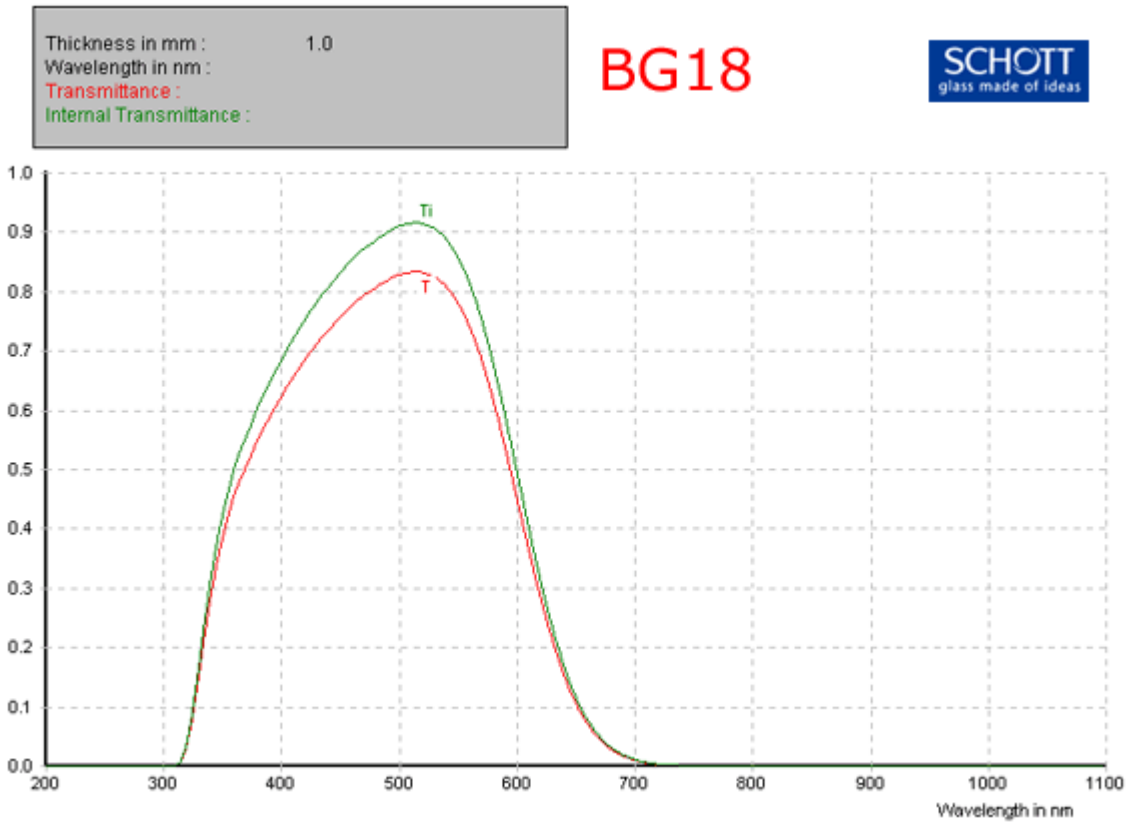
## DATA SHEET SCHOTT BG18



SCHOTT

# BG18

**Reflection factor**
$P_d$ 0.91
**Bubble content**
Bubble class 2
**Chemical resistance**
FR class 0
SR class 2.0
AR class 2.0

**Density**
ρ [g/cm³] 2.68
**Transformation temperature**
Tg [°C] 459
**Thermal expansion**
$\alpha_{-30/+70°C}$ [$10^{-6}$/K] 7.4
$\alpha_{20/300°C}$ [$10^{-6}$/K] 8.8
**Temperature coefficient**
$T_k$ [nm/°C]

**Per DIN 58191** **BP 480/250**
**Per DIN 58191** **KP 605**

Ionically colored glass

**Limit values of $\tau_i$**
for thickness d = 1 mm

| Wave-length [nm] | Limits | Value from catalog curve |
|---|---|---|
| 350 | ≥0.30 | 0.42 |
| 405 | ≥0.65 | 0.70 |
| 514 | ≥0.88 | 0.92 |
| 633 | ≤0.25 | 0.22 |
| 694 | ≤0.03 | 0.02 |
| 1060 | $\leq 5 \cdot 10^{-4}$ | $2 \cdot 10^{-4}$ |

**Refractive index n**

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

**Tristimulus values**

| | d [mm] | x | y | Y | $\lambda_d$ [nm] | $P_e$ |
|---|---|---|---|---|---|---|
| A | 1 | 0.361 | 0.441 | 61 | 502 | 0.20 |
| 2856 | 2 | 0.309 | 0.460 | 46 | 501 | 0.31 |
| K | 3 | 0.275 | 0.472 | 37 | 501 | 0.39 |
| | 5 | 0.233 | 0.490 | 26 | 502 | 0.49 |
| | 1 | 0.340 | 0.426 | 62 | 500 | 0.20 |
| 3200 | 2 | 0.292 | 0.441 | 48 | 500 | 0.32 |
| K | 3 | 0.260 | 0.452 | 38 | 500 | 0.39 |
| | 5 | 0.222 | 0.469 | 27 | 500 | 0.48 |
| | 1 | 0.255 | 0.335 | 68 | 493 | 0.21 |
| $D_{65}$ | 2 | 0.225 | 0.341 | 54 | 493 | 0.31 |
| | 3 | 0.206 | 0.347 | 45 | 494 | 0.38 |
| | 5 | 0.183 | 0.362 | 33 | 495 | 0.45 |

**Application notes**
Band pass filter
- see section 6.7.3

Short pass filter
- see section 6.7.2

Status June 1997

**Transmittance τ and internal transmittance $\tau_i$ at d = 1 mm**

| λ [nm] | τ | $\tau_i$ | λ [nm] | τ | $\tau_i$ |
|---|---|---|---|---|---|
| 200 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 700 | 0.01 | 0.01 |
| 210 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 710 | 0.006 | 0.007 |
| 220 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 720 | 0.004 | 0.004 |
| 230 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 730 | 0.002 | 0.002 |
| 240 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 740 | $9 \cdot 10^{-4}$ | 0.001 |
| 250 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 750 | $7 \cdot 10^{-4}$ | $8 \cdot 10^{-4}$ |
| 260 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 760 | $5 \cdot 10^{-4}$ | $5 \cdot 10^{-4}$ |
| 270 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 770 | $3 \cdot 10^{-4}$ | $3 \cdot 10^{-4}$ |
| 280 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 780 | $2 \cdot 10^{-4}$ | $2 \cdot 10^{-4}$ |
| 290 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 790 | $9 \cdot 10^{-5}$ | $1 \cdot 10^{-4}$ |
| 300 | $<1 \cdot 10^{-5}$ | $<1 \cdot 10^{-5}$ | 800 | $7 \cdot 10^{-5}$ | $8 \cdot 10^{-5}$ |
| 310 | $5 \cdot 10^{-4}$ | $5 \cdot 10^{-4}$ | 850 | $2 \cdot 10^{-5}$ | $2 \cdot 10^{-5}$ |
| 320 | 0.03 | 0.03 | 900 | $1 \cdot 10^{-5}$ | $1 \cdot 10^{-5}$ |
| 330 | 0.14 | 0.16 | 950 | $2 \cdot 10^{-5}$ | $2 \cdot 10^{-5}$ |
| 340 | 0.28 | 0.31 | 1000 | $5 \cdot 10^{-5}$ | $6 \cdot 10^{-5}$ |
| 350 | 0.38 | 0.42 | 1060 | $2 \cdot 10^{-4}$ | $2 \cdot 10^{-4}$ |
| 360 | 0.45 | 0.50 | 1100 | $5 \cdot 10^{-4}$ | $5 \cdot 10^{-4}$ |
| 370 | 0.50 | 0.55 | 1200 | 0.003 | 0.003 |
| 380 | 0.55 | 0.60 | 1300 | 0.02 | 0.02 |
| 390 | 0.59 | 0.64 | 1400 | 0.05 | 0.06 |
| 400 | 0.62 | 0.68 | 1500 | 0.14 | 0.15 |
| 410 | 0.65 | 0.72 | 1600 | 0.25 | 0.28 |
| 420 | 0.68 | 0.75 | 1700 | 0.40 | 0.44 |
| 430 | 0.71 | 0.78 | 1800 | 0.51 | 0.56 |
| 440 | 0.73 | 0.81 | 1900 | 0.60 | 0.66 |
| 450 | 0.76 | 0.83 | 2000 | 0.68 | 0.75 |
| 460 | 0.78 | 0.85 | 2100 | 0.70 | 0.77 |
| 470 | 0.79 | 0.87 | 2200 | 0.71 | 0.78 |
| 480 | 0.81 | 0.89 | 2300 | 0.70 | 0.77 |
| 490 | 0.82 | 0.90 | 2400 | 0.72 | 0.79 |
| 500 | 0.83 | 0.91 | 2500 | 0.69 | 0.76 |
| 510 | 0.83 | 0.92 | 2600 | 0.62 | 0.68 |
| 520 | 0.83 | 0.92 | 2700 | 0.54 | 0.59 |
| 530 | 0.83 | 0.91 | 2800 | 0.06 | 0.07 |
| 540 | 0.81 | 0.89 | 2900 | 0.004 | 0.004 |
| 550 | 0.79 | 0.86 | 3000 | $9 \cdot 10^{-4}$ | 0.001 |
| 560 | 0.75 | 0.82 | 3200 | $4 \cdot 10^{-4}$ | $4 \cdot 10^{-4}$ |
| 570 | 0.69 | 0.76 | 3400 | $3 \cdot 10^{-4}$ | $3 \cdot 10^{-4}$ |
| 580 | 0.62 | 0.69 | 3600 | $6 \cdot 10^{-4}$ | $6 \cdot 10^{-4}$ |
| 590 | 0.55 | 0.60 | 3800 | $9 \cdot 10^{-4}$ | 0.001 |
| 600 | 0.46 | 0.51 | 4000 | $4 \cdot 10^{-4}$ | $4 \cdot 10^{-4}$ |
| 610 | 0.37 | 0.41 | 4200 | $9 \cdot 10^{-5}$ | $1 \cdot 10^{-4}$ |
| 620 | 0.29 | 0.32 | 4400 | $2 \cdot 10^{-4}$ | $2 \cdot 10^{-4}$ |
| 630 | 0.22 | 0.24 | 4600 | $4 \cdot 10^{-4}$ | $4 \cdot 10^{-4}$ |
| 640 | 0.16 | 0.18 | 4800 | $4 \cdot 10^{-4}$ | $4 \cdot 10^{-4}$ |
| 650 | 0.11 | 0.12 | 5000 | $5 \cdot 10^{-4}$ | $5 \cdot 10^{-4}$ |
| 660 | 0.07 | 0.08 | 5200 | $9 \cdot 10^{-5}$ | $1 \cdot 10^{-4}$ |
| 670 | 0.05 | 0.05 | | | |
| 680 | 0.03 | 0.03 | | | |
| 690 | 0.02 | 0.02 | | | |



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