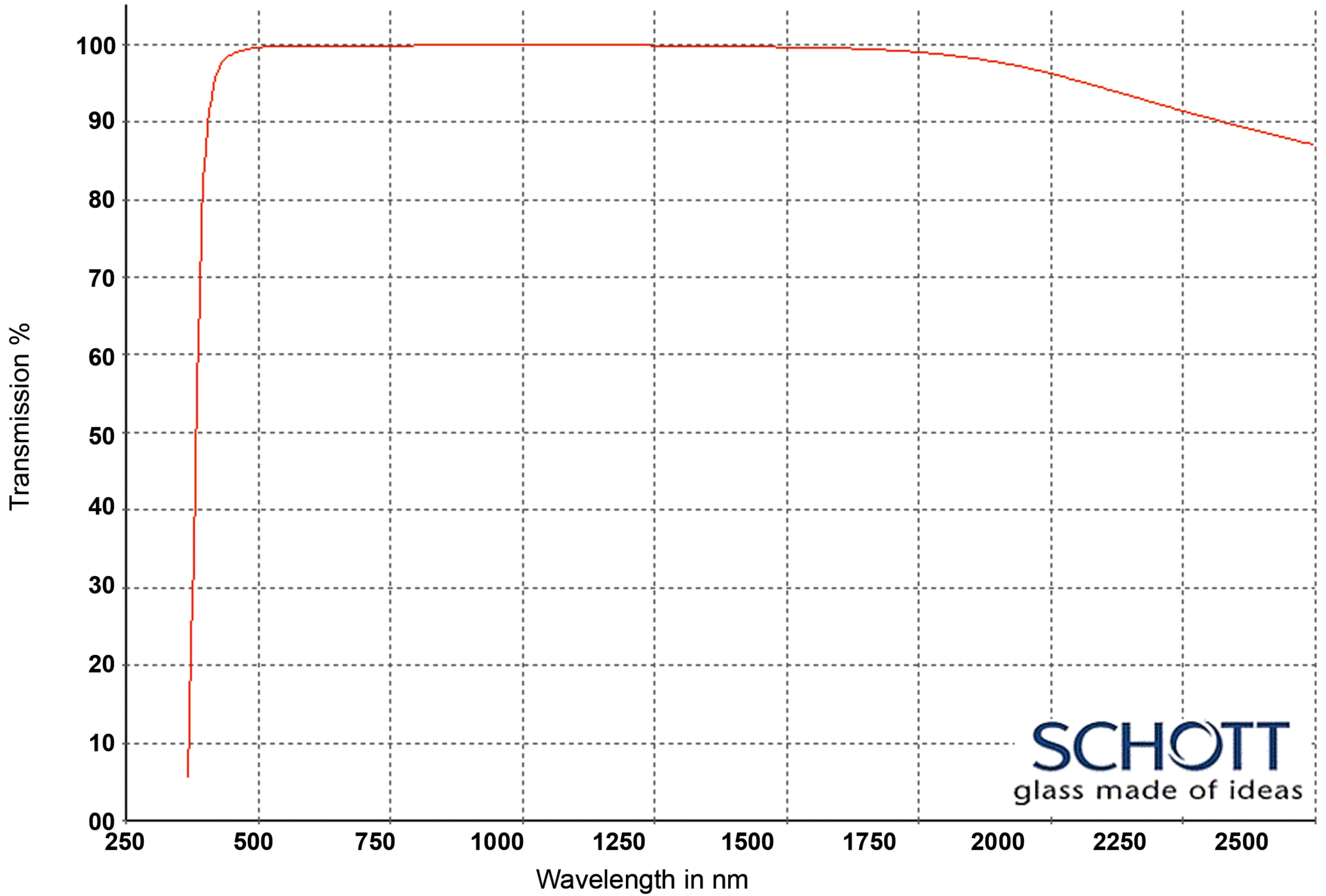




KNIGHT OPTICAL

Tel: +44 (0)1622 859444
Fax: +44 (0)1622 859555
info@knightoptical.co.uk
www.knightoptical.co.uk

Title: Optical Glasses - 250-2500nm
Material: SCHOTT SF56A for 250nm - 2500 transmission
Range: OPG - SF56A



Internal transmittance for 10mm thickness

WAVELENGTH	BASF51 (T%)
2500 nm	0.870
2325 nm	0.900
1970 nm	0.967
1530 nm	0.996
1060 nm	0.999
700 nm	0.998
660 nm	0.997
620 nm	0.998
580 nm	0.998
546 nm	0.998
500 nm	0.996
460 nm	0.990
436 nm	0.980
420 nm	0.959
405 nm	0.900
400 nm	0.860
390 nm	0.700
380 nm	0.400
370 nm	0.120
365 nm	0.040
350 nm	0.000
334 nm	0.000
320 nm	0.000
310 nm	0.000
300 nm	0.000
290 nm	0.000
280 nm	0.000
270 nm	0.000
260 nm	0.000
250 nm	0.000

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.73406
$n_{1970.1}$	1970.1	1.73925
$n_{1529.6}$	1529.6	1.74559
$n_{1060.0}$	1060.0	1.75473
n_t	1014.0	1.75606
n_s	852.1	1.76220
n_r	706.5	1.77136
n_C	656.3	1.77605
$n_{C'}$	643.8	1.77740
$n_{632.8}$	632.8	1.77866
n_D	589.3	1.78444
n_d	587.6	1.78470
n_e	546.1	1.79180
n_F	486.1	1.80615
$n_{F'}$	480.0	1.80800
n_g	435.8	1.82449
n_h	404.7	1.84092
n_i	365.0	
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	$1.70579259 \cdot 10^{+00}$
B_2	$3.44223052 \cdot 10^{-01}$
B_3	$1.09601828 \cdot 10^{+00}$
C_1	$1.33874699 \cdot 10^{-02}$
C_2	$5.79561608 \cdot 10^{-02}$
C_3	$1.21616024 \cdot 10^{+02}$

Constants of Formula dn/dT

D_0	$6.02 \cdot 10^{-06}$
D_1	$1.70 \cdot 10^{-08}$
D_2	$-2.61 \cdot 10^{-11}$
E_0	$1.63 \cdot 10^{-06}$
E_1	$1.59 \cdot 10^{-09}$
$\lambda_{TK}[\mu m]$	0.269

Temperature Coefficients of Refractive Index

[°C]	$\Delta n_{rel}/\Delta T [10^{-6}/K]$			$\Delta n_{abs}/\Delta T [10^{-6}/K]$		
	1060.0	e	g	1060.0	e	g
-40/-20	5.6	9.0	13.1	3.3	6.6	10.6
+20/+40	6.2	10.0	14.7	4.7	8.5	13.1
+60/+80	6.6	10.7	15.8	5.5	9.5	14.5

Internal Transmittance τ_i

λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.87	0.70
2325	0.900	0.76
1970	0.967	0.920
1530	0.996	0.989
1060	0.999	0.997
700	0.998	0.995
660	0.997	0.993
620	0.998	0.994
580	0.998	0.994
546	0.998	0.994
500	0.996	0.989
460	0.990	0.974
436	0.980	0.950
420	0.959	0.900
405	0.900	0.76
400	0.86	0.68
390	0.70	0.41
380	0.40	0.10
370	0.12	0.01
365	0.04	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ_{80}/λ_5	42/37
--------------------------	-------

Remarks

Relative Partial Dispersion

$P_{s,t}$	0.2040
$P_{C,s}$	0.4605
$P_{d,C}$	0.2874
$P_{e,d}$	0.2359
$P_{g,F}$	0.6098
$P_{i,h}$	
$P'_{s,t}$	0.2006
$P'_{C's}$	0.4967
$P'_{d,C'}$	0.2387
$P'_{e,d}$	0.2319
$P'_{g,F'}$	0.5390
$P'_{i,h}$	

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"

$\Delta P_{C,t}$	-0.0042
$\Delta P_{C,s}$	-0.0032
$\Delta P_{F,e}$	0.0021
$\Delta P_{g,F}$	0.0098
$\Delta P_{i,g}$	

Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	7.9
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	8.8
Tg[°C]	429
$T_{10}^{13.0} [^\circ C]$	426
$T_{10}^{7.6} [^\circ C]$	556
$c_p [J/(g \cdot K)]$	
$\lambda [W/(m \cdot K)]$	
$\rho [g/cm^3]$	4.92
$E [10^3 N/mm^2]$	57
μ	0.239
$K [10^{-6} mm^2/N]$	1.10
HK _{0.1/20}	380
HG	1
B	1
CR	1
FR	1
SR	3.2
AR	2.2
PR	3.2