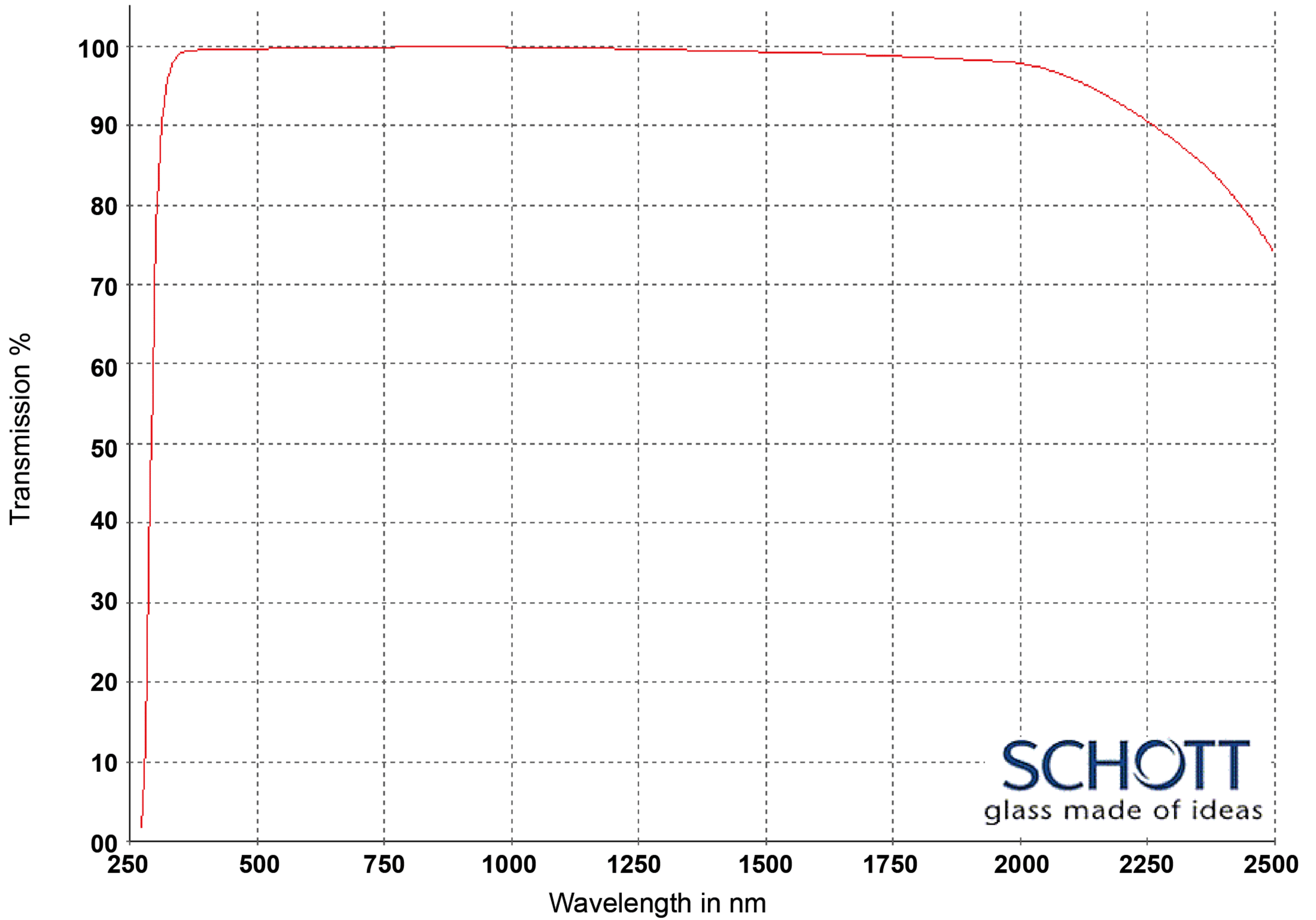




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm
Material: Schott N-BK10 for 250nm - 2500 transmission
Range: OPG - N-BK10



SCHOTT
glass made of ideas

Internal transmittance for 10mm thickness

WAVELENGTH	N-BAK10 (T%)
2500 nm	0.740
2325 nm	0.870
1970 nm	0.980
1530 nm	0.992
1060 nm	0.998
700 nm	0.998
660 nm	0.997
620 nm	0.997
580 nm	0.997
546 nm	0.997
500 nm	0.996
460 nm	0.996
436 nm	0.996
420 nm	0.996
405 nm	0.996
400 nm	0.996
390 nm	0.996
380 nm	0.994
370 nm	0.994
365 nm	0.994
350 nm	0.991
334 nm	0.978
320 nm	0.940
310 nm	0.870
300 nm	0.710
290 nm	0.410
280 nm	0.120
270 nm	0.010
260 nm	0.000
250 nm	0.000

Refractive Indices		
	λ [nm]	
$n_{2325.4}$	2325.4	1.47060
$n_{1970.1}$	1970.1	1.47647
$n_{1529.6}$	1529.6	1.48252
$n_{1060.0}$	1060.0	1.48827
n_t	1014.0	1.48887
n_s	852.1	1.49127
n_r	706.5	1.49419
n_C	656.3	1.49552
$n_{C'}$	643.8	1.49589
$n_{632.8}$	632.8	1.49623
n_D	589.3	1.49775
n_d	587.6	1.49782
n_e	546.1	1.49960
n_F	486.1	1.50296
$n_{F'}$	480.0	1.50337
n_g	435.8	1.50690
n_h	404.7	1.51014
n_i	365.0	1.51561
$n_{334.1}$	334.1	1.52144
$n_{312.6}$	312.6	1.52674
$n_{296.7}$	296.7	1.53151
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula	
B_1	$8.88308131 \cdot 10^{-01}$
B_2	$3.28964475 \cdot 10^{-01}$
B_3	$9.84610769 \cdot 10^{-01}$
C_1	$5.16900822 \cdot 10^{-03}$
C_2	$1.61190045 \cdot 10^{-02}$
C_3	$9.97575331 \cdot 10^{+01}$

Constants of Formula dn/dT	
D_0	$3.28 \cdot 10^{-06}$
D_1	$1.62 \cdot 10^{-08}$
D_2	$4.95 \cdot 10^{-11}$
E_0	$4.22 \cdot 10^{-07}$
E_1	$8.57 \cdot 10^{-10}$
$\lambda_{TK}[\mu m]$	0.100

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	3.0	3.4	3.7	1.0	1.3	1.6
+20/+40	2.9	3.5	3.9	1.6	2.1	2.6
+60/+80	3.3	4.0	4.5	2.3	2.9	3.4

Internal Transmittance τ_i		
λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.74	0.47
2325	0.87	0.71
1970	0.980	0.950
1530	0.992	0.980
1060	0.998	0.996
700	0.998	0.995
660	0.997	0.993
620	0.997	0.992
580	0.997	0.993
546	0.997	0.993
500	0.996	0.991
460	0.996	0.990
436	0.996	0.989
420	0.996	0.989
405	0.996	0.990
400	0.996	0.990
390	0.996	0.989
380	0.994	0.985
370	0.994	0.986
365	0.994	0.986
350	0.991	0.978
334	0.978	0.950
320	0.940	0.86
310	0.87	0.71
300	0.71	0.42
290	0.41	0.11
280	0.12	
270	0.01	
260		
250		

Color Code	
λ_{80}/λ_5	31/27
Remarks	

Relative Partial Dispersion	
$P_{s,t}$	0.3224
$P_{C,s}$	0.5716
$P_{d,C}$	0.3093
$P_{e,d}$	0.2387
$P_{g,F}$	0.5303
$P_{i,h}$	0.7360
$P'_{s,t}$	0.3204
$P'_{C's}$	0.6174
$P'_{d,C'}$	0.2580
$P'_{e,d}$	0.2373
$P'_{g,F'}$	0.4716
$P'_{i,h}$	0.7315

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"	
$\Delta P_{C,t}$	0.0314
$\Delta P_{C,s}$	0.0126
$\Delta P_{F,e}$	-0.0012
$\Delta P_{g,F}$	-0.0008
$\Delta P_{i,g}$	0.0091

Other Properties	
$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	5.8
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	6.6
$T_g [^\circ C]$	551
$T_{10}^{13.0} [^\circ C]$	
$T_{10}^{7.6} [^\circ C]$	753
$c_p [J/(g \cdot K)]$	0.810
$\lambda [W/(m \cdot K)]$	1.320
$\rho [g/cm^3]$	2.39
$E [10^3 N/mm^2]$	71
μ	0.203
$K [10^{-6} mm^2/N]$	3.21
$HK_{0.1/20}$	560
HG	4
B	1
CR	1
FR	0
SR	1
AR	1
PR	1