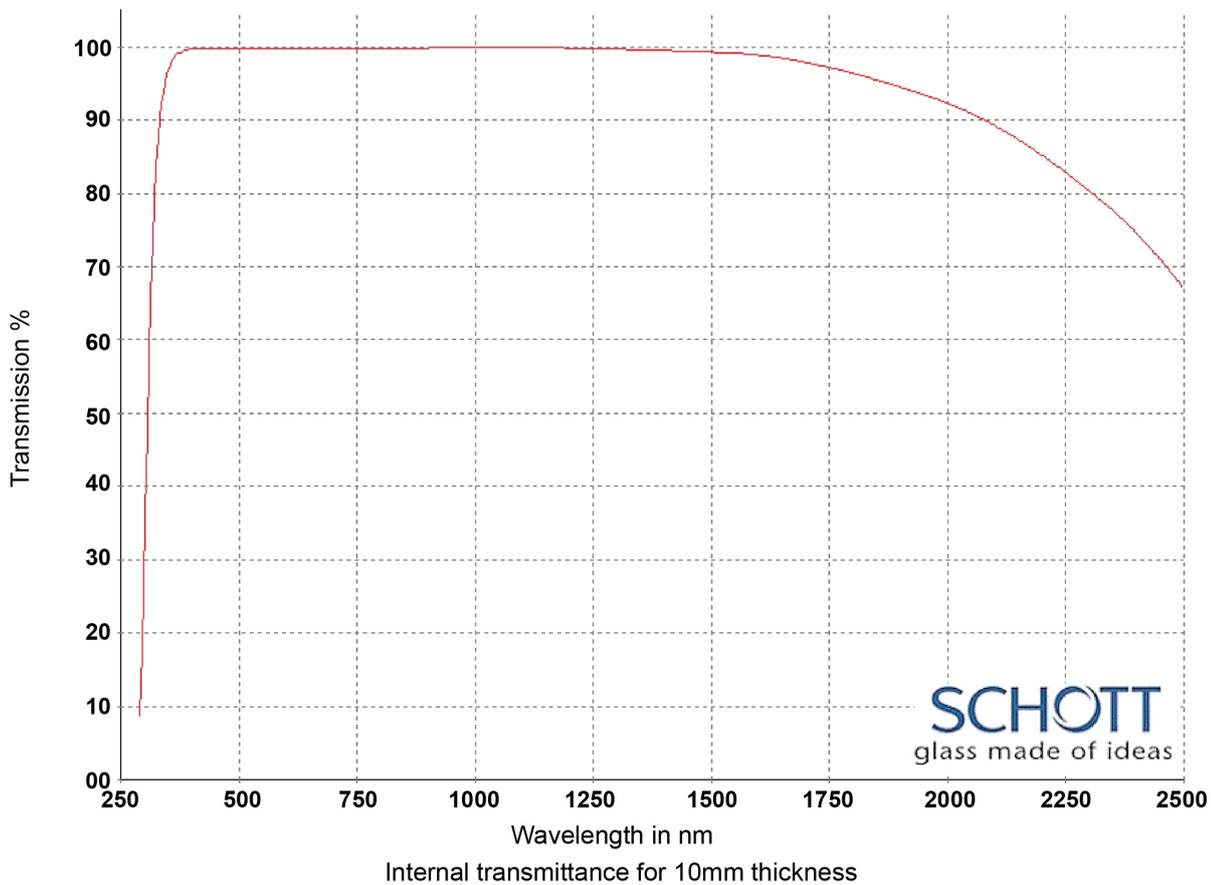


OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

Title: Optical Glasses - 250-2500nm

Material/Specification: Schott N-BK7 for 250nm - 2500nm transmission

Range/Description: OPG-N-BK7



WAVELENGTH	N-BK7 (T%)
2500 nm	0.670
2325 nm	0.790
1970 nm	0.930
1530 nm	0.992
1060 nm	0.999
700 nm	0.998
660 nm	0.998
620 nm	0.998
580 nm	0.998
546 nm	0.998
500 nm	0.998
460 nm	0.997
436 nm	0.997
420 nm	0.997
405 nm	0.997
400 nm	0.997
390 nm	0.996
380 nm	0.993
370 nm	0.991
365 nm	0.988
350 nm	0.967
334 nm	0.910
320 nm	0.770
310 nm	0.570
300 nm	0.290
290 nm	0.060
280 nm	0.000
270 nm	0.000
260 nm	0.000
250 nm	0.000

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OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

SCHOTT
glass made of ideas

Refractive Indices		
	λ [nm]	
$n_{2325.4}$	2325.4	1.48921
$n_{1970.1}$	1970.1	1.49495
$n_{1529.6}$	1529.6	1.50091
$n_{1060.0}$	1060.0	1.50669
n_t	1014.0	1.50731
n_s	852.1	1.50980
n_r	706.5	1.51289
n_C	656.3	1.51432
$n_{C'}$	643.8	1.51472
$n_{632.8}$	632.8	1.51509
n_D	589.3	1.51673
n_d	587.6	1.51680
n_e	546.1	1.51872
n_F	486.1	1.52238
$n_{F'}$	480.0	1.52283
n_g	435.8	1.52668
n_h	404.7	1.53024
n_i	365.0	1.53627
$n_{334.1}$	334.1	1.54272
$n_{312.6}$	312.6	1.54862
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula	
B_1	$1.03961212 \cdot 10^{+00}$
B_2	$2.31792344 \cdot 10^{-01}$
B_3	$1.01046945 \cdot 10^{+00}$
C_1	$6.00069867 \cdot 10^{-03}$
C_2	$2.00179144 \cdot 10^{-02}$
C_3	$1.03560653 \cdot 10^{+02}$

Constants of Formula dn/dT	
D_0	$1.86 \cdot 10^{-06}$
D_1	$1.31 \cdot 10^{-08}$
D_2	$-1.37 \cdot 10^{-11}$
E_0	$4.34 \cdot 10^{-07}$
E_1	$6.27 \cdot 10^{-10}$
$\lambda_{TK}[\mu m]$	0.170

[°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	2.4	2.9	3.3	0.3	0.8	1.2
+20/+40	2.4	3.0	3.5	1.1	1.6	2.1
+60/+80	2.5	3.1	3.7	1.5	2.1	2.7

Internal Transmittance τ_i		
λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.67	0.36
2325	0.79	0.56
1970	0.930	0.84
1530	0.992	0.980
1060	0.999	0.997
700	0.998	0.996
660	0.998	0.994
620	0.998	0.994
580	0.998	0.995
546	0.998	0.996
500	0.998	0.994
460	0.997	0.993
436	0.997	0.992
420	0.997	0.993
405	0.997	0.993
400	0.997	0.992
390	0.996	0.989
380	0.993	0.983
370	0.991	0.977
365	0.988	0.971
350	0.967	0.920
334	0.910	0.78
320	0.77	0.52
310	0.57	0.25
300	0.29	0.05
290	0.06	
280		
270		
260		
250		

Color Code	
λ_{80}/λ_5	33/29
Remarks	

Relative Partial Dispersion	
$P_{s,t}$	0.3098
$P_{C,s}$	0.5612
$P_{d,C}$	0.3076
$P_{e,d}$	0.2386
$P_{g,F}$	0.5349
$P_{i,h}$	0.7483
$P'_{s,t}$	0.3076
$P'_{C,s}$	0.6062
$P'_{d,C'}$	0.2566
$P'_{e,d}$	0.2370
$P'_{g,F'}$	0.4754
$P'_{i,h}$	0.7432

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"	
$\Delta P_{C,t}$	0.0216
$\Delta P_{C,s}$	0.0087
$\Delta P_{F,e}$	-0.0009
$\Delta P_{g,F}$	-0.0009
$\Delta P_{i,g}$	0.0035

Other Properties	
$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	7.1
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	8.3
$T_g [^\circ C]$	557
$T_{10}^{13.0^\circ C}$	557
$T_{10}^{7.6^\circ C}$	719
$c_p [J/(g \cdot K)]$	0.858
$\lambda [W/(m \cdot K)]$	1.114
$\rho [g/cm^3]$	2.51
$E [10^3 N/mm^2]$	82
μ	0.206
$K [10^{-6} mm^2/N]$	2.77
$HK_{0,1/20}$	610
HG	3
B	0
CR	2
FR	0
SR	1
AR	2
PR	2.3

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