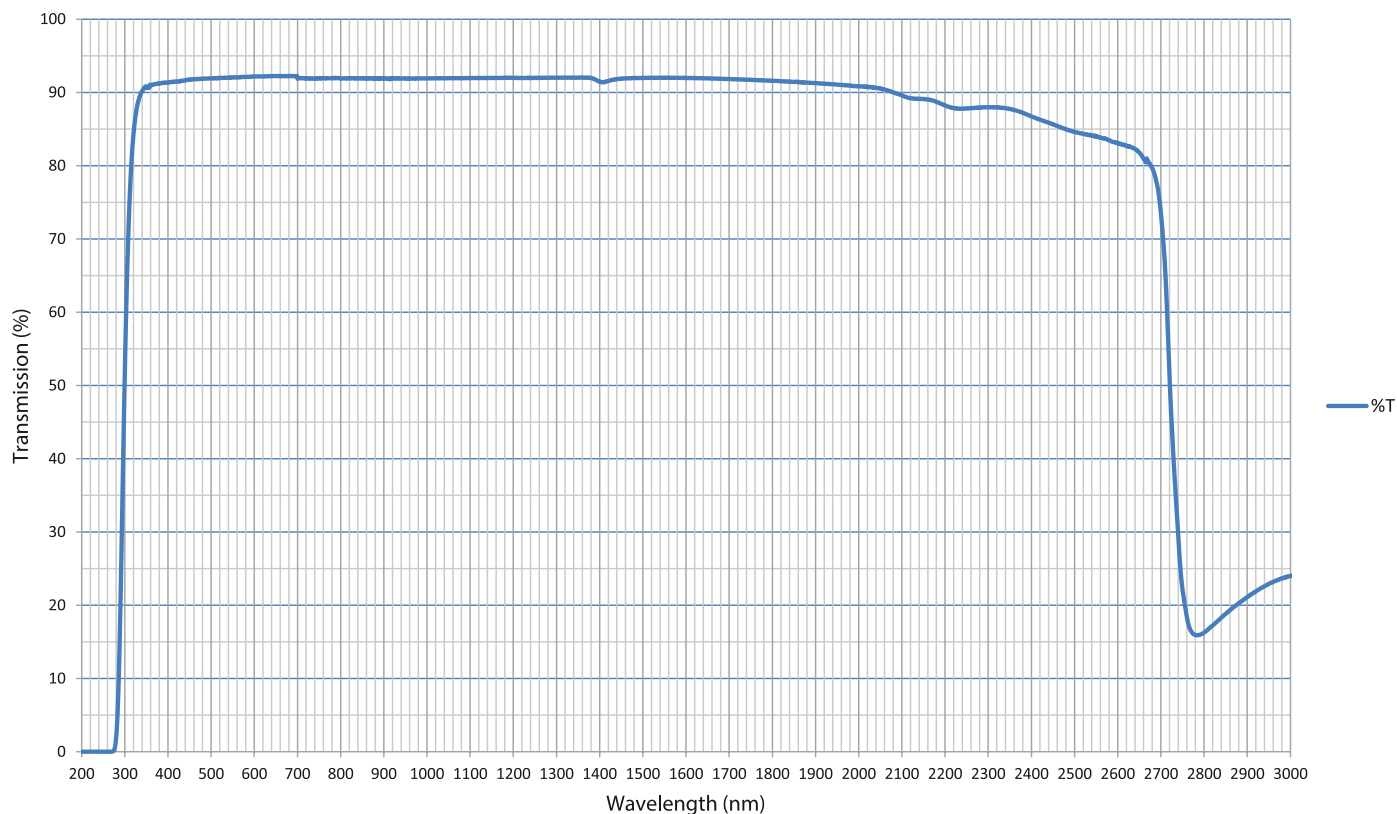


Optical Glasses - 250-2500nm

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

Range / Description: OPG-BK7

3mm thk substrate

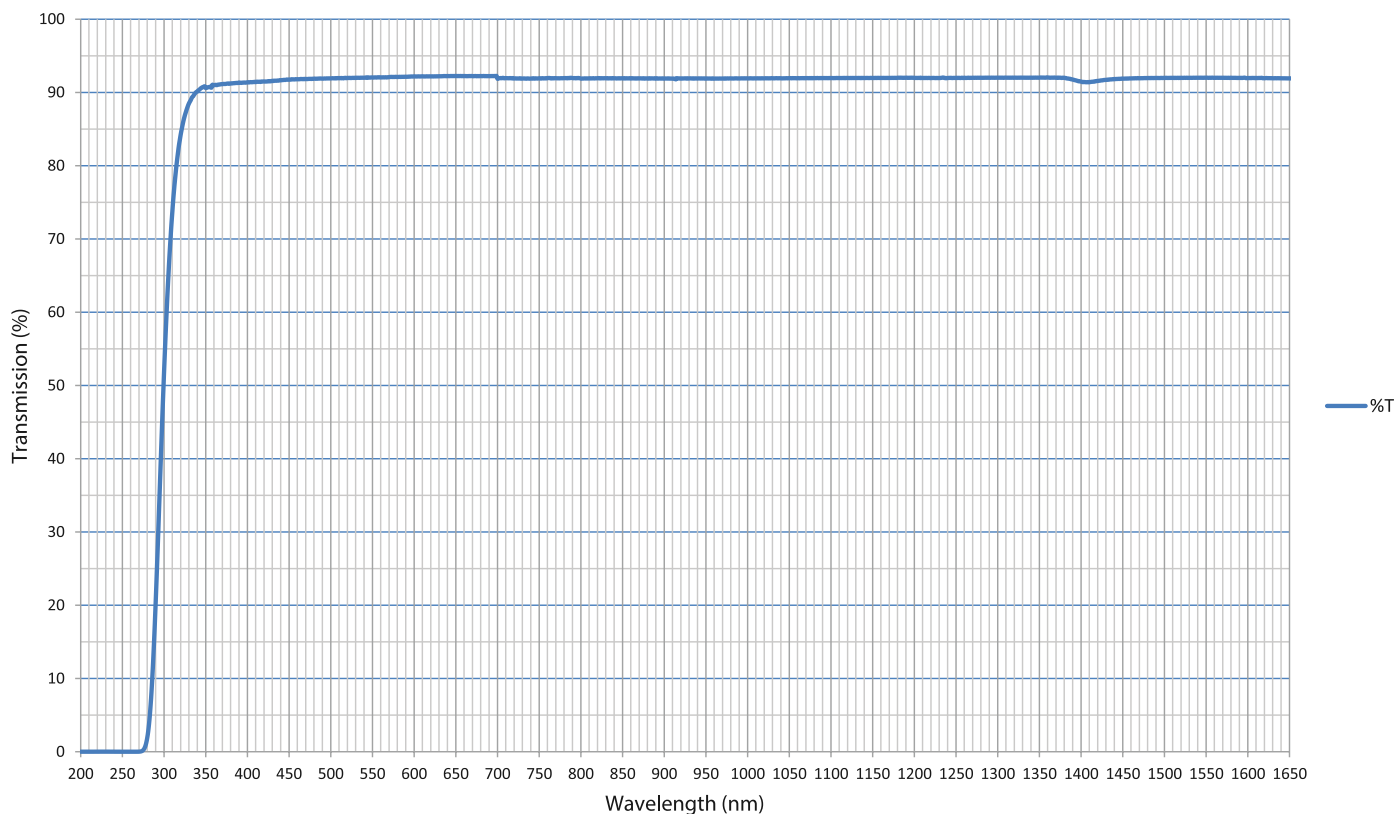


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Optical Glasses



Optical Glasses - 250-2500nm

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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

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	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_t		
λ [nm]	τ_t [10 mm]	τ_t [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	
$\alpha_{-30/+70} [10^{-6}/K]$	7.1
$\alpha_{+20/+300} [10^{-6}/K]$	8.3
$T_g [°C]$	557
$T_{10}^{13.0} [°C]$	557
$T_{10}^{7.6} [°C]$	719
$c_p [J/(g \cdot K)]$	0.858
$\lambda_l [W/(m \cdot K)]$	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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