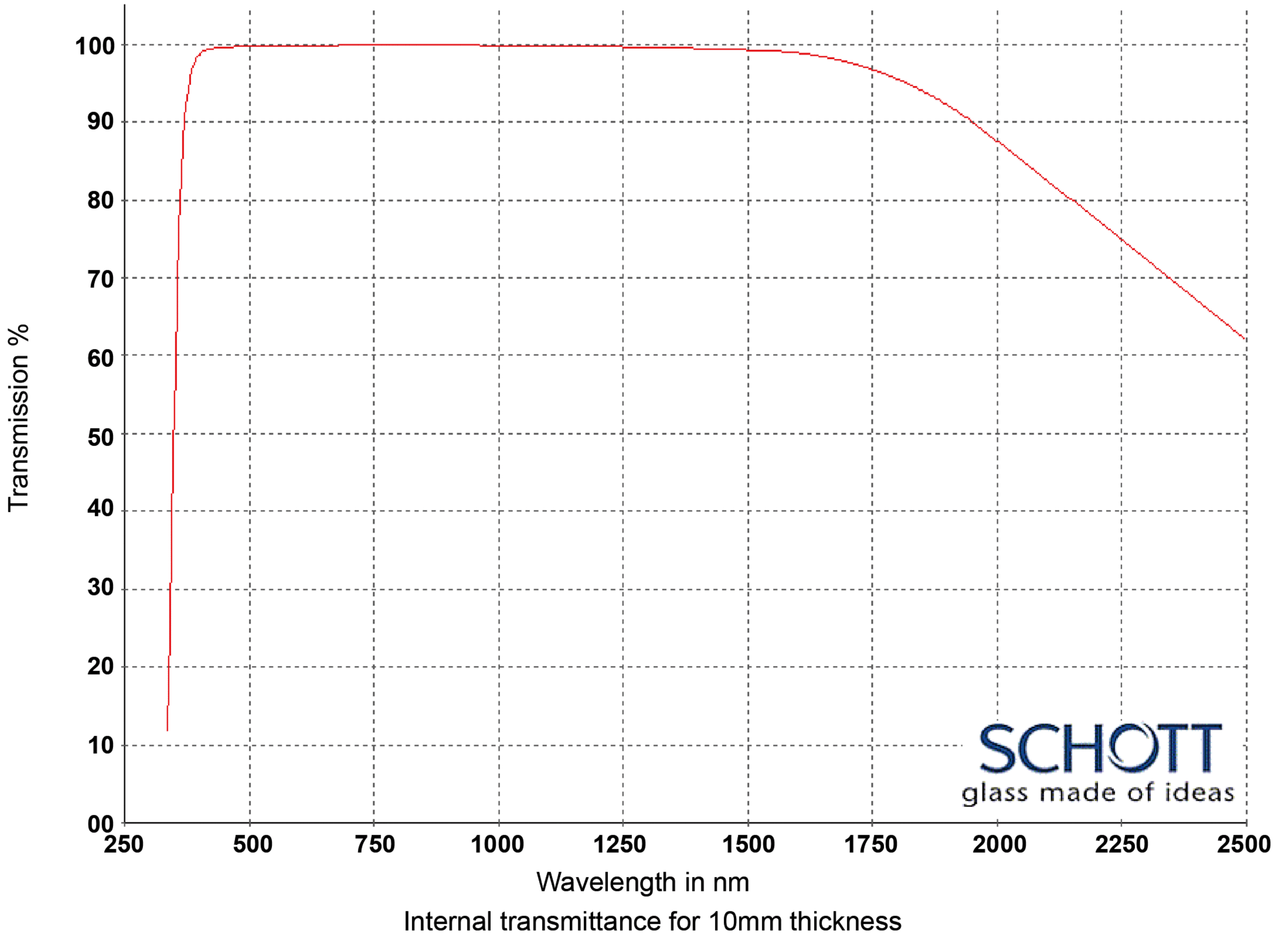




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm  
Material: Schott N-KF9 for 250nm - 2500 transmission  
Range: OPG - N-KF9



**SCHOTT**  
glass made of ideas

WAVELENGTH	N-KF9 (T%)
2500 nm	0.620
2325 nm	0.710
1970 nm	0.890
1530 nm	0.992
1060 nm	0.998
700 nm	0.999
660 nm	0.998
620 nm	0.998
580 nm	0.998
546 nm	0.998
500 nm	0.998
460 nm	0.996
436 nm	0.995
420 nm	0.994
405 nm	0.990
400 nm	0.986
390 nm	0.976
380 nm	0.950
370 nm	0.900
365 nm	0.860
350 nm	0.540
334 nm	0.030
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

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Whilst every effort has been made to verify the data, Knight Optical (UK) Ltd can take no responsibility for its accuracy.

### Refractive Indices

	$\lambda$ [nm]	
$n_{2325.4}$	2325.4	1.49608
$n_{1970.1}$	1970.1	1.50095
$n_{1529.6}$	1529.6	1.50616
$n_{1060.0}$	1060.0	1.51170
$n_t$	1014.0	1.51234
$n_s$	852.1	1.51507
$n_r$	706.5	1.51867
$n_C$	656.3	1.52040
$n_{C'}$	643.8	1.52089
$n_{632.8}$	632.8	1.52134
$n_D$	589.3	1.52337
$n_d$	587.6	1.52346
$n_e$	546.1	1.52588
$n_F$	486.1	1.53056
$n_{F'}$	480.0	1.53114
$n_g$	435.8	1.53620
$n_h$	404.7	1.54096
$n_i$	365.0	1.54925
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

### Internal Transmittance $\tau_i$

$\lambda$ [nm]	$\tau_i$ [10 mm]	$\tau_i$ [25 mm]
2500	0.62	0.30
2325	0.71	0.43
1970	0.89	0.74
1530	0.992	0.981
1060	0.998	0.995
700	0.999	0.997
660	0.998	0.995
620	0.998	0.994
580	0.998	0.996
546	0.998	0.996
500	0.998	0.994
460	0.996	0.990
436	0.995	0.988
420	0.994	0.985
405	0.990	0.975
400	0.986	0.965
390	0.976	0.940
380	0.950	0.88
370	0.900	0.77
365	0.86	0.68
350	0.54	0.21
334	0.03	
320		
310		
300		
290		
280		
270		
260		
250		

### Relative Partial Dispersion

$P_{s,t}$	0.2683
$P_{C,s}$	0.5249
$P_{d,C}$	0.3012
$P_{e,d}$	0.2380
$P_{g,F}$	0.5558
$P_{i,h}$	0.8161
$P'_{s,t}$	0.2657
$P'_{C's}$	0.5669
$P'_{d,C'}$	0.2509
$P'_{e,d}$	0.2356
$P'_{g,F'}$	0.4930
$P'_{i,h}$	0.8080

### Constants of Dispersion Formula

$B_1$	$1.19286778 \cdot 10^{+00}$
$B_2$	$8.93346571 \cdot 10^{-02}$
$B_3$	$9.20819805 \cdot 10^{-01}$
$C_1$	$8.39154696 \cdot 10^{-03}$
$C_2$	$4.04010786 \cdot 10^{-02}$
$C_3$	$1.12572446 \cdot 10^{+02}$

### Constants of Formula $dn/dT$

$D_0$	$-1.66 \cdot 10^{-06}$
$D_1$	$8.44 \cdot 10^{-09}$
$D_2$	$-1.01 \cdot 10^{-11}$
$E_0$	$6.10 \cdot 10^{-07}$
$E_1$	$6.96 \cdot 10^{-10}$
$\lambda_{TK}[\mu m]$	0.217

### Color Code

$\lambda_{80}/\lambda_5$	37/34
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### Remarks


### 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	1.1	1.9	2.6	-0.9	-0.2	0.5
+20/+40	0.9	1.8	2.6	-0.4	0.4	1.3
+60/+80	0.9	1.8	2.8	-0.1	0.8	1.7

### Deviation of Rel. Partial Dispersion

#### $\Delta P$ from "Normal Line"

$\Delta P_{C,t}$	0.0038
$\Delta P_{C,s}$	0.0018
$\Delta P_{F,e}$	-0.0004
$\Delta P_{g,F}$	-0.0014
$\Delta P_{i,g}$	-0.0075

### Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	9.6
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	11.0
$T_g [^\circ C]$	476
$T_{10}^{13.0} [^\circ C]$	476
$T_{10}^{7.6} [^\circ C]$	640
$c_p [J/(g \cdot K)]$	0.860
$\lambda [W/(m \cdot K)]$	1.040
$\rho [g/cm^3]$	2.50
$E [10^3 N/mm^2]$	66
$\mu$	0.225
$K [10^{-6} mm^2/N]$	2.74
$HK_{0.1/20}$	480
HG	1
B	1
CR	1
FR	0
SR	1
AR	1
PR	1