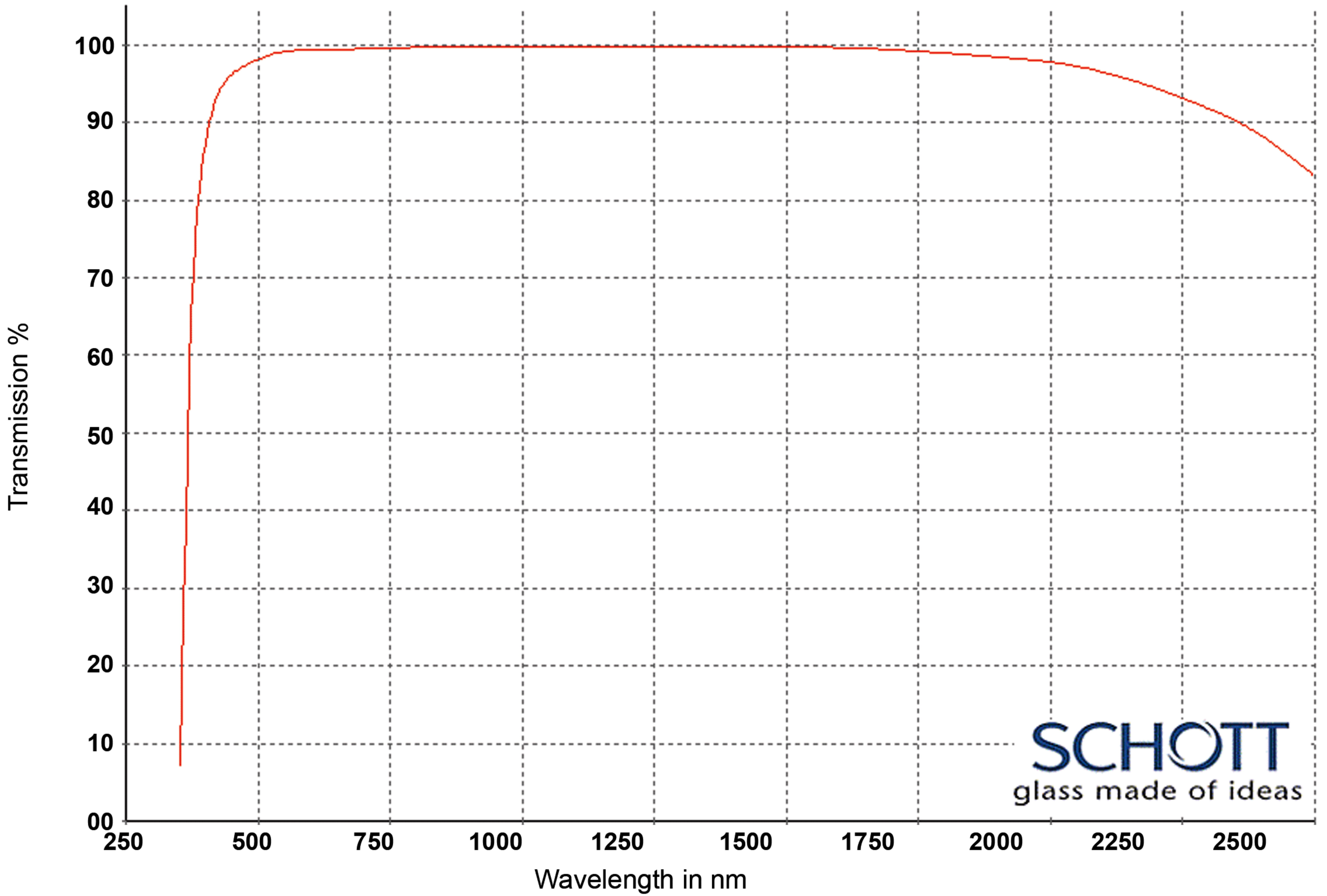




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm
Material: SCHOTT N-LASF45 for 250nm - 2500 transmission
Range: OPG - N-LASF45



Internal transmittance for 10mm thickness

WAVELENGTH	BASF51 (T%)
2500 nm	0.830
2325 nm	0.910
1970 nm	0.980
1530 nm	0.997
1060 nm	0.997
700 nm	0.995
660 nm	0.994
620 nm	0.993
580 nm	0.993
546 nm	0.991
500 nm	0.981
460 nm	0.967
436 nm	0.950
420 nm	0.930
405 nm	0.890
400 nm	0.870
390 nm	0.820
380 nm	0.730
370 nm	0.570
365 nm	0.440
350 nm	0.030
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	
$n_{1970.1}$	1970.1	
$n_{1529.6}$	1529.6	
$n_{1060.0}$	1060.0	1.77688
n_t	1014.0	1.77805
n_s	852.1	1.78323
n_r	706.5	1.79062
n_C	656.3	1.79431
$n_{C'}$	643.8	1.79536
$n_{632.8}$	632.8	1.79634
n_D	589.3	1.80080
n_d	587.6	1.80100
n_e	546.1	1.80641
n_F	486.1	1.81714
$n_{F'}$	480.0	1.81851
n_g	435.8	1.83052
n_h	404.7	1.84218
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	

Internal Transmittance τ_i

λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.83	0.63
2325	0.910	0.79
1970	0.980	0.950
1530	0.997	0.992
1060	0.997	0.993
700	0.995	0.988
660	0.994	0.985
620	0.993	0.983
580	0.993	0.983
546	0.991	0.977
500	0.981	0.954
460	0.967	0.920
436	0.950	0.88
420	0.930	0.84
405	0.89	0.75
400	0.87	0.71
390	0.82	0.61
380	0.73	0.45
370	0.57	0.24
365	0.44	0.13
350	0.03	
334		
320		
310		
300		
290		
280		
270		
260		
250		

Relative Partial Dispersion

$P_{s,t}$	0.2271
$P_{C,s}$	0.4851
$P_{d,C}$	0.2931
$P_{e,d}$	0.2368
$P_{g,F}$	0.5859
$P_{i,h}$	
$P'_{s,t}$	0.2239
$P'_{C's}$	0.5236
$P'_{d,C'}$	0.2437
$P'_{e,d}$	0.2336
$P'_{g,F'}$	0.5186
$P'_{i,h}$	

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"

$\Delta P_{C,t}$	0.0008
$\Delta P_{C,s}$	0.0004
$\Delta P_{F,e}$	0.0002
$\Delta P_{g,F}$	0.0011
$\Delta P_{i,g}$	

Constants of Dispersion Formula

B_1	$1.87979521 \cdot 10^{+00}$
B_2	$2.59494690 \cdot 10^{-01}$
B_3	$1.75852312 \cdot 10^{+00}$
C_1	$1.12660200 \cdot 10^{-02}$
C_2	$5.09972100 \cdot 10^{-02}$
C_3	$1.49125471 \cdot 10^{+02}$

Constants of Formula dn/dT

D_0	$2.68 \cdot 10^{-06}$
D_1	$1.04 \cdot 10^{-08}$
D_2	$-2.33 \cdot 10^{-11}$
E_0	$8.35 \cdot 10^{-07}$
E_1	$1.19 \cdot 10^{-09}$
$\lambda_{TK}[\mu m]$	0.251

Color Code

λ_{80}/λ_5	44/35
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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	3.7	5.3	7.1	1.3	2.8	4.5
+20/+40	3.8	5.6	7.8	2.2	4.1	6.2
+60/+80	3.9	6.0	8.3	2.7	4.7	7.1

Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	7.3
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	8.6
Tg[°C]	651
$T_{10}^{13.0} [^\circ C]$	647
$T_{10}^{7.6} [^\circ C]$	767
$c_p [J/(g \cdot K)]$	0.672
$\lambda [W/(m \cdot K)]$	1.080
$\rho [g/cm^3]$	3.60
$E [10^3 N/mm^2]$	115
μ	0.283
$K [10^{-6} mm^2/N]$	1.94
HK _{0.1/20}	670
HG	
B	0
CR	1
FR	0
SR	3.3
AR	1
PR	1