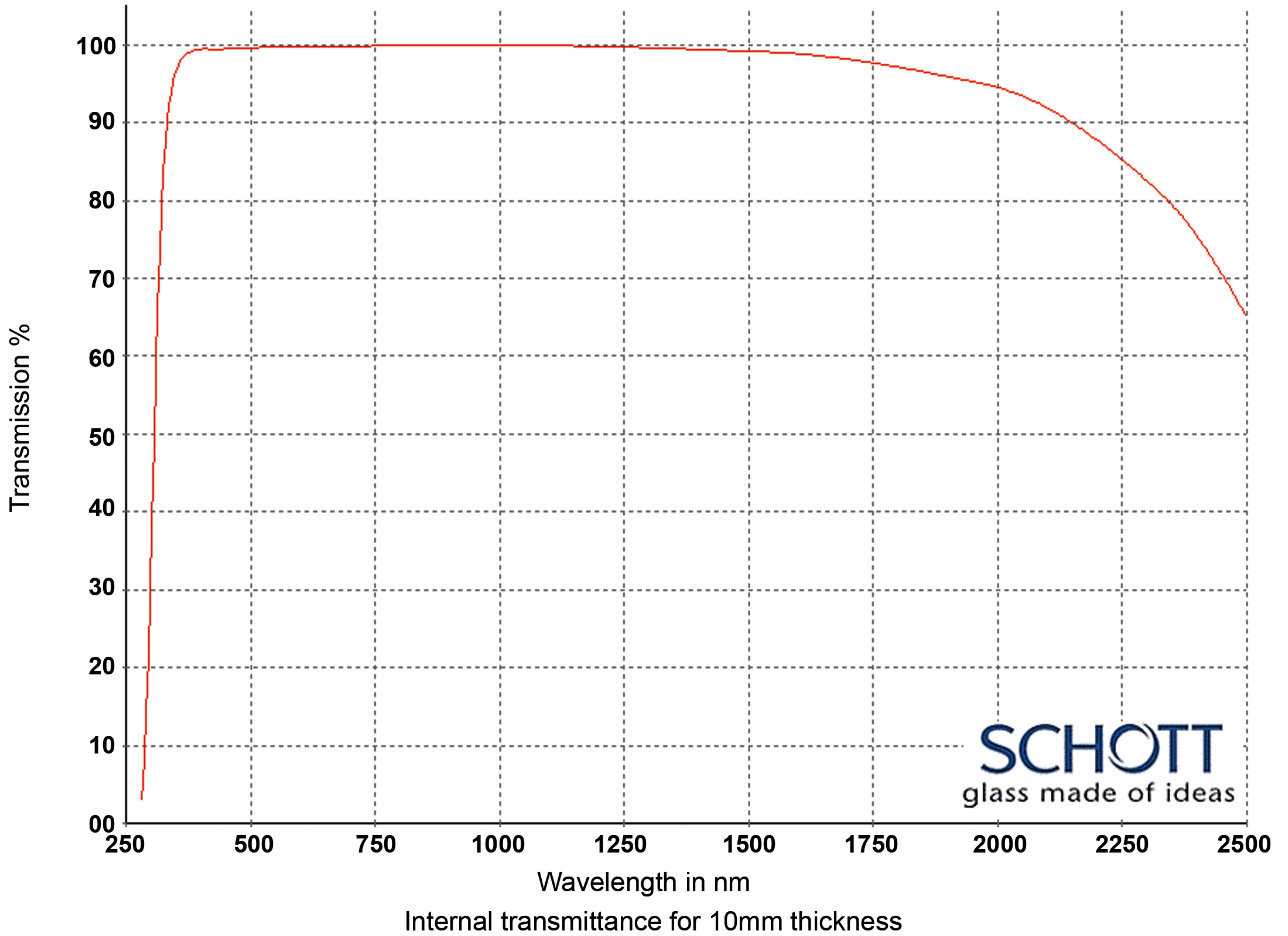




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm
Material: SCHOTT N-PSK3 for 250nm - 2500 transmission
Range: OPG - N-PSK3



SCHOTT
glass made of ideas

WAVELENGTH	BASF51 (T%)
2500 nm	0.650
2325 nm	0.810
1970 nm	0.950
1530 nm	0.991
1060 nm	0.999
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	0.995
436 nm	0.994
420 nm	0.994
405 nm	0.995
400 nm	0.994
390 nm	0.993
380 nm	0.991
370 nm	0.988
365 nm	0.985
350 nm	0.967
334 nm	0.910
320 nm	0.770
310 nm	0.580
300 nm	0.320
290 nm	0.120
280 nm	0.030
270 nm	0.000
260 nm	0.000
250 nm	0.000

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.52375
$n_{1970.1}$	1970.1	1.52954
$n_{1529.6}$	1529.6	1.53558
$n_{1060.0}$	1060.0	1.54154
n_t	1014.0	1.54218
n_s	852.1	1.54482
n_r	706.5	1.54811
n_C	656.3	1.54965
$n_{C'}$	643.8	1.55008
$n_{632.8}$	632.8	1.55048
n_D	589.3	1.55224
n_d	587.6	1.55232
n_e	546.1	1.55440
n_F	486.1	1.55835
$n_{F'}$	480.0	1.55885
n_g	435.8	1.56302
n_h	404.7	1.56688
n_i	365.0	1.57342
$n_{334.1}$	334.1	1.58041
$n_{312.6}$	312.6	1.58679
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	$8.87272110 \cdot 10^{-01}$
B_2	$4.89592425 \cdot 10^{-01}$
B_3	$1.04865296 \cdot 10^{+00}$
C_1	$4.69824067 \cdot 10^{-03}$
C_2	$1.61818463 \cdot 10^{-02}$
C_3	$1.04374975 \cdot 10^{+02}$

Constants of Formula dn/dT

D_0	$2.03 \cdot 10^{-06}$
D_1	$1.19 \cdot 10^{-08}$
D_2	$2.46 \cdot 10^{-11}$
E_0	$3.14 \cdot 10^{-07}$
E_1	$2.45 \cdot 10^{-10}$
$\lambda_{TK}[\mu m]$	0.235

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	2.6	3.1	3.6	0.6	1.0	1.5
+20/+40	2.5	3.0	3.5	1.2	1.6	2.1
+60/+80	2.7	3.2	3.8	1.7	2.2	2.7

Internal Transmittance τ_i

λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.65	0.34
2325	0.81	0.59
1970	0.950	0.88
1530	0.991	0.978
1060	0.999	0.997
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	0.990
460	0.995	0.987
436	0.994	0.986
420	0.994	0.986
405	0.995	0.987
400	0.994	0.986
390	0.993	0.983
380	0.991	0.977
370	0.988	0.971
365	0.985	0.964
350	0.967	0.920
334	0.910	0.80
320	0.77	0.52
310	0.58	0.26
300	0.32	0.06
290	0.12	
280	0.03	
270		
260		
250		

Color Code

λ_{80}/λ_5	33/28
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Remarks

Relative Partial Dispersion

$P_{s,t}$	0.3023
$P_{C,s}$	0.5555
$P_{d,C}$	0.3069
$P_{e,d}$	0.2386
$P_{g,F}$	0.5365
$P_{i,h}$	0.7509
$P'_{s,t}$	0.3001
$P'_{C's}$	0.6002
$P'_{d,C'}$	0.2559
$P'_{e,d}$	0.2369
$P'_{g,F'}$	0.4767
$P'_{i,h}$	0.7454

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"

$\Delta P_{C,t}$	0.0118
$\Delta P_{C,s}$	0.0047
$\Delta P_{F,e}$	-0.0005
$\Delta P_{g,F}$	-0.0005
$\Delta P_{i,g}$	0.0016

Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	6.2
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	7.3
$T_g [^\circ C]$	599
$T_{10}^{13.0} [^\circ C]$	597
$T_{10}^{7.6} [^\circ C]$	736
$c_p [J/(g \cdot K)]$	0.682
$\lambda [W/(m \cdot K)]$	0.990
$\rho [g/cm^3]$	2.91
$E [10^3 N/mm^2]$	84
μ	0.226
$K [10^{-6} mm^2/N]$	2.48
$HK_{0.1/20}$	630
HG	2
B	1
CR	3
FR	0
SR	2.2
AR	2
PR	2