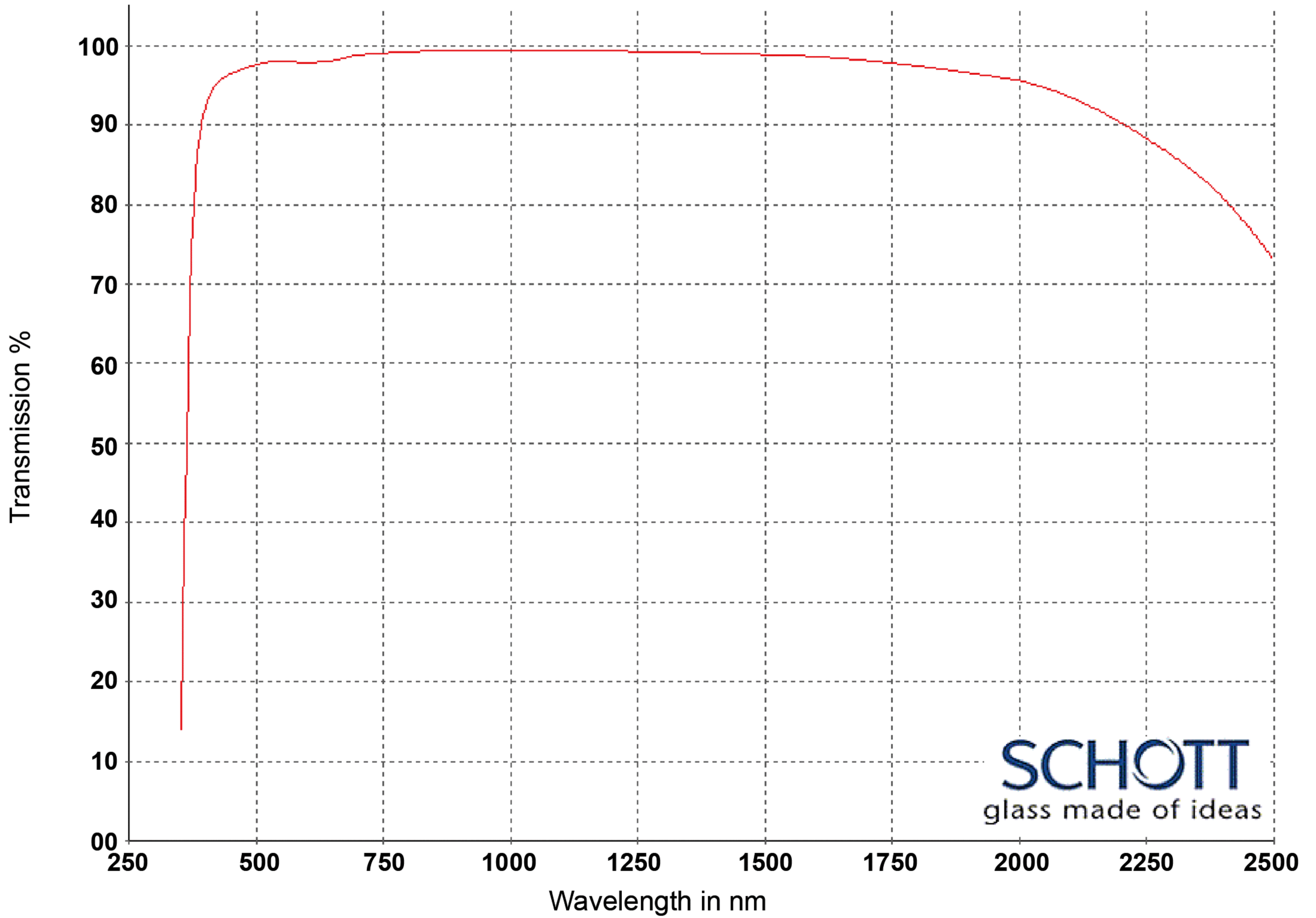




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm
Material: Schott N-BASF64 for 250nm - 2500 transmission
Range: OPG - N-BASF64



SCHOTT
glass made of ideas

Internal transmittance for 10mm thickness

WAVELENGTH	N-BASF64 (T%)
2500 nm	0.730
2325 nm	0.850
1970 nm	0.959
1530 nm	0.988
1060 nm	0.994
700 nm	0.988
660 nm	0.982
620 nm	0.979
580 nm	0.979
546 nm	0.980
500 nm	0.976
460 nm	0.967
436 nm	0.959
420 nm	0.950
405 nm	0.930
400 nm	0.920
390 nm	0.890
380 nm	0.820
370 nm	0.670
365 nm	0.550
350 nm	0.090
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	1.66373
$n_{1970.1}$	1970.1	1.66988
$n_{1529.6}$	1529.6	1.67667
$n_{1060.0}$	1060.0	1.68453
n_t	1014.0	1.68551
n_s	852.1	1.68982
n_r	706.5	1.69578
n_C	656.3	1.69872
$n_{C'}$	643.8	1.69955
$n_{632.8}$	632.8	1.70033
n_D	589.3	1.70384
n_d	587.6	1.70400
n_e	546.1	1.70824
n_F	486.1	1.71659
$n_{F'}$	480.0	1.71765
n_g	435.8	1.72690
n_h	404.7	1.73581
n_i	365.0	1.75184
$n_{334.1}$	334.1	
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula	
B_1	$1.65554268 \cdot 10^{+00}$
B_2	$1.71319770 \cdot 10^{-01}$
B_3	$1.33664448 \cdot 10^{+00}$
C_1	$1.04485644 \cdot 10^{-02}$
C_2	$4.99394756 \cdot 10^{-02}$
C_3	$1.18961472 \cdot 10^{+02}$

Constants of Formula dn/dT	
D_0	$1.60 \cdot 10^{-06}$
D_1	$1.02 \cdot 10^{-08}$
D_2	$-2.68 \cdot 10^{-11}$
E_0	$7.87 \cdot 10^{-07}$
E_1	$9.65 \cdot 10^{-10}$
$\lambda_{TK}[\mu m]$	0.229

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	2.8	4.1	5.5	0.6	1.8	3.1
+20/+40	2.8	4.3	5.9	1.4	2.8	4.4
+60/+80	2.9	4.5	6.3	1.8	3.4	5.1

Internal Transmittance τ_i		
λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.73	0.45
2325	0.85	0.67
1970	0.959	0.900
1530	0.988	0.970
1060	0.994	0.985
700	0.988	0.970
660	0.982	0.955
620	0.979	0.950
580	0.979	0.950
546	0.980	0.950
500	0.976	0.940
460	0.967	0.920
436	0.959	0.900
420	0.950	0.88
405	0.930	0.84
400	0.920	0.82
390	0.89	0.75
380	0.82	0.61
370	0.67	0.37
365	0.55	0.22
350	0.09	
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code	
λ_{80}/λ_5	40/35
Remarks	

Relative Partial Dispersion	
$P_{s,t}$	0.2408
$P_{C,s}$	0.4979
$P_{d,C}$	0.2956
$P_{e,d}$	0.2372
$P_{g,F}$	0.5769
$P_{i,h}$	0.8970
$P'_{s,t}$	0.2377
$P'_{C's}$	0.5375
$P'_{d,C'}$	0.2459
$P'_{e,d}$	0.2342
$P'_{g,F'}$	0.5110
$P'_{i,h}$	0.8856

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"	
$\Delta P_{C,t}$	0.0069
$\Delta P_{C,s}$	0.0032
$\Delta P_{F,e}$	-0.0004
$\Delta P_{g,F}$	-0.0006
$\Delta P_{i,g}$	0.0012

Other Properties	
$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	7.3
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	8.7
$T_g [^\circ C]$	582
$T_{10}^{13.0} [^\circ C]$	585
$T_{10}^{7.6} [^\circ C]$	712
$c_p [J/(g \cdot K)]$	
$\lambda [W/(m \cdot K)]$	
$\rho [g/cm^3]$	3.20
$E [10^3 N/mm^2]$	105
μ	0.264
$K [10^{-6} mm^2/N]$	2.38
$HK_{0.1/20}$	650
HG	4
B	0
CR	1
FR	0
SR	3.2
AR	1.2
PR	1