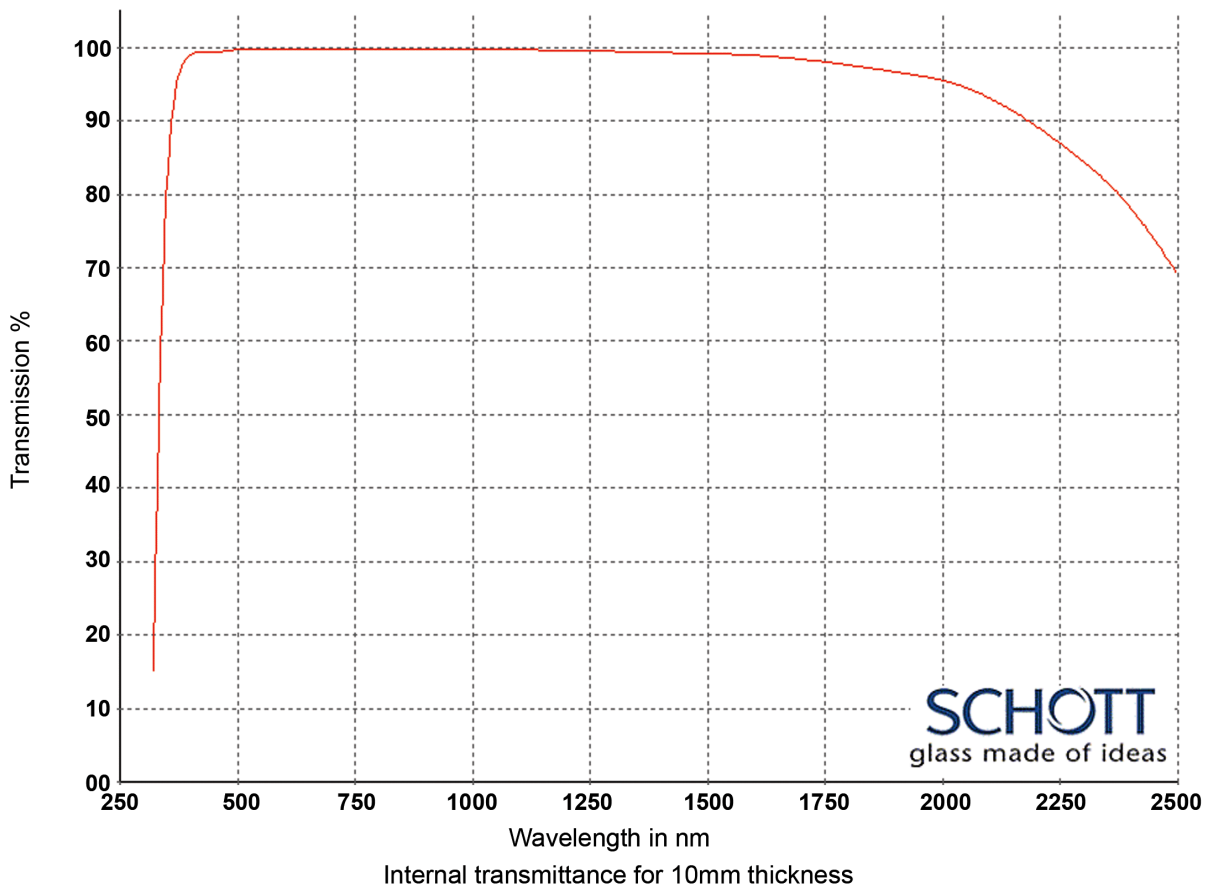


OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

Title: Optical Glasses - 250-2500nm

Material/Specification: Schott N-SK5 for 250nm - 2500nm transmission

Range/Description: OPG-N-SK5



WAVELENGTH	BASF51 (T%)
2500 nm	0.680
2325 nm	0.840
1970 nm	0.963
1530 nm	0.992
1060 nm	0.999
700 nm	0.998
660 nm	0.998
620 nm	0.997
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	0.993
400 nm	0.992
390 nm	0.988
380 nm	0.984
370 nm	0.976
365 nm	0.971
350 nm	0.920
334 nm	0.800
320 nm	0.590
310 nm	0.400
300 nm	0.210
290 nm	0.090
280 nm	0.030
270 nm	0.000
260 nm	0.000
250 nm	0.000

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OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

SCHOTT
glass made of ideas

Refractive Indices		
	λ [nm]	
$n_{2325.4}$	2325.4	1.55966
$n_{1970.1}$	1970.1	1.56539
$n_{1529.6}$	1529.6	1.57140
$n_{1060.0}$	1060.0	1.57747
n_t	1014.0	1.57815
n_s	852.1	1.58094
n_r	706.5	1.58451
n_C	656.3	1.58619
$n_{C'}$	643.8	1.58666
$n_{632.8}$	632.8	1.58710
n_D	589.3	1.58904
n_d	587.6	1.58913
n_e	546.1	1.59142
n_F	486.1	1.59581
$n_{F'}$	480.0	1.59635
n_g	435.8	1.60100
n_h	404.7	1.60530
n_i	365.0	1.61260
$n_{334.1}$	334.1	1.62043
$n_{312.6}$	312.6	1.62759
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula	
B_1	$9.91463823 \cdot 10^{-01}$
B_2	$4.95982121 \cdot 10^{-01}$
B_3	$9.87393925 \cdot 10^{-01}$
C_1	$5.22730467 \cdot 10^{-03}$
C_2	$1.72733646 \cdot 10^{-02}$
C_3	$9.83594579 \cdot 10^{+01}$

Constants of Formula dn/dT	
D_0	$3.50 \cdot 10^{-06}$
D_1	$1.22 \cdot 10^{-08}$
D_2	$6.38 \cdot 10^{-11}$
E_0	$2.46 \cdot 10^{-07}$
E_1	$-3.34 \cdot 10^{-11}$
$\lambda_{TK}[\mu m]$	0.278

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	3.5	4.0	4.6	1.4	1.9	2.4
+20/+40	3.2	3.7	4.3	1.9	2.3	2.9
+60/+80	3.6	4.1	4.7	2.6	3.0	3.6

Internal Transmittance τ_i		
λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.68	0.38
2325	0.84	0.64
1970	0.963	0.910
1530	0.992	0.980
1060	0.999	0.997
700	0.998	0.995
660	0.998	0.994
620	0.997	0.993
580	0.998	0.995
546	0.998	0.996
500	0.998	0.994
460	0.996	0.989
436	0.995	0.987
420	0.994	0.986
405	0.993	0.983
400	0.992	0.981
390	0.988	0.971
380	0.984	0.960
370	0.976	0.940
365	0.971	0.930
350	0.920	0.82
334	0.80	0.58
320	0.59	0.27
310	0.40	0.10
300	0.21	0.02
290	0.09	
280	0.03	
270		
260		
250		

Color Code	
λ_{80}/λ_5	34/29
Remarks	

Relative Partial Dispersion	
$P_{s,t}$	0.2904
$P_{C,s}$	0.5460
$P_{d,C}$	0.3055
$P_{e,d}$	0.2386
$P_{g,F}$	0.5400
$P_{i,h}$	0.7591
$P'_{s,t}$	0.2881
$P'_{C,s}$	0.5901
$P'_{d,C'}$	0.2547
$P'_{e,d}$	0.2367
$P'_{g,F'}$	0.4796
$P'_{i,h}$	0.7531

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"	
$\Delta P_{C,t}$	0.0008
$\Delta P_{C,s}$	0.0003
$\Delta P_{F,e}$	-0.0002
$\Delta P_{g,F}$	-0.0007
$\Delta P_{i,g}$	-0.0045

Other Properties	
$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	5.5
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	6.5
$T_g [^\circ C]$	660
$T_{10}^{13.0^\circ C}$	657
$T_{10}^{7.6^\circ C}$	791
$c_p [J/(g \cdot K)]$	0.560
$\lambda [W/(m \cdot K)]$	0.990
$\rho [g/cm^3]$	3.30
$E [10^3 N/mm^2]$	84
μ	0.256
$K [10^{-6} mm^2/N]$	2.16
$HK_{0,1/20}$	590
HG	3
B	1
CR	3
FR	1
SR	4.4
AR	2
PR	1.3

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