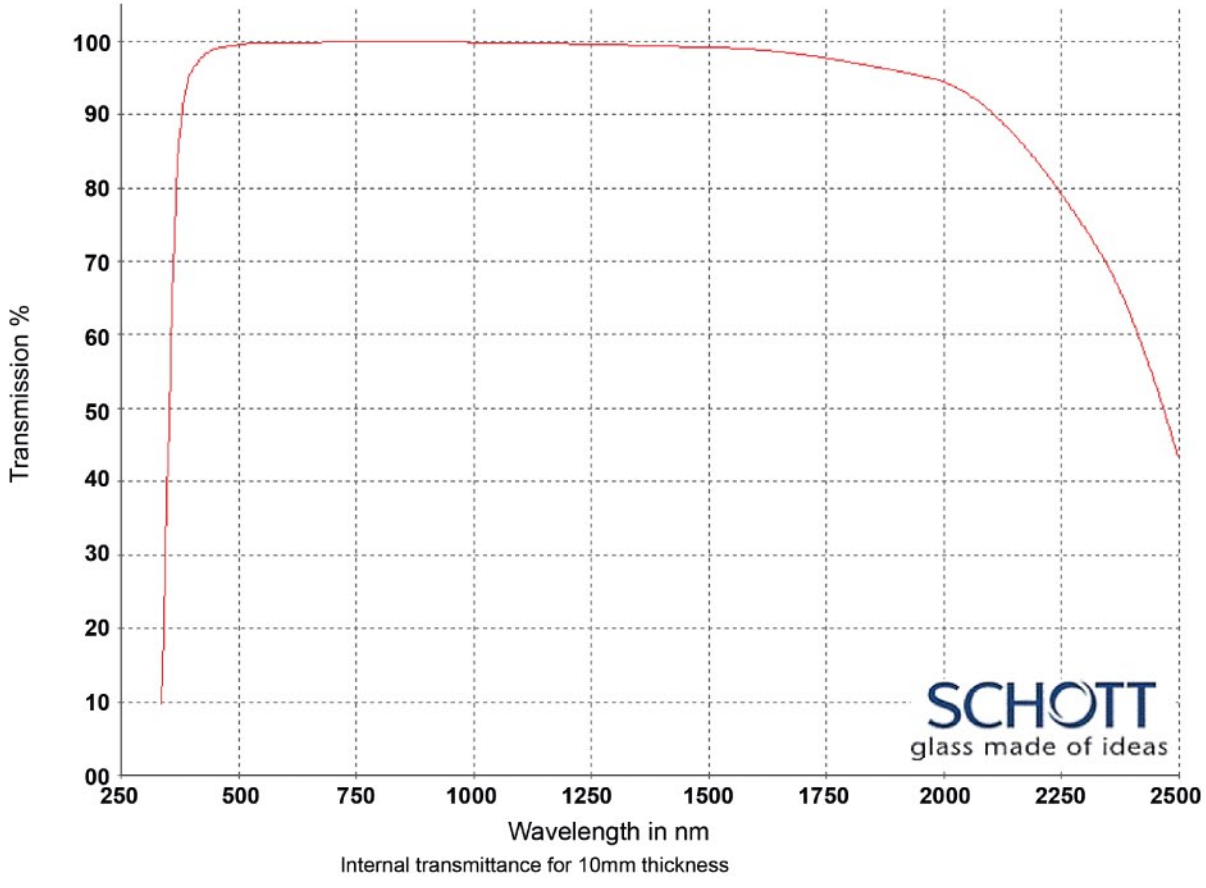
OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

Title: Optical Glasses - 250-2500nm

Material/Specification: Schott N-LAK12 for 250nm - 2500nm transmission

Range/Description: OPG-N-LAK12



Internal transmittance for 10mm thickness

WAVELENGTH	N-LAK12 (T%)
2500 nm	0.590
2325 nm	0.760
1970 nm	0.940
1530 nm	0.990
1060 nm	0.997
700 nm	0.997
660 nm	0.996
620 nm	0.995
580 nm	0.996
546 nm	0.996
500 nm	0.994
460 nm	0.987
436 nm	0.983
420 nm	0.981
405 nm	0.977
400 nm	0.976
390 nm	0.967
380 nm	0.950
370 nm	0.910
365 nm	0.880
350 nm	0.730
334 nm	0.470
320 nm	0.150
310 nm	0.030
300 nm	0.000
290 nm	0.000
280 nm	0.000
270 nm	0.000
260 nm	0.000

+44 (0)1622 859444
info@knightoptical.co.uk
www.knightoptical.com

KNIGHT OPTICAL

Knight Optical (UK) Limited © Whilst every effort has been made to verify the information and data, Knight Optical (UK) Limited can take no responsibility for its accuracy

The KNIGHT OPTICAL name and/or mark and KO KNIGHT OPTICAL LOGO are the trade marks of Knight Optical (UK) Limited

OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

SCHOTT
glass made of ideas

Refractive Indices	λ [nm]	
$n_{2325.4}$	2325.4	1.64541
$n_{1970.1}$	1970.1	1.65107
$n_{1529.6}$	1529.6	1.65713
$n_{1060.0}$	1060.0	1.66366
n_t	1014.0	1.66443
n_s	852.1	1.66772
n_r	706.5	1.67209
n_C	656.3	1.67419
$n_{C'}$	643.8	1.67478
$n_{632.8}$	632.8	1.67533
n_D	589.3	1.67779
n_d	587.6	1.67790
n_e	546.1	1.68083
n_F	486.1	1.68647
$n_{F'}$	480.0	1.68717
n_g	435.8	1.69320
n_h	404.7	1.69882
n_i	365.0	1.70842
$n_{334.1}$	334.1	1.71881
$n_{312.6}$	312.6	
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula	
B_1	$1.17365704 \cdot 10^{+00}$
B_2	$5.88992398 \cdot 10^{-01}$
B_3	$9.78014394 \cdot 10^{-01}$
C_1	$5.77031797 \cdot 10^{-03}$
C_2	$2.00401678 \cdot 10^{-02}$
C_3	$9.54873482 \cdot 10^{+01}$

Constants of Formula dn/dT	
D_0	$-5.67 \cdot 10^{-06}$
D_1	$8.27 \cdot 10^{-09}$
D_2	$1.27 \cdot 10^{-12}$
E_0	$5.25 \cdot 10^{-07}$
E_1	$6.30 \cdot 10^{-10}$
λ_{TK}[µm]	0.162

Internal Transmittance τ_i		
λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.59	0.27
2325	0.76	0.51
1970	0.940	0.85
1530	0.990	0.975
1060	0.997	0.992
700	0.997	0.993
660	0.996	0.989
620	0.995	0.988
580	0.996	0.990
546	0.996	0.991
500	0.994	0.986
460	0.987	0.968
436	0.983	0.958
420	0.981	0.952
405	0.977	0.940
400	0.976	0.940
390	0.967	0.920
380	0.950	0.87
370	0.910	0.79
365	0.88	0.73
350	0.73	0.46
334	0.47	0.15
320	0.15	0.01
310	0.03	
300		
290		
280		
270		
260		
250		

Color Code	
λ_{80}/λ_5	37/31

Remarks

Relative Partial Dispersion	
$P_{s,t}$	0.2673
$P_{C,s}$	0.5269
$P_{d,C}$	0.3024
$P_{e,d}$	0.2383
$P_{g,F}$	0.5485
$P_{i,h}$	0.7818
$P'_{s,t}$	0.2648
$P'_{C',s}$	0.5695
$P'_{d,C'}$	0.2521
$P'_{e,d}$	0.2361
$P'_{g,F'}$	0.4866
$P'_{i,h}$	0.7746

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"	
$\Delta P_{C,t}$	-0.0126
$\Delta P_{C,s}$	-0.0047
$\Delta P_{F,e}$	-0.0001
$\Delta P_{g,F}$	-0.0024
$\Delta P_{i,g}$	-0.0226

Other Properties	
$\alpha_{-30/+70°C}$[10^{-6}/K]	7.6
$\alpha_{+20/+300°C}$[10^{-6}/K]	9.3
Tg[°C]	614
$T_{10}^{13.0}$[°C]	606
$T_{10}^{7.6}$[°C]	714
c_p[J/(g·K)]	
λ[W/(m·K)]	
ρ[g/cm³]	4.10
E[10^3N/mm²]	87
µ	0.288
K[10^{-6}mm²/N]	1.44
$HK_{0.1/20}$	560
HG	6
B	1
CR	3
FR	1
SR	53.3
AR	3.3
PR	4.3

Temperature Coefficients of Refractive Index	$\Delta n_{rel}/\Delta T$[10^{-6}/K]			$\Delta n_{abs}/\Delta T$[10^{-6}/K]		
[°C]	1060.0	e	g	1060.0	e	g
-40/ -20	-1.0	-0.3	0.3	-3.2	-2.6	-2.0
+20/+40	-1.2	-0.4	0.3	-2.7	-1.9	-1.2
+60/+80	-1.2	-0.3	0.5	-2.3	-1.5	-0.7

+44 (0)1622 859444
info@knightoptical.co.uk
www.knightoptical.com

KO™ KNIGHT OPTICAL

Knight Optical (UK) Limited © Whilst every effort has been made to verify the information and data, Knight Optical (UK) Limited can take no responsibility for its accuracy

The KNIGHT OPTICAL name and/or mark and KO KNIGHT OPTICAL LOGO are the trade marks of Knight Optical (UK) Limited