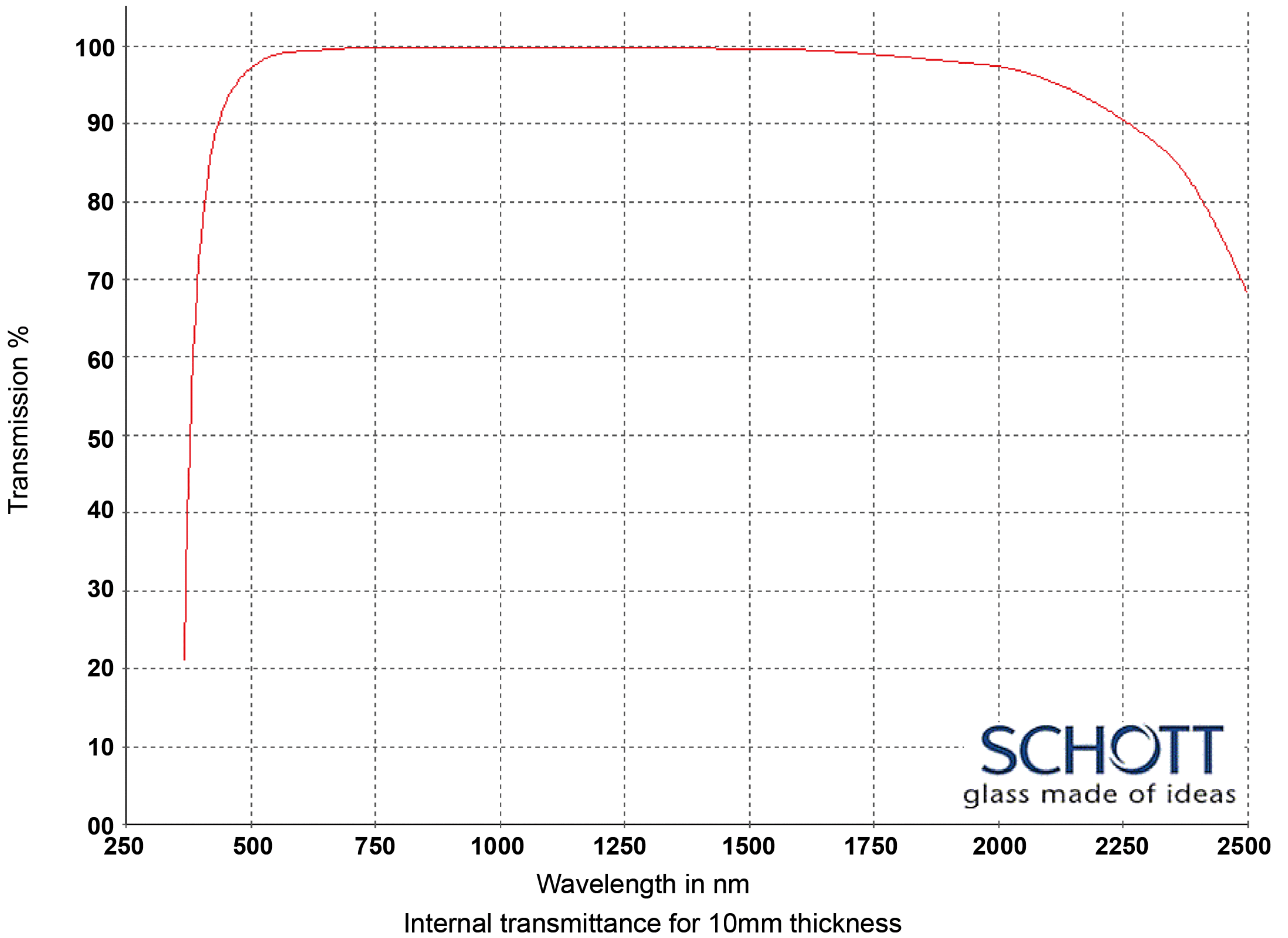




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm
Material: SCHOTT N-LAF7 for 250nm - 2500 transmission
Range: OPG - N-LAF7



SCHOTT
glass made of ideas

WAVELENGTH	N-LAF7 (T%)
2500 nm	0.680
2325 nm	0.870
1970 nm	0.976
1530 nm	0.996
1060 nm	0.998
700 nm	0.997
660 nm	0.995
620 nm	0.994
580 nm	0.992
546 nm	0.988
500 nm	0.971
460 nm	0.940
436 nm	0.900
420 nm	0.860
405 nm	0.780
400 nm	0.750
390 nm	0.660
380 nm	0.520
370 nm	0.300
365 nm	0.170
350 nm	0.000
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

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Whilst every effort has been made to verify the data, Knight Optical (UK) Ltd can take no responsibility for its accuracy.

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.70344
$n_{1970.1}$	1970.1	1.71021
$n_{1529.6}$	1529.6	1.71772
$n_{1060.0}$	1060.0	1.72659
n_t	1014.0	1.72773
n_s	852.1	1.73272
n_r	706.5	1.73972
n_C	656.3	1.74320
$n_{C'}$	643.8	1.74419
$n_{632.8}$	632.8	1.74511
n_D	589.3	1.74931
n_d	587.6	1.74950
n_e	546.1	1.75459
n_F	486.1	1.76472
$n_{F'}$	480.0	1.76602
n_g	435.8	1.77741
n_h	404.7	1.78854
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	0.68	0.38
2325	0.87	0.70
1970	0.976	0.940
1530	0.996	0.990
1060	0.998	0.996
700	0.997	0.992
660	0.995	0.988
620	0.994	0.985
580	0.992	0.980
546	0.988	0.970
500	0.971	0.930
460	0.940	0.85
436	0.900	0.77
420	0.86	0.68
405	0.78	0.54
400	0.75	0.49
390	0.66	0.35
380	0.52	0.19
370	0.30	0.05
365	0.17	0.01
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Relative Partial Dispersion

$P_{s,t}$	0.2317
$P_{C,s}$	0.4870
$P_{d,C}$	0.2928
$P_{e,d}$	0.2366
$P_{g,F}$	0.5894
$P_{i,h}$	
$P'_{s,t}$	0.2284
$P'_{C's}$	0.5254
$P'_{d,C'}$	0.2434
$P'_{e,d}$	0.2333
$P'_{g,F'}$	0.5218
$P'_{i,h}$	

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"	
$\Delta P_{C,t}$	0.0085
$\Delta P_{C,s}$	0.0029
$\Delta P_{F,e}$	0.0005
$\Delta P_{g,F}$	0.0042
$\Delta P_{i,g}$	

Constants of Dispersion Formula

B_1	$1.74028764 \cdot 10^{+00}$
B_2	$2.26710554 \cdot 10^{-01}$
B_3	$1.32525548 \cdot 10^{+00}$
C_1	$1.07925580 \cdot 10^{-02}$
C_2	$5.38626639 \cdot 10^{-02}$
C_3	$1.06268665 \cdot 10^{+02}$

Constants of Formula dn/dT

D_0	$9.21 \cdot 10^{-07}$
D_1	$1.10 \cdot 10^{-08}$
D_2	$-1.75 \cdot 10^{-11}$
E_0	$7.67 \cdot 10^{-07}$
E_1	$1.10 \cdot 10^{-09}$
$\lambda_{TK}[\mu m]$	0.264

Color Code

λ_{80}/λ_5	46/36
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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	2.5	3.9	5.6	0.2	1.5	3.1
+20/+40	2.6	4.2	6.2	1.1	2.7	4.7
+60/+80	2.7	4.6	6.8	1.6	3.4	5.6

Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	7.3
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	8.4
$T_g [^\circ C]$	568
$T_{10}^{13.0} [^\circ C]$	563
$T_{10}^{7.6} [^\circ C]$	669
$c_p [J/(g \cdot K)]$	0.620
$\lambda [W/(m \cdot K)]$	0.830
$\rho [g/cm^3]$	3.73
$E [10^3 N/mm^2]$	96
μ	0.271
$K [10^{-6} mm^2/N]$	2.57
$HK_{0.1/20}$	530
HG	5
B	1
CR	1
FR	2
SR	51.3
AR	1.2
PR	1.2