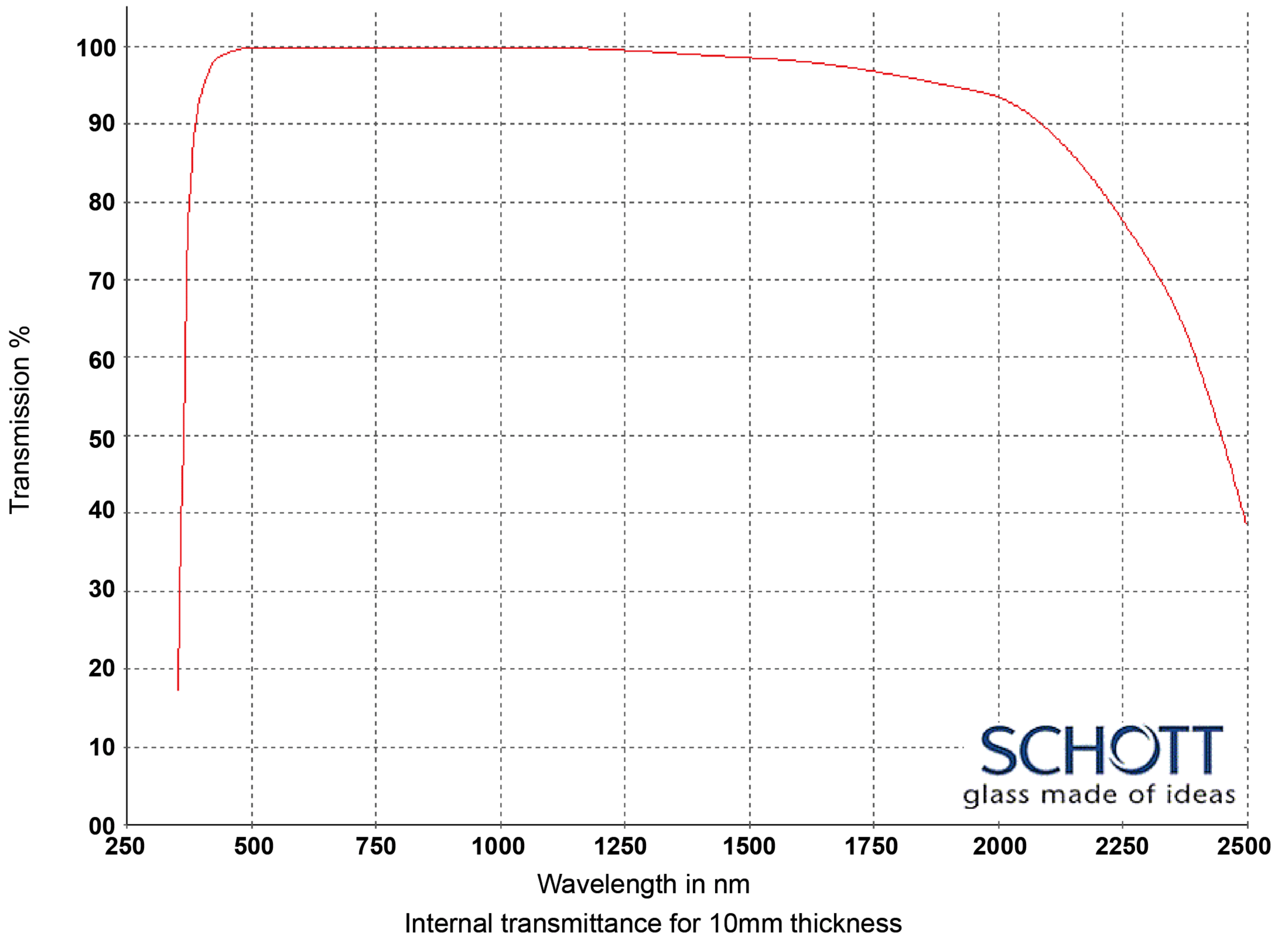




KNIGHT OPTICAL

Tel: +44 (0)1622 859444
Fax: +44 (0)1622 859555
info@knightoptical.co.uk
www.knightoptical.co.uk

Title: Optical Glasses - 250-2500nm
Material: Schott LAFN7 for 250nm - 2500 transmission
Range: OPG - LAFN7



SCHOTT
glass made of ideas

WAVELENGTH	BASF51 (T%)
2500 nm	0.380
2325 nm	0.700
1970 nm	0.940
1530 nm	0.984
1060 nm	0.998
700 nm	0.998
660 nm	0.998
620 nm	0.998
580 nm	0.998
546 nm	0.998
500 nm	0.998
460 nm	0.993
436 nm	0.986
420 nm	0.976
405 nm	0.950
400 nm	0.940
390 nm	0.910
380 nm	0.840
370 nm	0.690
365 nm	0.550
350 nm	0.130
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	1.70211
$n_{1970.1}$	1970.1	1.70934
$n_{1529.6}$	1529.6	1.71726
$n_{1060.0}$	1060.0	1.72642
n_t	1014.0	1.72758
n_s	852.1	1.73264
n_r	706.5	1.73970
n_C	656.3	1.74319
$n_{C'}$	643.8	1.74418
$n_{632.8}$	632.8	1.74511
n_D	589.3	1.74931
n_d	587.6	1.74950
n_e	546.1	1.75458
n_F	486.1	1.76464
$n_{F'}$	480.0	1.76592
n_g	435.8	1.77713
n_h	404.7	1.78798
n_i	365.0	1.80762
$n_{334.1}$	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	0.38	0.09
2325	0.70	0.41
1970	0.940	0.85
1530	0.984	0.960
1060	0.998	0.996
700	0.998	0.996
660	0.998	0.995
620	0.998	0.995
580	0.998	0.995
546	0.998	0.994
500	0.998	0.994
460	0.993	0.982
436	0.986	0.965
420	0.976	0.940
405	0.950	0.88
400	0.940	0.85
390	0.910	0.78
380	0.84	0.65
370	0.69	0.40
365	0.55	0.22
350	0.13	0.01
334		
320		
310		
300		
290		
280		
270		
260		
250		

Relative Partial Dispersion

$P_{s,t}$	0.2360
$P_{C,s}$	0.4921
$P_{d,C}$	0.2941
$P_{e,d}$	0.2369
$P_{g,F}$	0.5825
$P_{i,h}$	0.9160
$P'_{s,t}$	0.2329
$P'_{C's}$	0.5311
$P'_{d,C'}$	0.2446
$P'_{e,d}$	0.2338
$P'_{g,F'}$	0.5158
$P'_{i,h}$	0.9037

Constants of Dispersion Formula

B_1	$1.66842615 \cdot 10^{+00}$
B_2	$2.98512803 \cdot 10^{-01}$
B_3	$1.07743760 \cdot 10^{+00}$
C_1	$1.03159999 \cdot 10^{-02}$
C_2	$4.69216348 \cdot 10^{-02}$
C_3	$8.25078509 \cdot 10^{+01}$

Constants of Formula dn/dT

D_0	$7.27 \cdot 10^{-06}$
D_1	$1.31 \cdot 10^{-08}$
D_2	$-3.32 \cdot 10^{-11}$
E_0	$8.88 \cdot 10^{-07}$
E_1	$9.32 \cdot 10^{-10}$
$\lambda_{TK}[\mu m]$	0.248

Color Code

λ_{80}/λ_5	40/35
--------------------------	-------

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	6.0	7.8	9.7	3.7	5.4	7.2
+20/+40	6.3	8.3	10.4	4.8	6.7	8.9
+60/+80	6.5	8.6	10.9	5.3	7.4	9.7

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"

$\Delta P_{C,t}$	0.0174
$\Delta P_{C,s}$	0.0078
$\Delta P_{F,e}$	-0.0011
$\Delta P_{g,F}$	-0.0025
$\Delta P_{i,g}$	-0.0093

Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	5.3
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	6.4
Tg[°C]	500
$T_{10}^{13.0} [^\circ C]$	481
$T_{10}^{7.6} [^\circ C]$	573
$c_p [J/(g \cdot K)]$	
$\lambda [W/(m \cdot K)]$	0.770
$\rho [g/cm^3]$	4.38
$E [10^3 N/mm^2]$	80
μ	0.280
$K [10^{-6} mm^2/N]$	1.77
$HK_{0.1/20}$	520
HG	3
B	0
CR	3
FR	1
SR	53.3
AR	2.2
PR	4.3