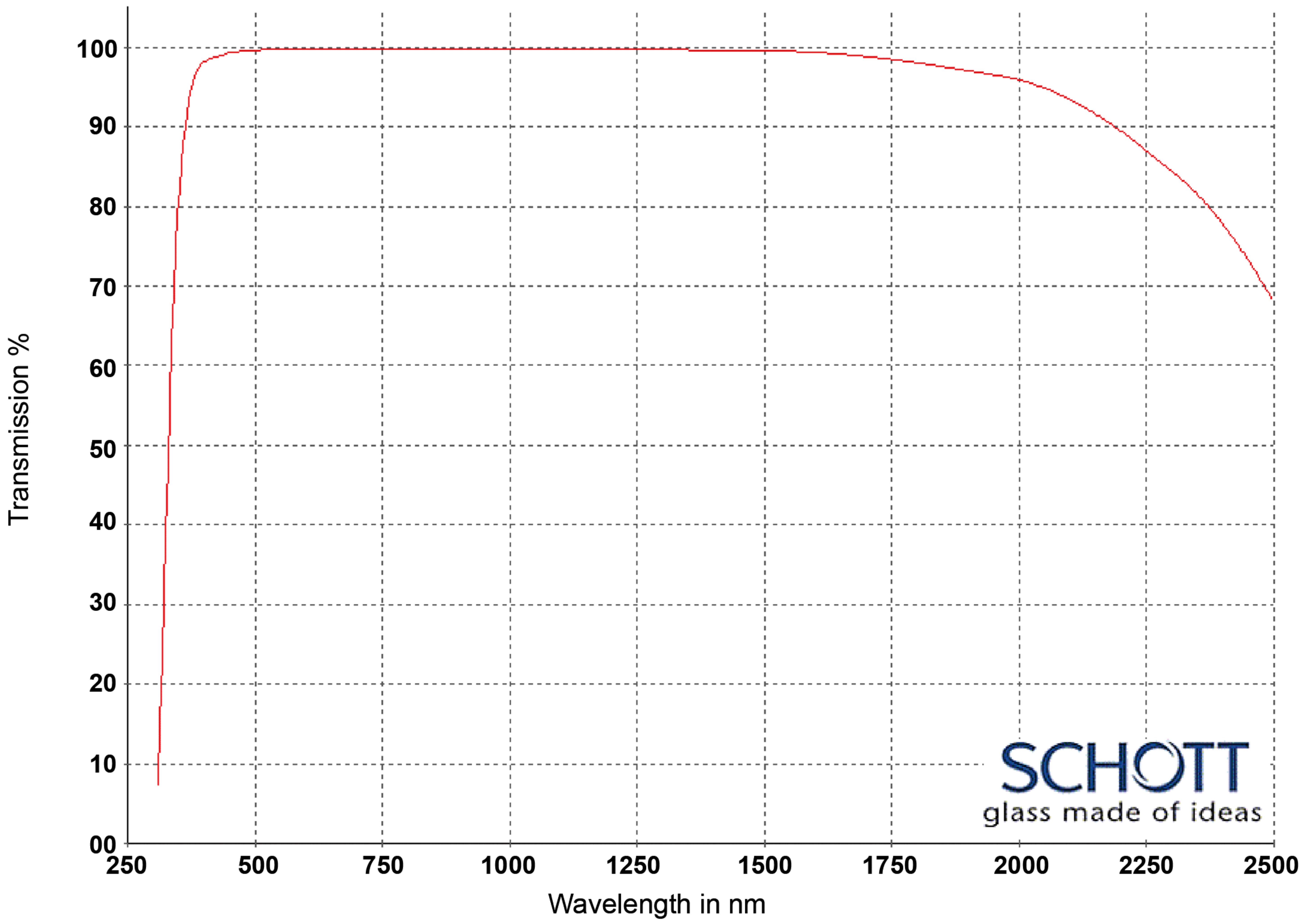




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm
Material: Schott LASFN9 for 250nm - 2500 transmission
Range: OPG - LASFN9



Internal transmittance for 10mm thickness

WAVELENGTH	LASFN9 (T%)
2500 nm	0.890
2325 nm	0.950
1970 nm	0.988
1530 nm	0.998
1060 nm	0.999
700 nm	0.995
660 nm	0.994
620 nm	0.993
580 nm	0.992
546 nm	0.988
500 nm	0.972
460 nm	0.940
436 nm	0.920
420 nm	0.880
405 nm	0.820
400 nm	0.790
390 nm	0.710
380 nm	0.580
370 nm	0.390
365 nm	0.290
350 nm	0.050
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	1.80055
$n_{1970.1}$	1970.1	1.80657
$n_{1529.6}$	1529.6	1.81363
$n_{1060.0}$	1060.0	1.82293
n_t	1014.0	1.82420
n_s	852.1	1.82997
n_r	706.5	1.83834
n_C	656.3	1.84256
$n_{C'}$	643.8	1.84376
$n_{632.8}$	632.8	1.84489
n_D	589.3	1.85002
n_d	587.6	1.85025
n_e	546.1	1.85651
n_F	486.1	1.86899
$n_{F'}$	480.0	1.87059
n_g	435.8	1.88467
n_h	404.7	1.89844
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	0.89	0.75
2325	0.950	0.87
1970	0.988	0.970
1530	0.998	0.996
1060	0.999	0.997
700	0.995	0.988
660	0.994	0.985
620	0.993	0.982
580	0.992	0.979
546	0.988	0.970
500	0.972	0.930
460	0.940	0.87
436	0.920	0.80
420	0.88	0.73
405	0.82	0.62
400	0.79	0.56
390	0.71	0.43
380	0.58	0.26
370	0.39	0.07
365	0.29	0.02
350	0.05	
334		
320		
310		
300		
290		
280		
270		
260		
250		

Relative Partial Dispersion

$P_{s,t}$	0.2182
$P_{C,s}$	0.4763
$P_{d,C}$	0.2912
$P_{e,d}$	0.2366
$P_{g,F}$	0.5933
$P_{i,h}$	
$P'_{s,t}$	0.2150
$P'_{C's}$	0.5140
$P'_{d,C'}$	0.2420
$P'_{e,d}$	0.2331
$P'_{g,F'}$	0.5249
$P'_{i,h}$	

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"

$\Delta P_{C,t}$	-0.0031
$\Delta P_{C,s}$	-0.0016
$\Delta P_{F,e}$	0.0008
$\Delta P_{g,F}$	0.0036
$\Delta P_{i,g}$	

Other Properties

$\alpha_{-30/+70^\circ\text{C}}$ [$10^{-6}/\text{K}$]	7.4
$\alpha_{+20/+300^\circ\text{C}}$ [$10^{-6}/\text{K}$]	8.4
Tg [$^\circ\text{C}$]	698
$T_{10}^{13.0}$ [$^\circ\text{C}$]	694
$T_{10}^{7.6}$ [$^\circ\text{C}$]	825
c_p [J/(g·K)]	
λ [W/(m·K)]	
ρ [g/cm ³]	4.44
E [10 ³ N/mm ²]	109
μ [10 ⁻⁶ mm ² /N]	0.286
HK _{0.1/20}	630
HG	4
B	1
CR	2
FR	0
SR	2
AR	1
PR	1

Constants of Dispersion Formula

B_1	$1.97888194 \cdot 10^{+00}$
B_2	$3.20435298 \cdot 10^{-01}$
B_3	$1.92900751 \cdot 10^{+00}$
C_1	$1.18537266 \cdot 10^{-02}$
C_2	$5.27381770 \cdot 10^{-02}$
C_3	$1.66256540 \cdot 10^{+02}$

Constants of Formula dn/dT

D_0	$9.44 \cdot 10^{-07}$
D_1	$1.14 \cdot 10^{-08}$
D_2	$-1.87 \cdot 10^{-11}$
E_0	$9.22 \cdot 10^{-07}$
E_1	$1.22 \cdot 10^{-09}$
λ_{TK} [μm]	0.255

Color Code

λ_{80}/λ_5	49/35
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Remarks

Temperature Coefficients of Refractive Index

[$^\circ\text{C}$]	$\Delta n_{\text{rel}}/\Delta T$ [$10^{-6}/\text{K}$]			$\Delta n_{\text{abs}}/\Delta T$ [$10^{-6}/\text{K}$]		
	1060.0	e	g	1060.0	e	g
-40/ -20	2.7	4.6	6.7	0.3	2.0	4.1
+20/+40	2.9	5.1	7.6	1.3	3.4	5.9
+60/+80	3.1	5.5	8.3	1.9	4.2	7.0