KNIGHT OPTICAL
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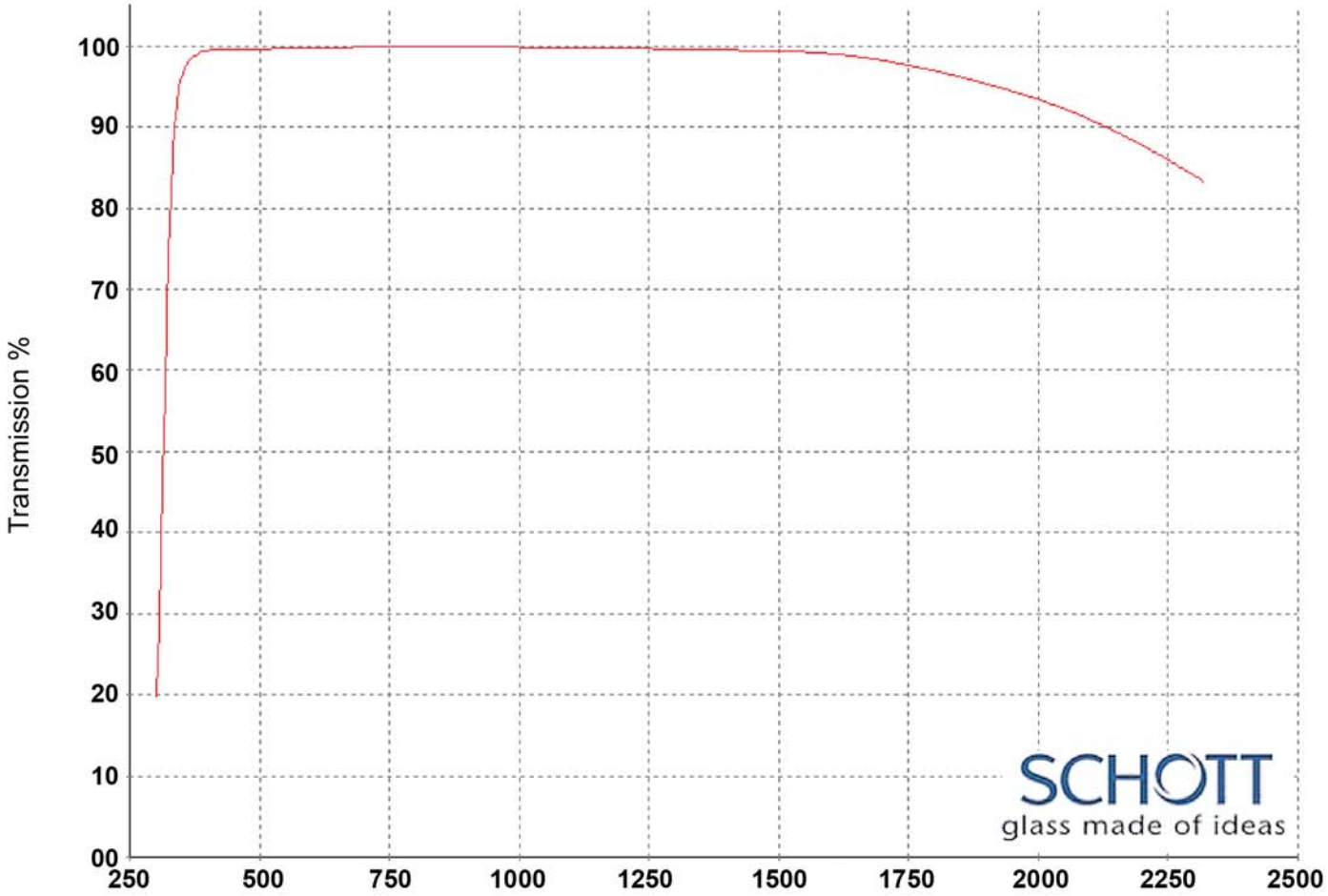
Title: Optical Glasses - 250-2500nm
Material: Schott F5 for 250nm - 2500 transmission
Range: OPG - F5



Internal transmittance for 10mm thickness

WAVELENGTH	K10 (T%)
2500 nm	0.000
2325 nm	0.830
1970 nm	0.940
1530 nm	0.993
1060 nm	0.998
700 nm	0.999
660 nm	0.998
620 nm	0.997
580 nm	0.997
546 nm	0.997
500 nm	0.996
460 nm	0.996
436 nm	0.995
420 nm	0.995
405 nm	0.995
400 nm	0.994
390 nm	0.993
380 nm	0.989
370 nm	0.986
365 nm	0.983
350 nm	0.963
334 nm	0.880
320 nm	0.630
310 nm	0.370
300 nm	0.140
290 nm	0.000
280 nm	0.000
270 nm	0.000
260 nm	0.000
250 nm	0.00

SCHOTT
glass made of ideas

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.47507
$n_{1970.1}$	1970.1	1.48008
$n_{1529.6}$	1529.6	1.48536
$n_{1060.0}$	1060.0	1.49076
n_t	1014.0	1.49137
n_s	852.1	1.49389
n_r	706.5	1.49713
n_C	656.3	1.49867
$n_{C'}$	643.8	1.49910
$n_{632.8}$	632.8	1.49950
n_D	589.3	1.50129
n_d	587.6	1.50137
n_e	546.1	1.50349
n_F	486.1	1.50756
$n_{F'}$	480.0	1.50807
n_g	435.8	1.51243
n_h	404.7	1.51649
n_i	365.0	1.52350
$n_{334.1}$	334.1	1.53120
$n_{312.6}$	312.6	1.53844
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula

B_1	$1.15687082 \cdot 10^{+00}$
B_2	$6.42625444 \cdot 10^{-02}$
B_3	$8.72376139 \cdot 10^{-01}$
C_1	$8.09424251 \cdot 10^{-03}$
C_2	$3.86051284 \cdot 10^{-02}$
C_3	$1.04747730 \cdot 10^{+02}$

Constants of Formula dn/dT

D_0	$4.86 \cdot 10^{-06}$
D_1	$1.72 \cdot 10^{-08}$
D_2	$-3.02 \cdot 10^{-11}$
E_0	$3.82 \cdot 10^{-07}$
E_1	$4.53 \cdot 10^{-10}$
λ_{TK}[µm]	0.260

Internal Transmittance τ_i

λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500		
2325	0.83	0.63
1970	0.940	0.85
1530	0.993	0.983
1060	0.998	0.996
700	0.999	0.997
660	0.998	0.994
620	0.997	0.993
580	0.997	0.993
546	0.997	0.992
500	0.996	0.991
460	0.996	0.990
436	0.995	0.988
420	0.995	0.988
405	0.995	0.987
400	0.994	0.986
390	0.993	0.982
380	0.989	0.973
370	0.986	0.966
365	0.983	0.958
350	0.963	0.910
334	0.88	0.72
320	0.63	0.31
310	0.37	0.13
300	0.14	0.02
290		
280		
270		
260		
250		

Color Code

λ_{80}/λ_5	33/30

Remarks

Relative Partial Dispersion

$P_{s.t}$	0.2835
$P_{C.s}$	0.5385
$P_{d.C}$	0.3037
$P_{e.d}$	0.2382
$P_{g.F}$	0.5475
$P_{i.h}$	0.7888
$P'_{s.t}$	0.2810
$P'_{C'.s}$	0.5817
$P'_{d.C'}$	0.2531
$P'_{e.d}$	0.2362
$P'_{g.F'}$	0.4860
$P'_{i.h}$	0.7819

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"

$\Delta P_{C.t}$	0.0094
$\Delta P_{C.s}$	0.0041
$\Delta P_{F.e}$	-0.0007
$\Delta P_{g.F}$	-0.0015
$\Delta P_{i.g}$	-0.0048

Other Properties

$\alpha_{-30/+70°C}$[10^{-6}/K]	6.5
$\alpha_{+20/+300°C}$[10^{-6}/K]	7.4
Tg[°C]	459
$T_{10}^{13.0}$[°C]	453
$T_{10}^{7.6}$[°C]	691
c_p[J/(g·K)]	0.770
λ[W/(m·K)]	1.120
ρ[g/cm³]	2.52
E[10^3N/mm²]	65
µ	0.190
K[10^{-6}mm²/N]	3.12
$HK_{0.1/20}$	470
HG	4
B	1
CR	1
FR	0
SR	1
AR	1
PR	1.2

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	3.3	3.9	4.5	1.3	1.8	2.4
+20/+40	3.6	4.2	4.9	2.3	2.9	3.6
+60/+80	3.8	4.5	5.2	2.8	3.4	4.2

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