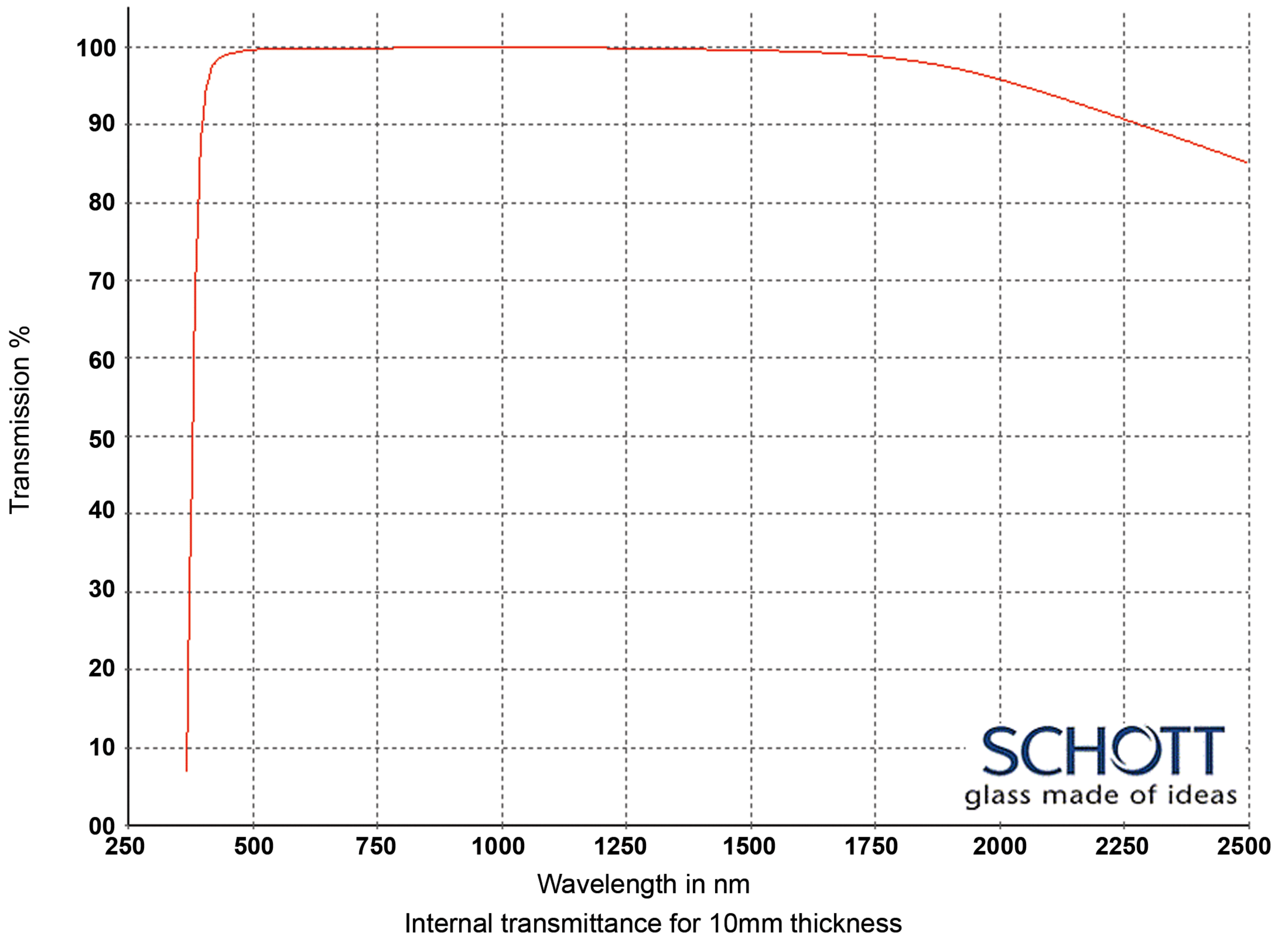




KNIGHT OPTICAL

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Title: Optical Glasses - 250-2500nm
Material: SCHOTT SF15 for 250nm - 2500 transmission
Range: OPG - SF15



WAVELENGTH	BASF51 (T%)
2500 nm	0.850
2325 nm	0.890
1970 nm	0.963
1530 nm	0.995
1060 nm	0.999
700 nm	0.998
660 nm	0.997
620 nm	0.998
580 nm	0.998
546 nm	0.998
500 nm	0.996
460 nm	0.992
436 nm	0.986
420 nm	0.976
405 nm	0.940
400 nm	0.910
390 nm	0.790
380 nm	0.530
370 nm	0.160
365 nm	0.040
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

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.65598
$n_{1970.1}$	1970.1	1.66115
$n_{1529.6}$	1529.6	1.66719
$n_{1060.0}$	1060.0	1.67516
n_t	1014.0	1.67626
n_s	852.1	1.68125
n_r	706.5	1.68853
n_C	656.3	1.69221
$n_{C'}$	643.8	1.69327
$n_{632.8}$	632.8	1.69425
n_D	589.3	1.69875
n_d	587.6	1.69895
n_e	546.1	1.70444
n_F	486.1	1.71546
$n_{F'}$	480.0	1.71688
n_g	435.8	1.72940
n_h	404.7	1.74176
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	

Constants of Dispersion Formula

B_1	$1.53925927 \cdot 10^{+00}$
B_2	$2.47620926 \cdot 10^{-01}$
B_3	$1.03816409 \cdot 10^{+00}$
C_1	$1.19307961 \cdot 10^{-02}$
C_2	$5.56077536 \cdot 10^{-02}$
C_3	$1.16416747 \cdot 10^{+02}$

Constants of Formula dn/dT

D_0	$2.91 \cdot 10^{-06}$
D_1	$1.69 \cdot 10^{-08}$
D_2	$-3.77 \cdot 10^{-11}$
E_0	$1.10 \cdot 10^{-06}$
E_1	$1.07 \cdot 10^{-09}$
$\lambda_{TK}[\mu m]$	0.278

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	3.3	5.4	8.0	1.0	3.0	5.6
+20/+40	3.8	6.1	9.1	2.3	4.6	7.6
+60/+80	4.1	6.6	9.8	2.9	5.5	8.6

Internal Transmittance τ_i

λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.85	0.67
2325	0.89	0.75
1970	0.963	0.910
1530	0.995	0.987
1060	0.999	0.997
700	0.998	0.995
660	0.997	0.993
620	0.998	0.994
580	0.998	0.995
546	0.998	0.994
500	0.996	0.990
460	0.992	0.980
436	0.986	0.965
420	0.976	0.940
405	0.940	0.85
400	0.910	0.78
390	0.79	0.56
380	0.53	0.20
370	0.16	0.01
365	0.04	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ_{80}/λ_5	40/37
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Remarks

Relative Partial Dispersion

$P_{s,t}$	0.2147
$P_{C,s}$	0.4715
$P_{d,C}$	0.2898
$P_{e,d}$	0.2363
$P_{g,F}$	0.5999
$P_{i,h}$	
$P'_{s,t}$	0.2114
$P'_{C's}$	0.5087
$P'_{d,C'}$	0.2408
$P'_{e,d}$	0.2326
$P'_{g,F'}$	0.5306
$P'_{i,h}$	

Deviation of Rel. Partial Dispersion

ΔP from "Normal Line"

$\Delta P_{C,t}$	-0.0014
$\Delta P_{C,s}$	-0.0015
$\Delta P_{F,e}$	0.0013
$\Delta P_{g,F}$	0.0066
$\Delta P_{i,g}$	

Other Properties

$\alpha_{-30/+70^\circ C} [10^{-6}/K]$	7.9
$\alpha_{+20/+300^\circ C} [10^{-6}/K]$	8.9
Tg[°C]	455
$T_{10}^{13.0} [^\circ C]$	446
$T_{10}^{7.6} [^\circ C]$	595
$c_p [J/(g \cdot K)]$	
$\lambda [W/(m \cdot K)]$	
$\rho [g/cm^3]$	4.06
$E [10^3 N/mm^2]$	60
μ	0.235
$K [10^{-6} mm^2/N]$	2.20
HK _{0.1/20}	420
HG	2
B	1
CR	1
FR	0
SR	1
AR	1.2
PR	2.3