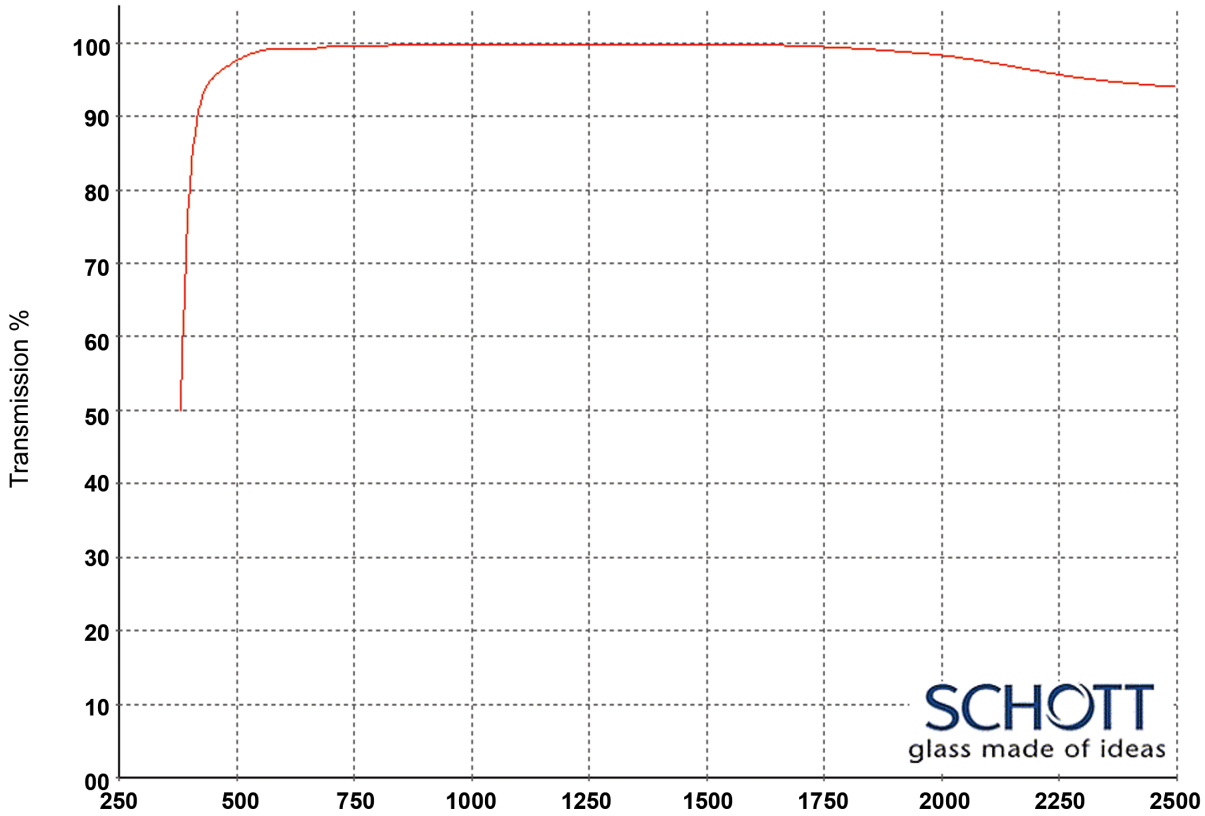
OPTICAL GLASSES: VISIBLE – NEAR INFRA-RED

Title: Optical Glasses - 250-2500nm

Material/Specification: Schott N-SF6 for 250nm - 2500nm transmission

Range/Description: OPG-N-SF6



Internal transmittance for 10mm thickness

WAVELENGTH	BASF51 (T%)
2500 nm	0.940
2325 nm	0.950
1970 nm	0.985
1530 nm	0.998
1060 nm	0.998
700 nm	0.995
660 nm	0.992
620 nm	0.992
580 nm	0.992
546 nm	0.988
500 nm	0.976
460 nm	0.958
436 nm	0.940
420 nm	0.910
405 nm	0.840
400 nm	0.800
390 nm	0.670
380 nm	0.460
370 nm	0.000
365 nm	0.000
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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SCHOTT
glass made of ideas

Refractive Indices	λ [nm]	
$n_{2325.4}$	2325.4	1.74895
$n_{1970.1}$	1970.1	1.75541
$n_{1529.6}$	1529.6	1.76307
$n_{1060.0}$	1060.0	1.77341
n_t	1014.0	1.77486
n_s	852.1	1.78144
n_r	706.5	1.79114
n_C	656.3	1.79608
$n_{C'}$	643.8	1.79749
$n_{632.8}$	632.8	1.79883
n_D	589.3	1.80491
n_d	587.6	1.80518
n_e	546.1	1.81266
n_F	486.1	1.82783
$n_{F'}$	480.0	1.82980
n_g	435.8	1.84738
n_h	404.7	1.86506
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	$1.77931763 \cdot 10^{+00}$
B_2	$3.38149866 \cdot 10^{-01}$
B_3	$2.08734474 \cdot 10^{+00}$
C_1	$1.33714182 \cdot 10^{-02}$
C_2	$6.17533621 \cdot 10^{-02}$
C_3	$1.74017590 \cdot 10^{+02}$

Constants of Formula dn/dT	
D_0	$-4.93 \cdot 10^{-06}$
D_1	$7.02 \cdot 10^{-09}$
D_2	$-2.40 \cdot 10^{-11}$
E_0	$9.84 \cdot 10^{-07}$
E_1	$1.54 \cdot 10^{-09}$
λ_{TK}[µm]	0.290

Internal Transmittance τ_i		
λ [nm]	τ_i [10 mm]	τ_i [25 mm]
2500	0.940	0.85
2325	0.950	0.88
1970	0.985	0.962
1530	0.998	0.994
1060	0.998	0.994
700	0.995	0.987
660	0.992	0.980
620	0.992	0.979
580	0.992	0.980
546	0.988	0.970
500	0.976	0.940
460	0.958	0.900
436	0.940	0.85
420	0.910	0.78
405	0.84	0.64
400	0.80	0.57
390	0.67	0.37
380	0.46	0.14
370		
365		
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code	
λ_{80}/λ_5	45/37

Remarks

Relative Partial Dispersion	
$P_{s,t}$	0.2074
$P_{C,s}$	0.4610
$P_{d,C}$	0.2867
$P_{e,d}$	0.2356
$P_{g,F}$	0.6158
$P_{i,h}$	
$P'_{s,t}$	0.2039
$P'_{C',s}$	0.4969
$P'_{d,C'}$	0.2380
$P'_{e,d}$	0.2315
$P'_{g,F'}$	0.5443
$P'_{i,h}$	

Deviation of Rel. Partial Dispersion ΔP from "Normal Line"	
$\Delta P_{C,t}$	0.0031
$\Delta P_{C,s}$	-0.0010
$\Delta P_{F,e}$	0.0027
$\Delta P_{g,F}$	0.0146
$\Delta P_{i,g}$	

Other Properties	
$\alpha_{-30/+70°C}$[10^{-6}/K]	9.0
$\alpha_{+20/+300°C}$[10^{-6}/K]	10.4
Tg[°C]	594
$T_{10}^{13.0}$[°C]	591
$T_{10}^{7.6}$[°C]	694
c_p[J/(g·K)]	0.690
λ[W/(m·K)]	0.960
ρ[g/cm³]	3.37
E[10^3N/mm²]	93
µ	0.262
K[10^{-6}mm²/N]	2.82
$HK_{0.1/20}$	550
HG	4
B	1
CR	1
FR	0
SR	2
AR	1
PR	1

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	-0.7	1.2	3.9	-3.0	-1.2	1.3
+20/+40	-0.8	1.5	4.8	-2.3	0.0	3.1
+60/+80	-0.8	1.8	5.4	-2.0	0.6	4.1

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