Data Sheet

SCHOTT

N-SF57HTultra
847238.353

$n_d = 1.84666$	$\nu_d = 23.78$	$n_F - n_C = 0.035604$
$n_e = 1.85504$	$\nu_e = 23.59$	$n_{F'} - n_{C'} = 0.036247$

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.78502
$n_{1970.1}$	1970.1	1.79190
$n_{1529.6}$	1529.6	1.80011
$n_{1060.0}$	1060.0	1.81138
n_t	1014.0	1.81296
n_s	852.1	1.82023
n_r	706.5	1.83099
n_C	656.3	1.83650
$n_{C'}$	643.8	1.83807
$n_{632.8}$	632.8	1.83956
n_D	589.3	1.84635
n_d	587.6	1.84666
n_e	546.1	1.85504
n_F	486.1	1.87210
$n_{F'}$	480.0	1.87432
n_g	435.8	1.89423
n_h	404.7	1.91440
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	1.87543831
B_2	0.37375749
B_3	2.30001797
C_1	0.0141749518
C_2	0.0640509927
C_3	177.389795

Constants of Dispersion dn/dT

D_0	$-4.51 \cdot 10^{-6}$
D_1	$8.73 \cdot 10^{-9}$
D_2	$-1.64 \cdot 10^{-11}$
E_0	$1.07 \cdot 10^{-6}$
E_1	$1.57 \cdot 10^{-9}$
λ_{TK} [µm]	0.295

Internal Transmittance τ_i

λ [nm]	τ_i (10mm)	τ_i (25mm)
2500	0.806	0.584
2325	0.838	0.642
1970	0.956	0.893
1530	0.992	0.980
1060	0.999	0.998
700	0.995	0.988
660	0.994	0.985
620	0.993	0.983
580	0.992	0.981
546	0.989	0.973
500	0.978	0.947
460	0.962	0.908
436	0.943	0.864
420	0.917	0.805
405	0.864	0.693
400	0.830	0.627
390	0.702	0.413
380	0.420	0.114
370	0.063	0.001
365	0.003	
350		
334		
320		
310		
300		
290		
280		
270		
260		
250		

Color Code

λ_{80}/λ_5	40/37*
(*= λ_{70}/λ_5)	

Remarks

Relative Partial Dispersion

$P_{s,t}$	0.2042
$P_{C,s}$	0.4568
$P_{d,C}$	0.2855
$P_{e,d}$	0.2353
$P_{g,F}$	0.6216
$P_{i,h}$	
$P'_{s,t}$	0.2005
$P'_{C',s}$	0.4922
$P'_{d,C'}$	0.2369
$P'_{e,d}$	0.2311
$P'_{g,F'}$	0.5493
$P'_{i,h}$	

Deviation of Relative Partial Dispersions ΔP from the "Normal Line"

$\Delta P_{C,t}$	0.0032
$\Delta P_{C,s}$	-0.0015
$\Delta P_{F,e}$	0.0033
$\Delta P_{g,F}$	0.0178
$\Delta P_{i,g}$	

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	8.5
$\alpha_{+20/+300°C}$ [10^{-6}/K]	9.9
T_g [°C]	629
$T_{10}^{13.0}$ [°C]	616
$T_{10}^{7.6}$ [°C]	716
c_p [J/(g·K)]	0.660
λ [W/(m·K)]	0.990
ρ [g/cm^3]	3.53
E [10^3 N/mm^2]	96
μ	0.260
K [10^{-6} mm^2/N]	2.78
HK$_{0.1/20}$	520
HG	4
CR	1
FR	0
SR	1
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	-0.5	1.7	4.9	-2.9	-0.8	2.3
+20/ +40	-0.5	2.2	6.0	-2.1	0.6	4.3
+60/ +80	-0.4	2.6	6.9	-1.6	1.3	5.6