Data Sheet

SCHOTT

N-LASF31A
883408.551

$n_d = 1.88300$	$\nu_d = 40.76$	$n_F - n_C = 0.021663$
$n_e = 1.88815$	$\nu_e = 40.52$	$n_{F'} - n_{C'} = 0.021921$

Refractive Indices

	λ [nm]	
$n_{2325.4}$	2325.4	1.83590
$n_{1970.1}$	1970.1	1.84267
$n_{1529.6}$	1529.6	1.85026
$n_{1060.0}$	1060.0	1.85937
n_t	1014.0	1.86054
n_s	852.1	1.86572
n_r	706.5	1.87298
n_C	656.3	1.87656
$n_{C'}$	643.8	1.87757
$n_{632.8}$	632.8	1.87853
n_D	589.3	1.88281
n_d	587.6	1.88300
n_e	546.1	1.88815
n_F	486.1	1.89822
$n_{F'}$	480.0	1.89950
n_g	435.8	1.91050
n_h	404.7	1.92093
n_i	365.0	1.93920
$n_{334.1}$	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	1.96485075
B_2	0.475231259
B_3	1.48360109
C_1	0.00982060155
C_2	0.0344713438
C_3	110.739863

Constants of Dispersion dn/dT

D_0	$1.67 \cdot 10^{-6}$
D_1	$8.90 \cdot 10^{-9}$
D_2	$-8.73 \cdot 10^{-12}$
E_0	$7.47 \cdot 10^{-7}$
E_1	$7.46 \cdot 10^{-10}$
λ_{TK} [µm]	0.207

Internal Transmittance τ_i

λ [nm]	τ_i (10mm)	τ_i (25mm)
2500	0.636	0.323
2325	0.824	0.616
1970	0.963	0.910
1530	0.993	0.983
1060	0.998	0.995
700	0.997	0.992
660	0.996	0.991
620	0.996	0.990
580	0.996	0.990
546	0.996	0.990
500	0.991	0.978
460	0.980	0.950
436	0.970	0.927
420	0.960	0.903
405	0.942	0.862
400	0.933	0.841
390	0.905	0.780
380	0.860	0.685
370	0.782	0.540
365	0.729	0.453
350	0.488	0.166
334	0.129	0.006
320	0.060	
310	0.001	
300		
290		
280		
270		
260		
250		

Color Code

λ_{80}/λ_5	38/33*
(*= λ_{70}/λ_5)	

Remarks

Relative Partial Dispersion

$P_{s,t}$	0.2391
$P_{C,s}$	0.5004
$P_{d,C}$	0.2972
$P_{e,d}$	0.2377
$P_{g,F}$	0.5667
$P_{i,h}$	0.8436
$P'_{s,t}$	0.2363
$P'_{C',s}$	0.5407
$P'_{d,C'}$	0.2475
$P'_{e,d}$	0.2349
$P'_{g,F'}$	0.5021
$P'_{i,h}$	0.8337

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

$\Delta P_{C,t}$	0.0012
$\Delta P_{C,s}$	0.0025
$\Delta P_{F,e}$	-0.0019
$\Delta P_{g,F}$	-0.0085
$\Delta P_{i,g}$	-0.0575

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	6.7
$\alpha_{+20/+300°C}$ [10^{-6}/K]	7.7
T_g [°C]	719
$T_{10^{13.0}}$ [°C]	720
$T_{10^{7.6}}$ [°C]	830
c_p [J/(g·K)]	0.440
λ [W/(m·K)]	0.790
ρ [g/cm^3]	5.51
E [10^3 N/mm^2]	126
μ	0.301
K [10^{-6} mm^2/N]	1.18
HK$_{0.1/20}$	650
HG	2
CR	1
FR	0
SR	2.3
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	3.4	4.8	6.3	0.9	2.3	3.7
+20/ +40	3.3	4.9	6.6	1.7	3.3	4.9
+60/ +80	3.4	5.2	6.9	2.2	3.9	5.6