

DATA SHEET

SCHOTT N-BK7

SCHOTT N-BK7® 517642.251

$n_d = 1.51680$	$v_d = 64.17$	$n_F - n_C = 0.008054$
$n_e = 1.51872$	$v_e = 63.96$	$n_F' - n_C' = 0.008110$

Refractive Indices		
	λ [nm]	
$n_{2325.4}$	2325.4	1.48921
$n_{1970.1}$	1970.1	1.49495
$n_{1529.6}$	1529.6	1.50091
$n_{1060.0}$	1060.0	1.50669
n_t	1014.0	1.50731
n_s	852.1	1.50980
n_r	706.5	1.51289
n_C	656.3	1.51432
$n_{C'}$	643.8	1.51472
$n_{632.8}$	632.8	1.51509
n_D	589.3	1.51673
n_d	587.6	1.51680
n_e	546.1	1.51872
n_F	486.1	1.52238
$n_{F'}$	480.0	1.52283
n_g	435.8	1.52668
n_h	404.7	1.53024
n_i	365.0	1.53627
$n_{334.1}$	334.1	1.54272
$n_{312.6}$	312.6	1.54862
$n_{296.7}$	296.7	
$n_{280.4}$	280.4	
$n_{248.3}$	248.3	

Constants of Dispersion Formula	
B_1	1.03961212
B_2	0.231792344
B_3	1.010469450
C_1	0.00600069867
C_2	0.0200179144
C_3	103.5606530

Constants of Formula for dn/dT	
D_0	1.86E-06
D_1	1.31E-08
D_2	-1.37E-11
E_0	4.34E-07
E_1	6.27E-10
λ_{TK} [μm]	0.170

Temperature Coefficients of the Refractive Index						
[°C]	$\Delta n_{re}/\Delta T$ [$10^{-6}/K$]			$\Delta n_{abs}/\Delta T$ [$10^{-6}/K$]		
	1060.0	e	g	1060.0	e	g
-40/-20	2.4	2.9	3.3	0.3	0.8	1.2
+20/+40	2.4	3.0	3.5	1.1	1.6	2.1
+60/+80	2.5	3.1	3.7	1.5	2.1	2.7

Internal Transmittance τ_i		
λ [nm]	τ_i [10mm]	τ_i [25mm]
2500	0.670	0.360
2325	0.790	0.560
1970	0.930	0.840
1530	0.992	0.980
1060	0.999	0.997
700	0.998	0.996
660	0.998	0.994
620	0.998	0.994
580	0.998	0.995
546	0.998	0.996
500	0.998	0.994
460	0.997	0.993
436	0.997	0.992
420	0.997	0.993
405	0.997	0.993
400	0.997	0.992
390	0.996	0.989
380	0.993	0.983
370	0.991	0.977
365	0.988	0.971
350	0.967	0.920
334	0.910	0.780
320	0.770	0.520
310	0.570	0.250
300	0.290	0.050
290	0.060	
280		
270		
260		
250		

Color Code	
λ_{80} / λ_5	33/29

Remarks
suitable for precision molding, step 0.5 available

Relative Partial Dispersion	
$P_{s,t}$	0.3098
$P_{C,s}$	0.5612
$P_{d,C}$	0.3076
$P_{e,d}$	0.2386
$P_{g,F}$	0.5349
$P_{l,h}$	0.7483
$P'_{s,t}$	0.3076
$P'_{C,s}$	0.6062
$P'_{d,C'}$	0.2566
$P'_{e,d}$	0.2370
$P'_{g,F'}$	0.4754
$P'_{l,h}$	0.7432

Deviation of Relative Partial Dispersion ΔP from the normal line	
$\Delta P_{C,t}$	0.0216
$\Delta P_{C,s}$	0.0087
$\Delta P_{F,e}$	-0.0009
$\Delta P_{g,F}$	-0.0009
$\Delta P_{l,g}$	0.0035

Other Properties	
$\alpha_{-30/+70^\circ C}$ [$10^{-6}/K$]	7.1
$\alpha_{+20/+300^\circ C}$ [$10^{-6}/K$]	8.3
T_g [°C]	557
T_{10}^{-13} [°C]	557
$T_{10}^{-7.6}$ [°C]	719
c_p [J/(g·K)]	0.858
λ [W/(m·K)]	1.114
AT [°C]	609
ρ [g/cm ³]	2.51
E [10^3 N/mm ²]	82
μ	0.206
K [10^{-6} mm ² /N]	2.77
HK _{0.1/20}	610
HG	3
CR	1
FR	0
SR	1
AR	2.3
PR	2.3