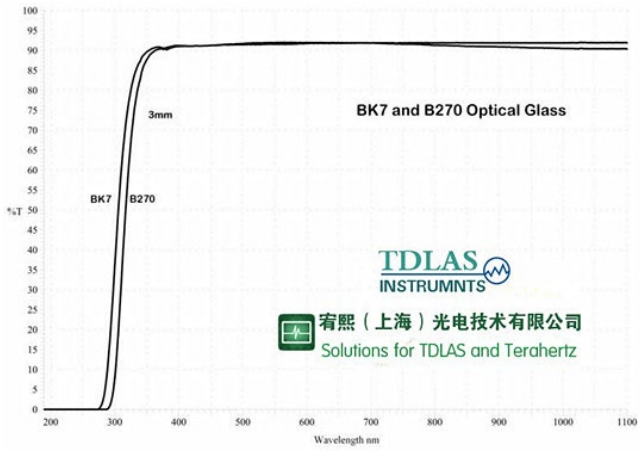
N-BK7硼硅酸盐光学玻璃60° 等边色散棱镜 035-2.5um

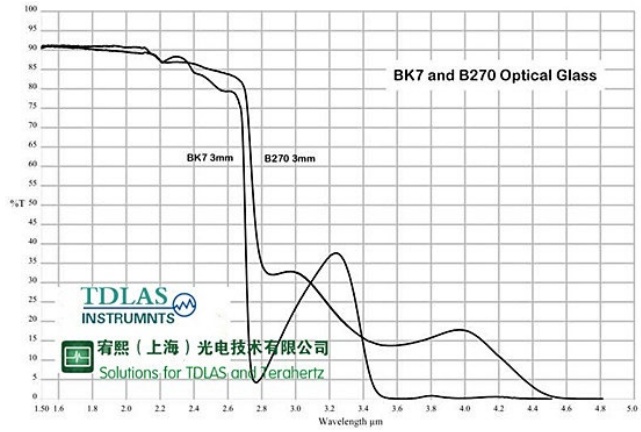
产品描述:

N-BK7是由Schott设计用于多种可见光应用的最常见的硼硅酸盐冠状玻璃。这里的基本数据给出了N-BK7。

通用参数:

透射范围:	350nm至2.5μm
折射率:	1.51680 @ 587.5618nm (黄氦线)
反射损耗:	8.1% at 587.5618nm (2个表面)
吸收系数:	-
吸收峰:	-
dn / dT:	见Schott表
dn /dμ= 0:	-
密度:	2.51
熔点:	557°C
导热系数:	1.114 W m^{-1} K^{-1}
热膨胀:	7.1×10^{-6} K^{-1}
硬度:	Knoop 610
比热容:	858JKg^{-1}K^{-1}
介电常数:	n / a
杨氏模量 (E) :	82GPa
剪切模量 (G) :	n / a
体积模量 (K) :	34GPa
弹性系数:	n / a
表观弹性极限:	63.5MPa (9206psi)
泊松比:	0.206
溶解性:	不溶于水
分子量:	n / a
类别/结构:	非晶玻璃





Data Sheet

N-BK7
517642.251

$n_d = 1.51680$	$\nu_d = 64.17$	$n_F - n_C = 0.008054$
$n_e = 1.51872$	$\nu_e = 63.96$	$n_{F'} - n_{C'} = 0.008110$

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	1.01046945
C_1	0.00600069867
C_2	0.0200179144
C_3	103.560653

Constants of Formula for dn/dT

D_0	$1.86 \cdot 10^{-6}$
D_1	$1.31 \cdot 10^{-8}$
D_2	$-1.37 \cdot 10^{-11}$
E_0	$4.34 \cdot 10^{-7}$
E_1	$6.27 \cdot 10^{-10}$
λ_{TK} [µm]	0.170

Internal Transmittance τ_i

λ [nm]	τ_i (10mm)	τ_i (25mm)
2500	0.67	0.36
2325	0.79	0.56
1970	0.933	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	0.905	0.780
320	0.770	0.520
310	0.574	0.250
300	0.290	0.050
290	0.060	
280		
270		
260		
250		

Color Code

λ_{80}/λ_5	33/29
(= λ_{70}/λ_5)	

Remarks

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
$P_{i,h}$	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
$P'_{i,h}$	0.7432

Deviation of Relative Partial Dispersions 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
$\Delta P_{i,g}$	0.0035

Other Properties

$\alpha_{-30/+70°C}$ [10^{-6}/K]	7.1
$\alpha_{+20/+300°C}$ [10^{-6}/K]	8.3
T_g [°C]	557
$T_{10^{13.0}}$ [°C]	557
$T_{10^{7.6}}$ [°C]	719
c_p [J/(g·K)]	0.858
λ [W/(m·K)]	1.114
ρ [g/cm³]	2.51
E [10^3 N/mm²]	82
µ	0.206
K [10^{-6} mm²/N]	2.77
HK0.1/20	610
HG	3
B	0.00
CR	2
FR	0
SR	1
AR	2
PR	2.3

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	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

As of 09/03/2001 Subject to change