

S-NBH52

Code(d) **673382**

Code(e) **677379**

Refractive Index n_d	1.67300 1.673000	Abbe Number v_d	38.2 38.15	Dispersion n_F-n_C	0.01764 0.017642
Refractive Index n_e	1.677185	Abbe Number v_e	37.90	Dispersion n_F-n_C'	0.017866

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.63291
n_{1970}	1.97009	1.63904
n_{1530}	1.52958	1.64585
n_{1129}	1.12864	1.65237
n_t	1.01398	1.65470
n_s	0.85211	1.65897
$n_{A'}$	0.76819	1.66202
n_r	0.70652	1.66488
n_C	0.65627	1.66778
$n_{C'}$	0.64385	1.66860
$n_{\text{He-Ne}}$	0.6328	1.66937
n_D	0.58929	1.67284
n_d	0.58756	1.67300
n_e	0.54607	1.67718
n_F	0.48613	1.68542
$n_{F'}$	0.47999	1.68647
$n_{\text{He-Cd}}$	0.44157	1.69420
n_g	0.435835	1.69557
n_h	0.404656	1.70432
n_i	0.365015	1.71997

Partial Dispersions	
n_C-n_t	0.013084
$n_C-n_{A'}$	0.005763
n_d-n_C	0.005220
n_e-n_C	0.009405
n_g-n_d	0.022573
n_g-n_F	0.010151
n_h-n_g	0.008743
n_i-n_g	0.024400
n_C-n_t	0.013905
$n_e-n_{C'}$	0.008584
$n_{F'}-n_e$	0.009282
$n_i-n_{F'}$	0.033506

Relative Partial Dispersions	
$\theta_{C,t}$	0.7416
$\theta_{C,A'}$	0.3267
$\theta_{d,C}$	0.2959
$\theta_{e,C}$	0.5331
$\theta_{g,d}$	1.2795
$\theta_{g,F}$	0.5754
$\theta_{h,g}$	0.4956
$\theta_{i,g}$	1.3831
$\theta'_{C,t}$	0.7783
$\theta'_{e,C'}$	0.4805
$\theta'_{F',e}$	0.5195
$\theta'_{i,F}$	1.8754

Thermal Properties	
Strain Point StP (°C)	486
Annealing Point AP (°C)	510
Transformation Temperature Tg (°C)	520
Yield Point At (°C)	556
Softening Point SP (°C)	646
Expansion Coefficients (-30~+70°C)	86
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	109
Thermal Conductivity k (W/m-K)	1.115

Coloring			
λ_{80}	36	λ_5	32
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	0.04
330	0.37
340	0.69
350	0.85
360	0.923
370	0.958
380	0.976
390	0.985
400	0.990
420	0.993
440	0.994
460	0.995
480	0.996
500	0.997
550	0.999
600	0.999
650	0.998
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.996
1600	0.995
1800	0.983
2000	0.971
2200	0.932
2400	0.912

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0159
$\Delta\theta_{C,A'}$	0.0046
$\Delta\theta_{g,d}$	-0.0060
$\Delta\theta_{g,F}$	-0.0043
$\Delta\theta_{i,g}$	-0.0225

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	979
Rigidity Modulus G (10^8N/m^2)	396
Poisson's Ratio σ	0.236
Knoop Hardness Hk[Class]	590 6
Abrasion Aa	123
Photoelastic Constant β (nm/cm/ 10^6Pa)	

Constants of Dispersion Formula	
A_1	1.50305799E+00
A_2	2.21715926E-01
A_3	1.84496391E+00
B_1	9.99021738E-03
B_2	4.50327698E-02
B_3	1.63722302E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	4
Acid Resistance(Surface) Group SR	1.0
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.09
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative ($10^{-6}/^\circ\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~20	3.1	3.7	3.8	4.0	4.3	4.9	5.6
-20~ 0	3.0	3.7	3.7	3.9	4.2	4.9	5.6
0~20	2.9	3.7	3.7	3.9	4.2	4.9	5.7
20~40	2.8	3.6	3.7	3.8	4.2	5.0	5.8
40~60	2.8	3.6	3.6	3.8	4.2	5.0	5.8
60~80	2.7	3.5	3.6	3.8	4.2	5.0	5.9