

S-NBH52V

Code(d) **673383**

Code(e) **677380**

Refractive Index n_d	1.67300 1.673000	Abbe Number ν_d	38.26	Dispersion n_F-n_C	0.017592
Refractive Index n_e	1.677172	Abbe Number ν_e	38.01	Dispersion n_F-n_C'	0.017815

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.63149
n_{1970}	1.97009	1.63815
n_{1530}	1.52958	1.64544
n_{1129}	1.12864	1.65225
n_t	1.01398	1.65463
n_s	0.85211	1.65896
$n_{A'}$	0.76819	1.66203
n_r	0.70652	1.66489
n_C	0.65627	1.66779
$n_{C'}$	0.64385	1.66861
$n_{\text{He-Ne}}$	0.6328	1.66938
n_D	0.58929	1.67285
n_d	0.58756	1.67300
n_e	0.54607	1.67717
n_F	0.48613	1.68538
$n_{F'}$	0.47999	1.68643
$n_{\text{He-Cd}}$	0.44157	1.69415
n_g	0.435835	1.69551
n_h	0.404656	1.70425
n_i	0.365015	1.71994

Constants of Dispersion Formula	
A_1	1.51336868E+00
A_2	2.12341478E-01
A_3	1.54149143E+00
B_1	9.87077827E-03
B_2	4.62843662E-02
B_3	1.26978510E+02

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

Mechanical Properties	
Young's Modulus E (10^9N/m^2)	963
Rigidity Modulus G (10^8N/m^2)	386
Poisson's Ratio σ	0.246
Knoop Hardness Hk[Class]	600 6
Abrasion Aa	124
Photoelastic Constant β (nm/cm/ 10^9Pa)	3.11

Partial Dispersions	
n_C-n_t	0.013160
$n_C-n_{A'}$	0.005766
n_d-n_C	0.005208
n_e-n_C	0.009380
n_g-n_d	0.022512
n_g-n_F	0.010128
n_h-n_g	0.008738
n_i-n_g	0.024433
n_C-n_t	0.013979
$n_e-n_{C'}$	0.008561
n_F-n_e	0.009254
$n_i-n_{F'}$	0.033519

Relative Partial Dispersions	
$\theta_{C,t}$	0.7481
$\theta_{C,A'}$	0.3278
$\theta_{d,C}$	0.2960
$\theta_{e,C}$	0.5332
$\theta_{g,d}$	1.2797
$\theta_{g,F}$	0.5757
$\theta_{h,g}$	0.4967
$\theta_{i,g}$	1.3889
$\theta'_{C,t}$	0.7847
$\theta'_{e,C'}$	0.4806
$\theta'_{F,e}$	0.5194
$\theta'_{i,F'}$	1.8815

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0219
$\Delta\theta_{C,A'}$	0.0056
$\Delta\theta_{g,d}$	-0.0055
$\Delta\theta_{g,F}$	-0.0039
$\Delta\theta_{i,g}$	-0.0158

Thermal Properties	
Strain Point StP ($^{\circ}\text{C}$)	460
Annealing Point AP ($^{\circ}\text{C}$)	483
Transformation Temperature Tg ($^{\circ}\text{C}$)	497
Yield Point At ($^{\circ}\text{C}$)	538
Softening Point SP ($^{\circ}\text{C}$)	592
Expansion Coefficients (-30~+70 $^{\circ}\text{C}$)	77
α ($10^{-7}/^{\circ}\text{C}$) (+100~+300 $^{\circ}\text{C}$)	98
Thermal Conductivity k (W/m·K)	1.03

Coloring			
λ_{80}	360	λ_5	320
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	348	$\lambda_{0.05}$	320

CCI		
B	G	R
0.00	0.25	0.26

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	0.04
330	0.31
340	0.65
350	0.84
360	0.919
370	0.956
380	0.974
390	0.983
400	0.988
420	0.992
440	0.993
460	0.995
480	0.996
500	0.997
550	0.998
600	0.998
650	0.998
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.992
1600	0.993
1800	0.986
2000	0.973
2200	0.922
2400	0.82

Temperature Coefficients of Refractive Index							
Range of Temperature ($^{\circ}\text{C}$)	dn/dT relative ($10^{-6}/^{\circ}\text{C}$)						
	t	C'	He-Ne	D	e	F'	g
-40~-20	2.9	3.6	3.6	3.8	4.1	4.7	5.4
-20~ 0	2.9	3.6	3.6	3.8	4.1	4.8	5.5
0~20	2.8	3.5	3.6	3.8	4.1	4.8	5.6
20~40	2.8	3.5	3.5	3.8	4.1	4.8	5.6
40~60	2.8	3.5	3.6	3.8	4.2	4.9	5.7
60~80	2.8	3.6	3.6	3.9	4.3	5.1	5.9

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.01
Remarks	

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