

S-BAH10

Code(d) **670473**

Code(e) **673470**

Refractive Index n_d	1.67003 1.670029	Abbe Number v_d	47.3 47.23	Dispersion n_F-n_C	0.01418 0.014186
Refractive Index n_e	1.673402	Abbe Number v_e	46.94	Dispersion $n_F'-n_C'$	0.014345

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.63546
n_{1970}	1.97009	1.64108
n_{1530}	1.52958	1.64722
n_{1129}	1.12864	1.65293
n_t	1.01398	1.65492
n_s	0.85211	1.65852
$n_{A'}$	0.76819	1.66105
n_r	0.70652	1.66341
n_C	0.65627	1.66579
$n_{C'}$	0.64385	1.66646
$n_{\text{He-Ne}}$	0.6328	1.66709
n_D	0.58929	1.66990
n_d	0.58756	1.67003
n_e	0.54607	1.67340
n_F	0.48613	1.67997
$n_{F'}$	0.47999	1.68080
$n_{\text{He-Cd}}$	0.44157	1.68689
n_g	0.435835	1.68796
n_h	0.404656	1.69473
n_i	0.365015	1.70663

Partial Dispersions	
n_C-n_t	0.010866
$n_C-n_{A'}$	0.004735
n_d-n_C	0.004241
n_e-n_C	0.007614
n_g-n_d	0.017928
n_g-n_F	0.007983
n_h-n_g	0.006774
n_i-n_g	0.018670
n_C-n_t	0.011535
$n_e-n_{C'}$	0.006945
$n_{F'-n_e}$	0.007400
$n_i-n_{F'}$	0.025825

Relative Partial Dispersions	
$\theta_{C,t}$	0.7660
$\theta_{C,A'}$	0.3338
$\theta_{d,C}$	0.2990
$\theta_{e,C}$	0.5367
$\theta_{g,d}$	1.2638
$\theta_{g,F}$	0.5627
$\theta_{h,g}$	0.4775
$\theta_{i,g}$	1.3161
$\theta'_{C,t}$	0.8041
$\theta'_{e,C'}$	0.4841
$\theta'_{F',e}$	0.5159
$\theta'_{i,F}$	1.8003

Thermal Properties	
Strain Point StP (°C)	584
Annealing Point AP (°C)	612
Transformation Temperature Tg (°C)	623
Yield Point At (°C)	669
Softening Point SP (°C)	734
Expansion Coefficients (-30~+70°C)	68
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	80
Thermal Conductivity k (W/m·K)	0.902

Coloring			
λ_{80}	39	λ_5	34
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	0.01
350	0.19
360	0.48
370	0.70
380	0.83
390	0.902
400	0.939
420	0.969
440	0.979
460	0.984
480	0.989
500	0.993
550	0.997
600	0.996
650	0.996
700	0.997
800	0.998
900	0.997
1000	0.997
1200	0.998
1400	0.996
1600	0.996
1800	0.991
2000	0.981
2200	0.949
2400	0.85

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0023
$\Delta\theta_{C,A'}$	0.0007
$\Delta\theta_{g,d}$	-0.0028
$\Delta\theta_{g,F}$	-0.0024
$\Delta\theta_{i,g}$	-0.0134

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	962
Rigidity Modulus G (10^8N/m^2)	378
Poisson's Ratio σ	0.273
Knoop Hardness Hk[Class]	560 6
Abrasion Aa	127
Photoelastic Constant β (nm/cm/ 10^5Pa)	2.12

Constants of Dispersion Formula	
A_1	1.59034337E+00
A_2	1.38464579E-01
A_3	1.21988043E+00
B_1	9.32734340E-03
B_2	4.27498654E-02
B_3	1.19251777E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	51.2
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.48
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	3.4	3.9	3.9	4.1	4.3	4.8	5.3
-20~0	3.5	3.9	4.0	4.1	4.4	4.9	5.5
0~20	3.5	4.0	4.1	4.2	4.5	5.0	5.6
20~40	3.6	4.1	4.1	4.3	4.6	5.2	5.7
40~60	3.6	4.2	4.2	4.4	4.7	5.3	5.9
60~80	3.7	4.2	4.3	4.5	4.8	5.4	6.0