

S-NBH55

Code(d) **800299**

Code(e) **806296**

Refractive Index n_d	1.80000 1.800000	Abbe Number v_d	29.9 29.84	Dispersion n_F-n_C	0.02680 0.026806
Refractive Index n_e	1.806331	Abbe Number v_e	29.61	Dispersion n_F-n_C'	0.027232

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.74989
n_{1970}	1.97009	1.75600
n_{1530}	1.52958	1.76316
n_{1129}	1.12864	1.77082
n_t	1.01398	1.77381
n_s	0.85211	1.77959
$n_{A'}$	0.76819	1.78388
n_r	0.70652	1.78799
n_C	0.65627	1.79224
$n_{C'}$	0.64385	1.79345
$n_{\text{He-Ne}}$	0.6328	1.79459
n_D	0.58929	1.79977
n_d	0.58756	1.80000
n_e	0.54607	1.80633
n_F	0.48613	1.81904
$n_{F'}$	0.47999	1.82068
$n_{\text{He-Cd}}$	0.44157	1.83297
n_g	0.435835	1.83517
n_h	0.404656	1.84951
n_i	0.365015	

Partial Dispersions	
n_C-n_t	0.018427
$n_C-n_{A'}$	0.008355
n_d-n_C	0.007763
n_e-n_C	0.014094
n_g-n_d	0.035172
n_g-n_F	0.016129
n_h-n_g	0.014338
n_i-n_g	
n_C-n_t	0.019637
$n_e-n_{C'}$	0.012884
$n_{F'}-n_e$	0.014348
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6874
$\theta_{C,A'}$	0.3117
$\theta_{d,C}$	0.2896
$\theta_{e,C}$	0.5258
$\theta_{g,d}$	1.3121
$\theta_{g,F}$	0.6017
$\theta_{h,g}$	0.5349
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7211
$\theta'_{e,C'}$	0.4731
$\theta'_{F',e}$	0.5269
$\theta'_{i,F}$	

Thermal Properties	
Strain Point StP (°C)	
Annealing Point AP (°C)	
Transformation Temperature Tg (°C)	613
Yield Point At (°C)	663
Softening Point SP (°C)	
Expansion Coefficients (-30~+70°C)	82
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	90
Thermal Conductivity k (W/m-K)	0.994

Coloring			
λ_{80}	44	λ_5	36
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	
360	0.04
370	0.34
380	0.63
390	0.78
400	0.86
420	0.931
440	0.958
460	0.970
480	0.978
500	0.983
550	0.992
600	0.995
650	0.995
700	0.997
800	0.998
900	0.999
1000	0.999
1200	0.999
1400	0.997
1600	0.996
1800	0.991
2000	0.985
2200	0.969
2400	0.943

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0007
$\Delta\theta_{C,A'}$	-0.0003
$\Delta\theta_{g,d}$	0.0094
$\Delta\theta_{g,F}$	0.0085
$\Delta\theta_{i,g}$	

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	1053
Rigidity Modulus G (10^8N/m^2)	415
Poisson's Ratio σ	0.269
Knoop Hardness Hk[Class]	560 6
Abrasion Aa	143
Photoelastic Constant β (nm/cm/ 10^6Pa)	2.50

Constants of Dispersion Formula	
A_1	1.83145156E+00
A_2	2.87818024E-01
A_3	2.15208300E+00
B_1	1.22443139E-02
B_2	5.73877310E-02
B_3	1.86099124E+02

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

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.68
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	2.9	3.8	3.9	4.2	4.7	5.7	7.0
-20~ 0	2.8	3.9	3.9	4.3	4.8	5.9	7.2
0~20	2.8	3.9	4.0	4.3	4.8	6.1	7.4
20~40	2.8	3.9	4.0	4.4	4.9	6.2	7.6
40~60	2.8	4.0	4.0	4.4	5.0	6.3	7.8
60~80	2.9	4.1	4.2	4.6	5.2	6.6	8.2