

S-BAM 4

Code(d) **606437**

Code(e) **609434**

Refractive Index n_d	1.60562	Abbe Number v_d	43.7	Dispersion n_F-n_C	0.01385
	1.605620		43.70		0.013857
Refractive Index n_e	1.608909	Abbe Number v_e	43.41	Dispersion n_F-n_C'	0.014026

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.57351
n_{1970}	1.97009	1.57850
n_{1530}	1.52958	1.58402
n_{1129}	1.12864	1.58926
n_t	1.01398	1.59113
n_s	0.85211	1.59453
$n_{A'}$	0.76819	1.59695
n_r	0.70652	1.59921
n_C	0.65627	1.60151
$n_{C'}$	0.64385	1.60215
$n_{\text{He-Ne}}$	0.6328	1.60276
n_D	0.58929	1.60550
n_d	0.58756	1.60562
n_e	0.54607	1.60891
n_F	0.48613	1.61536
$n_{F'}$	0.47999	1.61618
$n_{\text{He-Cd}}$	0.44157	1.62222
n_g	0.435835	1.62329
n_h	0.404656	1.63010
n_i	0.365015	1.64228

Partial Dispersions	
n_C-n_t	0.010380
$n_C-n_{A'}$	0.004557
n_d-n_C	0.004113
n_e-n_C	0.007402
n_g-n_d	0.017671
n_g-n_F	0.007927
n_h-n_g	0.006811
n_i-n_g	0.018992
n_C-n_t	0.011028
$n_e-n_{C'}$	0.006754
$n_{F'-n_e}$	0.007272
$n_i-n_{F'}$	0.026102

Relative Partial Dispersions	
$\theta_{C,t}$	0.7491
$\theta_{C,A'}$	0.3289
$\theta_{d,C}$	0.2968
$\theta_{e,C}$	0.5342
$\theta_{g,d}$	1.2752
$\theta_{g,F}$	0.5721
$\theta_{h,g}$	0.4915
$\theta_{i,g}$	1.3706
$\theta'_{C,t}$	0.7863
$\theta'_{e,C'}$	0.4815
$\theta'_{F',e}$	0.5185
$\theta'_{i,F}$	1.8610

Thermal Properties	
Strain Point StP (°C)	548
Annealing Point AP (°C)	577
Transformation Temperature Tg (°C)	599
Yield Point At (°C)	641
Softening Point SP (°C)	722
Expansion Coefficients (-30~+70°C)	84
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	97
Thermal Conductivity k (W/m-K)	0.931

Coloring			
λ_{80}	38	λ_5	35
λ_{70}			

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0026
$\Delta\theta_{C,A'}$	0.0001
$\Delta\theta_{g,d}$	0.0012
$\Delta\theta_{g,F}$	0.0013
$\Delta\theta_{i,g}$	0.0115

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	762
Rigidity Modulus G (10^8N/m^2)	306
Poisson's Ratio σ	0.244
Knoop Hardness Hk[Class]	520 5
Abrasion Aa	151
Photoelastic Constant β (nm/cm/ 10^5Pa)	2.41

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	
350	0.06
360	0.41
370	0.72
380	0.87
390	0.938
400	0.965
420	0.986
440	0.991
460	0.991
480	0.993
500	0.995
550	0.998
600	0.997
650	0.996
700	0.997
800	0.999
900	0.998
1000	0.998
1200	0.998
1400	0.995
1600	0.994
1800	0.980
2000	0.962
2200	0.919
2400	0.89

Constants of Dispersion Formula	
A_1	1.41059317E+00
A_2	1.11201306E-01
A_3	1.34148939E+00
B_1	9.63312192E-03
B_2	4.98778210E-02
B_3	1.52237696E+02

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

Other Properties	
Bubble Quality Group B	
Specific Gravity d	2.91
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	0.6	1.0	1.0	1.2	1.4	1.9	2.4
-20~ 0	0.7	1.1	1.1	1.3	1.5	2.0	2.6
0~20	0.7	1.1	1.2	1.3	1.6	2.1	2.7
20~40	0.8	1.2	1.2	1.4	1.7	2.2	2.9
40~60	0.8	1.3	1.3	1.5	1.8	2.4	3.0
60~80	0.9	1.4	1.4	1.6	1.9	2.5	3.2