

L-LAM69

Code(d) **731405**

Code(e) **735403**

Refractive Index n_d	Abbe Number v_d	Dispersion n_F-n_C
1.73077 1.730770	40.5 40.51	0.01804 0.018040
Refractive Index n_e	Abbe Number v_e	Dispersion n_F-n_C'
1.735051	40.25	0.018262

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.68805
n_{1970}	1.97009	1.69488
n_{1530}	1.52958	1.70237
n_{1129}	1.12864	1.70939
n_t	1.01398	1.71185
n_s	0.85211	1.71632
$n_{A'}$	0.76819	1.71948
n_r	0.70652	1.72243
n_C	0.65627	1.72542
$n_{C'}$	0.64385	1.72626
$n_{\text{He-Ne}}$	0.6328	1.72705
n_D	0.58929	1.73061
n_d	0.58756	1.73077
n_e	0.54607	1.73505
n_F	0.48613	1.74346
$n_{F'}$	0.47999	1.74452
$n_{\text{He-Cd}}$	0.44157	1.75240
n_g	0.435835	1.75379
n_h	0.404656	1.76267
n_i	0.365015	1.77858

Partial Dispersions	
n_C-n_t	0.013567
$n_C-n_{A'}$	0.005939
n_d-n_C	0.005354
n_e-n_C	0.009635
n_g-n_d	0.023019
n_g-n_F	0.010333
n_h-n_g	0.008885
n_i-n_g	0.024789
n_C-n_t	0.014410
$n_e-n_{C'}$	0.008792
$n_{F'-n_e}$	0.009470
$n_i-n_{F'}$	0.034057

Relative Partial Dispersions	
$\theta_{C,t}$	0.7521
$\theta_{C,A'}$	0.3292
$\theta_{d,C}$	0.2968
$\theta_{e,C}$	0.5341
$\theta_{g,d}$	1.2760
$\theta_{g,F}$	0.5728
$\theta_{h,g}$	0.4925
$\theta_{i,g}$	1.3741
$\theta'_{C,t}$	0.7891
$\theta'_{e,C'}$	0.4814
$\theta'_{F',e}$	0.5186
$\theta'_{i,F}$	1.8649

Thermal Properties	
Strain Point StP (°C)	461
Annealing Point AP (°C)	489
Transformation Temperature Tg (°C)	497
Yield Point At (°C)	529
Softening Point SP (°C)	574
Expansion Coefficients (-30~+70°C)	86
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	105
Thermal Conductivity k (W/m-K)	1.114

Coloring			
λ_{80}	41	λ_5	34
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	
330	
340	0.02
350	0.22
360	0.50
370	0.70
380	0.81
390	0.87
400	0.912
420	0.950
440	0.964
460	0.974
480	0.982
500	0.989
550	0.996
600	0.994
650	0.995
700	0.998
800	0.998
900	0.998
1000	
1200	
1400	
1600	
1800	
2000	
2200	
2400	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0154
$\Delta\theta_{C,A'}$	0.0042
$\Delta\theta_{g,d}$	-0.0046
$\Delta\theta_{g,F}$	-0.0031
$\Delta\theta_{i,g}$	-0.0117

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	1133
Rigidity Modulus G (10^8N/m^2)	445
Poisson's Ratio σ	0.273
Knoop Hardness Hk[Class]	630 6
Abrasion Aa	118
Photoelastic Constant β (nm/cm/ 10^5Pa)	2.03

Constants of Dispersion Formula	
A_1	1.74038960E+00
A_2	1.76996917E-01
A_3	1.76775413E+00
B_1	1.03398870E-02
B_2	4.84822765E-02
B_3	1.36671996E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	52.2
Phosphate Resistance PR	3.1

Other Properties	
Bubble Quality Group B	
Specific Gravity d	3.24
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	2.1	2.8	2.8	3.0	3.3	4.0	4.7
-20~0	2.1	2.8	2.8	3.1	3.4	4.0	4.8
0~20	2.1	2.8	2.8	3.1	3.4	4.1	4.9
20~40	2.0	2.8	2.9	3.1	3.4	4.2	5.0
40~60	2.0	2.8	2.9	3.1	3.5	4.3	5.1
60~80	2.0	2.8	2.9	3.1	3.5	4.3	5.3