

L-LAH83

Code(d) **864406**

Code(e) **869403**

Refractive Index n_d	1.86400 1.864000	Abbe Number v_d	40.6 40.58	Dispersion n_F-n_C	0.02129 0.021293
Refractive Index n_e	1.869061	Abbe Number v_e	40.33	Dispersion n_F-n_C'	0.021547

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.81761
n_{1970}	1.97009	1.82429
n_{1530}	1.52958	1.83178
n_{1129}	1.12864	1.83919
n_t	1.01398	1.84192
n_s	0.85211	1.84702
$n_{A'}$	0.76819	1.85069
n_r	0.70652	1.85415
n_C	0.65627	1.85767
$n_{C'}$	0.64385	1.85867
$n_{\text{He-Ne}}$	0.6328	1.85960
n_D	0.58929	1.86381
n_d	0.58756	1.86400
n_e	0.54607	1.86906
n_F	0.48613	1.87896
$n_{F'}$	0.47999	1.88021
$n_{\text{He-Cd}}$	0.44157	1.88942
n_g	0.435835	1.89104
n_h	0.404656	1.90129
n_i	0.365015	1.91926

Partial Dispersions	
n_C-n_t	0.015753
$n_C-n_{A'}$	0.006983
n_d-n_C	0.006328
n_e-n_C	0.011389
n_g-n_d	0.027035
n_g-n_F	0.012070
n_h-n_g	0.010252
n_i-n_g	0.028222
n_C-n_t	0.016749
$n_e-n_{C'}$	0.010393
$n_{F'}-n_e$	0.011154
$n_i-n_{F'}$	0.039042

Relative Partial Dispersions	
$\theta_{C,t}$	0.7398
$\theta_{C,A'}$	0.3279
$\theta_{d,C}$	0.2972
$\theta_{e,C}$	0.5349
$\theta_{g,d}$	1.2697
$\theta_{g,F}$	0.5669
$\theta_{h,g}$	0.4815
$\theta_{i,g}$	1.3254
$\theta'_{C,t}$	0.7773
$\theta'_{e,C'}$	0.4823
$\theta'_{F',e}$	0.5177
$\theta'_{i,F}$	1.8119

Thermal Properties	
Strain Point StP (°C)	574
Annealing Point AP (°C)	595
Transformation Temperature Tg (°C)	608
Yield Point At (°C)	658
Softening Point SP (°C)	713
Expansion Coefficients (-30~+70°C)	68
α (10 ⁻⁷ /°C) (+100~+300°C)	80
Thermal Conductivity k (W/m·K)	0.894

Coloring			
λ_{80}		λ_5	31
λ_{70}	37		

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	0.03
320	0.15
330	0.33
340	0.51
350	0.66
360	0.77
370	0.85
380	0.905
390	0.933
400	0.95
420	0.966
440	0.975
460	0.982
480	0.988
500	0.992
550	0.997
600	0.997
650	0.997
700	0.998
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.997
1600	0.996
1800	0.991
2000	0.977
2200	0.946
2400	0.82

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0027
$\Delta\theta_{C,A'}$	0.0029
$\Delta\theta_{g,d}$	-0.0107
$\Delta\theta_{g,F}$	-0.0089
$\Delta\theta_{i,g}$	-0.0598

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	1271
Rigidity Modulus G (10 ⁸ N/m ²)	489
Poisson's Ratio σ	0.299
Knoop Hardness Hk[Class]	680 7
Abrasion Aa	64
Photoelastic Constant β (nm/cm/10 ⁵ Pa)	1.61

Constants of Dispersion Formula	
A ₁	1.82331579E+00
A ₂	5.48625885E-01
A ₃	1.63182855E+00
B ₁	9.14468875E-03
B ₂	3.28419670E-02
B ₃	1.23611174E-02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	2
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	3.2
Phosphate Resistance PR	1.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	5.29
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10 ⁻⁶ /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~20	4.7	5.5	5.6	5.8	6.2	6.9	7.7
-20~ 0	4.7	5.6	5.6	5.9	6.3	7.1	7.9
0~20	4.8	5.6	5.7	6.0	6.3	7.2	8.1
20~40	4.7	5.7	5.7	6.0	6.4	7.2	8.1
40~60	4.8	5.8	5.8	6.1	6.5	7.4	8.3
60~80	4.9	5.9	6.0	6.3	6.7	7.7	8.6