

# L-LAH81

Code(d) **806404**

Code(e) **811401**

Refractive Index $n_d$	<b>1.80610</b> 1.806100	Abbe Number $\nu_d$	<b>40.4</b> 40.40	Dispersion $n_F-n_C$	<b>0.01995</b> 0.019953
Refractive Index $n_e$	1.810839	Abbe Number $\nu_e$	40.15	Dispersion $n_F-n_{C'}$	0.020196

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.76087
$n_{1970}$	1.97009	1.76778
$n_{1530}$	1.52958	1.77540
$n_{1129}$	1.12864	1.78271
$n_t$	1.01398	1.78533
$n_s$	0.85211	1.79017
$n_{A'}$	0.76819	1.79363
$n_r$	0.70652	1.79688
$n_C$	0.65627	1.80018
$n_{C'}$	0.64385	1.80111
$n_{\text{He-Ne}}$	0.6328	1.80199
$n_D$	0.58929	1.80593
$n_d$	0.58756	1.80610
$n_e$	0.54607	1.81084
$n_F$	0.48613	1.82013
$n_{F'}$	0.47999	1.82131
$n_{\text{He-Cd}}$	0.44157	1.82998
$n_g$	0.435835	1.83151
$n_h$	0.404656	1.84125
$n_i$	0.365015	1.85851

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0078
$\Delta\theta_{C,A'}$	0.0033
$\Delta\theta_{g,d}$	-0.0071
$\Delta\theta_{g,F}$	-0.0057
$\Delta\theta_{i,g}$	-0.0340

Constants of Dispersion Formula	
$A_1$	1.89927344E+00
$A_2$	2.70978866E-01
$A_3$	1.33163819E+00
$B_1$	1.02901828E-02
$B_2$	4.24227173E-02
$B_3$	1.00967566E+02

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.53
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	6.7	7.5	7.6	7.8	8.2	9.0	9.8
-20~ 0	6.8	7.7	7.7	8.0	8.3	9.2	10.1
0~20	6.8	7.7	7.8	8.1	8.4	9.3	10.2
20~40	6.8	7.8	7.8	8.1	8.5	9.4	10.4
40~60	6.9	7.9	8.0	8.3	8.7	9.6	10.6
60~80	7.1	8.1	8.2	8.5	8.9	9.9	10.9

Partial Dispersions	
$n_C-n_t$	0.014846
$n_C-n_{A'}$	0.006546
$n_d-n_C$	0.005921
$n_e-n_C$	0.010660
$n_g-n_d$	0.025414
$n_g-n_F$	0.011382
$n_h-n_g$	0.009735
$n_i-n_g$	0.026991
$n_C-n_t$	0.015778
$n_e-n_{C'}$	0.009728
$n_F-n_e$	0.010468
$n_i-n_{F'}$	0.037198

Thermal Properties	
Strain Point StP (°C)	526
Annealing Point AP (°C)	547
Transformation Temperature Tg (°C)	566
Yield Point At (°C)	602
Softening Point SP (°C)	645
Expansion Coefficients (-30~+70°C)	58
$\alpha$ ( $10^{-7}/^{\circ}\text{C}$ ) (+100~+300°C)	73
Thermal Conductivity k (W/m·K)	0.86

Mechanical Properties	
Young's Modulus E ( $10^8\text{N/m}^2$ )	1127
Rigidity Modulus G ( $10^8\text{N/m}^2$ )	434
Poisson's Ratio $\sigma$	0.300
Knoop Hardness Hk(Class)	640   6
Abrasion Aa	78
Photoelastic Constant $\beta$ (nm/cm/ $10^5\text{Pa}$ )	2.17

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	51.2
Phosphate Resistance PR	1.2

Relative Partial Dispersions	
$\theta_{C,t}$	0.7440
$\theta_{C,A'}$	0.3281
$\theta_{d,C}$	0.2967
$\theta_{e,C}$	0.5343
$\theta_{g,d}$	1.2737
$\theta_{g,F}$	0.5704
$\theta_{h,g}$	0.4879
$\theta_{i,g}$	1.3527
$\theta'_{C,t}$	0.7812
$\theta'_{e,C'}$	0.4817
$\theta'_{F,e}$	0.5183
$\theta'_{i,F}$	1.8418

Coloring			
$\lambda_{80}$	410	$\lambda_5$	340
$\lambda_{70}$			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	
320	
330	
340	0.09
350	0.37
360	0.65
370	0.81
380	0.89
390	0.932
400	0.954
420	0.974
440	0.982
460	0.987
480	0.991
500	0.994
550	0.997
600	0.997
650	0.998
700	0.998
800	0.999
900	0.999
1000	0.999
1200	0.998
1400	0.995
1600	0.993
1800	0.985
2000	0.966
2200	0.91
2400	0.72