L-LAL12

Code(d) **678549**
Code(e) **681546**

Refractive Index	n_d	**1.67790**	Abbe Number	ν_d	**54.9**	Dispersion	n_F-n_C	**0.01235**
		1.677900			54.89			0.012351
Refractive Index	n_e	1.680844	Abbe Number	ν_e	54.64	Dispersion	$n_{F'}$-$n_{C'}$	0.012460

Refractive Indices		
λ(μm)		
n_{2325}	2.32542	1.64243
n_{1970}	1.97009	1.64903
n_{1530}	1.52958	1.65602
n_{1129}	1.12864	1.66209
n_t	1.01398	1.66408
n_s	0.85211	1.66753
$n_{A'}$	0.76819	1.66987
n_r	0.70652	1.67202
n_C	0.65627	1.67415
$n_{C'}$	0.64385	1.67475
n_{He-Ne}	0.6328	1.67530
n_D	0.58929	1.67779
n_d	0.58756	1.67790
n_e	0.54607	1.68084
n_F	0.48613	1.68650
$n_{F'}$	0.47999	1.68721
n_{He-Cd}	0.44157	1.69235
n_g	0.435835	1.69324
n_h	0.404656	1.69885
n_i	0.365015	1.70845

Deviation of Relative Dispersions Δθfrom "Normal"	
$\Delta\theta_{C,t}$	0.0110
$\Delta\theta_{C,A'}$	0.0038
$\Delta\theta_{g,d}$	-0.0085
$\Delta\theta_{g,F}$	-0.0069
$\Delta\theta_{i,g}$	-0.0345

Constants of Dispersion Formula	
A_1	1.28516283E+00
A_2	4.78333797E-01
A_3	1.21605301E+00
B_1	6.41062082E-03
B_2	2.14815099E-02
B_3	1.00243378E+02

Other Properties	
Bubble Quality Group B	B
Specific Gravity d	3.48
Remarks	

Partial Dispersions	
n_C-n_t	0.010069
n_C-$n_{A'}$	0.004276
n_d-n_C	0.003750
n_e-n_C	0.006694
n_g-n_d	0.015342
n_g-n_F	0.006741
n_h-n_g	0.005610
n_i-n_g	0.015203
n_C-n_t	0.010665
n_e-$n_{C'}$	0.006098
n_F-n_e	0.006362
n_i-$n_{F'}$	0.021239

Thermal Properties		
Strain Point StP (℃)		528
Annealing Point AP (℃)		546
Transformation Temperature Tg (℃)		562
Yield Point At (℃)		600
Softening Point SP (℃)		633
Expansion Coefficients	(-30~+70℃)	76
α (10^{-7}/℃)	(+100~+300℃)	90
Thermal Conductivity k (W/m·K)		0.925

Mechanical Properties		
Young's Modulus E (10^8N/m^2)	1096	
Rigidity Modulus G (10^8N/m^2)	428	
Poisson's Ratio σ	0.280	
Knoop Hardness Hk[Class]	600	6
Abrasion Aa	112	
Photoelastic Constant β (nm/cm/10^5Pa)		1.80

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	4～3
Acid Resistance(Surface) Group SR	53.2
Phosphate Resistance PR	4.0

Relative Partial Dispersions	
$\theta_{C,t}$	0.8152
$\theta_{C,A'}$	0.3462
$\theta_{d,C}$	0.3036
$\theta_{e,C}$	0.5420
$\theta_{g,d}$	1.2422
$\theta_{g,F}$	0.5458
$\theta_{h,g}$	0.4542
$\theta_{i,g}$	1.2309
$\theta'_{C',t}$	0.8559
$\theta'_{e,C'}$	0.4894
$\theta'_{F',e}$	0.5106
$\theta'_{i,F}$	1.7046

Coloring			
λ_{80}	365	λ_5	295
λ_{70}			

Internal Transmittance	
λ(nm)	τ 10mm
280	
290	
300	0.1
310	0.21
320	0.37
330	0.55
340	0.7
350	0.81
360	0.89
370	0.938
380	0.962
390	0.975
400	0.982
420	0.987
440	0.99
460	0.992
480	0.995
500	0.997
550	0.998
600	0.996
650	0.997
700	0.998
800	0.999
900	0.998
1000	0.998
1200	0.999
1400	0.997
1600	0.996
1800	0.989
2000	0.972
2200	0.922
2400	0.736

Temperature Coefficients of Refractive Index							
Range of Temperature (℃)	dn/dt relative (10^{-6}/℃)						
	t	C'	He-Ne	D	e	F'	g
-40~20	2.0	2.4	2.4	2.6	2.7	3.1	3.4
-20~ 0	2.0	2.4	2.4	2.6	2.8	3.1	3.5
0~20	2.0	2.4	2.5	2.6	2.8	3.2	3.6
20~40	1.9	2.4	2.5	2.6	2.8	3.2	3.6
40~60	1.9	2.5	2.5	2.6	2.8	3.3	3.7
60~80	1.9	2.5	2.5	2.6	2.9	3.3	3.8