

# L-LAM60

Code(d) **743493**

Code(e) **747490**

Refractive Index $n_d$	<b>1.74320</b> 1.743198	Abbe Number $\nu_d$	<b>49.29</b>	Dispersion $n_F-n_C$	<b>0.015077</b>
Refractive Index $n_e$	1.746788	Abbe Number $\nu_e$	49.05	Dispersion $n_F-n_{C'}$	0.015226

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.70409
$n_{1970}$	1.97009	1.71082
$n_{1530}$	1.52958	1.71804
$n_{1129}$	1.12864	1.72458
$n_t$	1.01398	1.72681
$n_s$	0.85211	1.73078
$n_{A'}$	0.76819	1.73354
$n_r$	0.70652	1.73609
$n_C$	0.65627	1.73866
$n_{C'}$	0.64385	1.73937
$n_{\text{He-Ne}}$	0.6328	1.74005
$n_D$	0.58929	1.74306
$n_d$	0.58756	1.74320
$n_e$	0.54607	1.74679
$n_F$	0.48613	1.75373
$n_{F'}$	0.47999	1.75460
$n_{\text{He-Cd}}$	0.44157	1.76096
$n_g$	0.435835	1.76207
$n_h$	0.404656	1.76905
$n_i$	0.365015	1.78108

Constants of Dispersion Formula	
$A_1$	1.47574184E+00
$A_2$	4.96132743E-01
$A_3$	1.23796236E+00
$B_1$	7.36950000E-03
$B_2$	2.51891746E-02
$B_3$	9.80306651E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	51.2
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (GPa)	114.7
Rigidity Modulus G (GPa)	44.5
Poisson's Ratio $\sigma$	0.289
Knoop Hardness Hk(Class)	670   7
Abrasion Aa	92

Partial Dispersions	
$n_C-n_t$	0.011847
$n_C-n_{A'}$	0.005115
$n_d-n_C$	0.004543
$n_e-n_C$	0.008133
$n_g-n_d$	0.018870
$n_g-n_F$	0.008336
$n_h-n_g$	0.006984
$n_i-n_g$	0.019016
$n_C-n_t$	0.012567
$n_e-n_{C'}$	0.007413
$n_{F'}-n_e$	0.007813
$n_i-n_{F'}$	0.026483

Relative Partial Dispersions	
$\theta_{C,t}$	0.7858
$\theta_{C,A'}$	0.3393
$\theta_{d,C}$	0.3013
$\theta_{e,C}$	0.5394
$\theta_{g,d}$	1.2516
$\theta_{g,F}$	0.5529
$\theta_{h,g}$	0.4632
$\theta_{i,g}$	1.2613
$\theta'_{C,t}$	0.8254
$\theta'_{e,C'}$	0.4869
$\theta'_{F',e}$	0.5131
$\theta'_{i,F'}$	1.7393

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0079
$\Delta\theta_{C,A'}$	0.0037
$\Delta\theta_{g,d}$	-0.0108
$\Delta\theta_{g,F}$	-0.0088
$\Delta\theta_{i,g}$	-0.0510

Thermal Properties	
Strain Point StP (°C)	511
Annealing Point AP (°C)	533
Transformation Temperature Tg (°C)	541 *
Yield Point At (°C)	587 *
Softening Point SP (°C)	623
Expansion Coefficients (-30~+70°C)	75 *
$\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C)	92 *
Thermal Conductivity $\lambda$ W/(m·K)	0.876

Coloring			
$\lambda_{80}$	370	$\lambda_5$	310
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	347	$\lambda_{0.05}$	308

CCI		
B	G	R
0.00	0.37	0.38

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	
310	0.09
320	0.33
330	0.56
340	0.72
350	0.83
360	0.904
370	0.944
380	0.965
390	0.977
400	0.983
420	0.988
440	0.991
460	0.993
480	0.996
500	0.997
550	0.998
600	0.998
650	0.998
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.998
1600	0.997
1800	0.991
2000	0.974
2200	0.936
2400	0.75

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	$\Delta n / \Delta T$ relative ( $10^{-6} \text{K}^{-1}$ )						
	t	C'	He-Ne	D	e	F'	g
-40~-20	3.3	3.9	3.9	4.1	4.3	4.8	5.3
-20~ 0	3.3	3.9	3.9	4.1	4.3	4.9	5.4
0~20	3.3	3.9	3.9	4.1	4.4	4.9	5.5
20~40	3.2	3.9	4.0	4.2	4.4	5.0	5.6
40~60	3.2	4.0	4.0	4.2	4.5	5.1	5.7
60~80	3.2	4.0	4.0	4.2	4.5	5.1	5.7

Other Properties	
Photoelastic Constant $\beta$ nm/(cm·10 <sup>5</sup> Pa)	1.83
Specific Gravity d	4.20
Remarks	

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※The name of the glass type is the model number assigned based on the main components of the composition: large, medium, small refractive index and serial number.