

# S-LAL61Q

Code(d) **741526**

Code(e) **744523**

Refractive Index $n_d$	<b>1.74100</b>	Abbe Number $\nu_d$	<b>52.60</b>	Dispersion $n_F-n_C$	<b>0.014087</b>
	1.741000				
Refractive Index $n_e$	1.744357	Abbe Number $\nu_e$	52.36	Dispersion $n_F-n_C'$	0.014216

Refractive Indices		
$\lambda(\mu\text{m})$		
$n_{2325}$	2.32542	1.70206
$n_{1970}$	1.97009	1.70913
$n_{1530}$	1.52958	1.71662
$n_{1129}$	1.12864	1.72322
$n_t$	1.01398	1.72541
$n_s$	0.85211	1.72925
$n_{A'}$	0.76819	1.73189
$n_r$	0.70652	1.73431
$n_C$	0.65627	1.73673
$n_{C'}$	0.64385	1.73741
$n_{\text{He-Ne}}$	0.6328	1.73804
$n_D$	0.58929	1.74087
$n_d$	0.58756	1.74100
$n_e$	0.54607	1.74436
$n_F$	0.48613	1.75082
$n_{F'}$	0.47999	1.75163
$n_{\text{He-Cd}}$	0.44157	1.75751
$n_g$	0.435835	1.75854
$n_h$	0.404656	1.76497
$n_i$	0.365015	1.77598

Constants of Dispersion Formula	
$A_1$	1.38144225E+00
$A_2$	5.87690089E-01
$A_3$	1.15245465E+00
$B_1$	6.69192652E-03
$B_2$	2.15981233E-02
$B_3$	8.71923300E+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	51.0
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (GPa)	116.5
Rigidity Modulus G (GPa)	45.1
Poisson's Ratio $\sigma$	0.292
Knoop Hardness Hk(Class)	710 * 7
Abrasion Aa	66

Partial Dispersions	
$n_C-n_t$	0.011323
$n_C-n_{A'}$	0.004841
$n_d-n_C$	0.004267
$n_e-n_C$	0.007624
$n_g-n_d$	0.017538
$n_g-n_F$	0.007718
$n_h-n_g$	0.006432
$n_i-n_g$	0.017446
$n_C-n_t$	0.012001
$n_e-n_{C'}$	0.006946
$n_{F'}-n_e$	0.007270
$n_i-n_{F'}$	0.024357

Relative Partial Dispersions	
$\theta_{C,t}$	0.8038
$\theta_{C,A'}$	0.3437
$\theta_{d,C}$	0.3029
$\theta_{e,C}$	0.5412
$\theta_{g,d}$	1.2450
$\theta_{g,F}$	0.5479
$\theta_{h,g}$	0.4566
$\theta_{i,g}$	1.2384
$\theta'_{C,t}$	0.8442
$\theta'_{e,C}$	0.4886
$\theta'_{F,e}$	0.5114
$\theta'_{i,F'}$	1.7134

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0103
$\Delta \theta_{C,A'}$	0.0041
$\Delta \theta_{g,d}$	-0.0105
$\Delta \theta_{g,F}$	-0.0085
$\Delta \theta_{i,g}$	-0.0462

Thermal Properties	
Strain Point StP (°C)	644
Annealing Point AP (°C)	670
Transformation Temperature Tg (°C)	689
Yield Point At (°C)	710
Softening Point SP (°C)	737
Expansion Coefficients (-30~+70°C)	57
$\alpha (10^{-7} \text{K}^{-1})$ (+100~+300°C)	74
Thermal Conductivity $\lambda$ W/(m·K)	0.850

Coloring			
$\lambda_{80}$	360	$\lambda_5$	300
$\lambda_{70}$			

Internal transmission			
$\lambda_{0.80}$	337	$\lambda_{0.05}$	298

CCI		
B	G	R
0.00	0.26	0.26

Internal Transmittance	
$\lambda(\text{nm})$	$\tau$ 10mm
280	
290	
300	0.06
310	0.26
320	0.52
330	0.72
340	0.83
350	0.902
360	0.940
370	0.962
380	0.975
390	0.983
400	0.988
420	0.992
440	0.994
460	0.996
480	0.998
500	0.999
550	0.999
600	0.999
650	0.999
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.995
1600	0.995
1800	0.986
2000	0.962
2200	0.89
2400	0.66

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	3.7	4.2	4.2	4.3	4.5	4.9	5.4
-20~ 0	3.7	4.2	4.3	4.4	4.6	5.1	5.5
0~20	3.7	4.3	4.3	4.4	4.7	5.1	5.6
20~40	3.7	4.2	4.3	4.4	4.6	5.1	5.6
40~60	3.7	4.3	4.3	4.5	4.7	5.2	5.7
60~80	3.9	4.4	4.5	4.6	4.9	5.4	5.9

Other Properties	
Photoelastic Constant $\beta$ nm/(cm·10 <sup>5</sup> Pa)	1.47
Specific Gravity d	4.09
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.