

S-LAL61Q

Code(d) **741526**

Code(e) **744523**

Refractive Index n_d	1.74100	Abbe Number ν_d	52.60	Dispersion n_F-n_C	0.014087
	1.741000				
Refractive Index n_e	1.744357	Abbe Number ν_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_f	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 σ	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
α (10 ⁻⁷ K ⁻¹) (+100~+300°C)	74
Thermal Conductivity λ W/(m·K)	0.850

Coloring			
λ_{80}	360	λ_5	300
λ_{70}			

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

CCI		
B	G	R
0.00	0.26	0.26

Internal Transmittance	
$\lambda(\text{nm})$	τ 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 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 β nm/(cm·10 ⁵ 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.