

S-LAL61

Code(d) **741527**

Code(e) **744524**

Refractive Index n_d	1.74100 1.740999	Abbe Number v_d	52.7 52.64	Dispersion n_F-n_C	0.01407 0.014078
Refractive Index n_e	1.744354	Abbe Number v_e	52.41	Dispersion $n_F'-n_C'$	0.014203

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.70016
n_{1970}	1.97009	1.70787
n_{1530}	1.52958	1.71598
n_{1129}	1.12864	1.72297
n_t	1.01398	1.72525
n_s	0.85211	1.72918
$n_{A'}$	0.76819	1.73186
n_r	0.70652	1.73430
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	1.74435
n_F	0.48613	1.75080
$n_{F'}$	0.47999	1.75161
$n_{\text{He-Cd}}$	0.44157	1.75748
n_g	0.435835	1.75850
n_h	0.404656	1.76491
n_i	0.365015	1.77589

Partial Dispersions	
n_C-n_t	0.011481
$n_C-n_{A'}$	0.004871
n_d-n_C	0.004272
n_e-n_C	0.007627
n_g-n_d	0.017502
n_g-n_F	0.007696
n_h-n_g	0.006413
n_i-n_g	0.017393
n_C-n_t	0.012160
$n_e-n_{C'}$	0.006948
$n_{F'-n_e}$	0.007255
$n_i-n_{F'}$	0.024285

Relative Partial Dispersions	
$\theta_{C,t}$	0.8155
$\theta_{C,A'}$	0.3460
$\theta_{d,C}$	0.3035
$\theta_{e,C}$	0.5418
$\theta_{g,d}$	1.2432
$\theta_{g,F}$	0.5467
$\theta_{h,g}$	0.4555
$\theta_{i,g}$	1.2355
$\theta'_{C,t}$	0.8562
$\theta'_{e,C'}$	0.4892
$\theta'_{F',e}$	0.5108
$\theta'_{i,F}$	1.7099

Thermal Properties	
Strain Point StP (°C)	631
Annealing Point AP (°C)	646
Transformation Temperature Tg (°C)	653
Yield Point At (°C)	688
Softening Point SP (°C)	724
Expansion Coefficients (-30~+70°C)	57
α ($10^{-7}/^\circ\text{C}$) (+100~+300°C)	70
Thermal Conductivity k (W/m·K)	0.861

Coloring			
λ_{80}	37	λ_5	29
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	0.02
300	0.07
310	0.15
320	0.27
330	0.43
340	0.59
350	0.72
360	0.82
370	0.89
380	0.935
390	0.958
400	0.971
420	0.982
440	0.988
460	0.991
480	0.994
500	0.996
550	0.997
600	0.997
650	0.997
700	0.998
800	0.998
900	0.998
1000	0.998
1200	0.998
1400	0.994
1600	0.994
1800	0.985
2000	0.959
2200	0.88
2400	0.62

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0218
$\Delta\theta_{C,A'}$	0.0063
$\Delta\theta_{g,d}$	-0.0122
$\Delta\theta_{g,F}$	-0.0096
$\Delta\theta_{i,g}$	-0.0487

Mechanical Properties	
Young's Modulus E (10^8N/m^2)	1190
Rigidity Modulus G (10^8N/m^2)	461
Poisson's Ratio σ	0.291
Knoop Hardness Hk[Class]	720 7
Abrasion Aa	65
Photoelastic Constant β (nm/cm/ 10^5Pa)	1.55

Constants of Dispersion Formula	
A_1	1.11073292E+00
A_2	8.59347773E-01
A_3	1.26707433E+00
B_1	4.64181248E-03
B_2	1.92989261E-02
B_3	8.73917698E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	1 ~ 2
Acid Resistance(Surface) Group SR	51.0
Phosphate Resistance PR	2.0

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.04
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	3.3	3.7	3.7	3.9	4.0	4.4	4.8
-20~0	3.4	3.8	3.9	4.0	4.2	4.6	5.0
0~20	3.5	3.9	4.0	4.1	4.3	4.7	5.1
20~40	3.6	4.1	4.1	4.2	4.4	4.9	5.3
40~60	3.7	4.2	4.2	4.4	4.6	5.0	5.5
60~80	3.8	4.3	4.3	4.5	4.7	5.2	5.6