

S-LAL58

Code(d) **694508**

Code(e) **697505**

Refractive Index n_d	1.69350	Abbe Number v_d	50.8	Dispersion n_F-n_C	0.01365
	1.693495		50.81		0.013649
Refractive Index n_e	1.696745	Abbe Number v_e	50.53	Dispersion n_F-n_C'	0.013789

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.65998
n_{1970}	1.97009	1.66538
n_{1530}	1.52958	1.67133
n_{1129}	1.12864	1.67689
n_t	1.01398	1.67883
n_s	0.85211	1.68233
$n_{A'}$	0.76819	1.68480
n_r	0.70652	1.68709
n_C	0.65627	1.68939
$n_{C'}$	0.64385	1.69004
$n_{\text{He-Ne}}$	0.6328	1.69065
n_D	0.58929	1.69337
n_d	0.58756	1.69350
n_e	0.54607	1.69675
n_F	0.48613	1.70304
$n_{F'}$	0.47999	1.70383
$n_{\text{He-Cd}}$	0.44157	1.70960
n_g	0.435835	1.71061
n_h	0.404656	1.71696
n_i	0.365015	1.72788

Partial Dispersions	
n_C-n_t	0.010565
$n_C-n_{A'}$	0.004596
n_d-n_C	0.004102
n_e-n_C	0.007352
n_g-n_d	0.017117
n_g-n_F	0.007570
n_h-n_g	0.006343
n_i-n_g	0.017264
n_C-n_t	0.011214
$n_e-n_{C'}$	0.006703
$n_{F'-n_e}$	0.007086
$n_i-n_{F'}$	0.024045

Relative Partial Dispersions	
$\theta_{C,t}$	0.7740
$\theta_{C,A'}$	0.3367
$\theta_{d,C}$	0.3005
$\theta_{e,C}$	0.5386
$\theta_{g,d}$	1.2541
$\theta_{g,F}$	0.5546
$\theta_{h,g}$	0.4647
$\theta_{i,g}$	1.2649
$\theta'_{C,t}$	0.8133
$\theta'_{e,C'}$	0.4861
$\theta'_{F',e}$	0.5139
$\theta'_{i,F}$	1.7438

Thermal Properties	
Strain Point StP (°C)	633
Annealing Point AP (°C)	659
Transformation Temperature Tg (°C)	676
Yield Point At (°C)	718
Softening Point SP (°C)	770
Expansion Coefficients (-30~+70°C)	75
α (10 ⁻⁷ /°C) (+100~+300°C)	86
Thermal Conductivity k (W/m·K)	0.728

Coloring			
λ_{80}	37	λ_5	32
λ_{70}			

Internal Transmittance	
$\lambda(\text{nm})$	$\tau_{10\text{mm}}$
280	
290	
300	
310	
320	0.02
330	0.22
340	0.53
350	0.75
360	0.87
370	0.935
380	0.962
390	0.977
400	0.986
420	0.991
440	0.992
460	0.994
480	0.996
500	0.997
550	0.998
600	0.997
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	0.977
2200	0.942
2400	0.84

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	-0.0111
$\Delta\theta_{C,A'}$	-0.0008
$\Delta\theta_{g,d}$	-0.0051
$\Delta\theta_{g,F}$	-0.0047
$\Delta\theta_{i,g}$	-0.0347

Mechanical Properties	
Young's Modulus E (10 ⁸ N/m ²)	928
Rigidity Modulus G (10 ⁸ N/m ²)	361
Poisson's Ratio σ	0.285
Knoop Hardness Hk[Class]	580 6
Abrasion Aa	167
Photoelastic Constant β (nm/cm/10 ⁵ Pa)	1.70

Constants of Dispersion Formula	
A ₁	1.06368789E+00
A ₂	7.44939067E-01
A ₃	1.59178942E+00
B ₁	1.85199640E-02
B ₂	1.16295862E-03
B ₃	1.56636025E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	52.2
Phosphate Resistance PR	2.2

Other Properties	
Bubble Quality Group B	
Specific Gravity d	4.03
Remarks	

Temperature Coefficients of Refractive Index							
Range of Temperature (°C)	dn/dt relative (10 ⁻⁶ /°C)						
	t	C'	He-Ne	D	e	F'	g
-40~-20		2.0	2.1	2.2	2.4	2.9	3.3
-20~ 0		2.1	2.1	2.3	2.4	2.9	3.4
0~20		2.1	2.1	2.3	2.5	2.9	3.4
20~40		2.1	2.1	2.3	2.5	3.0	3.5
40~60		2.1	2.1	2.3	2.5	3.0	3.5
60~80		2.1	2.1	2.3	2.6	3.1	3.6