

S-LAL 8

Code(d) **713539**

Code(e) **716536**

Refractive Index n_d	1.71300 1.712995	Abbe Number ν_d	53.87	Dispersion n_F-n_C	0.013236
Refractive Index n_e	1.716150	Abbe Number ν_e	53.64	Dispersion $n_F-n_{C'}$	0.013352

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.67418
n_{1970}	1.97009	1.68155
n_{1530}	1.52958	1.68930
n_{1129}	1.12864	1.69597
n_t	1.01398	1.69813
n_s	0.85211	1.70186
$n_{A'}$	0.76819	1.70438
n_r	0.70652	1.70669
n_C	0.65627	1.70897
$n_{C'}$	0.64385	1.70961
$n_{\text{He-Ne}}$	0.6328	1.71021
n_D	0.58929	1.71288
n_d	0.58756	1.71300
n_e	0.54607	1.71615
n_F	0.48613	1.72221
$n_{F'}$	0.47999	1.72297
$n_{\text{He-Cd}}$	0.44157	1.72848
n_g	0.435835	1.72943
n_h	0.404656	1.73545
n_i	0.365015	1.74575

Constants of Dispersion Formula	
A_1	1.30663291E+00
A_2	5.71377253E-01
A_3	1.24303605E+00
B_1	6.11862448E-03
B_2	2.12721470E-02
B_3	9.06285686E+01

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	52.0
Phosphate Resistance PR	3.0

Mechanical Properties	
Young's Modulus E (GPa)	114.0
Rigidity Modulus G (GPa)	44.2
Poisson's Ratio σ	0.289
Knoop Hardness Hk(Class)	670 7
Abrasion Aa	81

Partial Dispersions	
n_C-n_t	0.010846
$n_C-n_{A'}$	0.004591
n_d-n_C	0.004021
n_e-n_C	0.007176
n_g-n_d	0.016440
n_g-n_F	0.007225
n_h-n_g	0.006016
n_i-n_g	0.016311
n_C-n_t	0.011486
$n_e-n_{C'}$	0.006536
$n_{F'}-n_e$	0.006816
$n_i-n_{F'}$	0.022780

Relative Partial Dispersions	
$\theta_{C,t}$	0.8194
$\theta_{C,A'}$	0.3469
$\theta_{d,C}$	0.3038
$\theta_{e,C}$	0.5422
$\theta_{g,d}$	1.2421
$\theta_{g,F}$	0.5459
$\theta_{h,g}$	0.4545
$\theta_{i,g}$	1.2323
$\theta'_{C,t}$	0.8602
$\theta'_{e,C'}$	0.4895
$\theta'_{F',e}$	0.5105
$\theta'_{i,F'}$	1.7061

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0200
$\Delta\theta_{C,A'}$	0.0057
$\Delta\theta_{g,d}$	-0.0107
$\Delta\theta_{g,F}$	-0.0084
$\Delta\theta_{i,g}$	-0.0416

Thermal Properties	
Strain Point StP (°C)	590
Annealing Point AP (°C)	617
Transformation Temperature Tg (°C)	643
Yield Point At (°C)	668
Softening Point SP (°C)	698
Expansion Coefficients (-30~+70°C)	61
α (10^{-7}K^{-1}) (+100~+300°C)	74
Thermal Conductivity λ W/(m·K)	0.894

Coloring			
λ_{80}	375	λ_5	295
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	356	$\lambda_{0.05}$	295

CCI		
B	G	R
0.00	0.42	0.39

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	0.03
300	0.07
310	0.15
320	0.28
330	0.44
340	0.60
350	0.74
360	0.84
370	0.905
380	0.944
390	0.965
400	0.977
420	0.988
440	0.991
460	0.994
480	0.996
500	0.997
550	0.998
600	0.996
650	0.997
700	0.997
800	0.998
900	0.997
1000	0.997
1200	0.997
1400	0.991
1600	0.991
1800	0.981
2000	0.955
2200	0.87
2400	0.62

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	3.3	3.6	3.6	3.8	4.0	4.3	4.7
-20~ 0	3.4	3.7	3.8	3.9	4.1	4.5	4.9
0~20	3.5	3.9	3.9	4.0	4.2	4.6	5.0
20~40	3.6	4.0	4.0	4.1	4.3	4.8	5.2
40~60	3.6	4.1	4.1	4.3	4.5	4.9	5.4
60~80	3.7	4.2	4.2	4.4	4.6	5.1	5.5

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	1.75
Specific Gravity d	3.79
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.