

S-LAH98

Code(d) **954323**

Code(e) **961321**

Refractive Index n_d	1.95375 1.953750	Abbe Number ν_d	32.32	Dispersion n_F-n_C	0.029506
Refractive Index n_e	1.960733	Abbe Number ν_e	32.09	Dispersion $n_F-n_{C'}$	0.029940

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.89737
n_{1970}	1.97009	1.90436
n_{1530}	1.52958	1.91250
n_{1129}	1.12864	1.92115
n_t	1.01398	1.92452
n_s	0.85211	1.93102
$n_{A'}$	0.76819	1.93582
n_r	0.70652	1.94042
n_C	0.65627	1.94514
$n_{C'}$	0.64385	1.94649
$n_{\text{He-Ne}}$	0.6328	1.94775
n_D	0.58929	1.95349
n_d	0.58756	1.95375
n_e	0.54607	1.96073
n_F	0.48613	1.97465
$n_{F'}$	0.47999	1.97643
$n_{\text{He-Cd}}$	0.44157	1.98970
n_g	0.435835	1.99207
n_h	0.404656	2.00732
n_i	0.365015	

Constants of Dispersion Formula	
A_1	2.28510629E+00
A_2	3.85532264E-01
A_3	2.06551120E+00
B_1	1.22178962E-02
B_2	5.14752342E-02
B_3	1.45920870E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	1
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	3.0
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (GPa)	129.3
Rigidity Modulus G (GPa)	49.5
Poisson's Ratio σ	0.306
Knoop Hardness Hk(Class)	730 7
Abrasion Aa	55

Partial Dispersions	
n_C-n_t	0.020620
$n_C-n_{A'}$	0.009319
n_d-n_C	0.008609
n_e-n_C	0.015592
n_g-n_d	0.038320
n_g-n_F	0.017423
n_h-n_g	0.015249
n_i-n_g	
n_C-n_t	0.021965
$n_e-n_{C'}$	0.014247
$n_{F'}-n_e$	0.015693
$n_i-n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.6988
$\theta_{C,A'}$	0.3158
$\theta_{d,C}$	0.2918
$\theta_{e,C}$	0.5284
$\theta_{g,d}$	1.2987
$\theta_{g,F}$	0.5905
$\theta_{h,g}$	0.5168
$\theta_{i,g}$	
$\theta'_{C,t}$	0.7336
$\theta'_{e,C'}$	0.4759
$\theta'_{F',e}$	0.5241
$\theta'_{i,F'}$	

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0005
$\Delta\theta_{C,A'}$	0.0008
$\Delta\theta_{g,d}$	0.0011
$\Delta\theta_{g,F}$	0.0013
$\Delta\theta_{i,g}$	

Thermal Properties	
Strain Point StP (°C)	680
Annealing Point AP (°C)	716
Transformation Temperature Tg (°C)	723
Yield Point At (°C)	757
Softening Point SP (°C)	791
Expansion Coefficients (-30~+70°C)	73
α (10^{-7}K^{-1}) (+100~+300°C)	87
Thermal Conductivity λ W/(m·K)	0.924

Coloring			
λ_{80}		λ_5	355
λ_{70}	405		

Internal transmission			
$\lambda_{0.80}$	390	$\lambda_{0.05}$	352

CCI		
B	G	R
0.00	2.90	3.06

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	
350	0.02
360	0.18
370	0.47
380	0.68
390	0.80
400	0.86
420	0.927
440	0.953
460	0.967
480	0.978
500	0.986
550	0.996
600	0.998
650	0.998
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.999
1600	0.998
1800	0.993
2000	0.979
2200	0.952
2400	0.84

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	2.4	3.5	3.6	4.0	4.5	5.6	6.8
-20~ 0	2.5	3.7	3.8	4.2	4.7	5.9	7.2
0~20	2.6	3.8	3.9	4.3	4.8	6.1	7.5
20~40	2.5	3.8	3.9	4.3	4.9	6.2	7.7
40~60	2.5	3.9	4.0	4.4	5.0	6.4	7.9
60~80	2.7	4.1	4.2	4.7	5.3	6.7	8.3

Other Properties	
Photoelastic Constant β nm/(cm \cdot 10 5 Pa)	0.86
Specific Gravity d	4.94
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.