

S-LAH53V

Code(d) **806409**

Code(e) **811407**

Refractive Index n_d	1.80610	Abbe Number ν_d	40.93	Dispersion n_F-n_C	0.019695
	1.806100				
Refractive Index n_e	1.810776	Abbe Number ν_e	40.67	Dispersion n_F-n_C'	0.019937

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.76201
n_{1970}	1.97009	1.76865
n_{1530}	1.52958	1.77600
n_{1129}	1.12864	1.78309
n_t	1.01398	1.78566
n_s	0.85211	1.79041
$n_{A'}$	0.76819	1.79381
n_f	0.70652	1.79701
n_C	0.65627	1.80026
$n_{C'}$	0.64385	1.80118
$n_{\text{He-Ne}}$	0.6328	1.80204
n_D	0.58929	1.80593
n_d	0.58756	1.80610
n_e	0.54607	1.81078
n_F	0.48613	1.81995
$n_{F'}$	0.47999	1.82111
$n_{\text{He-Cd}}$	0.44157	1.82969
n_g	0.435835	1.83121
n_h	0.404656	1.84084
n_i	0.365015	1.85798

Constants of Dispersion Formula	
A_1	1.96600955E+00
A_2	2.05143305E-01
A_3	1.23200934E+00
B_1	1.07817785E-02
B_2	4.63727869E-02
B_3	9.76940600E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	1
Acid Resistance(Surface) Group SR	51.2
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (GPa)	113.5
Rigidity Modulus G (GPa)	43.4
Poisson's Ratio σ	0.309
Knoop Hardness Hk[Class]	650 * 7
Abrasion Aa	66

Partial Dispersions	
n_C-n_t	0.014601
$n_C-n_{A'}$	0.006450
n_d-n_C	0.005841
n_e-n_C	0.010517
n_g-n_d	0.025106
n_g-n_F	0.011252
n_h-n_g	0.009639
n_i-n_g	0.026774
n_C-n_t	0.015520
$n_e-n_{C'}$	0.009598
$n_{F'}-n_e$	0.010339
$n_i-n_{F'}$	0.036865

Relative Partial Dispersions	
$\theta_{C,t}$	0.7414
$\theta_{C,A'}$	0.3275
$\theta_{d,C}$	0.2966
$\theta_{e,C}$	0.5340
$\theta_{g,d}$	1.2747
$\theta_{g,F}$	0.5713
$\theta_{h,g}$	0.4894
$\theta_{i,g}$	1.3594
$\theta'_{C,t}$	0.7785
$\theta'_{e,C}$	0.4814
$\theta'_{F,e}$	0.5186
$\theta'_{i,F'}$	1.8491

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0027
$\Delta \theta_{C,A'}$	0.0020
$\Delta \theta_{g,d}$	-0.0050
$\Delta \theta_{g,F}$	-0.0039
$\Delta \theta_{i,g}$	-0.0229

Thermal Properties	
Strain Point StP (°C)	569
Annealing Point AP (°C)	589
Transformation Temperature Tg (°C)	603
Yield Point At (°C)	638
Softening Point SP (°C)	670
Expansion Coefficients (-30~+70°C)	58
$\alpha (10^{-7} K^{-1})$ (+100~+300°C)	71
Thermal Conductivity λ W/(m·K)	0.859

Coloring			
λ_{80}	400	λ_5	345
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	372	$\lambda_{0.05}$	341

CCI		
B	G	R
0.00	0.95	0.98

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	
340	0.02
350	0.23
360	0.56
370	0.78
380	0.88
390	0.931
400	0.954
420	0.975
440	0.984
460	0.989
480	0.992
500	0.995
550	0.998
600	0.998
650	0.998
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.996
1600	0.995
1800	0.987
2000	0.966
2200	0.916
2400	0.73

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	7.7	8.6	8.7	9.0	9.3	10.1	11.0
-20~ 0	7.8	8.7	8.8	9.1	9.5	10.3	11.3
0~20	7.8	8.8	8.9	9.2	9.6	10.5	11.4
20~40	7.8	8.8	8.9	9.2	9.6	10.6	11.6
40~60	7.9	9.0	9.0	9.4	9.8	10.8	11.8
60~80	8.1	9.2	9.3	9.6	10.0	11.0	12.1

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	2.13
Specific Gravity d	4.41
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.