

S-LAH52

Code(d) **800422**

Code(e) **804420**

Refractive Index n_d	1.79952 1.799516	Abbe Number ν_d	42.22	Dispersion n_F-n_C	0.018935
Refractive Index n_e	1.804015	Abbe Number ν_e	41.97	Dispersion $n_F-n_{C'}$	0.019157

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.75495
n_{1970}	1.97009	1.76202
n_{1530}	1.52958	1.76976
n_{1129}	1.12864	1.77703
n_t	1.01398	1.77961
n_s	0.85211	1.78430
$n_{A'}$	0.76819	1.78762
n_f	0.70652	1.79073
n_C	0.65627	1.79388
$n_{C'}$	0.64385	1.79477
$n_{\text{He-Ne}}$	0.6328	1.79560
n_D	0.58929	1.79935
n_d	0.58756	1.79952
n_e	0.54607	1.80401
n_F	0.48613	1.81281
$n_{F'}$	0.47999	1.81393
$n_{\text{He-Cd}}$	0.44157	1.82211
n_g	0.435835	1.82355
n_h	0.404656	1.83271
n_i	0.365015	1.84885

Constants of Dispersion Formula	
A_1	1.85390925E+00
A_2	2.97925555E-01
A_3	1.39382086E+00
B_1	9.55320687E-03
B_2	3.93816850E-02
B_3	1.02706848E+02

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)	111.9
Rigidity Modulus G (GPa)	43.1
Poisson's Ratio σ	0.297
Knoop Hardness Hk(Class)	640 6
Abrasion Aa	85

Partial Dispersions	
n_C-n_t	0.014274
$n_C-n_{A'}$	0.006258
n_d-n_C	0.005637
n_e-n_C	0.010136
n_g-n_d	0.024038
n_g-n_F	0.010740
n_h-n_g	0.009152
n_i-n_g	0.025292
n_C-n_t	0.015163
$n_e-n_{C'}$	0.009247
$n_{F'}-n_e$	0.009910
$n_i-n_{F'}$	0.034921

Relative Partial Dispersions	
$\theta_{C,t}$	0.7538
$\theta_{C,A'}$	0.3305
$\theta_{d,C}$	0.2977
$\theta_{e,C}$	0.5353
$\theta_{g,d}$	1.2695
$\theta_{g,F}$	0.5672
$\theta_{h,g}$	0.4833
$\theta_{i,g}$	1.3357
$\theta'_{C,t}$	0.7915
$\theta'_{e,C}$	0.4827
$\theta'_{F',e}$	0.5173
$\theta'_{i,F'}$	1.8229

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0090
$\Delta \theta_{C,A'}$	0.0035
$\Delta \theta_{g,d}$	-0.0075
$\Delta \theta_{g,F}$	-0.0060
$\Delta \theta_{i,g}$	-0.0358

Thermal Properties	
Strain Point StP (°C)	565
Annealing Point AP (°C)	596
Transformation Temperature Tg (°C)	618
Yield Point At (°C)	636
Softening Point SP (°C)	679
Expansion Coefficients (-30~+70°C)	60
$\alpha (10^{-7} K^{-1})$ (+100~+300°C)	73
Thermal Conductivity λ W/(m·K)	0.828

Coloring			
λ_{80}	395	λ_5	330
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	367	$\lambda_{0.05}$	331

CCI		
B	G	R
0.00	1.03	1.10

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	0.02
340	0.23
350	0.52
360	0.72
370	0.83
380	0.89
390	0.931
400	0.951
420	0.971
440	0.979
460	0.985
480	0.990
500	0.993
550	0.997
600	0.997
650	0.998
700	0.998
800	0.998
900	0.998
1000	0.998
1200	0.997
1400	0.994
1600	0.993
1800	0.986
2000	0.965
2200	0.910
2400	0.71

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	5.1	6.1	6.2	6.4	6.6	7.3	8.0
-20~ 0	5.2	6.1	6.2	6.4	6.6	7.3	8.1
0~20	5.2	6.1	6.1	6.4	6.7	7.5	8.3
20~40	5.3	6.2	6.2	6.5	6.9	7.7	8.5
40~60	5.5	6.4	6.5	6.7	7.1	7.9	8.8
60~80	5.8	6.6	6.6	6.9	7.3	8.2	9.1

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	1.92
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.