

S-LAH55V

Code(d) **835427**

Code(e) **839425**

Refractive Index n_d	1.83481 1.834807	Abbe Number ν_d	42.73	Dispersion n_F-n_C	0.019539
Refractive Index n_e	1.839452	Abbe Number ν_e	42.47	Dispersion $n_F-n_{C'}$	0.019764

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.78870
n_{1970}	1.97009	1.79602
n_{1530}	1.52958	1.80402
n_{1129}	1.12864	1.81154
n_t	1.01398	1.81420
n_s	0.85211	1.81906
$n_{A'}$	0.76819	1.82250
n_r	0.70652	1.82572
n_C	0.65627	1.82898
$n_{C'}$	0.64385	1.82990
$n_{\text{He-Ne}}$	0.6328	1.83076
n_D	0.58929	1.83464
n_d	0.58756	1.83481
n_e	0.54607	1.83945
n_F	0.48613	1.84852
$n_{F'}$	0.47999	1.84966
$n_{\text{He-Cd}}$	0.44157	1.85808
n_g	0.435835	1.85956
n_h	0.404656	1.86893
n_i	0.365015	1.88539

Constants of Dispersion Formula	
A_1	1.97025325E+00
A_2	3.04894140E-01
A_3	1.39214665E+00
B_1	9.91088134E-03
B_2	3.83202295E-02
B_3	9.77785249E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	2
Weathering Resistance(Surface) Group W(S)	4
Acid Resistance(Surface) Group SR	4.0
Phosphate Resistance PR	1.0

Mechanical Properties	
Young's Modulus E (GPa)	117.8
Rigidity Modulus G (GPa)	47.0
Poisson's Ratio σ	0.253
Knoop Hardness Hk(Class)	720 7
Abrasion Aa	63

Partial Dispersions	
n_C-n_t	0.014778
$n_C-n_{A'}$	0.006476
n_d-n_C	0.005826
n_e-n_C	0.010471
n_g-n_d	0.024749
n_g-n_F	0.011036
n_h-n_g	0.009373
n_i-n_g	0.025830
n_C-n_t	0.015697
$n_e-n_{C'}$	0.009552
$n_{F'}-n_e$	0.010212
$n_i-n_{F'}$	0.035722

Relative Partial Dispersions	
$\theta_{C,t}$	0.7563
$\theta_{C,A'}$	0.3314
$\theta_{d,C}$	0.2982
$\theta_{e,C}$	0.5359
$\theta_{g,d}$	1.2666
$\theta_{g,F}$	0.5648
$\theta_{h,g}$	0.4797
$\theta_{i,g}$	1.3220
$\theta'_{C,t}$	0.7942
$\theta'_{e,C'}$	0.4833
$\theta'_{F',e}$	0.5167
$\theta'_{i,F'}$	1.8074

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta\theta_{C,t}$	0.0091
$\Delta\theta_{C,A'}$	0.0037
$\Delta\theta_{g,d}$	-0.0094
$\Delta\theta_{g,F}$	-0.0075
$\Delta\theta_{i,g}$	-0.0452

Thermal Properties	
Strain Point StP (°C)	645
Annealing Point AP (°C)	672
Transformation Temperature Tg (°C)	695
Yield Point At (°C)	718
Softening Point SP (°C)	749
Expansion Coefficients (-30~+70°C)	62
α (10^{-7}K^{-1}) (+100~+300°C)	77
Thermal Conductivity λ W/(m·K)	0.853

Coloring			
λ_{80}	400	λ_5	325
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	363	$\lambda_{0.05}$	327

CCI		
B	G	R
0.00	0.93	0.96

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	
330	0.14
340	0.42
350	0.64
360	0.78
370	0.86
380	0.910
390	0.939
400	0.956
420	0.974
440	0.982
460	0.987
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	0.997
1600	0.995
1800	0.987
2000	0.966
2200	0.909
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	3.5	4.2	4.3	4.5	4.8	5.4	6.1
-20~ 0	3.5	4.2	4.3	4.5	4.8	5.5	6.2
0~20	3.5	4.2	4.3	4.5	4.8	5.5	6.3
20~40	3.5	4.3	4.3	4.5	4.9	5.6	6.4
40~60	3.5	4.4	4.4	4.7	5.0	5.8	6.6
60~80	3.7	4.5	4.6	4.9	5.2	6.0	6.8

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	1.30
Specific Gravity d	4.73
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.