

S-LAH55VS

Code(d) **835427**

Code(e) **839425**

Refractive Index n_d	1.83481	Abbe Number ν_d	42.74	Dispersion n_F-n_C	0.019531
	1.834810				
Refractive Index n_e	1.839452	Abbe Number ν_e	42.49	Dispersion n_F-n_C'	0.019756

Refractive Indices		
$\lambda(\mu\text{m})$		
n_{2325}	2.32542	1.78945
n_{1970}	1.97009	1.79652
n_{1530}	1.52958	1.80427
n_{1129}	1.12864	1.81164
n_t	1.01398	1.81428
n_s	0.85211	1.81910
$n_{A'}$	0.76819	1.82253
n_f	0.70652	1.82574
n_C	0.65627	1.82899
$n_{C'}$	0.64385	1.82991
$n_{\text{He-Ne}}$	0.6328	1.83077
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	1.85807
n_g	0.435835	1.85955
n_h	0.404656	1.86892
n_i	0.365015	1.88534

Constants of Dispersion Formula	
A_1	1.92591095E+00
A_2	3.48953460E-01
A_3	1.42230744E+00
B_1	9.61152490E-03
B_2	3.65132980E-02
B_3	1.03364090E+02

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

Mechanical Properties	
Young's Modulus E (GPa)	122.3
Rigidity Modulus G (GPa)	47.2
Poisson's Ratio σ	0.297
Knoop Hardness Hk(Class)	740 * 7
Abrasion Aa	60

Partial Dispersions	
n_C-n_t	0.014712
$n_C-n_{A'}$	0.006462
n_d-n_C	0.005822
n_e-n_C	0.010464
n_g-n_d	0.024741
n_g-n_F	0.011032
n_h-n_g	0.009365
n_i-n_g	0.025786
n_C-n_t	0.015630
$n_e-n_{C'}$	0.009546
$n_{F'}-n_e$	0.010210
$n_i-n_{F'}$	0.035675

Relative Partial Dispersions	
$\theta_{C,t}$	0.7533
$\theta_{C,A'}$	0.3309
$\theta_{d,C}$	0.2981
$\theta_{e,C}$	0.5358
$\theta_{g,d}$	1.2668
$\theta_{g,F}$	0.5648
$\theta_{h,g}$	0.4795
$\theta_{i,g}$	1.3203
$\theta'_{C,t}$	0.7912
$\theta'_{e,C}$	0.4832
$\theta'_{F',e}$	0.5168
$\theta'_{i,F'}$	1.8058

Deviation of Relative Dispersions $\Delta\theta$ from "Normal"	
$\Delta \theta_{C,t}$	0.0061
$\Delta \theta_{C,A'}$	0.0032
$\Delta \theta_{g,d}$	-0.0091
$\Delta \theta_{g,F}$	-0.0075
$\Delta \theta_{i,g}$	-0.0468

Thermal Properties	
Strain Point StP (°C)	639
Annealing Point AP (°C)	667
Transformation Temperature Tg (°C)	677
Yield Point At (°C)	709
Softening Point SP (°C)	738
Expansion Coefficients (-30~+70°C)	63
α (10^{-7}K^{-1}) (+100~+300°C)	77
Thermal Conductivity λ W/(m·K)	0.864

Coloring			
λ_{80}	395	λ_5	320
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	356	$\lambda_{0.05}$	319

CCI		
B	G	R
0.00	0.65	0.68

Internal Transmittance	
$\lambda(\text{nm})$	τ 10mm
280	
290	
300	
310	
320	0.06
330	0.28
340	0.55
350	0.73
360	0.84
370	0.90
380	0.936
390	0.957
400	0.970
420	0.982
440	0.988
460	0.991
480	0.994
500	0.996
550	0.999
600	0.999
650	0.999
700	0.999
800	0.999
900	0.999
1000	0.999
1200	0.999
1400	0.997
1600	0.996
1800	0.988
2000	0.968
2200	0.920
2400	0.74

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	3.9	4.6	4.6	4.9	5.2	5.8	6.5
-20~ 0	3.8	4.6	4.7	4.9	5.2	5.9	6.6
0~20	3.8	4.6	4.7	4.9	5.2	6.0	6.7
20~40	3.8	4.6	4.7	5.0	5.3	6.0	6.8
40~60	3.9	4.8	4.8	5.1	5.4	6.2	7.0
60~80	4.0	4.9	5.0	5.3	5.6	6.4	7.3

Other Properties	
Photoelastic Constant β nm/(cm·10 ⁵ Pa)	1.31
Specific Gravity d	4.58
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.