S-LAH60V

Code(d) **834372**
Code(e) **839370**

Refractive Index n_d	**1.834 00** 1.834 000	Abbe Number ν_d	**37.21**	Dispersion $n_F - n_C$	**0.022 416**
Refractive Index n_e	1.839 313	Abbe Number ν_e	36.95	Dispersion $n_{F'} - n_{C'}$	0.022 716

Refractive Indices		
λ (μm)		
n_{2325}	2.325 42	1.786 08
n_{1970}	1.970 09	1.793 01
n_{1530}	1.529 58	1.800 73
n_{1129}	1.128 64	1.808 33
n_t	1.013 98	1.811 14
n_s	0.852 11	1.816 38
$n_{A'}$	0.768 19	1.820 16
n_r	0.706 52	1.823 74
n_C	0.656 27	1.827 40
$n_{C'}$	0.643 85	1.828 44
$n_{He\text{-}Ne}$	0.632 8	1.829 41
n_D	0.589 29	1.833 80
n_d	0.587 56	1.834 00
n_e	0.546 07	1.839 31
n_F	0.486 13	1.849 81
$n_{F'}$	0.479 99	1.851 15
$n_{He\text{-}Cd}$	0.441 57	1.861 07
n_g	0.435 835	1.862 83
n_h	0.404 656	1.874 12
n_i	0.365 015	1.894 56

Constants of Dispersion Formula	
A_1	2.050 819 62E+00
A_2	2.084 752 57E-01
A_3	1.314 863 94E+00
B_1	1.160 359 91E-02
B_2	5.264 893 59E-02
B_3	9.938 065 00E+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	1.0

Mechanical Properties		
Young's Modulus E (GPa)	111.4	
Rigidity Modulus G (GPa)	44.5	
Poisson's Ratio σ	0.253	
Knoop Hardness Hk[Class]	660	7
Abrasion Aa	61	

Partial Dispersions	
$n_C - n_t$	0.016 264
$n_C - n_{A'}$	0.007 235
$n_d - n_C$	0.006 601
$n_e - n_C$	0.011 914
$n_g - n_d$	0.028 833
$n_g - n_F$	0.013 018
$n_h - n_g$	0.011 289
$n_i - n_g$	0.031 732
$n_{C'} - n_t$	0.017 300
$n_e - n_{C'}$	0.010 878
$n_{F'} - n_e$	0.011 838
$n_i - n_{F'}$	0.043 414

Relative Partial Dispersions	
$\theta_{C,t}$	0.725 6
$\theta_{C,A'}$	0.322 8
$\theta_{d,C}$	0.294 5
$\theta_{e,C}$	0.531 5
$\theta_{g,d}$	1.286 3
$\theta_{g,F}$	0.580 7
$\theta_{h,g}$	0.503 6
$\theta_{i,g}$	1.415 6
$\theta'_{C',t}$	0.761 6
$\theta'_{e,C'}$	0.478 9
$\theta'_{F',e}$	0.521 1
$\theta'_{i,F'}$	1.911 2

Anomalous dispersion	
$\Delta\theta_{C,t}$	0.004 3
$\Delta\theta_{C,A'}$	0.001 8
$\Delta\theta_{g,d}$	-0.001 1
$\Delta\theta_{g,F}$	-0.000 6
$\Delta\theta_{i,g}$	0.002 2

Coloring			
λ_{80}	430	λ_5	350
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	383	$\lambda_{0.05}$	350

CCI		
B	G	R
0.00	1.88	1.93

Internal Transmittance	
λ (nm)	τ_i (10 mm)
280	
290	
300	
310	
320	
330	
340	
350	0.05
360	0.29
370	0.59
380	0.77
390	0.86
400	0.909
420	0.951
440	0.968
460	0.979
480	0.986
500	0.991
550	0.996
600	0.996
650	0.996
700	0.997
800	0.999
900	0.999
1 000	0.999
1 200	0.999
1 400	0.996
1 600	0.993
1 800	0.984
2 000	0.961
2 200	0.905
2 400	0.72

Thermal Properties		
Strain Point StP (°C)		570
Annealing Point AP (°C)		588
Transformation Temperature Tg (°C)		608
Yield Point At (°C)		639
Softening Point SP (°C)		669
Expansion Coefficients	(-30 ℃ ~ 70 ℃)	61
α_l (10^{-7} K^{-1})	(100 °C ~ 300 °C)	75
Thermal Conductivity λ (W/(m·K))		0.880

Linear coefficient of thermal expansion	
Temperature range (°C)	α_l (10^{-7} K^{-1})
-100 ~ -90	47
-90 ~ -80	48
-80 ~ -70	49
-70 ~ -60	51
-60 ~ -50	52
-50 ~ -40	53
-40 ~ -30	54
-30 ~ -20	56
-20 ~ -10	57
-10 ~ 0	58
0 ~ 10	59
10 ~ 20	60
20 ~ 30	61
30 ~ 40	62
40 ~ 50	63
50 ~ 60	64
60 ~ 70	65
70 ~ 80	66
80 ~ 90	67
90 ~ 100	68
100 ~ 110	69
110 ~ 120	70
120 ~ 130	71
130 ~ 140	71
140 ~ 150	72
150 ~ 160	73
160 ~ 170	74
170 ~ 180	74
180 ~ 190	75
190 ~ 200	76
200 ~ 210	76
210 ~ 220	77
220 ~ 230	77
230 ~ 240	78
240 ~ 250	78
250 ~ 260	79
260 ~ 270	79
270 ~ 280	80
280 ~ 290	80
290 ~ 300	81

Temperature Coefficients of Refractive Index												
Range of Temperature	$\Delta n_{rel} / \Delta T$ (10^{-6} K^{-1})											
(°C)	1550	t	r	C	C'	d	e	F	F'	g	h	i
-80 ~ -60	6.0	6.3	6.9	7.1	7.1	7.5	7.8	8.5	8.6	9.5	10.4	12.4
-60 ~ -40	5.9	6.2	6.8	7.0	7.0	7.5	7.8	8.5	8.6	9.5	10.6	12.5
-40 ~ -20	5.8	6.1	6.8	7.0	7.1	7.5	7.8	8.6	8.7	9.7	10.8	12.9
-20 ~ 0	5.8	6.2	6.9	7.1	7.2	7.5	7.9	8.8	8.9	10.0	11.0	13.4
0 ~ 20	5.9	6.3	7.0	7.2	7.3	7.7	8.1	9.1	9.2	10.2	11.4	13.8
20 ~ 40	6.0	6.4	7.2	7.5	7.5	8.0	8.4	9.3	9.4	10.5	11.8	14.3
40 ~ 60	6.2	6.6	7.4	7.7	7.7	8.2	8.6	9.6	9.7	11.0	12.2	14.8
60 ~ 80	6.3	6.7	7.6	7.9	7.9	8.4	9.0	10.0	10.1	11.3	12.6	15.4
80 ~ 100	6.5	6.9	7.8	8.1	8.2	8.7	9.2	10.2	10.4	11.7	13.1	16.0
100 ~ 120	6.7	7.1	8.1	8.4	8.5	9.0	9.5	10.6	10.7	12.0	13.5	16.6
120 ~ 140	6.8	7.3	8.3	8.6	8.7	9.2	9.7	10.9	11.0	12.4	13.9	17.1
140 ~ 160	7.0	7.5	8.5	8.8	8.9	9.5	10.0	11.2	11.3	12.8	14.5	17.7
160 ~ 180	7.1	7.6	8.7	9.0	9.2	9.8	10.3	11.6	11.7	13.2	14.9	18.2

Other Properties	
Photoelastic Constant β nm/(cm·105Pa)	2.10
Specific Gravity *d*	4.43
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.