S-LAH65V

Code(d) **804466**
Code(e) **808463**

Refractive Index n_d	**1.804 00** 1.804 000	Abbe Number ν_d	**46.58**	Dispersion $n_F - n_C$	**0.017 259**
Refractive Index n_e	1.808 107	Abbe Number ν_e	46.34	Dispersion $n_{F'} - n_{C'}$	0.017 440

Refractive Indices		
λ (μm)		
n_{2325}	2.325 42	1.759 86
n_{1970}	1.970 09	1.767 41
n_{1530}	1.529 58	1.775 52
n_{1129}	1.128 64	1.782 86
n_t	1.013 98	1.785 38
n_s	0.852 11	1.789 87
$n_{A'}$	0.768 19	1.793 00
n_r	0.706 52	1.795 90
n_C	0.656 27	1.798 82
$n_{C'}$	0.643 85	1.799 64
$n_{He\text{-}Ne}$	0.632 8	1.800 41
n_D	0.589 29	1.803 85
n_d	0.587 56	1.804 00
n_e	0.546 07	1.808 11
n_F	0.486 13	1.816 08
$n_{F'}$	0.479 99	1.817 08
$n_{He\text{-}Cd}$	0.441 57	1.824 41
n_g	0.435 835	1.825 69
n_h	0.404 656	1.833 80
n_i	0.365 015	1.847 86

Constants of Dispersion Formula	
A_1	1.814 190 34E+00
A_2	3.613 763 01E-01
A_3	1.327 294 84E+00
B_1	8.749 350 29E-03
B_2	3.183 528 36E-02
B_3	9.134 068 98E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	4.1
Phosphate Resistance PR	1.0

Mechanical Properties		
Young's Modulus E (GPa)	122.0	
Rigidity Modulus G (GPa)	47.0	
Poisson's Ratio σ	0.298	
Knoop Hardness Hk[Class]	730	7
Abrasion Aa	57	

Partial Dispersions	
$n_C - n_t$	0.013 439
$n_C - n_{A'}$	0.005 818
$n_d - n_C$	0.005 183
$n_e - n_C$	0.009 290
$n_g - n_d$	0.021 694
$n_g - n_F$	0.009 618
$n_h - n_g$	0.008 101
$n_i - n_g$	0.022 167
$n_{C'} - n_t$	0.014 259
$n_e - n_{C'}$	0.008 470
$n_{F'} - n_e$	0.008 970
$n_i - n_{F'}$	0.030 784

Relative Partial Dispersions	
$\theta_{C,t}$	0.778 7
$\theta_{C,A'}$	0.337 1
$\theta_{d,C}$	0.300 3
$\theta_{e,C}$	0.538 3
$\theta_{g,d}$	1.257 0
$\theta_{g,F}$	0.557 3
$\theta_{h,g}$	0.469 4
$\theta_{i,g}$	1.284 4
$\theta'_{C',t}$	0.817 6
$\theta'_{e,C'}$	0.485 7
$\theta'_{F',e}$	0.514 3
$\theta'_{i,F'}$	1.765 1

Anomalous dispersion	
$\Delta\theta_{C,t}$	0.013 5
$\Delta\theta_{C,A'}$	0.004 8
$\Delta\theta_{g,d}$	-0.011 0
$\Delta\theta_{g,F}$	-0.008 8
$\Delta\theta_{i,g}$	-0.050 6

Coloring			
λ_{80}	385	λ_5	315
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	355	$\lambda_{0.05}$	319

CCI		
B	G	R
0.00	0.65	0.67

Internal Transmittance	
λ (nm)	τ_i (10 mm)
280	
290	
300	
310	
320	0.11
330	0.37
340	0.60
350	0.75
360	0.85
370	0.906
380	0.939
390	0.959
400	0.970
420	0.981
440	0.986
460	0.990
480	0.993
500	0.996
550	0.998
600	0.998
650	0.998
700	0.999
800	0.999
900	0.999
1 000	0.999
1 200	0.999
1 400	0.997
1 600	0.996
1 800	0.989
2 000	0.967
2 200	0.910
2 400	0.68

Thermal Properties		
Strain Point StP (°C)		639
Annealing Point AP (°C)		664
Transformation Temperature Tg (°C)		690
Yield Point At (°C)		716
Softening Point SP (°C)		740
Expansion Coefficients α_l (10^{-7} K^{-1})	(-30 ℃ ~ 70 ℃)	63
	(100 °C ~ 300 °C)	75
Thermal Conductivity λ (W/(m·K))		0.841

Linear coefficient of thermal expansion	
Temperature range (°C)	α_l (10^{-7} K^{-1})
-100 ~ -90	50
-90 ~ -80	51
-80 ~ -70	52
-70 ~ -60	54
-60 ~ -50	55
-50 ~ -40	56
-40 ~ -30	57
-30 ~ -20	58
-20 ~ -10	59
-10 ~ 0	60
0 ~ 10	61
10 ~ 20	62
20 ~ 30	63
30 ~ 40	64
40 ~ 50	65
50 ~ 60	66
60 ~ 70	67
70 ~ 80	67
80 ~ 90	68
90 ~ 100	69
100 ~ 110	70
110 ~ 120	71
120 ~ 130	71
130 ~ 140	72
140 ~ 150	73
150 ~ 160	73
160 ~ 170	74
170 ~ 180	74
180 ~ 190	75
190 ~ 200	75
200 ~ 210	76
210 ~ 220	76
220 ~ 230	77
230 ~ 240	77
240 ~ 250	78
250 ~ 260	78
260 ~ 270	78
270 ~ 280	79
280 ~ 290	79
290 ~ 300	79

Other Properties	
Photoelastic Constant β nm/(cm·105Pa)	1.44
Specific Gravity *d*	4.72
Remarks	

Temperature Coefficients of Refractive Index

Range of Temperature (°C)	Δn_{rel} / ΔT (10^{-6} K^{-1})											
	1550	t	r	C	C'	d	e	F	F'	g	h	i
-80 ~ -60	2.6	2.8	3.2	3.3	3.4	3.6	3.7	4.2	4.3	4.7	5.2	6.2
-60 ~ -40	2.6	2.7	3.2	3.3	3.3	3.5	3.7	4.2	4.2	4.7	5.2	6.2
-40 ~ -20	2.6	2.8	3.2	3.3	3.3	3.6	3.8	4.2	4.3	4.8	5.3	6.4
-20 ~ 0	2.7	2.8	3.3	3.5	3.5	3.7	3.9	4.3	4.4	4.9	5.5	6.6
0 ~ 20	2.7	3.1	3.5	3.6	3.6	3.9	4.1	4.5	4.6	5.2	5.8	6.8
20 ~ 40	2.9	3.1	3.7	3.8	3.8	4.1	4.3	4.8	4.8	5.4	5.9	7.2
40 ~ 60	3.0	3.4	3.8	4.0	4.0	4.2	4.5	4.9	5.0	5.6	6.2	7.4
60 ~ 80	3.2	3.5	3.9	4.1	4.1	4.4	4.6	5.1	5.3	5.9	6.5	7.7
80 ~ 100	3.4	3.6	4.1	4.3	4.3	4.6	4.8	5.3	5.4	6.0	6.7	8.0
100 ~ 120	3.5	3.8	4.3	4.4	4.5	4.7	5.0	5.5	5.6	6.2	6.9	8.2
120 ~ 140	3.6	3.9	4.4	4.5	4.6	4.9	5.1	5.7	5.7	6.4	7.1	8.4
140 ~ 160	3.6	3.9	4.4	4.6	4.7	4.9	5.2	5.8	5.9	6.5	7.2	8.7
160 ~ 180	3.7	3.9	4.5	4.6	4.7	5.0	5.3	5.9	6.0	6.7	7.5	8.8

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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.