S-LAH96

Code(d) **764485**
Code(e) **768482**

Refractive Index n_d	**1.763 85** 1.763 850	Abbe Number ν_d	**48.49**	Dispersion $n_F - n_C$	**0.015 753**
Refractive Index n_e	1.767 599	Abbe Number ν_e	48.21	Dispersion $n_{F'} - n_{C'}$	0.015 923

Refractive Indices		
λ (μm)		
n_{2325}	2.325 42	1.725 43
n_{1970}	1.970 09	1.731 68
n_{1530}	1.529 58	1.738 48
n_{1129}	1.128 64	1.744 81
n_t	1.013 98	1.747 02
n_s	0.852 11	1.751 03
$n_{A'}$	0.768 19	1.753 85
n_r	0.706 52	1.756 48
n_C	0.656 27	1.759 13
$n_{C'}$	0.643 85	1.759 88
$n_{He\text{-}Ne}$	0.632 8	1.760 57
n_D	0.589 29	1.763 71
n_d	0.587 56	1.763 85
n_e	0.546 07	1.767 60
n_F	0.486 13	1.774 88
$n_{F'}$	0.479 99	1.775 80
$n_{He\text{-}Cd}$	0.441 57	1.782 51
n_g	0.435 835	1.783 69
n_h	0.404 656	1.791 12
n_i	0.365 015	1.804 05

Constants of Dispersion Formula	
A_1	1.850 785 19E+00
A_2	1.892 048 54E-01
A_3	1.197 631 37E+00
B_1	9.406 575 41E-03
B_2	3.803 451 87E-02
B_3	1.014 268 35E+02

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	3
Weathering Resistance(Surface) Group W(S)	2
Acid Resistance(Surface) Group SR	5.0
Phosphate Resistance PR	1.0

Mechanical Properties		
Young's Modulus E (GPa)	118.7	
Rigidity Modulus G (GPa)	45.8	
Poisson's Ratio σ	0.296	
Knoop Hardness Hk[Class]	690	7
Abrasion Aa	81	

Partial Dispersions	
$n_C - n_t$	0.012 108
$n_C - n_{A'}$	0.005 277
$n_d - n_C$	0.004 721
$n_e - n_C$	0.008 470
$n_g - n_d$	0.019 837
$n_g - n_F$	0.008 805
$n_h - n_g$	0.007 429
$n_i - n_g$	0.020 364
$n_{C'} - n_t$	0.012 854
$n_e - n_{C'}$	0.007 724
$n_{F'} - n_e$	0.008 199
$n_i - n_{F'}$	0.028 253

Relative Partial Dispersions	
$\theta_{C,t}$	0.768 6
$\theta_{C,A'}$	0.335 0
$\theta_{d,C}$	0.299 7
$\theta_{e,C}$	0.537 7
$\theta_{g,d}$	1.259 3
$\theta_{g,F}$	0.558 9
$\theta_{h,g}$	0.471 6
$\theta_{i,g}$	1.292 7
$\theta'_{C,t}$	0.807 3
$\theta'_{e,C'}$	0.485 1
$\theta'_{F,e}$	0.514 9
$\theta'_{i,F'}$	1.774 4

Anomalous dispersion	
$\Delta\theta_{C,t}$	-0.005 6
$\Delta\theta_{C,A'}$	0.000 4
$\Delta\theta_{g,d}$	-0.004 7
$\Delta\theta_{g,F}$	-0.004 1
$\Delta\theta_{i,g}$	-0.026 3

Coloring			
λ_{80}	400	λ_5	345
λ_{70}			

Internal transmission			
$\lambda_{0.80}$	378	$\lambda_{0.05}$	342

CCI		
B	G	R
0.00	1.09	1.11

Internal Transmittance	
λ (nm)	τ_i (10 mm)
280	
290	
300	
310	
320	
330	
340	0.02
350	0.19
360	0.48
370	0.71
380	0.83
390	0.905
400	0.941
420	0.972
440	0.982
460	0.988
480	0.992
500	0.994
550	0.996
600	0.996
650	0.996
700	0.997
800	0.997
900	0.996
1 000	0.996
1 200	0.997
1 400	0.995
1 600	0.995
1 800	0.989
2 000	0.972
2 200	0.930
2 400	0.76

Thermal Properties		
Strain Point StP (℃)		-
Annealing Point AP (℃)		-
Transformation Temperature Tg (℃)		632
Yield Point At (℃)		660
Softening Point SP (℃)		-
Expansion Coefficients α_l (10^{-7} K^{-1})	(-30 ℃ ~ 70 ℃)	71
	(100 ℃ ~ 300 ℃)	85
Thermal Conductivity λ (W/(m·K))		0.890

Linear coefficient of thermal expansion	
Temperature range (℃)	α_l (10^{-7} K^{-1})
-100 ~ -90	57
-90 ~ -80	58
-80 ~ -70	59
-70 ~ -60	61
-60 ~ -50	62
-50 ~ -40	63
-40 ~ -30	64
-30 ~ -20	65
-20 ~ -10	67
-10 ~ 0	68
0 ~ 10	69
10 ~ 20	70
20 ~ 30	71
30 ~ 40	72
40 ~ 50	73
50 ~ 60	74
60 ~ 70	75
70 ~ 80	76
80 ~ 90	77
90 ~ 100	78
100 ~ 110	79
110 ~ 120	80
120 ~ 130	80
130 ~ 140	81
140 ~ 150	82
150 ~ 160	83
160 ~ 170	84
170 ~ 180	84
180 ~ 190	85
190 ~ 200	86
200 ~ 210	86
210 ~ 220	87
220 ~ 230	87
230 ~ 240	88
240 ~ 250	89
250 ~ 260	89
260 ~ 270	90
270 ~ 280	90
280 ~ 290	90
290 ~ 300	91

Other Properties	
Photoelastic Constant β nm/(cm·105Pa)	1.12
Specific Gravity *d*	4.54
Remarks	

Temperature Coefficients of Refractive Index

Range of Temperature (℃)	Δn_{rel} / ΔT (10^{-6} K^{-1})											
	1550	t	r	C	C'	d	e	F	F'	g	h	i
-80 ~ -60	1.5	1.8	2.1	2.2	2.3	2.4	2.6	3.1	3.2	3.6	4.2	5.1
-60 ~ -40	1.5	1.6	2.0	2.1	2.2	2.3	2.6	3.0	3.1	3.6	4.1	5.1
-40 ~ -20	1.4	1.7	2.0	2.2	2.2	2.4	2.6	3.0	3.1	3.7	4.2	5.2
-20 ~ 0	1.5	1.7	2.1	2.2	2.2	2.4	2.8	3.2	3.2	3.8	4.3	5.3
0 ~ 20	1.5	1.7	2.1	2.4	2.4	2.6	2.8	3.3	3.4	3.9	4.5	5.6
20 ~ 40	1.6	1.8	2.3	2.4	2.5	2.7	2.9	3.5	3.5	4.1	4.7	5.8
40 ~ 60	1.7	1.9	2.4	2.5	2.7	2.9	3.1	3.6	3.7	4.3	4.9	6.0
60 ~ 80	1.8	2.1	2.5	2.7	2.7	3.0	3.2	3.7	3.8	4.4	5.0	6.3
80 ~ 100	1.9	2.1	2.7	2.8	2.9	3.1	3.4	3.9	3.9	4.6	5.2	6.4
100 ~ 120	1.9	2.2	2.7	2.8	3.0	3.2	3.5	4.0	4.1	4.7	5.4	6.6
120 ~ 140	1.9	2.3	2.8	3.0	3.0	3.3	3.5	4.1	4.2	4.8	5.5	6.8
140 ~ 160	2.0	2.3	2.8	3.0	3.0	3.3	3.6	4.2	4.2	4.9	5.6	6.9
160 ~ 180	2.0	2.3	2.8	3.0	3.0	3.3	3.6	4.2	4.2	4.9	5.6	7.0

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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.