

S-LAH66N

Code(d) 773496
Code(e) 776493

Refractive Index n_d	1.772 50 1.772 499	Abbe Number ν_d	49.55	Dispersion $n_F - n_C$	0.015 591
Refractive Index n_e	1.776 212	Abbe Number ν_e	49.31	Dispersion $n_{F'} - n_{C'}$	0.015 742

Refractive Indices		
λ (μm)		
n_{2325}	2.325 42	1.730 20
n_{1970}	1.970 09	1.737 81
n_{1530}	1.529 58	1.745 87
n_{1129}	1.128 64	1.753 00
n_t	1.013 98	1.755 39
n_s	0.852 11	1.759 58
$n_{A'}$	0.768 19	1.762 47
n_F	0.706 52	1.765 13
n_C	0.656 27	1.767 79
$n_{C'}$	0.643 85	1.768 54
n_{He-Ne}	0.632 8	1.769 24
n_D	0.589 29	1.772 36
n_d	0.587 56	1.772 50
n_e	0.546 07	1.776 21
n_F	0.486 13	1.783 38
$n_{F'}$	0.479 99	1.784 28
n_{He-Cd}	0.441 57	1.790 84
n_g	0.435 835	1.791 99
n_h	0.404 656	1.799 19
n_i	0.365 015	1.811 61

Constants of Dispersion Formula	
A_1	1.663 443 96E+00
A_2	4.087 085 92E-01
A_3	1.221 682 83E+00
B_1	7.993 924 12E-03
B_2	2.734 257 39E-02
B_3	8.491 142 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)	121.9
Rigidity Modulus G (GPa)	47.2
Poisson's Ratio σ	0.291
Knoop Hardness Hk[Class]	700 7
Abrasion Aa	61

Partial Dispersions	
$n_C - n_t$	0.012 406
$n_C - n_{A'}$	0.005 321
$n_d - n_C$	0.004 707
$n_e - n_C$	0.008 420
$n_g - n_d$	0.019 488
$n_g - n_F$	0.008 604
$n_h - n_g$	0.007 206
$n_i - n_g$	0.019 625
$n_{C'} - n_t$	0.013 153
$n_e - n_{C'}$	0.007 673
$n_{F'} - n_e$	0.008 069
$n_i - n_{F'}$	0.027 331

Relative Partial Dispersions	
$\theta_{C,t}$	0.795 7
$\theta_{C,A'}$	0.341 3
$\theta_{d,C}$	0.301 9
$\theta_{e,C}$	0.540 1
$\theta_{g,d}$	1.250 0
$\theta_{g,F}$	0.551 9
$\theta_{h,g}$	0.462 2
$\theta_{i,g}$	1.258 7
$\theta'_{C,t}$	0.835 5
$\theta'_{e,C'}$	0.487 4
$\theta'_{F',e}$	0.512 6
$\theta'_{i,F'}$	1.736 2

Anomalous dispersion	
$\Delta\theta_{C,t}$	0.016 5
$\Delta\theta_{C,A'}$	0.005 4
$\Delta\theta_{g,d}$	-0.011 8
$\Delta\theta_{g,F}$	-0.009 4
$\Delta\theta_{i,g}$	-0.051 4

Coloring			
λ_{80}	370	λ_5	305
λ_{70}			
Internal transmission			
$\lambda_{0.80}$	349	$\lambda_{0.05}$	308
CCI			
B	G	R	
0.00	0.44	0.42	

Internal Transmittance	
λ (nm)	τ_i (10 mm)
280	
290	
300	
310	0.10
320	0.33
330	0.55
340	0.71
350	0.81
360	0.88
370	0.930
380	0.956
390	0.971
400	0.979
420	0.987
440	0.991
460	0.994
480	0.996
500	0.997
550	0.999
600	0.998
650	0.998
700	0.999
800	0.998
900	0.998
1 000	0.998
1 200	0.997
1 400	0.993
1 600	0.993
1 800	0.983
2 000	0.958
2 200	0.88
2 400	0.64

Thermal Properties	
Strain Point StP (°C)	641
Annealing Point AP (°C)	660
Transformation Temperature Tg (°C)	686
Yield Point At (°C)	706
Softening Point SP (°C)	726
Expansion Coefficients (-30 °C ~ 70 °C)	61
α_i (10 ⁻⁷ K ⁻¹) (100 °C ~ 300 °C)	74
Thermal Conductivity λ (W/(m·K))	0.845

Linear coefficient of thermal expansion	
Temperature range (°C)	α_i (10 ⁻⁷ K ⁻¹)
-100 ~ -90	49
-90 ~ -80	50
-80 ~ -70	51
-70 ~ -60	52
-60 ~ -50	53
-50 ~ -40	54
-40 ~ -30	55
-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	66
90 ~ 100	67
100 ~ 110	68
110 ~ 120	69
120 ~ 130	70
130 ~ 140	70
140 ~ 150	71
150 ~ 160	72
160 ~ 170	72
170 ~ 180	73
180 ~ 190	74
190 ~ 200	74
200 ~ 210	75
210 ~ 220	76
220 ~ 230	76
230 ~ 240	77
240 ~ 250	77
250 ~ 260	78
260 ~ 270	79
270 ~ 280	79
280 ~ 290	80
290 ~ 300	80

Other Properties	
Photoelastic Constant β nm/(cm ³ 105Pa)	1.43
Specific Gravity d	4.23
Remarks	

Temperature Coefficients of Refractive Index												
Range of Temperature (°C)	$\Delta n_{rel} / \Delta T$ (10 ⁻⁶ K ⁻¹)											
	1550	t	r	C	C'	d	e	F	F'	g	h	i
-80 ~ -60	2.6	2.7	3.0	3.1	3.1	3.3	3.6	3.9	3.9	4.3	4.8	5.5
-60 ~ -40	2.4	2.6	2.9	3.0	3.1	3.3	3.5	3.8	3.9	4.3	4.8	5.5
-40 ~ -20	2.4	2.7	3.0	3.1	3.1	3.3	3.5	3.9	3.9	4.4	4.8	5.6
-20 ~ 0	2.5	2.7	3.0	3.2	3.2	3.5	3.7	4.0	4.1	4.5	5.0	5.9
0 ~ 20	2.6	2.8	3.3	3.4	3.4	3.6	3.8	4.2	4.2	4.7	5.1	6.1
20 ~ 40	2.8	2.9	3.3	3.5	3.5	3.7	4.0	4.4	4.4	4.9	5.4	6.3
40 ~ 60	2.9	3.1	3.5	3.7	3.7	4.0	4.2	4.6	4.6	5.1	5.6	6.5
60 ~ 80	3.1	3.3	3.7	3.8	3.9	4.1	4.3	4.7	4.8	5.3	5.9	6.8
80 ~ 100	3.1	3.4	3.9	4.0	4.1	4.3	4.5	4.9	5.0	5.5	6.0	7.0
100 ~ 120	3.2	3.5	4.0	4.2	4.2	4.4	4.7	5.1	5.2	5.7	6.3	7.3
120 ~ 140	3.3	3.7	4.1	4.3	4.3	4.5	4.8	5.3	5.3	5.9	6.4	7.5
140 ~ 160	3.5	3.7	4.2	4.4	4.4	4.6	4.9	5.4	5.4	6.0	6.6	7.6
160 ~ 180	3.5	3.8	4.2	4.4	4.4	4.7	4.9	5.4	5.5	6.1	6.7	7.9

OHARA 25-04