

Refractive Index n_d	1.799 52 1.799 516	Abbe Number ν_d	42.22	Dispersion $n_F - n_C$	0.018 935
Refractive Index n_e	1.804 015	Abbe Number ν_e	41.97	Dispersion $n_{F'} - n_{C'}$	0.019 157

Refractive Indices		
λ (μm)		
n_{2325}	2.325 42	1.754 95
n_{1970}	1.970 09	1.762 02
n_{1530}	1.529 58	1.769 76
n_{1129}	1.128 64	1.777 03
n_t	1.013 98	1.779 61
n_s	0.852 11	1.784 30
$n_{A'}$	0.768 19	1.787 62
n_F	0.706 52	1.790 73
n_C	0.656 27	1.793 88
$n_{C'}$	0.643 85	1.794 77
n_{He-Ne}	0.632 8	1.795 60
n_D	0.589 29	1.799 35
n_d	0.587 56	1.799 52
n_e	0.546 07	1.804 01
n_F	0.486 13	1.812 81
$n_{F'}$	0.479 99	1.813 93
n_{He-Cd}	0.441 57	1.822 11
n_g	0.435 835	1.823 55
n_h	0.404 656	1.832 71
n_i	0.365 015	1.848 85

Constants of Dispersion Formula	
A_1	1.853 909 25E+00
A_2	2.979 255 55E-01
A_3	1.393 820 86E+00
B_1	9.553 206 87E-03
B_2	3.938 168 50E-02
B_3	1.027 068 48E+02

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	2.0

Mechanical Properties	
Young's Modulus E (GPa)	111.9
Rigidity Modulus G (GPa)	43.1
Poisson's Ratio σ	0.297
Knoop Hardness Hk[Class]	650 7
Abrasion Aa	85

Partial Dispersions	
$n_C - n_t$	0.014 274
$n_C - n_{A'}$	0.006 258
$n_d - n_C$	0.005 637
$n_e - n_C$	0.010 136
$n_g - n_d$	0.024 038
$n_g - n_F$	0.010 740
$n_h - n_g$	0.009 152
$n_i - n_g$	0.025 292
$n_{C'} - n_t$	0.015 163
$n_e - n_{C'}$	0.009 247
$n_{F'} - n_e$	0.009 910
$n_i - n_{F'}$	0.034 921

Relative Partial Dispersions	
$\theta_{C,t}$	0.753 8
$\theta_{C,A'}$	0.330 5
$\theta_{d,C}$	0.297 7
$\theta_{e,C}$	0.535 3
$\theta_{g,d}$	1.269 5
$\theta_{g,F}$	0.567 2
$\theta_{h,g}$	0.483 3
$\theta_{i,g}$	1.335 7
$\theta'_{C,t}$	0.791 5
$\theta'_{e,C'}$	0.482 7
$\theta'_{F',e}$	0.517 3
$\theta'_{i,F'}$	1.822 9

Anomalous dispersion	
$\Delta\theta_{C,t}$	0.009 0
$\Delta\theta_{C,A'}$	0.003 5
$\Delta\theta_{g,d}$	-0.007 5
$\Delta\theta_{g,F}$	-0.006 0
$\Delta\theta_{i,g}$	-0.035 8

Coloring			
λ_{80}	395	λ_5	330
λ_{70}			
Internal transmission			
$\lambda_{0.80}$	367	$\lambda_{0.05}$	331
CCI			
B	G	R	
0.00	1.03	1.10	

Internal Transmittance	
λ (nm)	τ_i (10 mm)
280	
290	
300	
310	
320	
330	0.02
340	0.23
350	0.52
360	0.72
370	0.83
380	0.89
390	0.931
400	0.951
420	0.971
440	0.979
460	0.985
480	0.990
500	0.993
550	0.997
600	0.997
650	0.998
700	0.998
800	0.998
900	0.998
1 000	0.998
1 200	0.997
1 400	0.994
1 600	0.993
1 800	0.986
2 000	0.965
2 200	0.910
2 400	0.71

Thermal Properties	
Strain Point StP (°C)	565
Annealing Point AP (°C)	596
Transformation Temperature Tg (°C)	612
Yield Point At (°C)	648
Softening Point SP (°C)	679
Expansion Coefficients (-30 °C ~ 70 °C)	60
α_i (10 ⁻⁷ K ⁻¹) (100 °C ~ 300 °C)	74
Thermal Conductivity λ (W/(m·K))	0.828

Linear coefficient of thermal expansion	
Temperature range (°C)	α_i (10 ⁻⁷ K ⁻¹)
-100 ~ -90	48
-90 ~ -80	49
-80 ~ -70	50
-70 ~ -60	51
-60 ~ -50	52
-50 ~ -40	53
-40 ~ -30	54
-30 ~ -20	55
-20 ~ -10	57
-10 ~ 0	58
0 ~ 10	59
10 ~ 20	60
20 ~ 30	61
30 ~ 40	62
40 ~ 50	62
50 ~ 60	63
60 ~ 70	64
70 ~ 80	65
80 ~ 90	66
90 ~ 100	67
100 ~ 110	68
110 ~ 120	68
120 ~ 130	69
130 ~ 140	70
140 ~ 150	71
150 ~ 160	71
160 ~ 170	72
170 ~ 180	73
180 ~ 190	73
190 ~ 200	74
200 ~ 210	75
210 ~ 220	75
220 ~ 230	76
230 ~ 240	77
240 ~ 250	77
250 ~ 260	78
260 ~ 270	78
270 ~ 280	79
280 ~ 290	79
290 ~ 300	79

Other Properties	
Photoelastic Constant β nm/(cm ³ 105Pa)	1.92
Specific Gravity d	4.41
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	4.2	4.4	4.9	5.1	5.1	5.4	5.6	6.2	6.3	6.9	7.5	8.9
-60 ~ -40	4.0	4.3	4.8	5.0	5.0	5.3	5.5	6.1	6.1	6.9	7.5	9.0
-40 ~ -20	4.1	4.3	4.8	5.0	5.0	5.3	5.6	6.2	6.3	6.9	7.6	9.1
-20 ~ 0	4.1	4.3	4.9	5.1	5.2	5.4	5.7	6.3	6.4	7.1	7.9	9.3
0 ~ 20	4.2	4.5	5.1	5.2	5.3	5.6	5.9	6.5	6.5	7.4	8.1	9.6
20 ~ 40	4.3	4.6	5.3	5.4	5.5	5.8	6.1	6.7	6.8	7.5	8.3	10.0
40 ~ 60	4.5	4.9	5.4	5.6	5.7	6.0	6.3	6.9	7.0	7.8	8.6	10.3
60 ~ 80	4.7	5.0	5.6	5.7	5.8	6.1	6.4	7.1	7.3	8.0	8.9	10.6
80 ~ 100	4.8	5.2	5.8	6.0	6.0	6.4	6.7	7.4	7.5	8.3	9.1	11.0
100 ~ 120	5.0	5.3	6.0	6.2	6.2	6.6	6.9	7.6	7.7	8.5	9.4	11.2
120 ~ 140	5.1	5.5	6.1	6.3	6.4	6.7	7.1	7.8	7.9	8.8	9.7	11.5
140 ~ 160	5.2	5.6	6.2	6.5	6.5	6.9	7.2	8.0	8.1	9.0	9.9	11.9
160 ~ 180	5.3	5.7	6.3	6.6	6.6	7.0	7.4	8.1	8.3	9.3	10.2	12.1