

Refractive Index n_d	2.003 30 2.003 300	Abbe Number ν_d	28.27	Dispersion $n_F - n_C$	0.035 486
Refractive Index n_e	2.011 689	Abbe Number ν_e	28.07	Dispersion $n_{F'} - n_{C'}$	0.036 041

Refractive Indices		
λ (μm)		
n_{2325}	2.325 42	1.939 04
n_{1970}	1.970 09	1.946 42
n_{1530}	1.529 58	1.955 18
n_{1129}	1.128 64	1.964 86
n_t	1.013 98	1.968 73
n_s	0.852 11	1.976 30
$n_{A'}$	0.768 19	1.981 95
n_F	0.706 52	1.987 39
n_C	0.656 27	1.993 01
$n_{C'}$	0.643 85	1.994 61
n_{He-Ne}	0.632 8	1.996 13
n_D	0.589 29	2.002 99
n_d	0.587 56	2.003 30
n_e	0.546 07	2.011 69
n_F	0.486 13	2.028 50
$n_{F'}$	0.479 99	2.030 66
n_{He-Cd}	0.441 57	2.046 82
n_g	0.435 835	2.049 72
n_h	0.404 656	2.068 44
n_i	0.365 015	

Constants of Dispersion Formula	
A_1	2.325 571 48E+00
A_2	5.079 671 33E-01
A_3	2.430 871 98E+00
B_1	1.328 952 08E-02
B_2	5.283 354 49E-02
B_3	1.611 224 08E+02

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

Mechanical Properties	
Young's Modulus E (GPa)	125.5
Rigidity Modulus G (GPa)	48.4
Poisson's Ratio σ	0.297
Knoop Hardness Hk[Class]	700 7
Abrasion Aa	63

Partial Dispersions	
$n_C - n_t$	0.024 281
$n_C - n_{A'}$	0.011 059
$n_d - n_C$	0.010 289
$n_e - n_C$	0.018 678
$n_g - n_d$	0.046 416
$n_g - n_F$	0.021 219
$n_h - n_g$	0.018 725
$n_i - n_g$	
$n_C - n_t$	0.025 885
$n_e - n_{C'}$	0.017 074
$n_{F'} - n_e$	0.018 967
$n_i - n_{F'}$	

Relative Partial Dispersions	
$\theta_{C,t}$	0.684 2
$\theta_{C,A'}$	0.311 6
$\theta_{d,C}$	0.289 9
$\theta_{e,C}$	0.526 3
$\theta_{g,d}$	1.308 0
$\theta_{g,F}$	0.598 0
$\theta_{h,g}$	0.527 7
$\theta_{i,g}$	
$\theta'_{C,t}$	0.718 2
$\theta'_{e,C'}$	0.473 7
$\theta'_{F,e}$	0.526 3
$\theta'_{i,F'}$	

Anomalous dispersion	
$\Delta\theta_{C,t}$	0.004 9
$\Delta\theta_{C,A'}$	0.001 5
$\Delta\theta_{g,d}$	0.002 0
$\Delta\theta_{g,F}$	0.002 3
$\Delta\theta_{i,g}$	

Coloring			
λ_{80}		λ_5	370
λ_{70}	460		
Internal transmission			
$\lambda_{0.80}$	435	$\lambda_{0.05}$	371
CCI			
B	G	R	
0.00	10.86	11.57	

Internal Transmittance	
λ (nm)	τ_i (10 mm)
280	
290	
300	
310	
320	
330	
340	
350	
360	
370	0.03
380	0.16
390	0.33
400	0.50
420	0.72
440	0.83
460	0.88
480	0.921
500	0.945
550	0.979
600	0.988
650	0.991
700	0.993
800	0.996
900	0.997
1 000	0.997
1 200	0.998
1 400	0.998
1 600	0.997
1 800	0.994
2 000	0.986
2 200	0.966
2 400	0.89

Thermal Properties	
Strain Point StP (°C)	-
Annealing Point AP (°C)	-
Transformation Temperature Tg (°C)	702
Yield Point At (°C)	734
Softening Point SP (°C)	-
Expansion Coefficients (-30 °C ~ 70 °C)	60
α_i (10 ⁻⁷ K ⁻¹) (100 °C ~ 300 °C)	72
Thermal Conductivity λ (W/(mK))	0.957

Linear coefficient of thermal expansion	
Temperature range (°C)	α_i (10 ⁻⁷ K ⁻¹)
-100 ~ -90	47
-90 ~ -80	49
-80 ~ -70	50
-70 ~ -60	51
-60 ~ -50	52
-50 ~ -40	53
-40 ~ -30	54
-30 ~ -20	55
-20 ~ -10	56
-10 ~ 0	57
0 ~ 10	58
10 ~ 20	59
20 ~ 30	60
30 ~ 40	61
40 ~ 50	62
50 ~ 60	63
60 ~ 70	64
70 ~ 80	64
80 ~ 90	65
90 ~ 100	66
100 ~ 110	67
110 ~ 120	67
120 ~ 130	68
130 ~ 140	69
140 ~ 150	69
150 ~ 160	70
160 ~ 170	70
170 ~ 180	71
180 ~ 190	71
190 ~ 200	72
200 ~ 210	72
210 ~ 220	73
220 ~ 230	73
230 ~ 240	74
240 ~ 250	74
250 ~ 260	74
260 ~ 270	74
270 ~ 280	75
280 ~ 290	75
290 ~ 300	75

Other Properties	
Photoelastic Constant β nm/(cm ³ 105Pa)	1.89
Specific Gravity d	5.23
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	i
-80 ~ -60	5.1	5.5	6.3	6.7	6.8	7.3	7.7	8.9	9.1	10.5	-
-60 ~ -40	5.0	5.4	6.4	6.7	6.8	7.3	7.8	9.1	9.2	10.9	-
-40 ~ -20	5.1	5.5	6.6	6.9	7.0	7.5	8.1	9.4	9.6	11.2	-
-20 ~ 0	5.2	5.8	6.8	7.1	7.2	7.8	8.4	9.8	10.0	11.7	-
0 ~ 20	5.4	5.9	7.1	7.4	7.5	8.1	8.8	10.2	10.3	12.2	-
20 ~ 40	5.7	6.2	7.3	7.7	7.8	8.5	9.2	10.7	10.9	12.7	-
40 ~ 60	5.9	6.5	7.6	8.0	8.2	8.8	9.5	11.1	11.4	13.3	-
60 ~ 80	6.1	6.7	8.0	8.4	8.5	9.3	10.0	11.6	11.8	13.9	-
80 ~ 100	6.4	7.0	8.3	8.7	8.8	9.6	10.3	12.0	12.2	14.5	-
100 ~ 120	6.6	7.3	8.6	9.0	9.2	9.9	10.7	12.5	12.7	15.0	-
120 ~ 140	6.7	7.5	8.9	9.3	9.5	10.3	11.1	12.9	13.1	15.5	-
140 ~ 160	7.0	7.7	9.1	9.6	9.8	10.6	11.4	13.3	13.6	16.0	-
160 ~ 180	7.1	7.8	9.3	9.8	10.0	10.8	11.7	13.6	13.9	16.5	-