

Refractive Index n_d	1.729 16 1.729 160	Abbe Number ν_d	54.09	Dispersion $n_F - n_C$	0.013 480
Refractive Index n_e	1.732 373	Abbe Number ν_e	53.87	Dispersion $n_{F'} - n_{C'}$	0.013 596

Refractive Indices		
λ (μm)		
n_{2325}	2.325 42	1.689 12
n_{1970}	1.970 09	1.696 82
n_{1530}	1.529 58	1.704 87
n_{1129}	1.128 64	1.711 75
n_t	1.013 98	1.713 97
n_s	0.852 11	1.717 79
$n_{A'}$	0.768 19	1.720 38
n_F	0.706 52	1.722 73
n_C	0.656 27	1.725 06
$n_{C'}$	0.643 85	1.725 71
n_{He-Ne}	0.632 8	1.726 32
n_D	0.589 29	1.729 04
n_d	0.587 56	1.729 16
n_e	0.546 07	1.732 37
n_F	0.486 13	1.738 54
$n_{F'}$	0.479 99	1.739 31
n_{He-Cd}	0.441 57	1.744 91
n_g	0.435 835	1.745 88
n_h	0.404 656	1.751 99
n_i	0.365 015	1.762 43

Constants of Dispersion Formula	
A_1	9.739 975 77E-01
A_2	9.581 863 22E-01
A_3	1.201 633 59E+00
B_1	3.793 326 78E-03
B_2	1.775 745 81E-02
B_3	8.379 896 00E+01

Chemical Properties	
Water Resistance(Powder) Group RW(P)	1
Acid Resistance(Powder) Group RA(P)	4
Weathering Resistance(Surface) Group W(S)	3
Acid Resistance(Surface) Group SR	52.0
Phosphate Resistance PR	2.0

Mechanical Properties	
Young's Modulus E (GPa)	119.8
Rigidity Modulus G (GPa)	46.3
Poisson's Ratio σ	0.295
Knoop Hardness Hk[Class]	720 7
Abrasion Aa	65

Partial Dispersions	
$n_C - n_t$	0.011 088
$n_C - n_{A'}$	0.004 686
$n_d - n_C$	0.004 099
$n_e - n_C$	0.007 312
$n_g - n_d$	0.016 725
$n_g - n_F$	0.007 344
$n_h - n_g$	0.006 108
$n_i - n_g$	0.016 544
$n_{C'} - n_t$	0.011 740
$n_e - n_{C'}$	0.006 660
$n_{F'} - n_e$	0.006 936
$n_i - n_{F'}$	0.023 120

Relative Partial Dispersions	
$\theta_{C,t}$	0.822 6
$\theta_{C,A'}$	0.347 6
$\theta_{d,C}$	0.304 1
$\theta_{e,C}$	0.542 4
$\theta_{g,d}$	1.240 7
$\theta_{g,F}$	0.544 8
$\theta_{h,g}$	0.453 1
$\theta_{i,g}$	1.227 3
$\theta'_{C,t}$	0.863 5
$\theta'_{e,C'}$	0.489 8
$\theta'_{F,e}$	0.510 2
$\theta'_{i,F'}$	1.700 5

Anomalous dispersion	
$\Delta\theta_{C,t}$	0.022 1
$\Delta\theta_{C,A'}$	0.006 2
$\Delta\theta_{g,d}$	-0.011 7
$\Delta\theta_{g,F}$	-0.009 2
$\Delta\theta_{i,g}$	-0.044 8

Coloring			
λ_{80}	355	λ_5	
λ_{70}			
Internal transmission			
$\lambda_{0.80}$	327	$\lambda_{0.05}$	
CCI			
B	G	R	
0.00	0.21	0.21	

Internal Transmittance	
λ (nm)	τ_i (10 mm)
280	0.29
290	0.43
300	0.55
310	0.66
320	0.75
330	0.82
340	0.88
350	0.925
360	0.953
370	0.970
380	0.980
390	0.986
400	0.990
420	0.993
440	0.995
460	0.997
480	0.998
500	0.999
550	0.999
600	0.999
650	0.999
700	0.999
800	0.999
900	0.999
1 000	0.999
1 200	0.999
1 400	0.993
1 600	0.993
1 800	0.981
2 000	0.951
2 200	0.85
2 400	0.58

Thermal Properties	
Strain Point StP (°C)	610
Annealing Point AP (°C)	634
Transformation Temperature Tg (°C)	657
Yield Point At (°C)	690
Softening Point SP (°C)	708
Expansion Coefficients (-30 °C ~ 70 °C)	56
α_i (10 ⁻⁷ K ⁻¹) (100 °C ~ 300 °C)	70
Thermal Conductivity λ (W/(m·K))	0.895

Linear coefficient of thermal expansion	
Temperature range (°C)	α_i (10 ⁻⁷ K ⁻¹)
-100 ~ -90	43
-90 ~ -80	44
-80 ~ -70	45
-70 ~ -60	47
-60 ~ -50	48
-50 ~ -40	49
-40 ~ -30	50
-30 ~ -20	52
-20 ~ -10	53
-10 ~ 0	54
0 ~ 10	55
10 ~ 20	56
20 ~ 30	57
30 ~ 40	58
40 ~ 50	59
50 ~ 60	60
60 ~ 70	61
70 ~ 80	62
80 ~ 90	63
90 ~ 100	63
100 ~ 110	64
110 ~ 120	65
120 ~ 130	66
130 ~ 140	66
140 ~ 150	67
150 ~ 160	68
160 ~ 170	68
170 ~ 180	69
180 ~ 190	69
190 ~ 200	70
200 ~ 210	70
210 ~ 220	71
220 ~ 230	71
230 ~ 240	72
240 ~ 250	72
250 ~ 260	72
260 ~ 270	72
270 ~ 280	73
280 ~ 290	73
290 ~ 300	73

Other Properties	
Photoelastic Constant β nm/(cm ³ 105Pa)	1.61
Specific Gravity d	3.98
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	3.3	3.4	3.7	3.7	3.8	4.0	4.1	4.4	4.4	4.8	5.2	5.8
-60 ~ -40	3.1	3.2	3.6	3.7	3.7	3.9	4.0	4.3	4.3	4.7	5.1	5.7
-40 ~ -20	3.1	3.3	3.5	3.6	3.6	3.8	3.9	4.3	4.4	4.7	5.1	5.8
-20 ~ 0	3.2	3.3	3.6	3.7	3.8	3.9	4.1	4.4	4.4	4.9	5.2	5.9
0 ~ 20	3.3	3.4	3.7	3.8	3.8	4.0	4.2	4.5	4.5	5.0	5.4	6.1
20 ~ 40	3.4	3.5	3.8	3.9	4.0	4.1	4.3	4.6	4.7	5.1	5.6	6.3
40 ~ 60	3.5	3.7	4.0	4.1	4.1	4.3	4.4	4.8	4.9	5.3	5.7	6.5
60 ~ 80	3.5	3.8	4.2	4.3	4.3	4.5	4.6	5.0	5.0	5.5	5.9	6.7
80 ~ 100	3.7	3.9	4.2	4.3	4.5	4.5	4.8	5.2	5.2	5.7	6.1	6.9
100 ~ 120	3.8	4.0	4.4	4.5	4.5	4.7	5.0	5.3	5.3	5.8	6.3	7.1
120 ~ 140	3.9	4.1	4.5	4.6	4.6	4.9	5.0	5.5	5.5	6.0	6.4	7.3
140 ~ 160	4.1	4.3	4.7	4.8	4.8	5.0	5.2	5.6	5.6	6.1	6.6	7.5
160 ~ 180	4.1	4.3	4.7	4.8	4.9	5.1	5.3	5.7	5.7	6.2	6.7	7.6