

# D-ZK2N 587596

$n_d = 1.58700$	$v_d = 59.59$	$n_F - n_C = 0.009850$
$n_e = 1.58935$	$v_e = 59.35$	$n_{F'} - n_{C'} = 0.009930$

Refractive Indices		
	λ (nm)	n <sub>λ</sub>
n <sub>2325</sub>	2325.42	1.55732
n <sub>1970</sub>	1970.09	1.56289
n <sub>1530</sub>	1529.58	1.56892
n <sub>1129</sub>	1128.64	1.57412
n <sub>1064</sub>	1064.00	1.57504
n <sub>t</sub>	1013.98	1.57579
n <sub>s</sub>	852.11	1.57863
n <sub>A'</sub>	768.19	1.58054
n <sub>r</sub>	706.52	1.58228
n <sub>C</sub>	656.27	1.58399
n <sub>C'</sub>	643.85	1.58448
n <sub>He-Ne</sub>	632.80	1.58492
n <sub>D</sub>	589.29	1.58691
n <sub>d</sub>	587.56	1.58700
n <sub>e</sub>	546.07	1.58935
n <sub>F</sub>	486.13	1.59384
n <sub>F'</sub>	479.99	1.59441
n <sub>g</sub>	435.84	1.59918
n <sub>h</sub>	404.66	1.60364
n <sub>i</sub>	365.01	1.61145

Relative Partial Dispersion	
P <sub>d,C</sub>	0.3056
P <sub>e,d</sub>	0.2386
P <sub>g,F</sub>	0.5421
P' <sub>d,c'</sub>	0.2538
P' <sub>e,d</sub>	0.2367
P' <sub>g,F'</sub>	0.4804

Chemical Properties (grade)	
RC (S)	1
RA (S)	3
D <sub>W</sub>	1
D <sub>A</sub>	3
R <sub>OH</sub> (S)	2
RP (S)	2

Internal Transmittance		
λ (nm)	τ <sub>5mm</sub>	τ <sub>10mm</sub>
2400	0.920	0.831
2200	0.962	0.909
2000	0.990	0.980
1800	0.999	0.998
1600	0.999	0.998
1400	0.999	0.998
1200	0.999	0.998
1060	0.999	0.998
1000	0.999	0.998
950	0.999	0.998
900	0.999	0.998
850	0.999	0.998
800	0.999	0.998
750	0.999	0.998
700	0.999	0.998
650	0.999	0.998
600	0.999	0.998
550	0.999	0.998
500	0.999	0.998
480	0.999	0.998
460	0.999	0.998
440	0.999	0.998
420	0.999	0.998
400	0.999	0.998
390	0.999	0.998
380	0.999	0.998
370	0.994	0.990
360	0.988	0.979
350	0.974	0.949
340	0.955	0.913
330	0.919	0.851
320	0.859	0.734
310	0.753	0.567
300	0.597	0.358
290	0.411	0.173
280	0.231	0.059

Deviation of Relative Partial Dispersions	
ΔP <sub>F,e</sub>	-0.0015
ΔP <sub>g,F</sub>	-0.0025
ΔP <sub>C,t</sub>	0.0036
ΔP <sub>C,s</sub>	0.0007

Expansion Coefficient α (×10 <sup>-7</sup> /K)	
°C	α
-50/-40	64
-40/-30	67
-30/-20	70
-20/-10	71
-10/0	72
0/10	73
10/20	74
20/30	75
30/40	76
40/50	76
50/60	77
60/70	77
70/80	78
80/90	79
90/100	79
100/110	80
110/120	82
120/130	83
130/140	84
140/150	85
150/160	86

Thermal Properties	
T <sub>g</sub> (°C)	507
T <sub>s</sub> (°C)	548
T <sub>10</sub> <sup>14.5</sup> (°C)	448
T <sub>10</sub> <sup>13</sup> (°C)	485
α <sub>50/80°C</sub> (10 <sup>-7</sup> /K)	72
α <sub>100/300°C</sub> (10 <sup>-7</sup> /K)	92
λ (W/(m·K))	1.09
β <sub>d</sub>	90

Mechanical Properties	
HK (10 <sup>7</sup> Pa)	570
F <sub>A</sub>	107
E (GPa)	91.6
G (GPa)	36.9
μ	0.242
σ <sub>b</sub> (MPa)	81.5
B (10 <sup>-12</sup> /Pa)	2.11

Constants of Dispersion Formula	
A <sub>0</sub>	2.48098765E+00
A <sub>1</sub>	-1.07611097E-02
A <sub>2</sub>	1.30595297E-02
A <sub>3</sub>	5.70453194E-04
A <sub>4</sub>	-6.87445031E-05
A <sub>5</sub>	5.08145529E-06

Density	Solarization
ρ (g/cm <sup>3</sup> )	Δλ (%)
2.98	-6.5

Range of Temperature (°C)	Temperature Coefficients of Refractive Index									
	dn/dt relative (×10 <sup>-6</sup> / °C)									
	t	s	C	C'	He-Ne	d	e	F	F'	g
-60 ~ -40	3.7	4.0	4.0	4.0	4.1	4.2	4.3	4.6	4.7	5.1
-40 ~ -20	3.7	4.0	4.1	4.1	4.1	4.3	4.4	4.7	4.7	5.1
-20 ~ 0	3.7	4.1	4.1	4.1	4.1	4.3	4.4	4.7	4.7	5.1
0 ~ 20	3.7	4.1	4.1	4.2	4.1	4.3	4.4	4.7	4.7	5.1
20 ~ 40	3.7	4.1	4.2	4.2	4.2	4.4	4.5	4.7	4.7	5.1
40 ~ 60	3.7	4.1	4.2	4.2	4.2	4.4	4.6	4.7	4.7	5.1
60 ~ 80	3.7	4.1	4.2	4.2	4.2	4.4	4.7	4.8	4.8	5.2
80 ~ 100	3.7	4.1	4.2	4.3	4.2	4.5	4.8	4.8	4.9	5.2
100 ~ 120	3.7	4.0	4.2	4.3	4.2	4.5	4.8	4.9	4.9	5.2
120 ~ 140	3.8	4.0	4.2	4.3	4.2	4.5	4.8	4.9	4.9	5.3
140 ~ 160	3.8	4.1	4.3	4.3	4.2	4.5	4.8	4.9	5.0	5.4

Coloration Code	
λ <sub>80</sub> (λ <sub>70</sub> )/λ <sub>5</sub>	335/280
Coloration of Internal Transmittance	
λτ <sub>80</sub> /λτ <sub>5</sub>	323/275

Constants of dn/dt		
D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>
4.43E-06	1.18E-08	-2.81E-11
E <sub>0</sub>	E <sub>1</sub>	λ <sub>TK</sub>
4.55E-07	3.17E-10	1.75E-01