ZF1 648338

$n_d = 1.64769$	$\upsilon_d = 33.84$	$n_F - n_C = 0.019140$
$n_e = 1.65223$	$\upsilon_e = 33.58$	$n_{F'} - n_{C'} = 0.019421$

Refractive Indices		
	λ (nm)	n_λ
n_{2325}	2325.42	1.61010
n_{1970}	1970.09	1.61487
n_{1530}	1529.58	1.62046
n_{1129}	1128.64	1.62633
n_{1064}	1064.00	1.62755
n_t	1013.98	1.62858
n_s	852.11	1.63287
$n_{A'}$	768.19	1.63602
n_r	706.52	1.63902
n_C	656.27	1.64210
$n_{C'}$	643.85	1.64297
n_{He-Ne}	632.80	1.64380
n_D	589.29	1.64753
n_d	587.56	1.64769
n_e	546.07	1.65223
n_F	486.13	1.66124
$n_{F'}$	479.99	1.66239
n_g	435.84	1.67252
n_h	404.66	1.68238
n_i	365.01	1.70035

Constants of Dispersion Formula	
A_0	2.63523951E+00
A_1	-8.81500293E-03
A_2	2.60315994E-02
A_3	8.16500390E-04
A_4	6.27737485E-06
A_5	4.11832992E-06

Density	
ρ (g/cm^3)	3.85

Solarization	
△λ (%)	-1.4

Relative Partial Dispersion	
$P_{d,C}$	0.2921
$P_{e,d}$	0.2372
$P_{g,F}$	0.5893
$P'_{d,c'}$	0.2430
$P'_{e,d}$	0.2338
$P'_{g,F'}$	0.5216

Deviation of Relative Partial Dispersions	
$\Delta P_{F,e}$	-0.0008
$\Delta P_{g,F}$	0.0019
$\Delta P_{C,t}$	0.0023
$\Delta P_{C,s}$	0.0006

Thermal Properties	
Tg (℃)	428
Ts (℃)	478
$T_{10}^{14.5}$ (℃)	388
T_{10}^{13} (℃)	403
$\alpha_{-50/80℃}$ (10^{-7}/K)	88
$\alpha_{100/300℃}$ (10^{-7}/K)	102
λ (W/(m·K))	0.88

Mechanical Properties	
HK (10^7Pa)	395
F_A	198
E (GPa)	55.2
G (GPa)	22.3
μ	0.236
σ_b (MPa)	
B (10^{-12}/Pa)	2.40

Chemical Properties (grade)	
RC (S)	1
RA (S)	2
D_W	1
D_A	2
R_{OH} (S)	1
RP (S)	2

Expansion Coefficient α ($\times 10^{-7}$/K)	
℃	α
-50/-40	78
-40/-30	81
-30/-20	83
-20/-10	84
-10/0	86
0/10	87
10/20	88
20/30	89
30/40	90
40/50	91
50/60	92
60/70	92
70/80	93
80/90	94
90/100	95
100/110	96
110/120	97
120/130	98
130/140	99
140/150	100
150/160	101

Internal Transmittance		
λ (nm)	τ5mm	τ10mm
2400	0.931	0.867
2200	0.950	0.900
2000	0.987	0.974
1800	0.995	0.990
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	0.998	0.996
420	0.997	0.994
400	0.995	0.992
390	0.992	0.986
380	0.986	0.976
370	0.979	0.961
360	0.949	0.914
350	0.895	0.811
340	0.732	0.541
330	0.343	0.120
320		
310		
300		
290		
280		

Range of Temperature (℃)	Temperature Coefficients of Refractive Index dn/dt relative ($\times 10^{-6}$ / ℃)									
	t	s	C	C'	He-Ne	d	e	F	F'	g
-60 ~ -40	2.4	2.8	3.0	3.0	3.1	3.3	3.6	4.3	4.3	5.2
-40 ~ -20	2.4	2.8	3.0	3.1	3.1	3.4	3.6	4.3	4.4	5.2
-20 ~ 0	2.4	2.8	3.1	3.1	3.2	3.4	3.7	4.4	4.5	5.2
0 ~ 20	2.4	2.8	3.1	3.1	3.2	3.4	3.7	4.5	4.5	5.5
20 ~ 40	2.4	2.9	3.2	3.2	3.2	3.5	3.8	4.6	4.7	5.5
40 ~ 60	2.5	2.9	3.3	3.3	3.3	3.6	3.9	4.8	4.8	5.8
60 ~ 80	2.7	3.1	3.4	3.5	3.6	3.8	4.1	5.0	5.1	6.0
80 ~ 100	2.8	3.2	3.6	3.7	3.7	4.0	4.4	5.2	5.3	6.3
100 ~ 120	2.9	3.3	3.8	3.9	3.9	4.1	4.6	5.4	5.4	6.6
120 ~ 140	3.1	3.4	3.9	4.0	4.0	4.3	4.8	5.5	5.6	6.8
140 ~ 160	3.1	3.5	4.1	4.1	4.2	4.4	5.0	5.7	5.8	7.1

Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	360/330
Coloration of Internal Transmittance	
$\lambda\tau_{80}/\lambda\tau_5$	349/327

Constants of dn/dt		
D_0	D_1	D_2
1.23E-06	1.30E-08	-1.05E-11
E_0	E_1	λ_{TK}
6.78E-07	6.73E-10	2.81E-01