

<b>D-ZF52N</b>	<b>847238</b>	$n_d = 1.84666$	$v_d = 23.78$	$n_F - n_C = 0.035608$
		$n_e = 1.85504$	$v_e = 23.59$	$n_{F'} - n_{C'} = 0.036247$

Refractive Indices		
	$\lambda$ (nm)	$n_\lambda$
$n_{2325}$	2325.42	1.78377
$n_{1970}$	1970.09	1.79100
$n_{1530}$	1529.58	1.79963
$n_{1129}$	1128.64	1.80906
$n_{1064}$	1064.00	1.81108
$n_t$	1013.98	1.81281
$n_s$	852.11	1.82015
$n_{A'}$	768.19	1.82565
$n_r$	706.52	1.83096
$n_C$	656.27	1.83648
$n_{C'}$	643.85	1.83806
$n_{He-Ne}$	632.80	1.83955
$n_D$	589.29	1.84635
$n_d$	587.56	1.84666
$n_e$	546.07	1.85504
$n_F$	486.13	1.87209
$n_{F'}$	479.99	1.87431
$n_g$	435.84	1.89430
$n_h$	404.66	1.91469
$n_i$	365.01	1.95467

Relative Partial Dispersion	
$P_{d,C}$	0.2859
$P_{e,d}$	0.2353
$P_{g,F}$	0.6237
$P'_{d,c'}$	0.2373
$P'_{e,d}$	0.2312
$P'_{g,F'}$	0.5515

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

Internal Transmittance		
$\lambda$ (nm)	$\tau_{5mm}$	$\tau_{10mm}$
2400	0.885	0.784
2200	0.942	0.887
2000	0.973	0.947
1800	0.985	0.971
1600	0.993	0.986
1400	0.998	0.996
1200	0.998	0.996
1060	0.998	0.996
1000	0.998	0.996
950	0.998	0.996
900	0.998	0.996
850	0.998	0.996
800	0.998	0.996
750	0.998	0.996
700	0.998	0.996
650	0.998	0.996
600	0.996	0.992
550	0.992	0.985
500	0.984	0.967
480	0.978	0.956
460	0.968	0.937
440	0.951	0.904
420	0.917	0.841
400	0.849	0.721
390	0.779	0.607
380	0.623	0.388
370	0.327	0.107
360		
350		
340		
330		
320		
310		
300		
290		
280		

Deviation of Relative Partial Dispersions	
$\Delta P_{F,e}$	0.0018
$\Delta P_{g,F}$	0.0196
$\Delta P_{C,t}$	0.0094
$\Delta P_{C,s}$	0.0011

Expansion Coefficient $\alpha$ ( $\times 10^{-7}/K$ )	
$^{\circ}C$	$\alpha$
-50/-40	72
-40/-30	75
-30/-20	76
-20/-10	78
-10/0	79
0/10	80
10/20	81
20/30	82
30/40	84
40/50	85
50/60	86
60/70	87
70/80	88
80/90	89
90/100	91
100/110	93
110/120	94
120/130	96
130/140	97
140/150	99
150/160	101

Thermal Properties	
$T_g$ ( $^{\circ}C$ )	556
$T_s$ ( $^{\circ}C$ )	600
$T_{10}^{14.5}$ ( $^{\circ}C$ )	520
$T_{10}^{13}$ ( $^{\circ}C$ )	546
$\alpha_{50/80^{\circ}C}$ ( $10^{-7}/K$ )	82
$\alpha_{100/300^{\circ}C}$ ( $10^{-7}/K$ )	103
$\lambda$ (W/(m·K))	1.31
$\beta_d$	260

Mechanical Properties	
HK ( $10^7 Pa$ )	597
$F_A$	161
E (GPa)	109.2
G (GPa)	42.7
$\mu$	0.278
$\sigma_b$ (MPa)	118.7
B ( $10^{-12}/Pa$ )	2.64

Constants of Dispersion Formula	
$A_0$	3.25154745E+00
$A_1$	-1.45603806E-02
$A_2$	4.82406088E-02
$A_3$	3.12705995E-03
$A_4$	-2.06388870E-04
$A_5$	3.78595910E-05

Density		Solarization	
$\rho$ (g/cm <sup>3</sup> )	3.36	$\Delta\lambda$ (%)	-0.8

Range of Temperature ( $^{\circ}C$ )	Temperature Coefficients of Refractive Index									
	dn/dt relative ( $\times 10^{-6} / ^{\circ}C$ )									
	t	s	C	C'	He-Ne	d	e	F	F'	g
-60 ~ -40	-0.4	-0.1	0.2	0.3	0.5	0.7	1.0	1.3	1.6	2.2
-40 ~ -20	-0.1	0.2	0.5	0.6	0.7	1.1	1.2	1.6	1.8	2.6
-20 ~ 0	0.3	0.5	0.7	0.8	0.9	1.3	1.7	1.9	2.0	3.0
0 ~ 20	0.5	0.8	0.9	1.0	1.1	1.7	2.0	2.2	2.3	3.4
20 ~ 40	0.6	0.9	1.1	1.2	1.2	1.7	2.4	2.6	2.8	3.8
40 ~ 60	0.7	1.1	1.3	1.4	1.5	1.9	2.7	2.9	3.2	4.3
60 ~ 80	0.8	1.1	1.3	1.4	1.6	2.1	2.8	3.2	3.4	4.6
80 ~ 100	1.1	1.4	1.6	1.7	1.9	2.3	3.0	3.5	3.7	4.8
100 ~ 120	1.2	1.5	1.8	2.0	2.2	2.4	3.1	3.6	3.8	4.9
120 ~ 140	1.4	1.7	2.0	2.2	2.5	2.7	3.5	3.9	4.0	5.2
140 ~ 160	1.5	2.0	2.2	2.4	2.7	2.9	3.7	4.0	4.2	5.4

Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	(420)/370
Coloration of Internal Transmittance	
$\lambda\tau_{80}/\lambda\tau_5$	412/368

Constants of dn/dt		
$D_0$	$D_1$	$D_2$
-2.62E-06	1.68E-08	-3.23E-11
$E_0$	$E_1$	$\lambda_{TK}$
6.36E-07	7.31E-10	2.58E-01