

<b>H-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	1.78524
$n_{1970}$	1970.09	1.79201
$n_{1530}$	1529.58	1.80020
$n_{1129}$	1128.64	1.80936
$n_{1064}$	1064.00	1.81133
$n_t$	1013.98	1.81304
$n_s$	852.11	1.82028
$n_{A'}$	768.19	1.82573
$n_f$	706.52	1.83101
$n_C$	656.27	1.83649
$n_{C'}$	643.85	1.83807
$n_{He-Ne}$	632.80	1.83956
$n_D$	589.29	1.84635
$n_d$	587.56	1.84666
$n_e$	546.07	1.85504
$n_F$	486.13	1.87210
$n_{F'}$	479.99	1.87431
$n_g$	435.84	1.89416
$n_h$	404.66	1.91418
$n_i$	365.01	1.95237

Relative Partial Dispersion	
$P_{d,C}$	0.2856
$P_{e,d}$	0.2353
$P_{g,F}$	0.6195
$P'_{d,c'}$	0.2370
$P'_{e,d}$	0.2312
$P'_{g,F'}$	0.5476

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

Internal Transmittance		
$\lambda$ (nm)	$\tau_{5mm}$	$\tau_{10mm}$
2400	0.962	0.925
2200	0.980	0.961
2000	0.992	0.985
1800	0.997	0.994
1600	0.999	0.999
1400	0.999	0.999
1200	0.999	0.999
1060	0.999	0.999
1000	0.999	0.999
950	0.999	0.999
900	0.999	0.999
850	0.999	0.999
800	0.999	0.999
750	0.999	0.999
700	0.999	0.999
650	0.999	0.999
600	0.999	0.999
550	0.997	0.995
500	0.993	0.986
480	0.990	0.980
460	0.985	0.971
440	0.977	0.954
420	0.958	0.918
400	0.911	0.830
390	0.843	0.710
380	0.671	0.450
370	0.332	0.110
360		
350		
340		
330		
320		
310		
300		
290		
280		

Deviation of Relative Partial Dispersions	
$\Delta P_{F,e}$	0.0020
$\Delta P_{g,F}$	0.0154
$\Delta P_{C,t}$	0.0032
$\Delta P_{C,s}$	-0.0022

Expansion Coefficient $\alpha$ ( $\times 10^{-7}/K$ )	
$^{\circ}C$	$\alpha$
-50/-40	75
-40/-30	78
-30/-20	79
-20/-10	81
-10/0	82
0/10	83
10/20	84
20/30	85
30/40	85
40/50	86
50/60	86
60/70	87
70/80	87
80/90	88
90/100	89
100/110	90
110/120	92
120/130	93
130/140	94
140/150	96
150/160	97

Thermal Properties	
T <sub>g</sub> ( $^{\circ}C$ )	632
T <sub>s</sub> ( $^{\circ}C$ )	662
T <sub>10</sub> <sup>14.5</sup> ( $^{\circ}C$ )	582
T <sub>10</sub> <sup>13</sup> ( $^{\circ}C$ )	608
$\alpha_{-50/80^{\circ}C}$ ( $10^{-7}/K$ )	83
$\alpha_{100/300^{\circ}C}$ ( $10^{-7}/K$ )	101
$\lambda$ (W/(m K))	1.04

Constants of Dispersion Formula	
A <sub>0</sub>	3.25093122E+00
A <sub>1</sub>	-1.35032313E-02
A <sub>2</sub>	4.90304607E-02
A <sub>3</sub>	2.49344608E-03
A <sub>4</sub>	-1.81762799E-05
A <sub>5</sub>	1.94686410E-05

Mechanical Properties	
HK ( $10^7 Pa$ )	531
F <sub>A</sub>	176
E (GPa)	96.1
G (GPa)	38.1
$\mu$	0.262
$\sigma_b$ (MPa)	56
B ( $10^{-12}/Pa$ )	2.54

Density	Solarization
$\rho$ (g/cm <sup>3</sup> )	$\Delta\lambda$ (%)
3.54	-1.2

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	-1.0	-0.9	0.0	0.5	0.5	0.7	1.0	1.6	1.7	3.0
-40 ~ -20	-0.9	-0.9	0.0	0.5	0.6	0.8	1.1	1.9	2.0	3.6
-20 ~ 0	-0.7	-0.8	0.1	0.5	0.6	0.9	1.3	2.4	2.5	4.0
0 ~ 20	-0.7	-0.7	0.2	0.6	0.7	0.9	1.4	2.7	3.1	4.4
20 ~ 40	-0.7	-0.6	0.4	0.7	0.7	1.0	1.6	3.1	3.7	4.8
40 ~ 60	-0.7	-0.6	0.4	0.7	0.7	1.0	1.9	3.5	4.0	5.3
60 ~ 80	-0.7	-0.6	0.4	0.7	0.8	1.2	2.1	3.8	4.3	5.7
80 ~ 100	-0.6	-0.6	0.5	0.7	0.8	1.3	2.1	4.1	4.6	6.1
100 ~ 120	-0.6	-0.5	0.5	0.8	0.9	1.3	2.2	4.4	4.8	6.5
120 ~ 140	-0.6	-0.4	0.7	0.8	1.0	1.5	2.3	4.7	5.0	6.9
140 ~ 160	-0.7	-0.4	0.8	0.9	1.1	1.9	2.5	5.1	5.4	7.2

Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	(404)/368
Coloration of Internal Transmittance	
$\lambda\tau_{80}/\lambda\tau_5$	398/368

Constants of dn/dt		
D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>
-5.25E-06	7.18E-09	-2.89E-11
E <sub>0</sub>	E <sub>1</sub>	$\lambda_{TK}$
1.16E-06	2.39E-09	2.61E-01