

<b>H-ZF13GT</b>	<b>785257</b>	$n_d = 1.78472$	$v_d = 25.72$	$n_F - n_C = 0.030510$
		$n_e = 1.79191$	$v_e = 25.51$	$n_{F'} - n_{C'} = 0.031042$

Refractive Indices		
	$\lambda$ (nm)	$n_\lambda$
$n_{2325}$	2325.42	1.73037
$n_{1970}$	1970.09	1.73662
$n_{1530}$	1529.58	1.74411
$n_{1129}$	1128.64	1.75231
$n_{1064}$	1064.00	1.75406
$n_t$	1013.98	1.75557
$n_s$	852.11	1.76192
$n_{A'}$	768.19	1.76666
$n_f$	706.52	1.77124
$n_C$	656.27	1.77597
$n_{C'}$	643.85	1.77733
$n_{He-Ne}$	632.80	1.77861
$n_D$	589.29	1.78446
$n_d$	587.56	1.78472
$n_e$	546.07	1.79191
$n_F$	486.13	1.80648
$n_{F'}$	479.99	1.80837
$n_g$	435.84	1.82522
$n_h$	404.66	1.84210
$n_i$	365.01	1.87399

Relative Partial Dispersion	
$P_{d,C}$	0.2868
$P_{e,d}$	0.2357
$P_{g,F}$	0.6142
$P'_{d,c'}$	0.2381
$P'_{e,d}$	0.2316
$P'_{g,f'}$	0.5428

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	0.950	0.900
2200	0.976	0.950
2000	0.987	0.972
1800	0.993	0.984
1600	0.998	0.996
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	0.998	0.996
550	0.998	0.996
500	0.998	0.996
480	0.996	0.992
460	0.993	0.985
440	0.986	0.975
420	0.970	0.950
400	0.938	0.889
390	0.891	0.801
380	0.760	0.590
370	0.458	0.210
360	0.068	0.005
350		
340		
330		
320		
310		
300		
290		
280		

Deviation of Relative Partial Dispersions	
$\Delta P_{F,e}$	0.0015
$\Delta P_{g,F}$	0.0133
$\Delta P_{C,t}$	0.0039
$\Delta P_{C,s}$	-0.0016

Expansion Coefficient $\alpha$ ( $\times 10^{-7}/K$ )	
$^{\circ}C$	$\alpha$
-50/-40	80
-40/-30	81
-30/-20	82
-20/-10	82
-10/0	84
0/10	87
10/20	88
20/30	88
30/40	89
40/50	91
50/60	93
60/70	93
70/80	95
80/90	96
90/100	98
100/110	98
110/120	99
120/130	102
130/140	103
140/150	104
150/160	107

Thermal Properties	
T <sub>g</sub> ( $^{\circ}C$ )	601
T <sub>s</sub> ( $^{\circ}C$ )	638
T <sub>10</sub> <sup>14.5</sup> ( $^{\circ}C$ )	535
T <sub>10</sub> <sup>13</sup> ( $^{\circ}C$ )	573
$\alpha_{-50/80^{\circ}C}$ ( $10^{-7}/K$ )	87
$\alpha_{100/300^{\circ}C}$ ( $10^{-7}/K$ )	111
$\lambda$ (W/(m K))	0.98

Constants of Dispersion Formula	
A <sub>0</sub>	3.05227481E+00
A <sub>1</sub>	-1.21808741E-02
A <sub>2</sub>	4.16791281E-02
A <sub>3</sub>	1.79932930E-03
A <sub>4</sub>	1.91659600E-05
A <sub>5</sub>	1.22563456E-05

Mechanical Properties	
HK ( $10^7$ Pa)	528
F <sub>A</sub>	181
E (GPa)	91.5
G (GPa)	35.7
$\mu$	0.281
$\sigma_b$ (MPa)	70
B ( $10^{-12}$ /Pa)	2.73

Density	
$\rho$ (g/cm <sup>3</sup> )	3.22

Solarization	
$\Delta\lambda$ (%)	-0.9

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	-0.8	-0.1	0.4	0.4	0.5	0.8	1.3	2.4	2.5	3.7
-40 ~ -20	-0.7	0.0	0.4	0.4	0.6	0.8	1.3	2.5	2.6	3.9
-20 ~ 0	-0.7	0.0	0.5	0.5	0.6	1.0	1.4	2.7	2.8	4.3
0 ~ 20	-0.6	0.1	0.6	0.6	0.7	1.1	1.6	3.0	3.1	4.8
20 ~ 40	-0.6	0.2	0.7	0.7	0.8	1.2	1.9	3.2	3.2	5.1
40 ~ 60	-0.5	0.3	0.8	0.8	0.9	1.3	2.0	3.4	3.4	5.3
60 ~ 80	-0.5	0.4	0.9	0.9	1.0	1.5	2.2	3.6	3.7	5.7
80 ~ 100	-0.3	0.5	1.0	1.0	1.1	1.7	2.3	3.9	4.0	6.0
100 ~ 120	-0.2	0.6	1.1	1.2	1.2	2.0	2.4	4.2	4.3	6.3
120 ~ 140	0.0	0.7	1.2	1.3	1.3	2.1	2.7	4.4	4.5	6.5
140 ~ 160	0.0	0.8	1.3	1.4	1.5	2.2	2.9	4.6	4.7	6.7

Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	420/365
Coloration of Internal Transmittance	
$\lambda\tau_{80}/\lambda\tau_5$	391/365

Constants of dn/dt		
D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>
-4.52E-06	1.15E-08	-2.19E-11
E <sub>0</sub>	E <sub>1</sub>	$\lambda_{TK}$
9.64E-07	1.10E-09	2.96E-01