

<b>H-ZLaF54</b>	<b>816466</b>	$n_d = 1.81600$	$v_d = 46.55$	$n_F - n_C = 0.017528$
		$n_e = 1.82017$	$v_e = 46.33$	$n_F - n_C = 0.017704$

Refractive Indices		
	$\lambda$ (nm)	$n_\lambda$
$n_{2325}$	2325.42	1.77344
$n_{1970}$	1970.09	1.78023
$n_{1530}$	1529.58	1.78779
$n_{1129}$	1128.64	1.79484
$n_{1064}$	1064.00	1.79618
$n_t$	1013.98	1.79729
$n_s$	852.11	1.80174
$n_{A'}$	768.19	1.80487
$n_f$	706.52	1.80780
$n_C$	656.27	1.81074
$n_{C'}$	643.85	1.81157
$n_{He-Ne}$	632.80	1.81235
$n_D$	589.29	1.81584
$n_d$	587.56	1.81600
$n_e$	546.07	1.82017
$n_F$	486.13	1.82827
$n_{F'}$	479.99	1.82928
$n_g$	435.84	1.83800
$n_h$	404.66	1.84618
$n_i$	365.01	1.86037

Relative Partial Dispersion	
$P_{d,C}$	0.3001
$P_{e,d}$	0.2379
$P_{g,F}$	0.5551
$P'_{d,c'}$	0.2502
$P'_{e,d}$	0.2355
$P'_{g,F'}$	0.4925

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

Internal Transmittance		
$\lambda$ (nm)	$\tau_{5mm}$	$\tau_{10mm}$
2400	0.888	0.789
2200	0.980	0.960
2000	0.992	0.984
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	0.998	0.996
440	0.997	0.994
420	0.995	0.991
400	0.983	0.966
390	0.980	0.960
380	0.975	0.949
370	0.970	0.942
360	0.959	0.919
350	0.940	0.885
340	0.914	0.835
330	0.876	0.768
320	0.815	0.663
310	0.597	0.357
300	0.585	0.343
290	0.438	0.192
280	0.212	0.045

Deviation of Relative Partial Dispersions	
$\Delta P_{F,e}$	-0.0024
$\Delta P_{g,F}$	-0.0112
$\Delta P_{C,t}$	0.0017
$\Delta P_{C,s}$	0.0013

Expansion Coefficient $\alpha$ ( $\times 10^{-7}/K$ )	
$^{\circ}C$	$\alpha$
-50/-40	54
-40/-30	57
-30/-20	59
-20/-10	60
-10/0	61
0/10	62
10/20	63
20/30	64
30/40	64
40/50	64
50/60	65
60/70	66
70/80	66
80/90	67
90/100	68
100/110	69
110/120	70
120/130	71
130/140	72
140/150	73
150/160	74

Thermal Properties	
T <sub>g</sub> ( $^{\circ}C$ )	715
T <sub>s</sub> ( $^{\circ}C$ )	740
T <sub>10</sub> <sup>14.5</sup> ( $^{\circ}C$ )	643
T <sub>10</sub> <sup>13</sup> ( $^{\circ}C$ )	662
$\alpha_{-50/80^{\circ}C}$ ( $10^{-7}/K$ )	62
$\alpha_{100/300^{\circ}C}$ ( $10^{-7}/K$ )	75
$\lambda$ (W/(m K))	0.84

Constants of Dispersion Formula	
A <sub>0</sub>	3.21873957E+00
A <sub>1</sub>	-1.45164245E-02
A <sub>2</sub>	2.60917155E-02
A <sub>3</sub>	1.26701532E-03
A <sub>4</sub>	-1.06020539E-04
A <sub>5</sub>	6.86627719E-06

Mechanical Properties	
HK ( $10^7$ Pa)	702
F <sub>A</sub>	64
E (GPa)	126.0
G (GPa)	47.4
$\mu$	0.330
$\sigma_b$ (MPa)	86
B ( $10^{-12}$ /Pa)	1.23

Density	
$\rho$ (g/cm <sup>3</sup> )	5.04

Solarization	
$\Delta\lambda$ (%)	-3.9

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	3.9	4.3	4.5	4.5	4.6	4.8	5.1	5.7	5.7	6.2
-40 ~ -20	3.9	4.2	4.4	4.5	4.7	4.9	5.2	5.7	5.7	6.2
-20 ~ 0	3.9	4.3	4.6	4.6	4.7	4.9	5.2	5.7	5.8	6.4
0 ~ 20	3.9	4.4	4.6	4.6	4.7	5.0	5.3	5.7	5.8	6.5
20 ~ 40	3.9	4.5	4.7	4.7	4.8	5.0	5.3	5.8	6.0	6.5
40 ~ 60	4.0	4.5	4.8	4.8	4.9	5.2	5.4	6.0	6.1	6.7
60 ~ 80	4.1	4.6	4.9	4.9	5.0	5.2	5.5	6.2	6.3	7.0
80 ~ 100	4.2	4.7	5.0	5.0	5.1	5.4	5.5	6.3	6.4	7.2
100 ~ 120	4.4	4.9	5.1	5.1	5.2	5.5	5.7	6.5	6.5	7.3
120 ~ 140	4.5	5.0	5.2	5.2	5.3	5.7	5.9	6.6	6.7	7.6
140 ~ 160	4.6	5.1	5.3	5.3	5.5	5.8	6.0	6.8	6.9	7.8

Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	380/290
Coloration of Internal Transmittance	
$\lambda\tau_{80}/\lambda\tau_5$	334/281

Constants of dn/dt		
D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>
3.23E-06	1.15E-08	-1.53E-11
E <sub>0</sub>	E <sub>1</sub>	$\lambda_{TK}$
5.49E-07	4.69E-10	2.46E-01