

<b>H-ZK20</b>	<b>617539</b>	$n_d = 1.61720$	$v_d = 53.91$	$n_F - n_C = 0.011448$
		$n_e = 1.61993$	$v_e = 53.62$	$n_{F'} - n_{C'} = 0.011561$

Refractive Indices		
	$\lambda$ (nm)	$n_\lambda$
$n_{2325}$	2325.42	1.58879
$n_{1970}$	1970.09	1.59335
$n_{1530}$	1529.58	1.59844
$n_{1129}$	1128.64	1.60320
$n_{1064}$	1064.00	1.60410
$n_t$	1013.98	1.60485
$n_s$	852.11	1.60781
$n_{A'}$	768.19	1.60989
$n_r$	706.52	1.61181
$n_C$	656.27	1.61375
$n_{C'}$	643.85	1.61430
$n_{He-Ne}$	632.80	1.61481
$n_D$	589.29	1.61710
$n_d$	587.56	1.61720
$n_e$	546.07	1.61993
$n_F$	486.13	1.62520
$n_{F'}$	479.99	1.62586
$n_g$	435.84	1.63150
$n_h$	404.66	1.63676
$n_i$	365.01	1.64578

Constants of Dispersion Formula	
$A_0$	2.56855897E+00
$A_1$	-8.74295850E-03
$A_2$	1.59604033E-02
$A_3$	4.91034285E-04
$A_4$	-2.77331960E-05
$A_5$	1.72056496E-06

Density	
$\rho$ (g/cm <sup>3</sup> )	3.60

Solarization	
$\Delta\lambda$ (%)	-11.8

Relative Partial Dispersion	
$P_{d,C}$	0.3014
$P_{e,d}$	0.2385
$P_{g,F}$	0.5503
$P'_{d,c'}$	0.2508
$P'_{e,d}$	0.2361
$P'_{g,F'}$	0.4878

Deviation of Relative Partial Dispersions	
$\Delta P_{F,e}$	-0.0001
$\Delta P_{g,F}$	-0.0037
$\Delta P_{C,t}$	-0.0239
$\Delta P_{C,s}$	-0.0109

Thermal Properties	
T <sub>g</sub> (°C)	555
T <sub>s</sub> (°C)	592
T <sub>10</sub> <sup>14.5</sup> (°C)	501
T <sub>10</sub> <sup>13</sup> (°C)	535
$\alpha_{50/80^\circ C}$ (10 <sup>-7</sup> /K)	87
$\alpha_{100/300^\circ C}$ (10 <sup>-7</sup> /K)	99
$\lambda$ (W/(m·K))	0.85

Mechanical Properties	
HK (10 <sup>7</sup> Pa)	525
F <sub>A</sub>	158
E (GPa)	76.6
G (GPa)	30.9
$\mu$	0.241
$\sigma_b$ (MPa)	56.6
B (10 <sup>-12</sup> /Pa)	2.06

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

Expansion Coefficient $\alpha$ (×10 <sup>-7</sup> /K)	
°C	$\alpha$
-50/-40	77
-40/-30	79
-30/-20	81
-20/-10	82
-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	88
80/90	89
90/100	91
100/110	92
110/120	93
120/130	93
130/140	95
140/150	97
150/160	98

Internal Transmittance		
$\lambda$ (nm)	$\tau_{5mm}$	$\tau_{10mm}$
2400	0.911	0.830
2200	0.957	0.916
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	0.999	0.998
420	0.998	0.996
400	0.997	0.994
390	0.996	0.992
380	0.994	0.989
370	0.988	0.976
360	0.977	0.952
350	0.954	0.905
340	0.907	0.821
330	0.830	0.689
320	0.711	0.508
310	0.551	0.307
300	0.371	0.141
290	0.209	0.046
280	0.093	0.011

Coloration Code	
$\lambda_{80}(\lambda_{70})/\lambda_5$	350/295
Coloration of Internal Transmittance	
$\lambda\tau_{80}/\lambda\tau_5$	337/290

Range of Temperature (°C)	Temperature Coefficients of Refractive Index									
	dn/dt relative (×10 <sup>-6</sup> / °C)									
	t	s	C	C'	He-Ne	d	e	F	F'	g
-60 ~ -40	1.9	2.2	2.4	2.5	2.6	2.9	3.3	3.7	3.8	4.5
-40 ~ -20	2.1	2.3	2.4	2.5	2.6	3.0	3.5	3.8	3.9	4.6
-20 ~ 0	2.1	2.3	2.5	2.6	2.7	3.0	3.6	3.9	4.0	4.7
0 ~ 20	2.3	2.4	2.5	2.6	2.7	3.1	3.6	4.0	4.1	4.9
20 ~ 40	2.4	2.6	2.7	2.8	2.8	3.2	3.8	4.2	4.3	4.9
40 ~ 60	2.5	2.7	2.9	2.9	3.0	3.4	4.0	4.5	4.6	5.1
60 ~ 80	2.6	2.9	3.1	3.1	3.2	3.7	4.2	4.6	4.8	5.3
80 ~ 100	2.7	3.1	3.3	3.3	3.4	4.0	4.5	4.8	4.9	5.5
100 ~ 120	2.9	3.2	3.4	3.5	3.5	4.2	4.7	5.0	5.1	5.6
120 ~ 140	3.0	3.3	3.5	3.6	3.6	4.3	4.8	5.1	5.2	5.7
140 ~ 160	3.0	3.4	3.6	3.6	3.7	4.4	5.0	5.3	5.3	5.8

Constants of dn/dt		
D <sub>0</sub>	D <sub>1</sub>	D <sub>2</sub>
4.73E-07	1.71E-08	-2.20E-11
E <sub>0</sub>	E <sub>1</sub>	$\lambda_{TK}$
8.83E-07	2.84E-10	2.17E-01