

|                |               |                 |               |                              |
|----------------|---------------|-----------------|---------------|------------------------------|
| <b>H-LaF62</b> | <b>720437</b> | $n_d = 1.72000$ | $v_d = 43.68$ | $n_F - n_C = 0.016483$       |
|                |               | $n_e = 1.72391$ | $v_e = 43.39$ | $n_{F'} - n_{C'} = 0.016682$ |

| Refractive Indices |                |             |
|--------------------|----------------|-------------|
|                    | $\lambda$ (nm) | $n_\lambda$ |
| $n_{2325}$         | 2325.42        | 1.68074     |
| $n_{1970}$         | 1970.09        | 1.68697     |
| $n_{1530}$         | 1529.58        | 1.69391     |
| $n_{1129}$         | 1128.64        | 1.70040     |
| $n_{1064}$         | 1064.00        | 1.70163     |
| $n_t$              | 1013.98        | 1.70266     |
| $n_s$              | 852.11         | 1.70676     |
| $n_{A'}$           | 768.19         | 1.70965     |
| $n_r$              | 706.52         | 1.71235     |
| $n_C$              | 656.27         | 1.71511     |
| $n_{C'}$           | 643.85         | 1.71588     |
| $n_{He-Ne}$        | 632.80         | 1.71660     |
| $n_D$              | 589.29         | 1.71985     |
| $n_d$              | 587.56         | 1.72000     |
| $n_e$              | 546.07         | 1.72391     |
| $n_F$              | 486.13         | 1.73159     |
| $n_{F'}$           | 479.99         | 1.73256     |
| $n_g$              | 435.84         | 1.74094     |
| $n_h$              | 404.66         | 1.74893     |
| $n_i$              | 365.01         | 1.76316     |

| Relative Partial Dispersion |        |
|-----------------------------|--------|
| $P_{d,C}$                   | 0.2967 |
| $P_{e,d}$                   | 0.2372 |
| $P_{g,F}$                   | 0.5673 |
| $P'_{d,c'}$                 | 0.2470 |
| $P'_{e,d}$                  | 0.2344 |
| $P'_{g,F'}$                 | 0.5023 |

| Chemical Properties (grade) |   |
|-----------------------------|---|
| RC (S)                      | 1 |
| RA (S)                      | 3 |
| $D_W$                       | 1 |
| $D_A$                       | 3 |
| $R_{OH}$ (S)                | 1 |
| RP (S)                      | 2 |

| Internal Transmittance |              |               |
|------------------------|--------------|---------------|
| $\lambda$ (nm)         | $\tau_{5mm}$ | $\tau_{10mm}$ |
| 2400                   | 0.872        | 0.760         |
| 2200                   | 0.954        | 0.910         |
| 2000                   | 0.991        | 0.982         |
| 1800                   | 0.999        | 0.998         |
| 1600                   | 0.999        | 0.998         |
| 1400                   | 0.999        | 0.998         |
| 1200                   | 0.999        | 0.998         |

| Deviation of Relative Partial Dispersions |         |
|---|---------|
| $\Delta P_{F,e}$                          | -0.0002 |
| $\Delta P_{g,F}$                          | -0.0038 |
| $\Delta P_{C,t}$                          | 0.0036  |
| $\Delta P_{C,s}$                          | 0.0014  |

| Expansion Coefficient $\alpha$ ( $\times 10^{-7}/K$ ) |          |
|---|----------|
| $^{\circ}C$   | $\alpha$ |
| -50/-40   | 61       |
| -40/-30   | 64       |
| -30/-20   | 66       |
| -20/-10   | 67       |
| -10/0   | 68       |
| 0/10  | 69       |
| 10/20   | 70       |
| 20/30   | 71       |
| 30/40   | 72       |
| 40/50   | 73       |
| 50/60   | 74       |
| 60/70   | 75       |
| 70/80   | 75       |
| 80/90   | 76       |
| 90/100  | 77       |
| 100/110   | 79       |
| 110/120   | 80       |
| 120/130   | 81       |
| 130/140   | 83       |
| 140/150   | 84       |
| 150/160   | 85       |

|      |       |       |
|------|-------|-------|
| 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  | 0.998 | 0.996 |
| 480  | 0.996 | 0.993 |
| 460  | 0.994 | 0.990 |
| 440  | 0.992 | 0.985 |
| 420  | 0.984 | 0.975 |
| 400  | 0.976 | 0.958 |
| 390  | 0.966 | 0.940 |
| 380  | 0.946 | 0.901 |
| 370  | 0.901 | 0.819 |
| 360  | 0.788 | 0.625 |
| 350  | 0.517 | 0.272 |
| 340  | 0.127 | 0.020 |
| 330  |       |       |
| 320  |       |       |
| 310  |       |       |
| 300  |       |       |
| 290  |       |       |
| 280  |       |       |

| Constants of Dispersion Formula |                 |
|---------------------------------|-----------------|
| $A_0$                           | 2.88897190E+00  |
| $A_1$                           | -1.26328327E-02 |
| $A_2$                           | 2.26898960E-02  |
| $A_3$                           | 1.15077142E-03  |
| $A_4$                           | -8.54940157E-05 |
| $A_5$                           | 7.07758016E-06  |

| Thermal Properties                          |      |
|---|------|
| $T_g$ ( $^{\circ}C$ )                       | 604  |
| $T_s$ ( $^{\circ}C$ )                       | 640  |
| $T_{10}^{14.5}$ ( $^{\circ}C$ )             | 530  |
| $T_{10}^{13}$ ( $^{\circ}C$ )               | 581  |
| $\alpha_{.50/80^{\circ}C}$ ( $10^{-7}/K$ )  | 71   |
| $\alpha_{100/300^{\circ}C}$ ( $10^{-7}/K$ ) | 88   |
| $\lambda$ (W/(m·K))                         | 0.95 |

| Mechanical Properties |       |
|-----------------------|-------|
| HK ( $10^7 Pa$ )      | 564   |
| $F_A$                 | 149   |
| E (GPa)               | 106.1 |
| G (GPa)               | 40.3  |
| $\mu$                 | 0.317 |
| $\sigma_b$ (MPa)      | 70    |
| B ( $10^{-12}/Pa$ )   | 2.25  |

| Density                     |      |
|-----------------------------|------|
| $\rho$ (g/cm <sup>3</sup> ) | 3.71 |

| 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                              | 2.4   | 2.8 | 3.1 | 3.1 | 3.1   | 3.3 | 3.6 | 4.1 | 4.2 | 4.7 |
| -40~-20                              | 2.4   | 2.8 | 3.1 | 3.1 | 3.1   | 3.3 | 3.5 | 4.2 | 4.3 | 4.8 |
| -20~0                                | 2.5   | 2.8 | 3.1 | 3.1 | 3.2   | 3.4 | 3.6 | 4.2 | 4.3 | 4.9 |
| 0~20                                 | 2.4   | 2.9 | 3.1 | 3.1 | 3.2   | 3.4 | 3.6 | 4.2 | 4.3 | 5.0 |
| 20~40                                | 2.4   | 2.9 | 3.1 | 3.1 | 3.2   | 3.4 | 3.7 | 4.3 | 4.4 | 5.0 |
| 40~60                                | 2.4   | 2.9 | 3.1 | 3.1 | 3.2   | 3.5 | 3.7 | 4.4 | 4.5 | 5.2 |
| 60~80                                | 2.5   | 3.0 | 3.2 | 3.3 | 3.4   | 3.6 | 3.8 | 4.6 | 4.7 | 5.3 |
| 80~100                               | 2.5   | 3.1 | 3.3 | 3.4 | 3.5   | 3.7 | 3.9 | 4.7 | 4.8 | 5.5 |
| 100~120                              | 2.7   | 3.2 | 3.5 | 3.5 | 3.6   | 3.9 | 4.1 | 4.9 | 5.0 | 5.7 |
| 120~140                              | 2.8   | 3.3 | 3.6 | 3.6 | 3.7   | 4.0 | 4.3 | 5.1 | 5.2 | 5.8 |
| 140~160                              | 3.0   | 3.4 | 3.8 | 3.8 | 3.9   | 4.2 | 4.4 | 5.2 | 5.3 | 5.9 |

| Coloration Code                        |         |
|--|---------|
| $\lambda_{80}(\lambda_{70})/\lambda_5$ | 380/340 |
| Coloration of Internal Transmittance   |         |
| $\lambda\tau_{80}/\lambda\tau_5$       | 365/342 |

| Constants of dn/dt |          |                |
|--------------------|----------|----------------|
| $D_0$              | $D_1$    | $D_2$          |
| 9.15E-07           | 1.15E-08 | -1.32E-11      |
| $E_0$              | $E_1$    | $\lambda_{TK}$ |
| 6.49E-07           | 4.46E-10 | 2.36E-01       |