

|               |               |                 |               |                              |
|---------------|---------------|-----------------|---------------|------------------------------|
| <b>H-LaK2</b> | <b>691547</b> | $n_d = 1.69100$ | $v_d = 54.70$ | $n_F - n_C = 0.012633$       |
|               |               | $n_e = 1.69401$ | $v_e = 54.48$ | $n_{F'} - n_{C'} = 0.012739$ |

| Refractive Indices |                |             |
|--------------------|----------------|-------------|
|                    | $\lambda$ (nm) | $n_\lambda$ |
| $n_{2325}$         | 2325.42        | 1.65330     |
| $n_{1970}$         | 1970.09        | 1.66043     |
| $n_{1530}$         | 1529.58        | 1.66812     |
| $n_{1129}$         | 1128.64        | 1.67471     |
| $n_{1064}$         | 1064.00        | 1.67587     |
| $n_t$              | 1013.98        | 1.67681     |
| $n_s$              | 852.11         | 1.68039     |
| $n_{A'}$           | 768.19         | 1.68280     |
| $n_r$              | 706.52         | 1.68499     |
| $n_C$              | 656.27         | 1.68715     |
| $n_{C'}$           | 643.85         | 1.68776     |
| $n_{He-Ne}$        | 632.80         | 1.68833     |
| $n_D$              | 589.29         | 1.69088     |
| $n_d$              | 587.56         | 1.69100     |
| $n_e$              | 546.07         | 1.69401     |
| $n_F$              | 486.13         | 1.69978     |
| $n_{F'}$           | 479.99         | 1.70050     |
| $n_g$              | 435.84         | 1.70665     |
| $n_h$              | 404.66         | 1.71235     |
| $n_i$              | 365.01         | 1.72209     |

| Constants of Dispersion Formula |                 |
|---------------------------------|-----------------|
| $A_0$                           | 2.80955685E+00  |
| $A_1$                           | -1.46673580E-02 |
| $A_2$                           | 1.68842607E-02  |
| $A_3$                           | 9.16821494E-04  |
| $A_4$                           | -7.97191507E-05 |
| $A_5$                           | 4.19772399E-06  |

| Density                     |      | Solarization        |      |
|-----------------------------|------|---------------------|------|
| $\rho$ (g/cm <sup>3</sup> ) | 3.63 | $\Delta\lambda$ (%) | -0.8 |

| Relative Partial Dispersion |        |
|-----------------------------|--------|
| $P_{d,C}$                   | 0.3048 |
| $P_{e,d}$                   | 0.2383 |
| $P_{g,F}$                   | 0.5438 |
| $P'_{d,c'}$                 | 0.2543 |
| $P'_{e,d}$                  | 0.2363 |
| $P'_{g,F'}$                 | 0.4828 |

| Deviation of Relative Partial Dispersions |         |
|---|---------|
| $\Delta P_{F,e}$                          | -0.0033 |
| $\Delta P_{g,F}$                          | -0.0089 |
| $\Delta P_{C,t}$                          | 0.0133  |
| $\Delta P_{C,s}$                          | 0.0034  |

| Thermal Properties                               |      |
|--|------|
| T <sub>g</sub> (°C)                              | 630  |
| T <sub>s</sub> (°C)                              | 661  |
| T <sub>10</sub> <sup>14.5</sup> (°C)             | 585  |
| T <sub>10</sub> <sup>13</sup> (°C)               | 602  |
| $\alpha_{50/80^\circ C}$ (10 <sup>-7</sup> /K)   | 57   |
| $\alpha_{100/300^\circ C}$ (10 <sup>-7</sup> /K) | 73   |
| $\lambda$ (W/(m·K))                              | 0.94 |

| Mechanical Properties     |       |
|---------------------------|-------|
| HK (10 <sup>7</sup> Pa)   | 528   |
| F <sub>A</sub>            | 94    |
| E (GPa)                   | 107.4 |
| G (GPa)                   | 41.7  |
| $\mu$                     | 0.287 |
| $\sigma_b$ (MPa)          | 92.0  |
| B (10 <sup>-12</sup> /Pa) | 1.96  |

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

| Expansion Coefficient $\alpha$ (×10 <sup>-7</sup> /K) |          |
|---|----------|
| °C  | $\alpha$ |
| -50/-40   | 52       |
| -40/-30   | 54       |
| -30/-20   | 56       |
| -20/-10   | 57       |
| -10/0   | 57       |
| 0/10  | 58       |
| 10/20   | 58       |
| 20/30   | 59       |
| 30/40   | 59       |
| 40/50   | 59       |
| 50/60   | 60       |
| 60/70   | 60       |
| 70/80   | 61       |
| 80/90   | 61       |
| 90/100  | 62       |
| 100/110   | 62       |
| 110/120   | 63       |
| 120/130   | 64       |
| 130/140   | 64       |
| 140/150   | 65       |
| 150/160   | 66       |

| Internal Transmittance |              |               |
|------------------------|--------------|---------------|
| $\lambda$ (nm)         | $\tau_{5mm}$ | $\tau_{10mm}$ |
| 2400                   | 0.766        | 0.579         |
| 2200                   | 0.919        | 0.846         |
| 2000                   | 0.973        | 0.955         |
| 1800                   | 0.989        | 0.986         |
| 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        | 0.995         |
| 420                    | 0.999        | 0.991         |
| 400                    | 0.994        | 0.985         |
| 390                    | 0.987        | 0.979         |
| 380                    | 0.980        | 0.965         |
| 370                    | 0.969        | 0.943         |
| 360                    | 0.948        | 0.906         |
| 350                    | 0.916        | 0.838         |
| 340                    | 0.867        | 0.757         |
| 330                    | 0.801        | 0.645         |
| 320                    | 0.712        | 0.509         |
| 310                    | 0.599        | 0.360         |
| 300                    | 0.449        | 0.202         |
| 290                    | 0.245        | 0.063         |
| 280                    |              |               |

| Coloration Code                        |         |
|--|---------|
| $\lambda_{80}(\lambda_{70})/\lambda_5$ | 360/290 |
| Coloration of Internal Transmittance   |         |
| $\lambda\tau_{80}/\lambda\tau_5$       | 335/287 |

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

| Constants of dn/dt |                |                |
|--------------------|----------------|----------------|
| D <sub>0</sub>     | D <sub>1</sub> | D <sub>2</sub> |
| 2.98E-06           | 1.59E-08       | -3.12E-11      |
| E <sub>0</sub>     | E <sub>1</sub> | $\lambda_{TK}$ |
| 4.05E-07           | -4.14E-11      | 1.83E-01       |