

## N-ZK7 508612.249

|                 |               |                              |
|-----------------|---------------|------------------------------|
| $n_d = 1.50847$ | $v_d = 61.19$ | $n_F - n_C = 0.008310$       |
| $n_e = 1.51045$ | $v_e = 60.98$ | $n_{F'} - n_{C'} = 0.008370$ |

| Refractive Indices |                |         |
|--------------------|----------------|---------|
|                    | $\lambda$ [nm] |         |
| $n_{2325.4}$       | 2325.4         | 1.48062 |
| $n_{1970.1}$       | 1970.1         | 1.48637 |
| $n_{1529.6}$       | 1529.6         | 1.49233 |
| $n_{1060.0}$       | 1060.0         | 1.49813 |
| $n_t$              | 1014.0         | 1.49876 |
| $n_s$              | 852.1          | 1.50129 |
| $n_r$              | 706.5          | 1.50445 |
| $n_C$              | 656.3          | 1.50592 |
| $n_{C'}$           | 643.8          | 1.50633 |
| $n_{632.8}$        | 632.8          | 1.50671 |
| $n_D$              | 589.3          | 1.50840 |
| $n_d$              | 587.6          | 1.50847 |
| $n_e$              | 546.1          | 1.51045 |
| $n_F$              | 486.1          | 1.51423 |
| $n_{F'}$           | 480.0          | 1.51470 |
| $n_g$              | 435.8          | 1.51869 |
| $n_h$              | 404.7          | 1.52238 |
| $n_i$              | 365.0          | 1.52865 |
| $n_{334.1}$        | 334.1          | 1.53538 |
| $n_{312.6}$        | 312.6          | 1.54155 |
| $n_{296.7}$        | 296.7          |         |
| $n_{280.4}$        | 280.4          |         |
| $n_{248.3}$        | 248.3          |         |

| Internal Transmittance $\tau_i$ |                 |                 |
|---------------------------------|-----------------|-----------------|
| $\lambda$ [nm]                  | $\tau_i$ (10mm) | $\tau_i$ (25mm) |
| 2500                            | 0.657           | 0.350           |
| 2325                            | 0.847           | 0.660           |
| 1970                            | 0.971           | 0.930           |
| 1530                            | 0.990           | 0.976           |
| 1060                            | 0.998           | 0.994           |
| 700                             | 0.998           | 0.996           |
| 660                             | 0.998           | 0.994           |
| 620                             | 0.998           | 0.994           |
| 580                             | 0.998           | 0.995           |
| 546                             | 0.998           | 0.995           |
| 500                             | 0.997           | 0.993           |
| 460                             | 0.995           | 0.988           |
| 436                             | 0.994           | 0.984           |
| 420                             | 0.992           | 0.981           |
| 405                             | 0.991           | 0.977           |
| 400                             | 0.990           | 0.975           |
| 390                             | 0.987           | 0.969           |
| 380                             | 0.982           | 0.956           |
| 370                             | 0.976           | 0.940           |
| 365                             | 0.971           | 0.930           |
| 350                             | 0.941           | 0.860           |
| 334                             | 0.852           | 0.670           |
| 320                             | 0.686           | 0.390           |
| 310                             | 0.492           | 0.170           |
| 300                             | 0.221           | 0.030           |
| 290                             | 0.032           |                 |
| 280                             |                 |                 |
| 270                             |                 |                 |
| 260                             |                 |                 |
| 250                             |                 |                 |

| Relative Partial Dispersion |        |
|-----------------------------|--------|
| $P_{s,t}$                   | 0.3049 |
| $P_{C,s}$                   | 0.5570 |
| $P_{d,C}$                   | 0.3069 |
| $P_{e,d}$                   | 0.2386 |
| $P_{g,F}$                   | 0.5370 |
| $P_{i,h}$                   | 0.7543 |
|                             |        |
| $P'_{s,t}$                  | 0.3027 |
| $P'_{C',s}$                 | 0.6017 |
| $P'_{d,C'}$                 | 0.2560 |
| $P'_{e,d}$                  | 0.2369 |
| $P'_{g,F'}$                 | 0.4771 |
| $P'_{i,h}$                  | 0.7488 |

### Deviation of Relative Partial Dispersions $\Delta P$ from the "Normal Line"

|                  |         |
|------------------|---------|
| $\Delta P_{C,t}$ | 0.0267  |
| $\Delta P_{C,s}$ | 0.0115  |
| $\Delta P_{F,e}$ | -0.0017 |
| $\Delta P_{g,F}$ | -0.0039 |
| $\Delta P_{i,g}$ | -0.0129 |

| Constants of Dispersion Formula |               |
|---------------------------------|---------------|
| $B_1$                           | 1.07715032    |
| $B_2$                           | 0.168079109   |
| $B_3$                           | 0.851889892   |
| $C_1$                           | 0.00676601657 |
| $C_2$                           | 0.0230642817  |
| $C_3$                           | 89.0498778    |

| Constants of Dispersion $dn/dT$ |                        |
|---------------------------------|------------------------|
| $D_0$                           | $1.15 \cdot 10^{-5}$   |
| $D_1$                           | $1.73 \cdot 10^{-8}$   |
| $D_2$                           | $-8.06 \cdot 10^{-11}$ |
| $E_0$                           | $4.32 \cdot 10^{-7}$   |
| $E_1$                           | $7.05 \cdot 10^{-10}$  |
| $\lambda_{TK} [\mu m]$          | 0.179                  |

| Color Code                      |       |
|---------------------------------|-------|
| $\lambda_{80}/\lambda_5$        | 34/29 |
| (* = $\lambda_{70}/\lambda_5$ ) |       |

| Remarks |  |
|---------|--|
|         |  |

| Other Properties                        |       |
|---|-------|
| $\alpha_{-30/+70^\circ C} [10^{-6}/K]$  | 4.5   |
| $\alpha_{+20/+300^\circ C} [10^{-6}/K]$ | 5.2   |
| $T_g [^\circ C]$                        | 539   |
| $T_{10}^{13.0} [^\circ C]$              | 0     |
| $T_{10}^{7.6} [^\circ C]$               | 721   |
| $c_p [J/(g \cdot K)]$                   | 0.770 |
| $\lambda [W/(m \cdot K)]$               | 1.042 |
|   |       |
| $\rho [g/cm^3]$                         | 2.49  |
| $E [10^3 N/mm^2]$                       | 70    |
| $\mu$                                   | 0.214 |
| $K [10^{-6} mm^2/N]$                    | 3.63  |
| $HK_{0.1/20}$                           | 530   |
| <b>HG</b>                               | 4     |
|   |       |
|   |       |
|   |       |
| <b>CR</b>                               | 1     |
| <b>FR</b>                               | 0     |
| <b>SR</b>                               | 2     |
| <b>AR</b>                               | 1.2   |
| <b>PR</b>                               | 2.2   |
|   |       |
|   |       |

| Temperature Coefficients of Refractive Index |                                       |     |     |                                       |     |     |
|--|---------------------------------------|-----|-----|---------------------------------------|-----|-----|
| [ $^\circ C$ ]                               | $\Delta n_{rel}/\Delta T [10^{-6}/K]$ |     |     | $\Delta n_{abs}/\Delta T [10^{-6}/K]$ |     |     |
|  | 1060.0                                | e   | g   | 1060.0                                | e   | g   |
| -40/ -20                                     | 5.9                                   | 6.5 | 7.0 | 3.9                                   | 4.5 | 4.9 |
| +20/ +40                                     | 6.4                                   | 7.0 | 7.6 | 5.1                                   | 5.7 | 6.3 |
| +60/ +80                                     | 6.4                                   | 7.2 | 7.8 | 5.4                                   | 6.2 | 6.8 |