# Data Sheet

SCHOTT

## N-LAK8
## 713538.375

| | | |
|---|---|---|
| $n_d = 1.71300$ | $\nu_d = 53.83$ | $n_F - n_C = 0.013245$ |
| $n_e = 1.71616$ | $\nu_e = 53.61$ | $n_{F'} - n_{C'} = 0.013359$ |

### Refractive Indices

| | λ [nm] | |
|---|---|---|
| $n_{2325.4}$ | 2325.4 | 1.67294 |
| $n_{1970.1}$ | 1970.1 | 1.68075 |
| $n_{1529.6}$ | 1529.6 | 1.68890 |
| $n_{1060.0}$ | 1060.0 | 1.69710 |
| $n_t$ | 1014.0 | 1.69802 |
| $n_s$ | 852.1 | 1.70181 |
| $n_r$ | 706.5 | 1.70668 |
| $n_C$ | 656.3 | 1.70897 |
| $n_{C'}$ | 643.8 | 1.70962 |
| $n_{632.8}$ | 632.8 | 1.71022 |
| $n_D$ | 589.3 | 1.71289 |
| $n_d$ | 587.6 | 1.71300 |
| $n_e$ | 546.1 | 1.71616 |
| $n_F$ | 486.1 | 1.72222 |
| $n_{F'}$ | 480.0 | 1.72297 |
| $n_g$ | 435.8 | 1.72944 |
| $n_h$ | 404.7 | 1.73545 |
| $n_i$ | 365.0 | 1.74573 |
| $n_{334.1}$ | 334.1 | 1.75687 |
| $n_{312.6}$ | 312.6 | |
| $n_{296.7}$ | 296.7 | |
| $n_{280.4}$ | 280.4 | |
| $n_{248.3}$ | 248.3 | |

### Constants of Dispersion Formula

| | |
|---|---|
| $B_1$ | 1.33183167 |
| $B_2$ | 0.546623206 |
| $B_3$ | 1.19084015 |
| $C_1$ | 0.00620023871 |
| $C_2$ | 0.0216465439 |
| $C_3$ | 82.5827736 |

### Constants of Dispersion dn/dT

| | |
|---|---|
| $D_0$ | $4.10 \cdot 10^{-6}$ |
| $D_1$ | $1.25 \cdot 10^{-8}$ |
| $D_2$ | $-1.60 \cdot 10^{-11}$ |
| $E_0$ | $4.30 \cdot 10^{-7}$ |
| $E_1$ | $6.29 \cdot 10^{-10}$ |
| $\lambda_{TK}$ [µm] | 0.213 |

### Internal Transmittance $\tau_i$

| λ [nm] | $\tau_i$ (10mm) | $\tau_i$ (25mm) |
|---|---|---|
| **2500** | 0.398 | 0.100 |
| **2325** | 0.707 | 0.420 |
| **1970** | 0.950 | 0.880 |
| **1530** | 0.992 | 0.979 |
| **1060** | 0.998 | 0.994 |
| **700** | 0.998 | 0.996 |
| **660** | 0.998 | 0.995 |
| **620** | 0.998 | 0.994 |
| **580** | 0.998 | 0.994 |
| **546** | 0.998 | 0.995 |
| **500** | 0.998 | 0.994 |
| **460** | 0.995 | 0.987 |
| **436** | 0.992 | 0.979 |
| **420** | 0.988 | 0.970 |
| **405** | 0.981 | 0.952 |
| **400** | 0.977 | 0.943 |
| **390** | 0.965 | 0.915 |
| **380** | 0.946 | 0.870 |
| **370** | 0.905 | 0.780 |
| **365** | 0.877 | 0.720 |
| **350** | 0.739 | 0.470 |
| **334** | 0.509 | 0.185 |
| **320** | 0.276 | 0.040 |
| **310** | 0.137 | 0.010 |
| **300** | 0.044 | |
| **290** | 0.010 | |
| **280** | | |
| **270** | | |
| **260** | | |
| **250** | | |
| | | |
| | | |

### Color Code

| | |
|---|---|
| $\lambda_{80}/\lambda_5$ | 37/30 |
| (*= $\lambda_{70}/\lambda_5$) | |

### Remarks

### Relative Partial Dispersion

| | |
|---|---|
| $P_{s,t}$ | 0.2861 |
| $P_{C,s}$ | 0.5408 |
| $P_{d,C}$ | 0.3042 |
| $P_{e,d}$ | 0.2383 |
| $P_{g,F}$ | 0.5450 |
| $P_{i,h}$ | 0.7764 |
| | |
| $P'_{s,t}$ | 0.2836 |
| $P'_{C',s}$ | 0.5843 |
| $P'_{d,C'}$ | 0.2536 |
| $P'_{e,d}$ | 0.2363 |
| $P'_{g,F'}$ | 0.4838 |
| $P'_{i,h}$ | 0.7698 |

### Deviation of Relative Partial Dispersions ΔP from the "Normal Line"

| | |
|---|---|
| $\Delta P_{C,t}$ | 0.0266 |
| $\Delta P_{C,s}$ | 0.0124 |
| $\Delta P_{F,e}$ | -0.0026 |
| $\Delta P_{g,F}$ | -0.0083 |
| $\Delta P_{i,g}$ | -0.0428 |

### Other Properties

| | |
|---|---|
| $\alpha_{-30/+70°C}$ [$10^{-6}$/K] | 5.6 |
| $\alpha_{+20/+300°C}$ [$10^{-6}$/K] | 6.7 |
| $T_g$ [°C] | 643 |
| $T_{10}^{13.0}$ [°C] | 635 |
| $T_{10}^{7.6}$ [°C] | 717 |
| $c_p$ [J/(g·K)] | 0.620 |
| λ [W/(m·K)] | 0.840 |
| | |
| ρ [g/cm$^3$] | 3.75 |
| **E** [$10^3$ N/mm$^2$] | 115 |
| μ | 0.289 |
| **K** [$10^{-6}$ mm$^2$/N] | 1.81 |
| $HK_{0.1/20}$ | 740 |
| **HG** | 2 |
| | |
| | |
| | |
| **CR** | 3 |
| **FR** | 2 |
| **SR** | 52.3 |
| **AR** | 1 |
| **PR** | 3.3 |
| | |
| | |
| | |

### Temperature Coefficients of Refractive Index

| | $\Delta n_{rel}/\Delta T$ [$10^{-6}$/K] | | | $\Delta n_{abs}/\Delta T$ [$10^{-6}$/K] | | |
|---|---|---|---|---|---|---|
| **[°C]** | **1060.0** | **e** | **g** | **1060.0** | **e** | **g** |
| **-40/ -20** | 4.0 | 4.7 | 5.4 | 1.7 | 2.4 | 3.0 |
| **+20/ +40** | 4.1 | 5.0 | 5.8 | 2.6 | 3.5 | 4.3 |
| **+60/ +80** | 4.3 | 5.2 | 6.2 | 3.1 | 4.1 | 5.0 |