# Data Sheet

SCHOTT

## N-LAF7
## 749348.373

| | | |
|---|---|---|
| $n_d$ = 1.74950 | $\nu_d$ = 34.82 | $n_F - n_C$ = 0.021525 |
| $n_e$ = 1.75459 | $\nu_e$ = 34.56 | $n_{F'} - n_{C'}$ = 0.021833 |

### Refractive Indices

| | λ [nm] | |
|---|---|---|
| $n_{2325.4}$ | 2325.4 | 1.70344 |
| $n_{1970.1}$ | 1970.1 | 1.71021 |
| $n_{1529.6}$ | 1529.6 | 1.71772 |
| $n_{1060.0}$ | 1060.0 | 1.72659 |
| $n_t$ | 1014.0 | 1.72773 |
| $n_s$ | 852.1 | 1.73272 |
| $n_r$ | 706.5 | 1.73972 |
| $n_C$ | 656.3 | 1.74320 |
| $n_{C'}$ | 643.8 | 1.74419 |
| $n_{632.8}$ | 632.8 | 1.74511 |
| $n_D$ | 589.3 | 1.74931 |
| $n_d$ | 587.6 | 1.74950 |
| $n_e$ | 546.1 | 1.75459 |
| $n_F$ | 486.1 | 1.76472 |
| $n_{F'}$ | 480.0 | 1.76602 |
| $n_g$ | 435.8 | 1.77741 |
| $n_h$ | 404.7 | 1.78854 |
| $n_i$ | 365.0 | |
| $n_{334.1}$ | 334.1 | |
| $n_{312.6}$ | 312.6 | |
| $n_{296.7}$ | 296.7 | |
| $n_{280.4}$ | 280.4 | |
| $n_{248.3}$ | 248.3 | |

### Constants of Dispersion Formula

| | |
|---|---|
| $B_1$ | 1.74028764 |
| $B_2$ | 0.226710554 |
| $B_3$ | 1.325255480 |
| $C_1$ | 0.01079255800 |
| $C_2$ | 0.0538626639 |
| $C_3$ | 106.2686650 |

### Constants of Formula for dn/dT

| | |
|---|---|
| $D_0$ | 9.21E-07 |
| $D_1$ | 1.10E-08 |
| $D_2$ | -1.75E-11 |
| $E_0$ | 7.67E-07 |
| $E_1$ | 1.10E-09 |
| $\lambda_{TK}$ [µm] | 0.264 |

### Internal Transmittance $\tau_i$

| λ [nm] | $\tau_i$ [10mm] | $\tau_i$ [25mm] |
|---|---|---|
| **2500** | 0.680 | 0.380 |
| **2325** | 0.870 | 0.700 |
| **1970** | 0.960 | 0.900 |
| **1530** | 0.993 | 0.982 |
| **1060** | 0.998 | 0.996 |
| **700** | 0.997 | 0.992 |
| **660** | 0.995 | 0.988 |
| **620** | 0.994 | 0.985 |
| **580** | 0.992 | 0.980 |
| **546** | 0.988 | 0.970 |
| **500** | 0.971 | 0.930 |
| **460** | 0.940 | 0.850 |
| **436** | 0.900 | 0.770 |
| **420** | 0.860 | 0.680 |
| **405** | 0.780 | 0.540 |
| **400** | 0.750 | 0.490 |
| **390** | 0.660 | 0.350 |
| **380** | 0.520 | 0.190 |
| **370** | 0.300 | 0.050 |
| **365** | 0.170 | 0.010 |
| **350** | | |
| **334** | | |
| **320** | | |
| **310** | | |
| **300** | | |
| **290** | | |
| **280** | | |
| **270** | | |
| **260** | | |
| **250** | | |
| | | |

### Color Code

| | |
|---|---|
| $\lambda_{80}$ / $\lambda_5$ | 46/36 |

(*= $\lambda_{70}/\lambda_5$)

### Remarks

### Relative Partial Dispersion

| | |
|---|---|
| $P_{s,t}$ | 0.2317 |
| $P_{C,s}$ | 0.4870 |
| $P_{d,C}$ | 0.2928 |
| $P_{e,d}$ | 0.2366 |
| $P_{g,F}$ | 0.5894 |
| $P_{i,h}$ | |
| | |
| $P'_{s,t}$ | 0.2284 |
| $P'_{C',s}$ | 0.5254 |
| $P'_{d,C'}$ | 0.2434 |
| $P'_{e,d}$ | 0.2333 |
| $P'_{g,F'}$ | 0.5218 |
| $P'_{i,h}$ | |

### Deviation of Relative Partial Dispersion ΔP from the normal line

| | |
|---|---|
| $\Delta P_{C,t}$ | 0.0085 |
| $\Delta P_{C,s}$ | 0.0029 |
| $\Delta P_{F,e}$ | 0.0005 |
| $\Delta P_{g,F}$ | 0.0042 |
| $\Delta P_{i,g}$ | |

### Other Properties

| | |
|---|---|
| $\alpha_{-30/+70°C}$ [$10^{-6}$/K] | 7.3 |
| $\alpha_{+20/+300°C}$ [$10^{-6}$/K] | 8.4 |
| $T_g$ [°C] | 568 |
| $T_{10^{13}}$ [°C] | 563 |
| $T_{10^{7.6}}$ [°C] | 669 |
| $c_p$ [J/(g*K)] | 0.620 |
| λ [W/(m•K)] | 0.830 |
| | |
| ρ [g/cm$^3$] | 3.73 |
| E [$10^3$ N/mm$^2$] | 96 |
| µ | 0.271 |
| K [$10^{-6}$ mm$^2$/N] | 2.57 |
| $HK_{0.1/20}$ | 530 |
| HG | 5 |
| | |
| | |
| | |
| CR | 1 |
| FR | 2 |
| SR | 51.3 |
| AR | 1.2 |
| PR | 1.2 |
| | |
| | |

### Temperature Coefficients of the 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** | 2.5 | 3.9 | 5.6 | 0.2 | 1.5 | 3.1 |
| **+20/+40** | 2.6 | 4.3 | 6.3 | 1.1 | 2.7 | 4.7 |
| **+60/+80** | 2.7 | 4.6 | 6.8 | 1.6 | 3.4 | 5.6 |