# Data Sheet

SCHOTT

## N-LASF44
## 804465.444

| | | |
|---|---|---|
| $n_d = 1.80420$ | $\nu_d = 46.50$ | $n_F - n_C = 0.017294$ |
| $n_e = 1.80832$ | $\nu_e = 46.25$ | $n_{F'} - n_{C'} = 0.017476$ |

### Refractive Indices

| | λ [nm] | |
|---|---|---|
| $n_{2325.4}$ | 2325.4 | 1.76070 |
| $n_{1970.1}$ | 1970.1 | 1.76801 |
| $n_{1529.6}$ | 1529.6 | 1.77590 |
| $n_{1060.0}$ | 1060.0 | 1.78455 |
| $n_t$ | 1014.0 | 1.78560 |
| $n_s$ | 852.1 | 1.79006 |
| $n_r$ | 706.5 | 1.79609 |
| $n_C$ | 656.3 | 1.79901 |
| $n_{C'}$ | 643.8 | 1.79983 |
| $n_{632.8}$ | 632.8 | 1.80060 |
| $n_D$ | 589.3 | 1.80405 |
| $n_d$ | 587.6 | 1.80420 |
| $n_e$ | 546.1 | 1.80832 |
| $n_F$ | 486.1 | 1.81630 |
| $n_{F'}$ | 480.0 | 1.81731 |
| $n_g$ | 435.8 | 1.82594 |
| $n_h$ | 404.7 | 1.83405 |
| $n_i$ | 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

| | |
|---|---|
| $B_1$ | 1.78897105 |
| $B_2$ | 0.38675867 |
| $B_3$ | 1.30506243 |
| $C_1$ | 0.00872506277 |
| $C_2$ | 0.0308085023 |
| $C_3$ | 92.7743824 |

### Constants of Dispersion dn/dT

| | |
|---|---|
| $D_0$ | $3.32 \cdot 10^{-6}$ |
| $D_1$ | $1.12 \cdot 10^{-8}$ |
| $D_2$ | $-8.52 \cdot 10^{-12}$ |
| $E_0$ | $5.88 \cdot 10^{-7}$ |
| $E_1$ | $7.13 \cdot 10^{-10}$ |
| $\lambda_{TK}$ [µm] | 0.209 |

### Internal Transmittance $\tau_i$

| λ [nm] | $\tau_i$ (10mm) | $\tau_i$ (25mm) |
|---|---|---|
| **2500** | 0.468 | 0.150 |
| **2325** | 0.739 | 0.470 |
| **1970** | 0.946 | 0.870 |
| **1530** | 0.990 | 0.975 |
| **1060** | 0.998 | 0.995 |
| **700** | 0.998 | 0.996 |
| **660** | 0.998 | 0.995 |
| **620** | 0.998 | 0.995 |
| **580** | 0.998 | 0.995 |
| **546** | 0.998 | 0.995 |
| **500** | 0.996 | 0.989 |
| **460** | 0.991 | 0.977 |
| **436** | 0.986 | 0.965 |
| **420** | 0.980 | 0.950 |
| **405** | 0.967 | 0.920 |
| **400** | 0.963 | 0.910 |
| **390** | 0.946 | 0.870 |
| **380** | 0.911 | 0.793 |
| **370** | 0.860 | 0.685 |
| **365** | 0.823 | 0.615 |
| **350** | 0.658 | 0.351 |
| **334** | 0.378 | 0.088 |
| **320** | 0.152 | |
| **310** | 0.068 | |
| **300** | 0.029 | |
| **290** | | |
| **280** | | |
| **270** | | |
| **260** | | |
| **250** | | |
| | | |
| | | |

### Color Code

| | |
|---|---|
| $\lambda_{80}/\lambda_5$ | 40/31 |
| (*= $\lambda_{70}/\lambda_5$) | |

### Remarks

### Relative Partial Dispersion

| | |
|---|---|
| $P_{s,t}$ | 0.2582 |
| $P_{C,s}$ | 0.5171 |
| $P_{d,C}$ | 0.3002 |
| $P_{e,d}$ | 0.2380 |
| $P_{g,F}$ | 0.5572 |
| $P_{i,h}$ | |
| | |
| $P'_{s,t}$ | 0.2555 |
| $P'_{C',s}$ | 0.5588 |
| $P'_{d,C'}$ | 0.2501 |
| $P'_{e,d}$ | 0.2355 |
| $P'_{g,F'}$ | 0.4941 |
| $P'_{i,h}$ | |

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

| | |
|---|---|
| $\Delta P_{C,t}$ | 0.0098 |
| $\Delta P_{C,s}$ | 0.0058 |
| $\Delta P_{F,e}$ | -0.0021 |
| $\Delta P_{g,F}$ | -0.0084 |
| $\Delta P_{i,g}$ | |

### Other Properties

| | |
|---|---|
| $\alpha_{-30/+70°C}$ [$10^{-6}$/K] | 6.2 |
| $\alpha_{+20/+300°C}$ [$10^{-6}$/K] | 7.4 |
| $T_g$ [°C] | 655 |
| $T_{10}^{13.0}$ [°C] | 659 |
| $T_{10}^{7.6}$ [°C] | 742 |
| $c_p$ [J/(g·K)] | 0.530 |
| λ [W/(m·K)] | 0.820 |
| | |
| ρ [g/cm$^3$] | 4.44 |
| **E** [$10^3$ N/mm$^2$] | 124 |
| μ | 0.293 |
| **K** [$10^{-6}$ mm$^2$/N] | 1.41 |
| **HK**$_{0.1/20}$ | 770 |
| **HG** | 2 |
| | |
| | |
| | |
| **CR** | 1 |
| **FR** | 1 |
| **SR** | 4 |
| **AR** | 1 |
| **PR** | 1 |
| | |
| | |
| | |

### 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 | 5.1 | 6.1 | 1.6 | 2.6 | 3.6 |
| **+20/ +40** | 4.0 | 5.3 | 6.5 | 2.5 | 3.7 | 4.9 |
| **+60/ +80** | 4.2 | 5.6 | 6.9 | 3.0 | 4.4 | 5.7 |