

|           |               |                 |                 |                              |
|-----------|---------------|-----------------|-----------------|------------------------------|
| <b>F3</b> | <b>617366</b> | $n_d = 1.61659$ | $\nu_d = 36.61$ | $n_F - n_c = 0.016840$       |
|           |               | $n_e = 1.62058$ | $\nu_e = 36.35$ | $n_{F'} - n_{c'} = 0.017071$ |

| Refractive Indices  |   |         | Relative Partial Dispersions           |        |             |        | Internal Transmittance   |             |              |
|---|---|---------|--|--------|-------------|--------|--------------------------|-------------|--------------|
|   | $\lambda$ (nm)                          |         | $P_{d,c}$                              | 0.2938 | $P'_{d,c'}$ | 0.2444 | $\lambda$ (nm)           | $\tau$ 5 mm | $\tau$ 10 mm |
| $n_t$   | 1014.0                                  | 1.59954 | $P_{e,d}$                              | 0.2370 | $P'_{e,d}$  | 0.2338 | 2400                     | 0.915       | 0.837        |
| $n_r$   | 706.5                                   | 1.60891 | $P_{g,F}$                              | 0.5808 | $P'_{g,F'}$ | 0.5137 | 2200                     | 0.940       | 0.884        |
| $n_c$   | 656.3                                   | 1.61164 |  |        |             |        | 2000                     | 0.970       | 0.941        |
| $n_{c'}$  | 643.8                                   | 1.61242 | <b>Chemical Properties</b>             |        |             |        | 1800                     | 0.982       | 0.964        |
| $n_{He-Ne}$   | 632.8                                   | 1.61315 | Grade                                  |        |             |        | 1600                     | 0.994       | 0.988        |
| $n_D$   | 589.3                                   | 1.61644 | RC(S)                                  |        | 3           |        | 1400                     | 0.998       | 0.996        |
| $n_d$   | 587.6                                   | 1.61659 | RA(S)                                  |        | 1           |        | 1200                     | 0.998       | 0.996        |
| $n_e$   | 546.1                                   | 1.62058 | D <sub>W</sub>                         |        | 2           |        | 1060                     | 0.998       | 0.996        |
| $n_F$   | 486.1                                   | 1.62848 | D <sub>A</sub>                         |        | 1           |        | 1000                     | 0.998       | 0.996        |
| $n_{F'}$  | 480.0                                   | 1.62949 |  |        |             |        | 950                      | 0.998       | 0.996        |
| $n_g$   | 435.8                                   | 1.63826 | <b>Thermal Properties</b>              |        |             |        | 900                      | 0.998       | 0.996        |
| $n_h$   | 404.7                                   | 1.64673 | $T_g$ (°C)                             |        | 430         |        | 850                      | 0.998       | 0.996        |
| $n_i$   | 365.0                                   | 1.66202 | $T_s$ (°C)                             |        | 490         |        | 800                      | 0.998       | 0.996        |
|   |   |         | $T_{10}^{14.5}$ (°C)                   |        | 379         |        | 700                      | 0.999       | 0.998        |
|   |   |         | $T_{10}^{13}$ (°C)                     |        | 418         |        | 650                      | 0.999       | 0.998        |
|   |   |         | $T_{10}^{7.6}$ (°C)                    |        | 589         |        | 600                      | 0.999       | 0.998        |
|   |   |         | $\alpha_{20/120^\circ C} (10^{-7}/K)$  |        | 88          |        | 550                      | 0.999       | 0.998        |
|   |   |         | $\alpha_{100/300^\circ C} (10^{-7}/K)$ |        | 100         |        | 500                      | 0.999       | 0.998        |
|   |   |         | $\lambda$ (W/m · K)                    |        |             |        | 480                      | 0.998       | 0.996        |
|   |   |         |  |        |             |        | 460                      | 0.998       | 0.996        |
| <b>Constants of Dispersion Formula</b>  |   |         | <b>Mechanical Properties</b>           |        |             |        | 440                      | 0.997       | 0.994        |
| $A_0$   | 2.5442823                               |         | $H_K$ ( $10^7$ Pa)                     |        | 430         |        | 420                      | 0.996       | 0.992        |
| $A_1$   | $-8.3530761 \times 10^{-3}$             |         | $F_A$                                  |        | 89          |        | 400                      | 0.994       | 0.989        |
| $A_2$   | $2.2823181 \times 10^{-2}$              |         | $E$ ( $10^7$ Pa)                       |        | 5608        |        | 390                      | 0.989       | 0.979        |
| $A_3$   | $6.7021492 \times 10^{-4}$              |         | $G$ ( $10^7$ Pa)                       |        | 2307        |        | 380                      | 0.982       | 0.965        |
| $A_4$   | $1.0429482 \times 10^{-6}$              |         | $\mu$                                  |        | 0.215       |        | 370                      | 0.977       | 0.955        |
| $A_5$   | $3.0329738 \times 10^{-6}$              |         | $B$ ( $10^{-12}$ /Pa)                  |        |             |        | 360                      | 0.962       | 0.925        |
| <b>Deviation of Relative Partial Dispersions <math>\Delta P</math> from the "Normal Line"</b> |   |         |  |        |             |        | 350                      | 0.929       | 0.863        |
| $\Delta P_{Fe}$   | -0.0004                                 |         | <b>Other Properties</b>                |        |             |        | 340                      | 0.85        | 0.72         |
| $\Delta P_{g,F}$  | -0.0026                                 |         | $\rho$ (g/cm <sup>3</sup> )            |        | 3.57        |        | 330                      | 0.63        | 0.40         |
|   |   |         |  |        |             |        | 320                      | 0.22        | 0.05         |
|   |   |         |  |        |             |        | 310                      |             |              |
|   |   |         |  |        |             |        | 300                      |             |              |
|   |   |         |  |        |             |        | 290                      |             |              |
|   |   |         |  |        |             |        | 280                      |             |              |
|   |   |         |  |        |             |        | <b>Coloration Code</b>   |             |              |
|   |   |         |  |        |             |        | $\lambda_{80}/\lambda_5$ | 35/32       |              |
|   |   |         |  |        |             |        |                          |             |              |
| <b>Temperature Coefficients of Refractive Index</b>   |   |         |  |        |             |        |                          |             |              |
| Rang of Temperature   | $dn/dt$ relative ( $10^{-6}/^\circ C$ ) |         |  |        |             |        |                          |             |              |
|   | t                                       | $C'$    | d                                      | e      | $F'$        | g      |                          |             |              |
| -40~-20   | 1.3                                     | 2.3     | 2.9                                    | 3.2    | 4.1         | 4.7    |                          |             |              |
| -20~0   | 1.9                                     | 2.8     | 3.2                                    | 3.4    | 4.2         | 4.9    |                          |             |              |
| 0~20  | 2.1                                     | 2.8     | 3.2                                    | 3.4    | 4.7         | 5.8    |                          |             |              |
| 20~40   | 2.3                                     | 3.1     | 3.4                                    | 3.7    | 4.7         | 5.8    |                          |             |              |
| 40~60   | 2.5                                     | 3.3     | 3.5                                    | 4.3    | 5.1         | 5.9    |                          |             |              |
| 60~80   | 2.6                                     | 3.4     | 3.7                                    | 4.5    | 5.2         | 6.2    |                          |             |              |