

S-FTM16

Code(d) **593353**

Code(e) **597350**

| | | | | | |
|------------------------|----------------------------|-------------------|----------------------|-----------------------|----------------------------|
| Refractive Index n_d | 1.59270 1.592701 | Abbe Number v_d | 35.3 35.31 | Dispersion n_F-n_C | 0.01679 0.016785 |
| Refractive Index n_e | 1.596670 | Abbe Number v_e | 35.03 | Dispersion n_F-n_C' | 0.017031 |

| Refractive Indices | | |
|------------------------|----------|---------|
| $\lambda(\mu\text{m})$ | | |
| n_{2325} | 2.32542 | 1.55603 |
| n_{1970} | 1.97009 | 1.56154 |
| n_{1530} | 1.52958 | 1.56767 |
| n_{1129} | 1.12864 | 1.57357 |
| n_t | 1.01398 | 1.57569 |
| n_s | 0.85211 | 1.57962 |
| $n_{A'}$ | 0.76819 | 1.58243 |
| n_r | 0.70652 | 1.58508 |
| n_C | 0.65627 | 1.58779 |
| $n_{C'}$ | 0.64385 | 1.58856 |
| $n_{\text{He-Ne}}$ | 0.6328 | 1.58929 |
| n_D | 0.58929 | 1.59255 |
| n_d | 0.58756 | 1.59270 |
| n_e | 0.54607 | 1.59667 |
| n_F | 0.48613 | 1.60458 |
| $n_{F'}$ | 0.47999 | 1.60559 |
| $n_{\text{He-Cd}}$ | 0.44157 | 1.61318 |
| n_g | 0.435835 | 1.61454 |
| n_h | 0.404656 | 1.62334 |
| n_i | 0.365015 | 1.63974 |

| Partial Dispersions | |
|---------------------|----------|
| n_C-n_t | 0.012104 |
| $n_C-n_{A'}$ | 0.005365 |
| n_d-n_C | 0.004906 |
| n_e-n_C | 0.008875 |
| n_g-n_d | 0.021838 |
| n_g-n_F | 0.009959 |
| n_h-n_g | 0.008800 |
| n_i-n_g | 0.025202 |
| n_C-n_t | 0.012872 |
| $n_e-n_{C'}$ | 0.008107 |
| $n_{F'-n_e}$ | 0.008924 |
| $n_i-n_{F'}$ | 0.034147 |

| Relative Partial Dispersions | |
|------------------------------|--------|
| $\theta_{C,t}$ | 0.7211 |
| $\theta_{C,A'}$ | 0.3196 |
| $\theta_{d,C}$ | 0.2923 |
| $\theta_{e,C}$ | 0.5287 |
| $\theta_{g,d}$ | 1.3010 |
| $\theta_{g,F}$ | 0.5933 |
| $\theta_{h,g}$ | 0.5243 |
| $\theta_{i,g}$ | 1.5015 |
| $\theta'_{C,t}$ | 0.7558 |
| $\theta'_{e,C'}$ | 0.4760 |
| $\theta'_{F',e}$ | 0.5240 |
| $\theta'_{i,F}$ | 2.0050 |

| Thermal Properties | |
|---|-------|
| Strain Point StP (°C) | -- |
| Annealing Point AP (°C) | -- |
| Transformation Temperature Tg (°C) | 501 |
| Yield Point At (°C) | 542 |
| Softening Point SP (°C) | -- |
| Expansion Coefficients (-30~+70°C) | 90 |
| α (10 ⁻⁷ /°C) (+100~+300°C) | 100 |
| Thermal Conductivity k (W/m·K) | 0.947 |

| Coloring | | | |
|----------------|----|-------------|----|
| λ_{80} | 38 | λ_5 | 35 |
| λ_{70} | | | |

| Internal Transmittance | |
|------------------------|----------------------|
| $\lambda(\text{nm})$ | $\tau_{10\text{mm}}$ |
| 280 | |
| 290 | |
| 300 | |
| 310 | |
| 320 | |
| 330 | |
| 340 | |
| 350 | 0.04 |
| 360 | 0.43 |
| 370 | 0.81 |
| 380 | 0.934 |
| 390 | 0.973 |
| 400 | 0.984 |
| 420 | 0.989 |
| 440 | 0.990 |
| 460 | 0.991 |
| 480 | 0.992 |
| 500 | 0.994 |
| 550 | 0.997 |
| 600 | 0.997 |
| 650 | 0.996 |
| 700 | 0.996 |
| 800 | 0.999 |
| 900 | 0.999 |
| 1000 | 0.999 |
| 1200 | 0.999 |
| 1400 | 0.996 |
| 1600 | 0.994 |
| 1800 | 0.989 |
| 2000 | 0.987 |
| 2200 | 0.959 |
| 2400 | 0.953 |

| Deviation of Relative Dispersions $\Delta\theta$ from "Normal" | |
|--|--------|
| $\Delta\theta_{C,t}$ | 0.0088 |
| $\Delta\theta_{C,A'}$ | 0.0010 |
| $\Delta\theta_{g,d}$ | 0.0096 |
| $\Delta\theta_{g,F}$ | 0.0090 |
| $\Delta\theta_{i,g}$ | 0.0721 |

| Mechanical Properties | |
|--|---------|
| Young's Modulus E (10 ⁸ N/m ²) | 653 |
| Rigidity Modulus G (10 ⁸ N/m ²) | 264 |
| Poisson's Ratio σ | 0.238 |
| Knoop Hardness Hk[Class] | 490 5 |
| Abrasion Aa | 172 |
| Photoelastic Constant β (nm/cm/10 ⁵ Pa) | 3.33 |

| Constants of Dispersion Formula | |
|---------------------------------|----------------|
| A ₁ | 1.32940907E+00 |
| A ₂ | 1.41512125E-01 |
| A ₃ | 1.44299068E+00 |
| B ₁ | 1.02377287E-02 |
| B ₂ | 5.78081956E-02 |
| B ₃ | 1.50597139E+02 |

| Chemical Properties | |
|---|-------|
| Water Resistance(Powder) Group RW(P) | 1 |
| Acid Resistance(Powder) Group RA(P) | 1 |
| Weathering Resistance(Surface) Group W(S) | 1 ~ 2 |
| Acid Resistance(Surface) Group SR | 1.0 |
| Phosphate Resistance PR | 2.0 |

| Other Properties | |
|------------------------|------|
| Bubble Quality Group B | |
| Specific Gravity d | 2.64 |
| Remarks | |

| Temperature Coefficients of Refractive Index | | | | | | | |
|--|---|------|-------|------|-----|-----|-----|
| Range of Temperature (°C) | dn/dt relative (10 ⁻⁶ /°C) | | | | | | |
| | t | C' | He-Ne | D | e | F' | g |
| -40~-20 | -1.0 | -0.5 | -0.4 | -0.2 | 0.0 | 0.7 | 1.4 |
| -20~0 | -0.9 | -0.4 | -0.3 | 0.0 | 0.2 | 0.8 | 1.6 |
| 0~20 | -0.8 | -0.2 | -0.2 | 0.1 | 0.3 | 1.0 | 1.8 |
| 20~40 | -0.7 | -0.1 | -0.1 | 0.2 | 0.5 | 1.2 | 2.1 |
| 40~60 | -0.6 | 0.0 | 0.0 | 0.3 | 0.6 | 1.4 | 2.3 |
| 60~80 | -0.5 | 0.1 | 0.1 | 0.4 | 0.7 | 1.6 | 2.5 |