

S-BAH27

Code(d) **702412**

Code(e) **706410**

| | | | | | |
|------------------------|----------------------------|-------------------|----------------------|----------------------|----------------------------|
| Refractive Index n_d | 1.70154 1.701536 | Abbe Number v_d | 41.2 41.24 | Dispersion n_F-n_C | 0.01701 0.017012 |
| Refractive Index n_e | 1.705571 | Abbe Number v_e | 40.95 | Dispersion n_F-n_C | 0.017228 |

| Refractive Indices | | |
|------------------------|----------|---------|
| $\lambda(\mu\text{m})$ | | |
| n_{2325} | 2.32542 | 1.66253 |
| n_{1970} | 1.97009 | 1.66858 |
| n_{1530} | 1.52958 | 1.67526 |
| n_{1129} | 1.12864 | 1.68160 |
| n_t | 1.01398 | 1.68386 |
| n_s | 0.85211 | 1.68800 |
| $n_{A'}$ | 0.76819 | 1.69094 |
| n_r | 0.70652 | 1.69370 |
| n_C | 0.65627 | 1.69650 |
| $n_{C'}$ | 0.64385 | 1.69729 |
| $n_{\text{He-Ne}}$ | 0.6328 | 1.69804 |
| n_D | 0.58929 | 1.70139 |
| n_d | 0.58756 | 1.70154 |
| n_e | 0.54607 | 1.70557 |
| n_F | 0.48613 | 1.71351 |
| $n_{F'}$ | 0.47999 | 1.71452 |
| $n_{\text{He-Cd}}$ | 0.44157 | 1.72200 |
| n_g | 0.435835 | 1.72332 |
| n_h | 0.404656 | 1.73180 |
| n_i | 0.365015 | 1.74712 |

| Partial Dispersions | |
|---------------------|----------|
| n_C-n_t | 0.012641 |
| $n_C-n_{A'}$ | 0.005561 |
| n_d-n_C | 0.005033 |
| n_e-n_C | 0.009068 |
| n_g-n_d | 0.021787 |
| n_g-n_F | 0.009808 |
| n_h-n_g | 0.008480 |
| n_i-n_g | 0.023797 |
| n_C-n_t | 0.013433 |
| $n_e-n_{C'}$ | 0.008276 |
| $n_{F'-n_e}$ | 0.008952 |
| $n_i-n_{F'}$ | 0.032597 |

| Relative Partial Dispersions | |
|------------------------------|--------|
| $\theta_{C,t}$ | 0.7431 |
| $\theta_{C,A'}$ | 0.3269 |
| $\theta_{d,C}$ | 0.2958 |
| $\theta_{e,C}$ | 0.5330 |
| $\theta_{g,d}$ | 1.2807 |
| $\theta_{g,F}$ | 0.5765 |
| $\theta_{h,g}$ | 0.4985 |
| $\theta_{i,g}$ | 1.3988 |
| $\theta'_{C,t}$ | 0.7797 |
| $\theta'_{e,C'}$ | 0.4804 |
| $\theta'_{F',e}$ | 0.5196 |
| $\theta'_{i,F}$ | 1.8921 |

| Thermal Properties | |
|-----------------------------------------------------|-------|
| Strain Point StP (°C) | 611 |
| Annealing Point AP (°C) | 636 |
| Transformation Temperature Tg (°C) | 647 |
| Yield Point At (°C) | 682 |
| Softening Point SP (°C) | 749 |
| Expansion Coefficients (-30~+70°C) | 64 |
| α ($10^{-7}/^\circ\text{C}$) (+100~+300°C) | 75 |
| Thermal Conductivity k (W/m-K) | 0.869 |

| Coloring | | | |
|----------------|----|-------------|----|
| λ_{80} | 40 | λ_5 | 35 |
| λ_{70} | | | |

| Internal Transmittance | |
|------------------------|----------------------|
| $\lambda(\text{nm})$ | $\tau_{10\text{mm}}$ |
| 280 | |
| 290 | |
| 300 | |
| 310 | |
| 320 | |
| 330 | |
| 340 | |
| 350 | |
| 360 | 0.16 |
| 370 | 0.47 |
| 380 | 0.70 |
| 390 | 0.83 |
| 400 | 0.89 |
| 420 | 0.955 |
| 440 | 0.971 |
| 460 | 0.979 |
| 480 | 0.985 |
| 500 | 0.989 |
| 550 | 0.995 |
| 600 | 0.994 |
| 650 | 0.994 |
| 700 | 0.996 |
| 800 | 0.998 |
| 900 | 0.998 |
| 1000 | 0.998 |
| 1200 | 0.998 |
| 1400 | 0.993 |
| 1600 | 0.994 |
| 1800 | 0.987 |
| 2000 | 0.974 |
| 2200 | 0.921 |
| 2400 | 0.81 |

| Deviation of Relative Dispersions $\Delta\theta$ from "Normal" | |
|----------------------------------------------------------------|--------|
| $\Delta\theta_{C,t}$ | 0.0029 |
| $\Delta\theta_{C,A'}$ | 0.0011 |
| $\Delta\theta_{g,d}$ | 0.0016 |
| $\Delta\theta_{g,F}$ | 0.0018 |
| $\Delta\theta_{i,g}$ | 0.0191 |

| Mechanical Properties | |
|---------------------------------------------------------|---------|
| Young's Modulus E (10^8N/m^2) | 936 |
| Rigidity Modulus G (10^8N/m^2) | 368 |
| Poisson's Ratio σ | 0.272 |
| Knoop Hardness Hk[Class] | 580 6 |
| Abrasion Aa | 129 |
| Photoelastic Constant β (nm/cm/ 10^5Pa) | 2.18 |

| Constants of Dispersion Formula | |
|---------------------------------|----------------|
| A ₁ | 1.68939052E+00 |
| A ₂ | 1.33081013E-01 |
| A ₃ | 1.41165515E+00 |
| B ₁ | 1.03598193E-02 |
| B ₂ | 5.33982239E-02 |
| B ₃ | 1.26515503E+02 |

| Chemical Properties | |
|-------------------------------------------|-----|
| Water Resistance(Powder) Group RW(P) | 1 |
| Acid Resistance(Powder) Group RA(P) | 3 |
| Weathering Resistance(Surface) Group W(S) | |
| Acid Resistance(Surface) Group SR | 4.0 |
| Phosphate Resistance PR | 1.0 |

| Other Properties | |
|------------------------|------|
| Bubble Quality Group B | |
| Specific Gravity d | 3.67 |
| Remarks | |

| Temperature Coefficients of Refractive Index | | | | | | | |
|----------------------------------------------|-----------------------------------------------|-----|-------|-----|-----|-----|-----|
| Range of Temperature (°C) | dn/dt relative ($10^{-6}/^\circ\text{C}$) | | | | | | |
| | t | C' | He-Ne | D | e | F' | g |
| -40~20 | 3.2 | 3.7 | 3.7 | 4.0 | 4.2 | 4.8 | 5.5 |
| -20~0 | 3.3 | 3.8 | 3.9 | 4.1 | 4.4 | 5.0 | 5.7 |
| 0~20 | 3.4 | 4.0 | 4.0 | 4.2 | 4.5 | 5.2 | 5.9 |
| 20~40 | 3.5 | 4.1 | 4.1 | 4.4 | 4.7 | 5.4 | 6.2 |
| 40~60 | 3.5 | 4.2 | 4.3 | 4.5 | 4.8 | 5.6 | 6.4 |
| 60~80 | 3.7 | 4.4 | 4.4 | 4.6 | 5.0 | 5.8 | 6.6 |