# S-LAH96

Code(d) **764485**
Code(e) **768482**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Refractive Index | $n_d$ | **1.76385** | Abbe Number | $\nu_d$ | **48.49** | Dispersion | $n_F$-$n_C$ | **0.015753** |
| | | 1.763850 | | | | | | |
| Refractive Index | $n_e$ | 1.767599 | Abbe Number | $\nu_e$ | 48.21 | Dispersion | $n_{F'}$-$n_{C'}$ | 0.015923 |

| Refractive Indices | | |
|---|---|---|
| λ(μm) | | |
| $n_{2325}$ | 2.32542 | 1.72543 |
| $n_{1970}$ | 1.97009 | 1.73168 |
| $n_{1530}$ | 1.52958 | 1.73848 |
| $n_{1129}$ | 1.12864 | 1.74481 |
| $n_t$ | 1.01398 | 1.74702 |
| $n_s$ | 0.85211 | 1.75103 |
| $n_{A'}$ | 0.76819 | 1.75385 |
| $n_r$ | 0.70652 | 1.75648 |
| $n_C$ | 0.65627 | 1.75913 |
| $n_{C'}$ | 0.64385 | 1.75988 |
| $n_{He-Ne}$ | 0.6328 | 1.76057 |
| $n_D$ | 0.58929 | 1.76371 |
| $n_d$ | 0.58756 | 1.76385 |
| $n_e$ | 0.54607 | 1.76760 |
| $n_F$ | 0.48613 | 1.77488 |
| $n_{F'}$ | 0.47999 | 1.77580 |
| $n_{He-Cd}$ | 0.44157 | 1.78251 |
| $n_g$ | 0.435835 | 1.78369 |
| $n_h$ | 0.404656 | 1.79112 |
| $n_i$ | 0.365015 | 1.80405 |

| Constants of Dispersion Formula | |
|---|---|
| $A_1$ | 1.85078519E+00 |
| $A_2$ | 1.89204854E-01 |
| $A_3$ | 1.19763137E+00 |
| $B_1$ | 9.40657541E-03 |
| $B_2$ | 3.80345187E-02 |
| $B_3$ | 1.01426835E+02 |

| Chemical Properties | |
|---|---|
| Water Resistance(Powder) Group RW(P) | 1 |
| Acid Resistance(Powder) Group RA(P) | 3 |
| Weathering Resistance(Surface) Group W(S) | 2 |
| Acid Resistance(Surface) Group SR | 5.0 |
| Phosphate Resistance PR | 1.0 |

| Mechanical Properties | | |
|---|---|---|
| Young's Modulus E (GPa) | 118.7 | |
| Rigidity Modulus G (GPa) | 45.8 | |
| Poisson's Ratio σ | 0.296 | |
| Knoop Hardness Hk[Class] | 690 ∗ | 7 |
| Abrasion Aa | 81 | |

| Partial Dispersions | |
|---|---|
| $n_C$-$n_t$ | 0.012108 |
| $n_C$-$n_{A'}$ | 0.005277 |
| $n_d$-$n_C$ | 0.004721 |
| $n_e$-$n_C$ | 0.008470 |
| $n_g$-$n_d$ | 0.019837 |
| $n_g$-$n_F$ | 0.008805 |
| $n_h$-$n_g$ | 0.007429 |
| $n_i$-$n_g$ | 0.020364 |
| $n_C$-$n_t$ | 0.012854 |
| $n_e$-$n_{C'}$ | 0.007724 |
| $n_F$-$n_e$ | 0.008199 |
| $n_i$-$n_{F'}$ | 0.028253 |

| Relative Partial Dispersions | |
|---|---|
| $\theta_{C,t}$ | 0.7686 |
| $\theta_{C,A'}$ | 0.3350 |
| $\theta_{d,C}$ | 0.2997 |
| $\theta_{e,C}$ | 0.5377 |
| $\theta_{g,d}$ | 1.2593 |
| $\theta_{g,F}$ | 0.5589 |
| $\theta_{h,g}$ | 0.4716 |
| $\theta_{i,g}$ | 1.2927 |
| $\theta'_{C',t}$ | 0.8073 |
| $\theta'_{e,C'}$ | 0.4851 |
| $\theta'_{F',e}$ | 0.5149 |
| $\theta'_{i,F'}$ | 1.7744 |

| Deviation of Relative Dispersions Δθfrom "Normal" | |
|---|---|
| $\Delta\theta_{C,t}$ | -0.0056 |
| $\Delta\theta_{C,A'}$ | 0.0004 |
| $\Delta\theta_{g,d}$ | -0.0047 |
| $\Delta\theta_{g,F}$ | -0.0041 |
| $\Delta\theta_{i,g}$ | -0.0263 |

| Thermal Properties | | |
|---|---|---|
| Strain Point StP (℃) | | - |
| Annealing Point AP (℃) | | - |
| Transformation Temperature Tg (℃) | | 629 |
| Yield Point At (℃) | | 655 |
| Softening Point SP (℃) | | - |
| Expansion Coefficients α ($10^{-7}$ $K^{-1}$) | (-30~+70℃) | 70 |
| | (+100~+300℃) | 84 |
| Thermal Conductivity λ W/(m·K) | | 0.890 |

| Coloring | | | |
|---|---|---|---|
| $\lambda_{80}$ | 400 | $\lambda_5$ | 345 |
| $\lambda_{70}$ | | | |

| Internal transmission | | | |
|---|---|---|---|
| $\lambda_{0.80}$ | 378 | $\lambda_{0.05}$ | 342 |

| CCI | | |
|---|---|---|
| B | G | R |
| 0.00 | 1.09 | 1.11 |

| Internal Transmittance | |
|---|---|
| λ(nm) | τ 10mm |
| 280 | |
| 290 | |
| 300 | |
| 310 | |
| 320 | |
| 330 | |
| 340 | 0.02 |
| 350 | 0.19 |
| 360 | 0.48 |
| 370 | 0.71 |
| 380 | 0.83 |
| 390 | 0.905 |
| 400 | 0.941 |
| 420 | 0.972 |
| 440 | 0.982 |
| 460 | 0.988 |
| 480 | 0.992 |
| 500 | 0.994 |
| 550 | 0.996 |
| 600 | 0.996 |
| 650 | 0.996 |
| 700 | 0.997 |
| 800 | 0.997 |
| 900 | 0.996 |
| 1000 | 0.996 |
| 1200 | 0.997 |
| 1400 | 0.995 |
| 1600 | 0.995 |
| 1800 | 0.989 |
| 2000 | 0.972 |
| 2200 | 0.930 |
| 2400 | 0.76 |

| Temperature Coefficients of Refractive Index | | | | | | | |
|---|---|---|---|---|---|---|---|
| Range of Temperature (℃) | Δn/ΔT relative ($10^{-6}K^{-1}$) | | | | | | |
| | t | C' | He-Ne | D | e | F' | g |
| -40~-20 | 2.6 | 3.2 | 3.2 | 3.4 | 3.7 | 4.2 | 4.7 |
| -20~ 0 | 2.5 | 3.1 | 3.2 | 3.3 | 3.6 | 4.1 | 4.7 |
| 0~20 | 2.4 | 3.1 | 3.1 | 3.3 | 3.5 | 4.1 | 4.7 |
| 20~40 | 2.4 | 3.0 | 3.1 | 3.3 | 3.5 | 4.1 | 4.7 |
| 40~60 | 2.4 | 3.1 | 3.1 | 3.3 | 3.6 | 4.2 | 4.8 |
| 60~80 | 2.5 | 3.2 | 3.2 | 3.4 | 3.7 | 4.3 | 5.0 |

| Other Properties | |
|---|---|
| Photoelastic Constant β nm/(cm·$10^5$Pa) | 1.12 |
| Specific Gravity d | 4.54 |
| Remarks | |

OHARA 23-05



※The name of the glass type is the model number assigned based on the main components of the composition: large, medium, small refractive index and serial number.