

S-LAH53

Code(d) **806409**

Code(e) **811407**

| | | | | | |
|------------------------|----------------------------|---------------------|--------------|-----------------------|-----------------|
| Refractive Index n_d | 1.80610 1.806098 | Abbe Number ν_d | 40.92 | Dispersion n_F-n_C | 0.019697 |
| Refractive Index n_e | 1.810775 | Abbe Number ν_e | 40.67 | Dispersion n_F-n_C' | 0.019935 |

| Refractive Indices | | |
|------------------------|----------|---------|
| $\lambda(\mu\text{m})$ | | |
| n_{2325} | 2.32542 | 1.76051 |
| n_{1970} | 1.97009 | 1.76764 |
| n_{1530} | 1.52958 | 1.77546 |
| n_{1129} | 1.12864 | 1.78287 |
| n_t | 1.01398 | 1.78551 |
| n_s | 0.85211 | 1.79034 |
| $n_{A'}$ | 0.76819 | 1.79377 |
| n_r | 0.70652 | 1.79699 |
| n_C | 0.65627 | 1.80025 |
| $n_{C'}$ | 0.64385 | 1.80117 |
| $n_{\text{He-Ne}}$ | 0.6328 | 1.80203 |
| n_D | 0.58929 | 1.80592 |
| n_d | 0.58756 | 1.80610 |
| n_e | 0.54607 | 1.81078 |
| n_F | 0.48613 | 1.81994 |
| $n_{F'}$ | 0.47999 | 1.82110 |
| $n_{\text{He-Cd}}$ | 0.44157 | 1.82967 |
| n_g | 0.435835 | 1.83117 |
| n_h | 0.404656 | 1.84078 |
| n_i | 0.365015 | 1.85782 |

| Constants of Dispersion Formula | |
|---------------------------------|----------------|
| A_1 | 1.91811619E+00 |
| A_2 | 2.53724399E-01 |
| A_3 | 1.39473885E+00 |
| B_1 | 1.02147684E-02 |
| B_2 | 4.33176011E-02 |
| B_3 | 1.01938021E+02 |

| Chemical Properties | |
|---|-----|
| Water Resistance(Powder) Group RW(P) | 1 |
| Acid Resistance(Powder) Group RA(P) | 3 |
| Weathering Resistance(Surface) Group W(S) | 1 |
| Acid Resistance(Surface) Group SR | 4.2 |
| Phosphate Resistance PR | 2.0 |

| Mechanical Properties | |
|--|---------|
| Young's Modulus E (10^9N/m^2) | 1127 |
| Rigidity Modulus G (10^9N/m^2) | 434 |
| Poisson's Ratio σ | 0.299 |
| Knoop Hardness Hk[Class] | 640 6 |
| Abrasion Aa | 80 |
| Photoelastic Constant β nm/(cm \cdot 10 5 Pa) | 1.96 |

| Partial Dispersions | |
|---------------------|----------|
| n_C-n_t | 0.014740 |
| $n_C-n_{A'}$ | 0.006479 |
| n_d-n_C | 0.005850 |
| n_e-n_C | 0.010527 |
| n_g-n_d | 0.025076 |
| n_g-n_F | 0.011229 |
| n_h-n_g | 0.009607 |
| n_i-n_g | 0.026650 |
| n_C-n_t | 0.015661 |
| $n_e-n_{C'}$ | 0.009606 |
| n_F-n_e | 0.010329 |
| $n_i-n_{F'}$ | 0.036720 |

| Relative Partial Dispersions | |
|------------------------------|--------|
| $\theta_{C,t}$ | 0.7483 |
| $\theta_{C,A'}$ | 0.3289 |
| $\theta_{d,C}$ | 0.2970 |
| $\theta_{e,C}$ | 0.5344 |
| $\theta_{g,d}$ | 1.2731 |
| $\theta_{g,F}$ | 0.5701 |
| $\theta_{h,g}$ | 0.4877 |
| $\theta_{i,g}$ | 1.3530 |
| $\theta'_{C,t}$ | 0.7856 |
| $\theta'_{e,C'}$ | 0.4819 |
| $\theta'_{F,e}$ | 0.5181 |
| $\theta'_{i,F'}$ | 1.8420 |

| Deviation of Relative Dispersions $\Delta\theta$ from "Normal" | |
|--|---------|
| $\Delta\theta_{C,t}$ | 0.0096 |
| $\Delta\theta_{C,A'}$ | 0.0034 |
| $\Delta\theta_{g,d}$ | -0.0066 |
| $\Delta\theta_{g,F}$ | -0.0052 |
| $\Delta\theta_{i,g}$ | -0.0294 |

| Thermal Properties | |
|---|-------|
| Strain Point StP (°C) | |
| Annealing Point AP (°C) | |
| Transformation Temperature Tg (°C) | 610 |
| Yield Point At (°C) | 637 |
| Softening Point SP (°C) | 687 |
| Expansion Coefficients (-30~+70°C) | 59 |
| α ($10^{-7}/^\circ\text{C}$) (+100~+300°C) | 70 |
| Thermal Conductivity λ W/(m \cdot K) | 0.860 |

| Coloring | | | |
|----------------|-----|-------------|-----|
| λ_{80} | 405 | λ_5 | 340 |
| λ_{70} | | | |

| Internal transmission | | | |
|-----------------------|-----|------------------|-----|
| $\lambda_{0.80}$ | 370 | $\lambda_{0.05}$ | 340 |

| CCI | | |
|------|------|------|
| B | G | R |
| 0.00 | 1.07 | 1.13 |

| Internal Transmittance | |
|------------------------|-------------|
| $\lambda(\text{nm})$ | τ 10mm |
| 280 | |
| 290 | |
| 300 | |
| 310 | |
| 320 | |
| 330 | |
| 340 | 0.06 |
| 350 | 0.38 |
| 360 | 0.65 |
| 370 | 0.80 |
| 380 | 0.88 |
| 390 | 0.925 |
| 400 | 0.947 |
| 420 | 0.969 |
| 440 | 0.979 |
| 460 | 0.985 |
| 480 | 0.989 |
| 500 | 0.993 |
| 550 | 0.996 |
| 600 | 0.996 |
| 650 | 0.997 |
| 700 | 0.998 |
| 800 | 0.998 |
| 900 | 0.999 |
| 1000 | 0.999 |
| 1200 | 0.999 |
| 1400 | 0.997 |
| 1600 | 0.996 |
| 1800 | 0.989 |
| 2000 | 0.969 |
| 2200 | 0.915 |
| 2400 | 0.72 |

| Temperature Coefficients of Refractive Index | | | | | | | |
|--|---|-----|-------|-----|-----|-----|-----|
| Range of Temperature (°C) | $\Delta n/\Delta T$ relative ($10^{-6}/^\circ\text{C}$) | | | | | | |
| | t | C' | He-Ne | D | e | F' | g |
| -40~-20 | 5.1 | 6.2 | 6.2 | 6.5 | 6.8 | 7.6 | 8.3 |
| -20~ 0 | 5.2 | 6.3 | 6.3 | 6.6 | 6.9 | 7.7 | 8.5 |
| 0~20 | 5.3 | 6.4 | 6.4 | 6.7 | 7.1 | 7.9 | 8.7 |
| 20~40 | 5.6 | 6.6 | 6.7 | 6.9 | 7.3 | 8.1 | 9.0 |
| 40~60 | 5.8 | 6.8 | 6.9 | 7.2 | 7.6 | 8.4 | 9.4 |
| 60~80 | 6.2 | 7.1 | 7.2 | 7.5 | 7.8 | 8.7 | 9.8 |

| Other Properties | |
|------------------------|------|
| Bubble Quality Group B | |
| Specific Gravity d | 4.43 |
| Remarks | |

OHARA 17-04

OHARA Copyright© OHARA INC. All Rights Reserved.

※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.