

# S-LAH65V

Code(d) **804466**

Code(e) **808463**

|                        |                            |                     |              |                         |                 |
|------------------------|----------------------------|---------------------|--------------|-------------------------|-----------------|
| Refractive Index $n_d$ | <b>1.80400</b><br>1.804000 | Abbe Number $\nu_d$ | <b>46.58</b> | Dispersion $n_F-n_C$    | <b>0.017259</b> |
| Refractive Index $n_e$ | 1.808107                   | Abbe Number $\nu_e$ | 46.34        | Dispersion $n_F-n_{C'}$ | 0.017440        |

| Refractive Indices     |          |         |
|------------------------|----------|---------|
| $\lambda(\mu\text{m})$ |          |         |
| $n_{2325}$             | 2.32542  | 1.75986 |
| $n_{1970}$             | 1.97009  | 1.76741 |
| $n_{1530}$             | 1.52958  | 1.77552 |
| $n_{1129}$             | 1.12864  | 1.78286 |
| $n_t$                  | 1.01398  | 1.78538 |
| $n_s$                  | 0.85211  | 1.78987 |
| $n_{A'}$               | 0.76819  | 1.79300 |
| $n_r$                  | 0.70652  | 1.79590 |
| $n_C$                  | 0.65627  | 1.79882 |
| $n_{C'}$               | 0.64385  | 1.79964 |
| $n_{\text{He-Ne}}$     | 0.6328   | 1.80041 |
| $n_D$                  | 0.58929  | 1.80385 |
| $n_d$                  | 0.58756  | 1.80400 |
| $n_e$                  | 0.54607  | 1.80811 |
| $n_F$                  | 0.48613  | 1.81608 |
| $n_{F'}$               | 0.47999  | 1.81708 |
| $n_{\text{He-Cd}}$     | 0.44157  | 1.82441 |
| $n_g$                  | 0.435835 | 1.82569 |
| $n_h$                  | 0.404656 | 1.83380 |
| $n_i$                  | 0.365015 | 1.84786 |

| Constants of Dispersion Formula |                |
|---------------------------------|----------------|
| $A_1$                           | 1.81419034E+00 |
| $A_2$                           | 3.61376301E-01 |
| $A_3$                           | 1.32729484E+00 |
| $B_1$                           | 8.74935029E-03 |
| $B_2$                           | 3.18352836E-02 |
| $B_3$                           | 9.13406898E+01 |

| Chemical Properties                       |     |
|---|-----|
| Water Resistance(Powder) Group RW(P)      | 1   |
| Acid Resistance(Powder) Group RA(P)       | 3   |
| Weathering Resistance(Surface) Group W(S) | 3   |
| Acid Resistance(Surface) Group SR         | 4.1 |
| Phosphate Resistance PR                   | 1.0 |

| Mechanical Properties    |         |
|--------------------------|---------|
| Young's Modulus E (GPa)  | 122.0   |
| Rigidity Modulus G (GPa) | 47.0    |
| Poisson's Ratio $\sigma$ | 0.298   |
| Knoop Hardness Hk(Class) | 730   7 |
| Abrasion Aa              | 57      |

| Partial Dispersions |          |
|---------------------|----------|
| $n_C-n_t$           | 0.013439 |
| $n_C-n_{A'}$        | 0.005818 |
| $n_d-n_C$           | 0.005183 |
| $n_e-n_C$           | 0.009290 |
| $n_g-n_d$           | 0.021694 |
| $n_g-n_F$           | 0.009618 |
| $n_h-n_g$           | 0.008101 |
| $n_i-n_g$           | 0.022167 |
| $n_C-n_t$           | 0.014259 |
| $n_e-n_{C'}$        | 0.008470 |
| $n_{F'}-n_e$        | 0.008970 |
| $n_i-n_{F'}$        | 0.030784 |

| Relative Partial Dispersions |        |
|------------------------------|--------|
| $\theta_{C,t}$               | 0.7787 |
| $\theta_{C,A'}$              | 0.3371 |
| $\theta_{d,C}$               | 0.3003 |
| $\theta_{e,C}$               | 0.5383 |
| $\theta_{g,d}$               | 1.2570 |
| $\theta_{g,F}$               | 0.5573 |
| $\theta_{h,g}$               | 0.4694 |
| $\theta_{i,g}$               | 1.2844 |
| $\theta'_{C,t}$              | 0.8176 |
| $\theta'_{e,C'}$             | 0.4857 |
| $\theta'_{F',e}$             | 0.5143 |
| $\theta'_{i,F'}$             | 1.7651 |

| Deviation of Relative Dispersions $\Delta\theta$ from "Normal" |         |
|--|---------|
| $\Delta\theta_{C,t}$   | 0.0135  |
| $\Delta\theta_{C,A'}$  | 0.0048  |
| $\Delta\theta_{g,d}$   | -0.0110 |
| $\Delta\theta_{g,F}$   | -0.0088 |
| $\Delta\theta_{i,g}$   | -0.0506 |

| Thermal Properties                                 |       |
|--|-------|
| Strain Point StP (°C)                              | 639   |
| Annealing Point AP (°C)                            | 664   |
| Transformation Temperature Tg (°C)                 | 691   |
| Yield Point At (°C)                                | 711   |
| Softening Point SP (°C)                            | 740   |
| Expansion Coefficients (-30~+70°C)                 | 60    |
| $\alpha$ ( $10^{-7} \text{K}^{-1}$ ) (+100~+300°C) | 74    |
| Thermal Conductivity $\lambda$ W/(m·K)             | 0.841 |

| Coloring       |     |             |     |
|----------------|-----|-------------|-----|
| $\lambda_{80}$ | 385 | $\lambda_5$ | 315 |
| $\lambda_{70}$ |     |             |     |

| Internal transmission |     |                  |     |
|-----------------------|-----|------------------|-----|
| $\lambda_{0.80}$      | 355 | $\lambda_{0.05}$ | 319 |

| CCI  |      |      |
|------|------|------|
| B    | G    | R    |
| 0.00 | 0.65 | 0.67 |

| Internal Transmittance |             |
|------------------------|-------------|
| $\lambda(\text{nm})$   | $\tau$ 10mm |
| 280                    |             |
| 290                    |             |
| 300                    |             |
| 310                    |             |
| 320                    | 0.11        |
| 330                    | 0.37        |
| 340                    | 0.60        |
| 350                    | 0.75        |
| 360                    | 0.85        |
| 370                    | 0.906       |
| 380                    | 0.939       |
| 390                    | 0.959       |
| 400                    | 0.970       |
| 420                    | 0.981       |
| 440                    | 0.986       |
| 460                    | 0.990       |
| 480                    | 0.993       |
| 500                    | 0.996       |
| 550                    | 0.998       |
| 600                    | 0.998       |
| 650                    | 0.998       |
| 700                    | 0.999       |
| 800                    | 0.999       |
| 900                    | 0.999       |
| 1000                   | 0.999       |
| 1200                   | 0.999       |
| 1400                   | 0.997       |
| 1600                   | 0.996       |
| 1800                   | 0.989       |
| 2000                   | 0.967       |
| 2200                   | 0.910       |
| 2400                   | 0.68        |

| Temperature Coefficients of Refractive Index |  |     |       |     |     |     |     |
|--|--|-----|-------|-----|-----|-----|-----|
| Range of Temperature (°C)                    | $\Delta n / \Delta T$ relative ( $10^{-6} \text{K}^{-1}$ ) |     |       |     |     |     |     |
|  | t  | C'  | He-Ne | D   | e   | F'  | g   |
| -40~-20                                      | 3.6  | 4.1 | 4.2   | 4.4 | 4.6 | 5.2 | 5.7 |
| -20~ 0                                       | 3.7  | 4.3 | 4.4   | 4.6 | 4.8 | 5.4 | 6.0 |
| 0~20   | 3.8  | 4.4 | 4.5   | 4.7 | 4.9 | 5.5 | 6.1 |
| 20~40  | 3.8  | 4.5 | 4.5   | 4.7 | 5.0 | 5.6 | 6.2 |
| 40~60  | 3.8  | 4.5 | 4.6   | 4.8 | 5.1 | 5.7 | 6.4 |
| 60~80  | 3.9  | 4.7 | 4.7   | 5.0 | 5.3 | 5.9 | 6.6 |

| Other Properties   |      |
|--|------|
| Photoelastic Constant $\beta$ nm/(cm $\cdot$ 10 $^5$ Pa) | 1.44 |
| Specific Gravity d                                       | 4.72 |
| Remarks  |      |

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※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.