

# J-SSK5

$n_d = 1.658440$

$n_e = 1.661522$

$v_d = 50.84$

$v_e = 50.54$

|                |
|----------------|
| Glass code (d) |
| 658508         |
| Glass code (e) |
| 662505         |

| Spectral l. | Refractive idx |
|-------------|----------------|
| 2.058       | 1.63030        |
| 1.970       | 1.63156        |
| 1.530       | 1.63735        |
| 1.129       | 1.64268        |
| 1.064       | 1.64369        |
| t           | 1.64453        |
| s           | 1.64786        |
| A'          | 1.650196       |
| r           | 1.652367       |
| C           | 1.654552       |
| C'          | 1.655167       |
| He-Ne       | 1.655742       |
| D           | 1.658325       |
| d           | 1.658440       |
| e           | 1.661522       |
| F           | 1.667504       |
| F'          | 1.668256       |
| g           | 1.674728       |
| h           | 1.680821       |
| 0.389       | 1.684584       |
| i           | 1.691437       |

| Coef. disp. form. (pwr ser.) |                 |
|------------------------------|-----------------|
| A0                           | 2.69546608E+00  |
| A1                           | -9.46960473E-03 |
| A2                           | -1.10686762E-04 |
| A3                           | 1.90535266E-02  |
| A4                           | 3.49767067E-04  |
| A5                           | 1.61235917E-06  |
| A6                           | 1.06076791E-06  |
| A7                           | 0.00000000E+00  |
| A8                           | 0.00000000E+00  |

| Partial dispersion |          |
|--------------------|----------|
| F-C                | 0.012952 |
| F'-C'              | 0.013089 |
| C-t                | 0.010022 |
| C-A'               | 0.004356 |
| d-C                | 0.003888 |
| e-C                | 0.006970 |
| g-d                | 0.016288 |
| g-F                | 0.007224 |
| h-g                | 0.006093 |
| i-g                | 0.016709 |
| C'-t               | 0.010637 |
| e-C'               | 0.006355 |
| F'-e               | 0.006734 |
| i-F'               | 0.023181 |

| Relative partial dispersion |        |
|-----------------------------|--------|
| C-t/F-C                     | 0.7738 |
| C-A'/F-C                    | 0.3363 |
| d-C/F-C                     | 0.3002 |
| e-C/F-C                     | 0.5381 |
| g-d/F-C                     | 1.2576 |
| g-F/F-C                     | 0.5578 |
| h-g/F-C                     | 0.4704 |
| i-g/F-C                     | 1.2901 |
| C'-t/F'-C'                  | 0.8127 |
| e-C'/F'-C'                  | 0.4855 |
| F'-e/F'-C'                  | 0.5145 |
| i-F'/F'-C'                  | 1.7710 |

| Deviation of relative partial disp. |         |
|-------------------------------------|---------|
| $\Delta PdC$                        | 0.0000  |
| $\Delta PgF$                        | -0.0013 |

| Internal CC (80%/5%) |      |
|----------------------|------|
| 370/337              |      |
| Color Code (80%/5%)  |      |
| 385/335              |      |
| CCI                  |      |
| B                    | 0.00 |
| G                    | 0.71 |
| R                    | 0.71 |

| Thermal properties       |       |
|--------------------------|-------|
| CTE(-30,70) [1E-7/°C]    | 70    |
| CTE(100,300) [1E-7/°C]   | 84    |
| Tg [°C]                  | 641   |
| At [°C]                  | 681   |
| StP [°C]                 | 592   |
| AP [°C]                  | 628   |
| SP [°C]                  | 759   |
| Ht condct. [W/m·K]       | 0.759 |
| Sp. heat [kJ/kg·K]       | 0.531 |
| Ht diffus. [1E-6 m2/sec] | 0.382 |

| Chemical properties [class] |   |
|-----------------------------|---|
| Acid res. (surface)         | 1 |
| Alkaline detergent res.     | 3 |
| Climate resistance          | 2 |
| Water res. (powder)         | 1 |
| Acid res. (powder)          | 4 |

| Mechanical properties                |         |
|--------------------------------------|---------|
| Knoop hardness                       | 483 (5) |
| Abrasion hardness                    | 163     |
| Young's mod. [GPa]                   | 83.4    |
| Shear mod. [GPa]                     | 32.6    |
| Poisson's ratio                      | 0.280   |
| Stress optical coef. [1E-5 nm/cm/Pa] | 2.03    |

| Internal trans. (10mm) |        |  |
|------------------------|--------|--|
| $\lambda$ [nm]         | $\tau$ |  |
| 280                    | -      |  |
| 290                    | -      |  |
| 300                    | -      |  |
| 310                    | -      |  |
| 320                    | -      |  |
| 330                    | 0.01   |  |
| 340                    | 0.10   |  |
| 350                    | 0.34   |  |
| 360                    | 0.62   |  |
| 370                    | 0.80   |  |
| 380                    | 0.89   |  |
| 390                    | 0.939  |  |
| 400                    | 0.963  |  |
| 420                    | 0.983  |  |
| 440                    | 0.988  |  |
| 460                    | 0.991  |  |
| 480                    | 0.993  |  |
| 500                    | 0.995  |  |
| 550                    | 0.998  |  |
| 600                    | 0.998  |  |
| 650                    | 0.998  |  |
| 700                    | 0.997  |  |
| 800                    | 0.997  |  |
| 900                    | 0.997  |  |
| 1000                   | 0.997  |  |
| 1200                   | 0.997  |  |
| 1400                   | 0.992  |  |
| 1600                   | 0.989  |  |
| 1800                   | 0.976  |  |
| 2000                   | 0.959  |  |
| 2200                   | 0.900  |  |
| 2400                   | 0.80   |  |

| Specific gravity |  |
|------------------|--|
| 3.75             |  |

| Relative $\Delta n / \Delta T$ [1E-6/°C] |       |     |     |     |     |     |     |       |     |     |     |     |     |     |       |  |
|--|-------|-----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|-------|--|
| Temp. [°C]                               | 1.083 | t   | s   | A'  | r   | C   | C'  | He-Ne | d   | e   | F   | F'  | g   | h   | 0.389 |  |
| 80 to 90 (ref.)                          | 1.9   | 2.0 | 2.1 | 2.2 | 2.4 | 2.5 | 2.5 | 2.6   | 2.8 | 3.0 | 3.4 | 3.5 | 4.0 | 4.6 | 5.0   |  |
| 60 to 80 (ref.)                          | 1.8   | 1.9 | 2.0 | 2.1 | 2.2 | 2.4 | 2.4 | 2.4   | 2.6 | 2.8 | 3.3 | 3.4 | 3.9 | 4.4 | 4.8   |  |
| 40 to 60                                 | 1.7   | 1.7 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.3   | 2.5 | 2.7 | 3.1 | 3.2 | 3.7 | 4.2 | 4.5   |  |
| 20 to 40                                 | 1.6   | 1.6 | 1.8 | 1.9 | 2.0 | 2.1 | 2.1 | 2.2   | 2.3 | 2.5 | 3.0 | 3.0 | 3.5 | 4.0 | 4.3   |  |
| 0 to 20                                  | 1.5   | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.1   | 2.2 | 2.4 | 2.9 | 2.9 | 3.4 | 3.9 | 4.2   |  |
| -20 to 0                                 | 1.5   | 1.5 | 1.7 | 1.8 | 1.9 | 2.0 | 2.0 | 2.1   | 2.2 | 2.4 | 2.8 | 2.8 | 3.3 | 3.8 | 4.1   |  |
| -40 to -20                               | 1.5   | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.1   | 2.2 | 2.4 | 2.8 | 2.8 | 3.3 | 3.7 | 4.0   |  |
| -60 to -40 (ref.)                        | 1.7   | 1.7 | 1.9 | 2.0 | 2.0 | 2.2 | 2.2 | 2.2   | 2.4 | 2.5 | 2.9 | 3.0 | 3.4 | 3.8 | 4.1   |  |
| -70 to -60 (ref.)                        | 1.9   | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.4   | 2.5 | 2.7 | 3.1 | 3.1 | 3.5 | 3.9 | 4.2   |  |

| Absolute $\Delta n / \Delta T$ [1E-6/°C] |       |      |      |      |      |      |      |       |      |      |      |     |     |     |       |  |
|--|-------|------|------|------|------|------|------|-------|------|------|------|-----|-----|-----|-------|--|
| Temp. [°C]                               | 1.083 | t    | s    | A'   | r    | C    | C'   | He-Ne | d    | e    | F    | F'  | g   | h   | 0.389 |  |
| 80 to 90                                 | 0.9   | 0.9  | 1.1  | 1.2  | 1.3  | 1.5  | 1.5  | 1.5   | 1.7  | 1.9  | 2.4  | 2.5 | 3.0 | 3.5 | 3.9   |  |
| 60 to 80                                 | 0.7   | 0.7  | 0.9  | 1.0  | 1.1  | 1.3  | 1.3  | 1.3   | 1.5  | 1.7  | 2.2  | 2.2 | 2.7 | 3.2 | 3.6   |  |
| 40 to 60                                 | 0.4   | 0.5  | 0.6  | 0.7  | 0.8  | 1.0  | 1.0  | 1.0   | 1.2  | 1.4  | 1.8  | 1.9 | 2.4 | 2.9 | 3.2   |  |
| 20 to 40                                 | 0.1   | 0.2  | 0.3  | 0.4  | 0.5  | 0.7  | 0.7  | 0.7   | 0.9  | 1.1  | 1.5  | 1.5 | 2.0 | 2.5 | 2.8   |  |
| 0 to 20                                  | -0.1  | -0.1 | 0.1  | 0.2  | 0.3  | 0.4  | 0.4  | 0.4   | 0.6  | 0.8  | 1.2  | 1.2 | 1.7 | 2.1 | 2.5   |  |
| -20 to 0                                 | -0.4  | -0.3 | -0.2 | -0.1 | 0.0  | 0.1  | 0.1  | 0.1   | 0.3  | 0.5  | 0.8  | 0.9 | 1.3 | 1.8 | 2.1   |  |
| -40 to -20                               | -0.7  | -0.6 | -0.5 | -0.4 | -0.3 | -0.2 | -0.2 | -0.2  | 0.0  | 0.2  | 0.5  | 0.6 | 1.0 | 1.4 | 1.7   |  |
| -60 to -40                               | -0.9  | -0.9 | -0.8 | -0.7 | -0.6 | -0.5 | -0.5 | -0.5  | -0.3 | -0.2 | 0.2  | 0.2 | 0.6 | 1.0 | 1.3   |  |
| -70 to -60                               | -1.1  | -1.1 | -1.0 | -0.9 | -0.8 | -0.7 | -0.7 | -0.7  | -0.6 | -0.4 | -0.1 | 0.0 | 0.4 | 0.8 | 1.0   |  |

| Coef. disp. form. (frac. eq.) (ref.) |                |
|--------------------------------------|----------------|
| P1                                   | 9.83663348E-02 |
| Q1                                   | 7.63945327E+01 |
| P2                                   | 1.03186784E-02 |
| Q2                                   | 4.32605569E-02 |
| P3                                   | 3.50770304E-01 |
| Q3                                   | 6.14483385E-03 |

| Fitting error of disp. form. $\sigma$ [1E-6] |         |          |
|--|---------|----------|
|  | Visible | Infrared |
| Power ser. eq.                               | 0.7     | 8.3      |
| Frac. eq. (ref.)                             | 0.6     | 9.0      |

|                      |   |
|----------------------|---|
| Prod. Freq. (A to D) | C |
|----------------------|---|

| Similar glass type |          |        |        |
|--------------------|----------|--------|--------|
| OHARA              | S-BSM25  | HOYA   | BACED5 |
| CDGM               | H-ZBaF50 | SCHOTT | N-SSK5 |

|          |                        |
|----------|------------------------|
| 2022-7-1 | StP, AP, SP            |
| 2019-4-1 | Transmittance          |
| 2015-4-1 | Color Code, Prod. Freq |