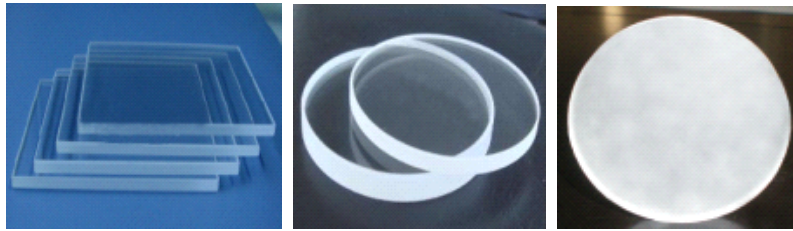


## Quartz plate/sheet/disc:



Chemical composition unit: ppm

| Cr  | Ge  | Fe  | Mg  | Ti  | Ca  | Al | Na  | Li  | K   |
|-----|-----|-----|-----|-----|-----|----|-----|-----|-----|
| 0.1 | 0.4 | 1.5 | 0.4 | 0.1 | 0.8 | 16 | 2.3 | 0.5 | 2.0 |

### Physical & Chemical Properties

|                                                                                        |                   |
|----------------------------------------------------------------------------------------|-------------------|
| Density $20^{\circ}\text{C kg.m}^{-3}(\times 10^3)$                                    | 2.2               |
| Coefficient of expansion $25^{\circ}\text{C}-300^{\circ}\text{C}^{-1}(\times 10^{-6})$ | 0.58              |
| Softening point( $^{\circ}\text{C}$ )                                                  | 1670              |
| Annealing point( $^{\circ}\text{C}$ )                                                  | 1210              |
| Strain point( $^{\circ}\text{C}$ )                                                     | 1110              |
| Youngs modulus(Pa)                                                                     | $7.3 \times 10^5$ |

### Optical properties typical chemical analysis

|                                                               |                                           |
|---------------------------------------------------------------|-------------------------------------------|
| Bubble (DIN58927)                                             | 0.1                                       |
| Sum of CSA( $\text{mm}^2/100\text{cm}^3$ )                    | <0.1                                      |
| Maximum bubble diameter(mm)                                   | 0.5                                       |
| Maximum number of inclusions(0.1-0.2mm per $100\text{cm}^3$ ) | 2                                         |
| Striae in functional direction                                | B                                         |
| Granularity                                                   | Faint                                     |
| Residual strain(nm/cm)                                        | <5                                        |
| Fluorescence(254nm excitation)                                | Blue/Violet                               |
| UV                                                            | Slight darkening after Prolonged exposure |
| X-Ray & Gamma Ray                                             | Darkens after $10^7$ RAD                  |