

## Soda Lime Float Glass (Clear & Tinted)

Soda lime glass is the most prevalent type of glass. Soda lime glass is prepared by melting the raw materials, such as soda, lime, silica, alumina, and small quantities of fining agents in a glass furnace at temperatures locally up to 1675°C. Soda lime sheet glass is made by floating molten glass on a bed of molten tin. This method gives the sheet uniform thickness and very flat surfaces. Soda lime glass is the base material for most clear, colored and patterned glass types. Due to the high thermal expansion coefficient has a low resistance to sudden changes in temperature.

### Composition

SiO <sub>2</sub>	72.60%
Na <sub>2</sub> O	13.90%
CaO	8.40%
MgO	3.90%
Al <sub>2</sub> O <sub>3</sub>	1.10%
K <sub>2</sub> O	0.60%
SO <sub>3</sub>	0.20%
Fe <sub>2</sub> O <sub>3</sub>	0.11%

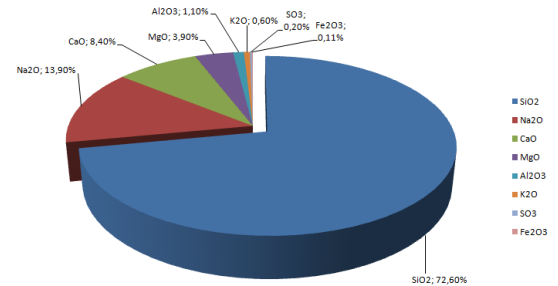
### Flexural strength

Annealed	41 MPa
Heat-Strengthened	83 Mpa
Toughened	165 MPa

### Properties

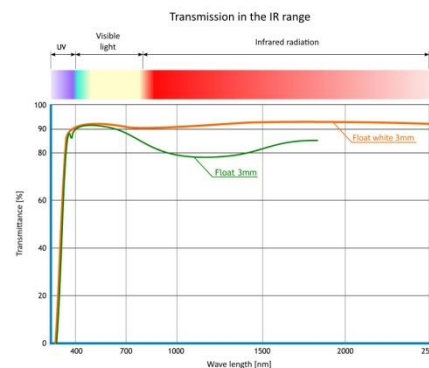
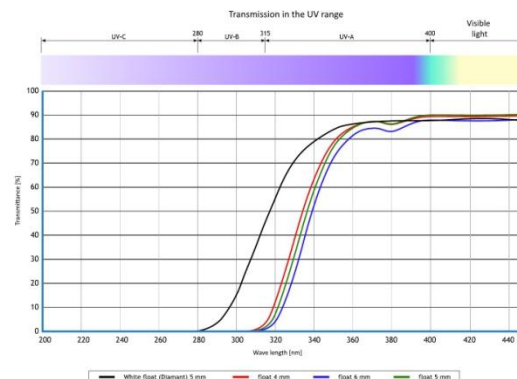
Density ( @ 18 °C)	2 500 kg/m <sup>3</sup>
Mohs hardness	5 - 6
Modulus of elasticity (Young's)	72 GPa
Modulus of Rigidity (Shear)	30 GPa
Bulk Modulus	43 GPa
Poisson's ratio	0.23
Coefficient of thermal stress	0.62 MPa/°C
Thermal conductivity	0.937 W/(m K)
Specific heat	0.88 kJ/(kg K)
Coefficient of linear expansion	8.3 * 10 <sup>-6</sup> °C
Refractive Index (Sodium D line)	1.523
(1 µm)	1.511
(2 µm)	1.499
Softening point	715 °C
Annealing point	548 °C
Strain Point	514 °C
Emissivity (Hemispherical) at 75°F	0.84
Max. working temperature:	
- not toughened	110 °C
- toughened	150 °C
Thermal shock Δ :	
- not toughened	50 °C
- toughened	118 °C

Composition of soda lime glass



### Compressive strength

Annealed	19 MPa
Heat-Strengthened	39 Mpa
Toughened	77 MPa



### Features

- Can be chemically strengthened to increase mechanical strength
- Can be heat strengthened or heat tempered to increase thermal shock resistance and mechanical strength
- Can be machined, optically coated, chemically etched, sandblasted, colored, or laminated
- Good flatness and surface quality due to float process
- Economically priced