

# Specialty Glass Products Technical Reference Document

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## Soda-Lime

### Soda Lime Float Glass (Clear & Tinted)

#### Description

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.

#### 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

#### Physical Properties

• Modulus of Elasticity (Young's)	7.2 x 10 <sup>10</sup> Pa	(10.4 x 10 <sup>6</sup> psi)
• Modulus of Rigidity (Shear)	3.0 x 10 <sup>10</sup> Pa	(4.3 x 10 <sup>6</sup> psi)
• Bulk Modulus	4.3 x 10 <sup>10</sup> Pa	(6.18 x 10 <sup>6</sup> psi)
• Poisson's Ration	0.23	
• Specific Gravity	2.53	
• Density	2530 kg/m <sup>3</sup>	(158 lb/ft <sup>3</sup> )
• Coefficient of Thermal Stress	0.62 mPa/°C	(50 psi/°F)
• Thermal Conductivity	0.937 W.m/m <sup>2</sup> °C	(6.5 btu.in/hr.°F.ft <sup>2</sup> )
• Specific Heat	0.21	
• Coefficient of Linear Expansion	8.9 x 10 <sup>-6</sup> strain/°C	(4.9 x 10 <sup>-6</sup> strain/°F)
• Hardness (Moh's Scale)	5 to 6	
• Refractive Index (Sodium D line)	1.523	
• (1 µm)	1.511	
• (2 µm)	1.499	
• Softening Point	340°F	(726°C)
• Annealing Point	1015°F	(546°C)
• Strain Point	957°F	(514°C)
• Emissivity (Hemispherical) at 75°F	0.84	

#### Dimensions

- Thicknesses: 0.02" - 1" (0.55mm - 25.4mm)
- Sizes: Up to 96" x 72" (2440mm x 1830mm)

