

Quartz Glass Technical Data

Clear fused quartz glass is a unique material with an unrivalled combination of purity, high temperature resistance, thermal shock resistance, high electrical insulation, optical transparency and chemical inertness.

Mechanical

Density	2.20×10^3	Kg/m ³
Youngs Modulus	74×10^6	KN/m ²
Rigidity Modulus	32×10^6	KN/m ²
Compressive Strength	20×10^6	KN/m ²
Tensile Strength	70×10^3	KN/m ²
Shear Strength	70×10^3	KN/m ²
Moh's Hardness	6	

Electrical

Electrical Resistivity	2×10^{19} ohm cm at 20°C
	2×10^6 ohm cm at 800°C
Dielectric Strength	10KV/mm at 20°C
	2.5KV/mm at 500°C

Thermal

Strain Point	1385°K
Annealing Point	1455°K
Softening Point	1853°K
Coefficient of Expansion	0.52×10^{-6} per °C
Continuous Operating Temp.	1050°C

Optical

Useful Optical Range	Synthetic 180 - 2000nm
	Natural 275 - 2000nm
Refractive Index	n_D (589 nm) - 1.458

Chemical

SiO ₂ Content	99.995%
Total Metallic Impurities	10ppm (Typical)

Chemical Inertness:

Fused quartz does not react with acids with the exception of hydrofluoric and at high temperatures phosphoric. There is a slow reaction with caustic alkalies at normal temperatures. There is no reaction with water and steam at moderate temperatures and pressures.

More detailed information such as transmission curves and chemical impurity levels are available [on request](#).