



## Glass (N-BK7)

### Optical

Transmission Range :	350 nm to 2.5 $\mu\text{m}$
Refractive Index :	1.51680 @ 587.5618 nm
Reflection Loss :	8.1% at 587.5618 nm (losses from two surfaces)
Absorption Coefficient :	$40 \times 10^{-3} \text{ cm}^{-1}$ at 2.7 $\mu\text{m}$

### Physical:

Density :	2.51 $\text{g/cm}^3$
Melting Point :	557 $^{\circ}\text{C}$ (Glass Transition Temperature)
Thermal Conductivity :	1.114 $\text{W m}^{-1} \text{K}^{-1}$
Linear CTE :	$7.1 \times 10^{-6} /^{\circ}\text{C}$ at RT
Specific Heat Capacity :	858 $\text{J Kg}^{-1} \text{K}^{-1}$

### Mechanical

Youngs Modulus (E) :	138 GPa
Shear Modulus (G) :	54.66 Gpa
Bulk Modulus (K) :	101.2 GPa
Rupture Modulus :	63.5 MPa
Hardness :	610 Knoop
Poisson Ratio :	0.206

### Chemical

Chemical formula :	$\text{SiO}_2$
Solubility :	Insoluble in water
Molecular Weight :	$\sim 50 \text{ g/mole}$

### Notes:

The data provided is for N-BK7. This is the most common Schott glass specified for visible applications.

There is an enormous variety of silica glasses available.