

SiO₂ – Silicon Dioxide (Quartz Crystal)

CRYSTAL GROWTH

Growth Method	hydrothermal
Max. Diameter (mm)	100 x 100

CRYSTALLOGRAPHIC PROPERTIES

Crystal Structure	trigonal
Lattice Constant (nm)	a= 0.49124 c= 0.54039
Color	colorless

PHYSICAL PROPERTIES

Density (g/cm³)	2.65
Melting Point (K)	1973
Thermal Conductivity (W · m⁻¹K⁻¹)	10.7 c, 6.2 ⊥ c (at 323 K)
Thermal Expansion (10⁻⁶K⁻¹)	α ₁₁ = 13.71, α ₃₃ = 7.48
Dielectric Constant	4.34 c, 4.27 ⊥ c (at 30 MHz)
Elastic Coefficients	c ₁₁ =87 c ₁₂ =7 c ₄₄ =58 c ₁₃ =13 c ₁₄ =(-)18 c ₃₃ =106
Specific Heat Capacity (J · kg⁻¹K)	710
Hardness (Mohs)	7

