

Lithium Tantalate

Formula	LiTaO ₃
Crystal Growth	
Growth Method	Czochralski
Max. Diameter (inch)	Ø4"
Crystallographic Properties	
Crystal Structure	hexagonal
Lattice Constant (nm)	a = 0.5154 b = 0.5154 c = 1.3784
	without twins, mainly single domain on request
Physical Properties	
Color	colorless
Density (g/cm ³)	7.45
Melting Point (K)	1650
Thermal Expansion (10 ⁻⁶ K ⁻¹)	a ₁₁ = 16.0, a ₃₃ = 4.0
Dielectric Constant	ε ₁₁ = 53.6, ε ₃₃ = 43.4 (unclamped)
Piezoelectric Strain Constants (K/m ²)	e ₁₅ =2.63, e ₂₂ =1.84, e ₃₁ =-0.11, e ₃₃ =1.93
Hardness (Mohs)	6

