

LiNbO₃ Single Crystal

Typical Properties	
Crystal Structure	Hexagonal a=5.148 Å, c= 13.863Å
Growth Method	CZ
Melting Point	1250 °C
Density	4.64 g/cm ³
Curie Temperature	~ 1160 °C
Hardness	5 Mohs
Thermal expansion (x10 ⁻⁶ / °C)	α ₁₁ : 15.4 α ₃₃ : 7.5
Index of Refraction	η _o =2.286 η _e =2.203 at 632.8 nm
Transmission wavelength	0.4 ~ 2.90 μ
Nonlinear coefficient	d ₃₃ =34.45, d ₃₁ =d ₁₅ =5.95 d ₂₂ =13.07 (pmV ⁻¹)
Electro-optical Coefficient	γ ₁₃ =8.6, γ ₂₂ =3.4, γ ₃₃ =30.8, γ ₅₁ =28.0, γ ₂₂ =6.00 (pmV ⁻¹)
Transparency Range	370 ~ 5000 nm
Transmissivity	> 68 % @ 632.8 nm
Sellmeier Equation (λ in μm)	
$\eta_o^2(\lambda) = 4.9048 + 0.11768/(\lambda^2 - 0.04750) - 0.027169 \times \lambda^2$ $\eta_e^2(\lambda) = 4.5820 + 0.099169/(\lambda^2 - 0.04443) - 0.021950 \times \lambda^2$	
LiNbO₃ Finished Components	
Size	Any size below 4" diameter boule
Tolerance of size	Z-axis: ± 0.3 mm X-axis and Y-axis: ± 0.1 mm