

## LITHIUM NIOBATE

Properties (LiNbO <sub>3</sub> )	
Transmission Range	0.32... 5.6 μm
Refractive Index	$n_o = 2.28647$ , $n_e = 2.20240$ @0.633 μm
Reflective Loss	26.57%; 24.71%
Reststrahlen	
Density	4.64 g/cm <sup>3</sup>
Melting Point	1255°C
Molecular Weight	147.8456
Thermal_Conductivity	C: 8.2 W/(m·K), ⊥ C: 8.7 W/(m·K)
Specific Heat	628 J/(kg·K)
Thermal Expansion	C: $6 \cdot 10^{-6}$ /°C, ⊥ C: $17 \cdot 10^{-6}$ /°C @100°C
Hardness (Mohs)	5
Young`s Modulus	$C_{11} = 203$ ; $C_{12} = 57.3$ ; $C_{44} = 59.5$ GPa
Shear Modulus	
Bulk Modulus	
Rupture Modulus	
Elastic Coefficient	$C_{11} = 203$ ; $C_{12} = 57.3$ ; $C_{13} = 75.2$ ; $C_{14} = 8.5$ ; $C_{33} = 242.4$ ; $C_{44} = 59.5$ ; $C_{66} = 72.8$ GPa
Dielectric Constant	39
Solubility in Water	unsoluble
Type of Material	Single crystal, synthetic
Crystal Structure	rhombic, space group R3c, $a_{RH} = 5.4944$ Å
Cleavage Planes	
Standard Diameter	max. 100 mm
Application	electro optic Q-switch, surface acoustic wave substrate, integrated optical substrate, optical parametric oscillator
Remarks	

파장=0.42um일 때 **Refractive Index of Lithium Niobate** 계산값

Eigenschaften			Properties
Durchlässigkeitsbereich	0.32 ... 5.6 $\mu\text{m}$		Transmission Range
Brechungsindex (ordentlicher Strahl)	$\lambda = \mu\text{m}$	$\Rightarrow n_o =$ <input type="text" value="2.41386729"/>	Refractive Index (ordinary ray)
		$\Rightarrow n_e =$ <input type="text" value="2.30343057"/>	
Reflexionsverlust (2 Oberflächen)			Reflective Loss (2 surfaces)
ordentlicher Strahl	<input type="text" value="29.2821499"/> % @ $\lambda =$ <input type="text" value="0.42"/> $\mu\text{m}$		ordinary ray
außerordentlicher Strahl	<input type="text" value="26.9423912"/> % @ $\lambda =$ <input type="text" value="0.42"/> $\mu\text{m}$		extraordinary ray
Reststrahlenwellenlänge			Reststrahlen

파장 0.42um일 때 **Reflective Loss of Lithium Niobate** 계산값

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