

Nd:YVO₄ (1064nm)

(Neodymium doped Yttrium Vanadate)

Advantages

- Promising material for diode pumped lasers.
- High gain cross-section
- Low threshold
- Wide Nd absorption peak and polarized output.

Applications

- Marking
- Spectroscopy
- Research

**Specifications**

Nd Concentration Range	0.5% to 0.3% ± 0.2%
Lateral dimension tolerance	±0.1mm
Length tolerance	+0.2mm, -0.1mm
Parallelism	<30 arc seconds
Perpendicularity	<15 arc minutes
Surface quality	10/5 (scratch-dig)
Surface flatness	λ/4@632.8nm
Clear aperture	Central 80%

Material Properties

Formula	Nd:YVO ₄
Crystal Structure	Tetragonal
Moh Hardness	4-5
Melting Point	1825°C
Thermal Conductivity	5.2 W cm ⁻¹ K ⁻¹
Density	4.22 g/cm ³
Specific Heat	0.59 Jg ⁻¹ K ⁻¹
Thermal Expansion(x 10⁻⁶ °C⁻¹)	4.43 (along a axis) 11.4 (along c axis)
Lattice Constant (nm)	0.712 (a axis) 0.629 (c axis)
Index of Refraction at 1064 nm	1.97
Fluorescence Lifetime (μs)	98
Cross Section (cm²)	20 x 10 ⁻¹⁰

