

Nd : Ce:YAG

Nd:Ce:YAG is an excellent laser crystal without water-cooling and air-cooling solid-state lasers, and is widely used in small laser range finders and laser medical instruments.

Main features:

high efficiency

low threshold

high optical quality

Good resistance to UV radiation and good thermal stability

Material properties:

Crystal structure	Cubic system
Lattice constant	12.01 Å
Melting point	1970°C
Moh's hardness	8.5
Density	4.56±0.04 g/cm ³
Specific heat	0.59J/ g.cm ³ @0-20°C
Elastic Modulus	310GPa
Young's modulus	3.17×10 ⁴ Kg/ mm ²
Poisson's ratio	0.3
Tensile strength	0.13~0.26 GPa
Coefficient of thermal expansion	[100] Direction: 8.2×10 ⁻⁶ /K @0~250°C
	[110] Direction: 7.7×10 ⁻⁶ /K @0~250°C
	[111] Direction: 7.8×10 ⁻⁶ /K @0~250°C
Thermal conductivity	14W/m/K @20°C
	10.5W/m/K @100°C
Thermo-optic coefficient	dn/dT =7.3×10 ⁻⁶ /K
Thermal shock resistance	790W/m
Solubility	Insoluble in water, slightly soluble in common acids

Product parameters:

Doping concentration	Nd: 1.1~1.4at%, Ce: 0.05~0.1at%
Orientation	[111], ±5°
Wavefront distortion	≤ 1/4 lambda/25mm
Extinction Ratio	≥28dB
Size	Diameter: 3 ~ 6mm , length: 40 ~ 80mm can be customized
Dimensional tolerance	Diameter: +0.00/-0.05mm , Length: ±0.5mm
Cylindrical processing	Grinding or Polishing
Parallelism of end faces	≤10"
Perpendicularity	≤5'
Flatness of end face	λ/10 @632.8nm
Surface Quality	10-5 (MIL-O-13830A)
Chamfer	0.15±0.05mm