

## Neodymium Doped Yttrium Aluminum Garnet (Nd:YAG)

Nd:YAG crystal is the most important solid-state lasers. Material PHOTOP mainly focuses on manufacturing the Nd:YAG crystal with different coating requirements for diode pumped solid state lasers by using our core technologies.

### Specifications:

Parameter	Unit	
Dopant Concentration (atomic %)		0.9%~ 1.1%
Orientation		<111> crystalline direction (+/-5°)
Wavefront Distortion		$\lambda/8$ per inch, measured by a double-pass interferometer@633nm
Extinction Ratio	dB	30: Rods with diameter from 3mm to 6.35mm and with length to 100mm
		28: Rods with diameter from 7mm to 10mm and with length to 100mm
Dimension Tolerances		Rods with diameter: +/-0.025 mm (+/-0.001"), Length: +/-0.5 mm (+/-0.02") Barrel Finish: 50 80 micro-inch (RMS), grooved rod barrel are also available
Flatness		$\lambda/10$ @633nm
Parallelism	arc second	<10
Perpendicularity	arc minute	<5
Surface Quality (scratch/dig)		10/5 scratch/dig per MIL-O-1380A
Chamfer		<0.1mm@45°
Clear Aperture		Extend over the entire faces to the chamfered edges
Coating		AR Coating: Single layer MgF <sub>2</sub> coating with high damage threshold for high power laser operation. Reflectivity R <0.25%@1064nm per surface. Damage threshold over 750MW/cm <sup>2</sup> @1064nm, 10ns and 10HZ
		HR Coating: HR coating with R>99.8%@ 1064nm and R<5%@ 808nm; HR@946nm/HT@1064 nm and 808nm for diode pumped blue laser are available