

Nd:YCOB



DESCRIPTION

CRYLINK's Nd:YCOB crystal products, also known as Nd:YCa₄O(BO₃)₃ crystal. It is a kind of laser crystal product with excellent comprehensive performance. It is widely used in the fields of frequency doubling laser, ranging and LD pumping. The product has uniform melting behavior and self-doubling laser action characteristics. Can be used in solid state laser, Nd:YCOB laser, continuous wave self-frequency doubling laser, diode pump ranging system products.

FEATURES

- Consistent melting behavior
- Has the characteristics of self-multiplier laser action

APPLICATIONS

- Solid lasers
- Nd:YCOB laser
- Cw self-octave laser
- Diode pumping range-finder system

PARAMETERS

PARAMETERS OF THE SELLMIEIER EQUATION

Sellmeier equation		$n^2(\lambda)=A+B/(\lambda^2-C)-D\cdot\lambda^2$		
Parameter	n_x	n_y	n_z	
A	2.78232	2.88739	2.92685	
B	0.0112	0.01223	0.01474	
C	0.0899	0.08855	0.07466	
D	7.2561×10^{-5}	6.1142×10^{-5}	5.2148×10^{-5}	



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STANDARD

Direction tolerance	< 0.5°
Thickness/diameter tolerance	±0.01 mm
Surface flatness	<λ/8 @632nm
Wavefront distortion	<λ/4 @632nm
Surface quality	44474
Parallel degrees	30"
Perpendicularity	15'
Clear aperture	>90%
Chamfer	<0.2×45°

BASIC PARAMETERS

Chemical formula	Nd:YCa ₄ O(BO ₃) ₃
Crystal system	Monoclinic (m), biaxial
Lattice constant	a = 0.8076Å, b=1.6020 Å, c = 0.3527Å, β=101.23°
Melting point	1510°C
Density	3.31 g/cm ³
Mohs hardness	6.0-6.5 (mohs)
Growth method	Czochralski growth
Refractive index@1064nm	n _x =1.6844, n _y =1.7152, n _z =1.7256
Fluorescent lifetime	105μm
Emission cross-section	0.45×10 ⁻¹⁹ cm ²
Absorption peak	796, 812nm
Absorption cross-section at pump wavelength	2.3×10 ⁻²⁰ cm ²
Absorption cross-section at SFD wavelength	0.40×10 ⁻²⁰ cm ²
Transmission range	1000-2600nm
Damage threshold	>1 Gw/cm ² @532 nm, 6 ns
SHG deff @1.06 μm (I type)	1.1 pm/V



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SPECTRA

