RAICOL CRYSTALS
An OXIDE company

SUPER POLISHED!

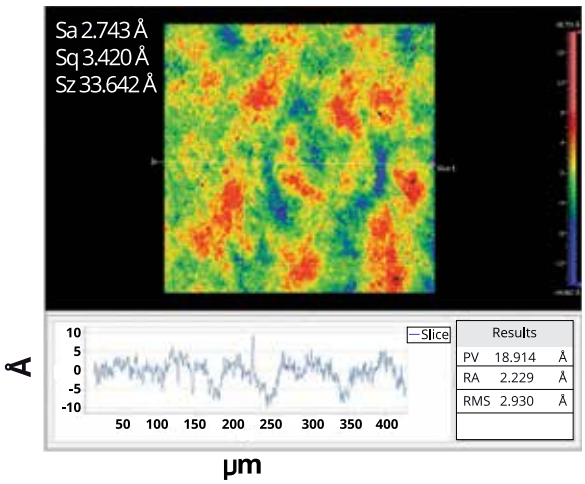
LBO Crystals

LBO (Lithium Triborate LiB_3O_5) is a nonlinear optical crystal ideally suitable for various nonlinear optical applications. LBO crystals combine wide transparency, relatively high nonlinear coupling, high damage threshold and good chemical and mechanical properties.

Special Advantages of our LBO

- Super polished elements for excellent surface quality: roughness ≤ 3Å RMS and scratch dig 2/1
- Very low bulk absorption: up to 2ppm/cm @1064nm
- Crystal size up to 50x50 mm^2 and maximum length of 50 mm
- Strict quality control

ROUGHNESS MEASUREMENTS BY ZYGO INTERFEROMETER



Our LBO features

- Wide transparency range (160nm – 2600nm)
- Relatively high nonlinear coefficient
- High damage threshold
- Type I and II phase matching in a wide wavelength range
- High optical homogeneity
- Wide acceptance angle and small walk-off angle

Common Applications

- Second and third harmonic generation of high power diode pumped Nd:YAG and Nd:YLF lasers, Alexandrite, Ti:Sapphire, Dye lasers and ultrashort pulse lasers
- OPCPA

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Typical Specifications for LBO

Apertures	Up to 60x60 mm^2
Length	Up to 70 mm along x axis
Flatness	Up to λ/10 @1064nm
Roughness	≤3Å RMS
Parallelism	Up to 5 arc sec.
Perpendicularity	Up to 5 arc min.
Scratch/Dig	2/1 up to 0/0 per custom demand
AR coatings	Dual band R < 0.1%
Absorption coefficient	<Bulk (1064nm) =2-4 ppm/cm <Surface (1064nm) = 1-2 ppm <Bulk (532nm) = 8ppm/cm <Surface (532nm) = 1-2 ppm
Wave front distortion	λ/8 @633 nm
Laser Induced Damage Threshold	2500 MW/cm^2 @1064 nm 1000 MW/cm^2 @532 nm 500 MW/cm^2 @355 nm For 10 ns pulses @ 10 Hz

Raicol Crystals, founded in 1995, is a global leader in nonlinear and EO crystal growth, fabrication, and assembly. Raicol offers a unique set of benefits to its customers:

- 50 years of experience in crystal growth
- Global pioneers of RTP, HGTR KTP, and PPKTP crystal growth and assembly
- A one-stop-shop, from crystal growth through to coating and EO cell assembly
- Mass production and small R&D volume capabilities
- Fast delivery times
- Unmatched crystal quality

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