

Ti:SAPPHIRE CRYSTALS

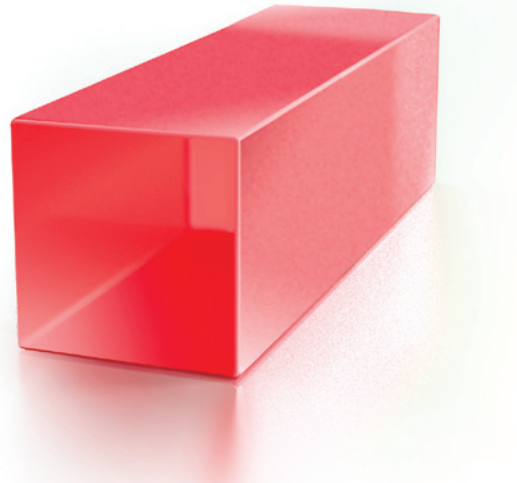
Description

Titanium doped sapphire ($\text{Al}_2\text{O}_3:\text{Ti}^{3+}$) is widely used for generating ultra short femtosecond pulses and wavelength tunable lasers. It has remarkably high gain. Ti:Sapphire crystals can be effectively pumped by short pulse flash lamps in powerful laser systems.

Also these crystals combine supreme physical and optical properties with the broadest lasing range. Its indefinitely long stability and useful lifetime are an additional advantage. Medical laser systems, LIDARs, laser spectroscopy, direct femtosecond pulse generation by Kerr-type mode-locking - these are a few of the existing and potential applications.

Standard specifications

Orientation	Optical axis C normal to rod axis
Ti ₂ O ₃ concentration	0.03-0.25 wt %
Figure of merit (FOM)	60-300 depending on the Ti ₃₊ concentration
Dimensions tolerance	+0/-0.1 mm
Length tolerance	±0.1 mm
Surface quality	10-5 S-D
Transmitted wavefront distortion (TWD)	<λ/4@632.8 nm per 25.4 mm of central area
Surface flatness	<λ/10@632.8 nm
Parallelism error	<30 arcsec
End configurations	Flat/Flat or Brewster/Brewster
Absorption @ 532 nm on crystal length	>90 %
Protective chamfers	<0.1 mm x 45°
Coatings	None. AR coatings available upon request. Please refer to the Coatings Section.



Features

- Broad lasing range: 660-1050 nm band
- Perfect for ultrashort pulse generation
- High gain and high power lasing
- High optical quality and bulk damage threshold

Miscellaneous

- Custom design production is also available
- Different doping levels available
- Mass production at 500 pieces per month available
- Various end cuts available (plano/plano, wedge/wedge, brewster cut, etc.)
- Various dielectric coatings are available. Complex coatings are realized with IBS technique

Catalog Items

Aperture dimensions, mm	Length, mm	End surfaces	Product ID
Ø6	5	Brewster Cut	3-TS-1-0605
	10		3-TS-1-0610
	15		3-TS-1-0615
	20		3-TS-1-0620
	5	Right-angle Cut	3-TS-0-0605
	10		3-TS-0-0610
	15		3-TS-0-0615
	20		3-TS-0-0620
6x6	5	Brewster Cut	3-TS-1-6605
	10		3-TS-1-6610
	15		3-TS-1-6615
	20		3-TS-1-6620
	5	Right-angle Cut	3-TS-0-6605
	10		3-TS-0-6610
	15		3-TS-0-6615
	20		3-TS-0-6620

* Contact ALTECHNA for larger quantity pricing info@altechna.com
If you do not find suitable crystal for your application please contact us and we guaranty to provide a solution for you

Related products and accessories

• UltraFAST Watt Pilot -
Attenuator (page 192)



• Achromatic
(Broadband)
Waveplates (page 105)



• Low GDD Ultrafast
Mirrors (page 60)



• Gires-Tournois
Interferometer Mirrors
(GTI) (page 65)



• BBO Crystals (page 155)

