



## **Crylink Ti:Sapphire Crystal**

**For High-performance Ultrafast Lasers**




[www.crylink.com](http://www.crylink.com)

## Crylink Ti:Sapphire · Excellent Quality

Shanghai Crylink Technology Co., Ltd. is one of the few Ti:Sapphire laser crystal manufacturers in the world.

Crylink Ti:Sapphire crystals are used in well-known domestic and foreign industrial laser companies, medical beauty companies, and ultra-fast, ultra-short, and ultra-intense laser scientific research equipment.

Crylink Ti:Sapphire crystals are available in a variety of absorption coefficients, ranging from 0.8 to 7cm<sup>-1</sup>@532nm. Crylink uses a unique growth and annealing process to produce Ti:sapphire crystals with high FOM value. The hardness of Ti:sapphire is very high, but the ultra-hard material polishing process developed by Crylink can ensure that Ti:sapphire has good surface shape and surface roughness. Laser damage threshold is a key indicator for the use of Ti:sapphire. Crylink uses the IAD coating process to prepare a high damage threshold antireflection coating suitable for Ti:sapphire.



FOM Value > 260 ( $\alpha_{532}/\alpha_{808}$ )

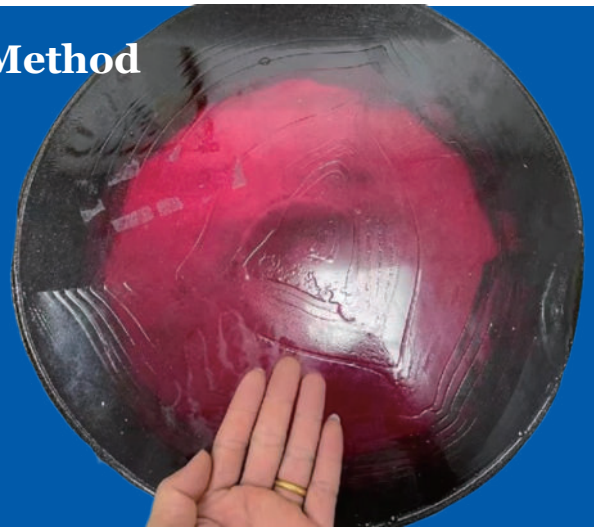
Absorption Coefficient: 0.8-7cm<sup>-1</sup>  
@ 532nm

High Damage Threshold Coating

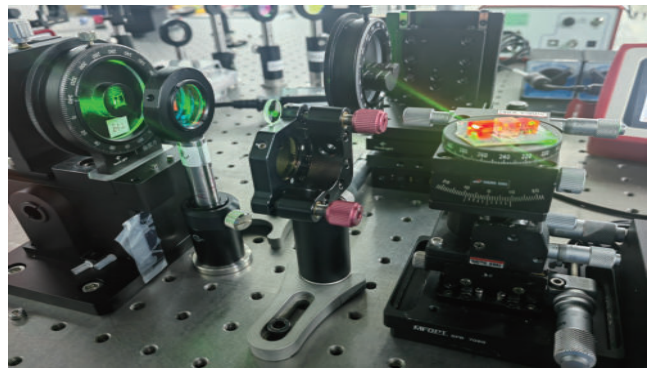
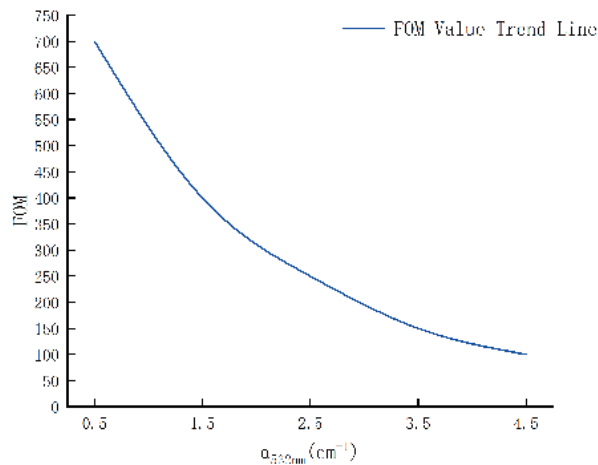
## Crylink Ti:Sapphire · Heat Exchange Method

Crylink Ti:Sapphire crystals are grown using a heat exchange method, which is particularly suitable for growing high-quality Ti:Sapphire crystals. Crylink heat exchange method growth furnace has the characteristics of stable growth process control, high temperature resistance and fully automatic control.

At present, Crylink crystal growth furnace can be used to grow large-size Ti:Sapphire crystal blanks with a diameter of 250mm. The conventional crystal doping concentrations are 0.15wt%, 0.25wt%, 0.35wt% and 0.45wt%. It can grow absorption coefficients from 0.8 to 7cm<sup>-1</sup> crystals.

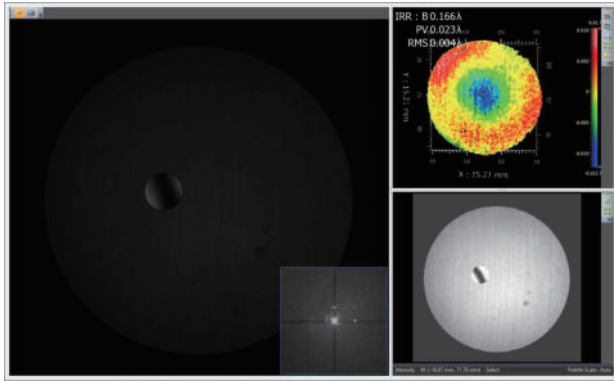


## Crylink Ti:Sapphire · Absorption Coefficient and FOM Value Test

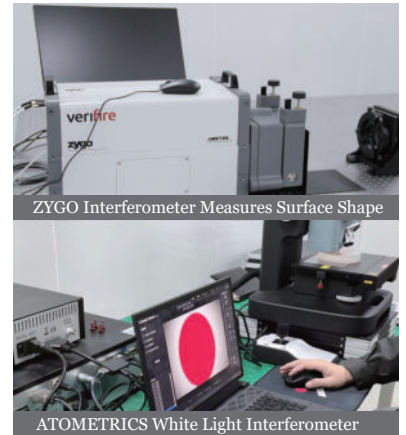


Ti:Sapphire crystal absorption coefficient and FOM value testing system: FOM value > 260 ( $\alpha_{532}/\alpha_{808}$ );  
Absorption Coefficient: 0.8-7cm<sup>-1</sup>@ 532nm

## Crylink Ti:Sapphire · Surface Line & Roughness Test



- X: 15.21mm
- Y: 15.21mm
- IRR: B 0.0166λ  
PV 0.023λ  
RMS 0.004λ



## Crylink Ti:Sapphire · Damage Threshold Test

Test Conditions:

Wavelength: 1064nm

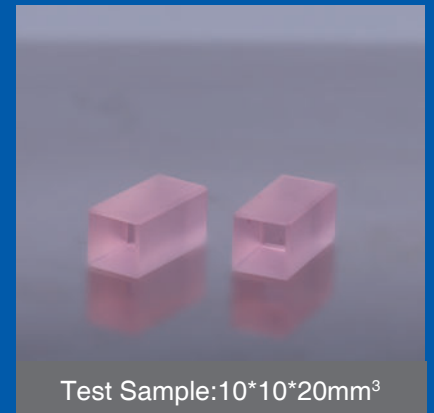
Pulse Width: 5ns

Spot Distribution: 425.3 um

Linearly Polarized Light

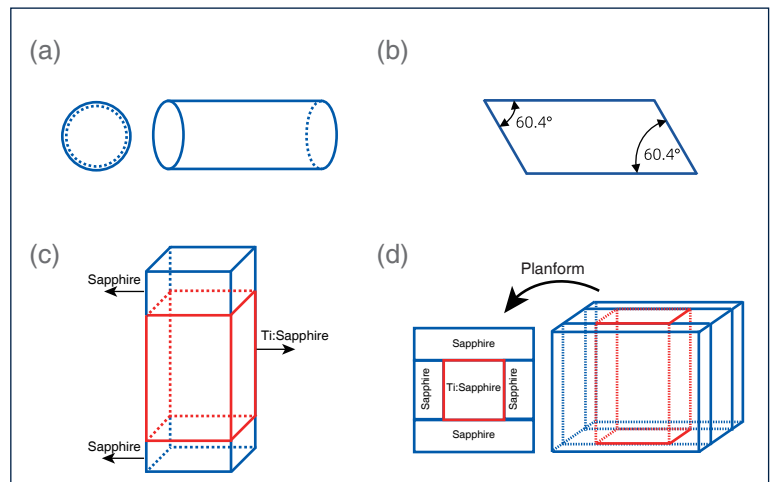
Sample Testing Angle: 0°

Test Result  
34.98J/cm<sup>2</sup>



## Crylink Ti:Sapphire · Product Type

The shape of Ti:Sapphire crystal products can be round, rectangular, or other customized shapes. The common end face shapes are flat end face and Brinell angle. In order to eliminate parasitic oscillations and improve heat dissipation performance, other crystals, such as Sapphire, can be bonded around Ti:sapphire. Bonding is divided into non-transparent surface bonding and transparent surface bonding, which can be customized according to needs.



## Crylink Ti:Sapphire · Standard Products

| End Size (mm <sup>2</sup> ) | Length(mm) | End Face       | Absorption Rate | FOM  | Other                    |
|-----------------------------|------------|----------------|-----------------|------|--------------------------|
| 3*3                         | 4.8        | Brewster angle | >80%            | >150 | Double polished          |
| 3*3                         | 10         | Brewster angle | >90%            | >150 | Double polished          |
| 3*3                         | 20         | Brewster angle | >90%            | >150 | Double polished          |
| dia.3                       | 20         | Brewster angle | >90%            | >150 | Double polished          |
| dia.6                       | 20         | Brewster angle | >90%            | >150 | Double polished          |
| dia.20                      | 20         | Plane          | >90%            | >150 | AR/AR@532+700-900nm      |
| dia.30                      | 20         | Plane          | >90%            | >150 | AR/AR@532+700-900nm      |
| dia.30                      | 25         | Plane          | >90%            | >150 | AR@532 nm+ AR@750-850 nm |

Note: The conventional coating system for flat end surfaces is AR/AR@532nm+650-900nm

## Crylink Ti:Sapphire · Services

Large size customization: Ti:Sapphire crystal with absorption coefficient less than  $7\text{cm}^{-1}$  within dia.100mm can be customized

Ti:Sapphire rework: We can provide re-polishing and coating services for Ti:sapphire crystals with damaged surfaces.

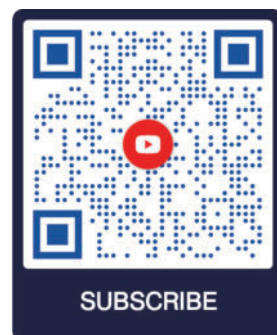
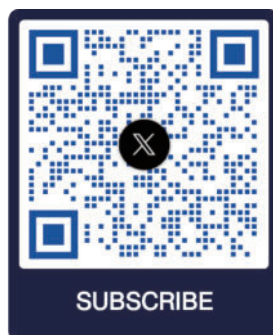
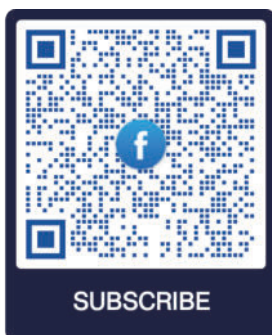
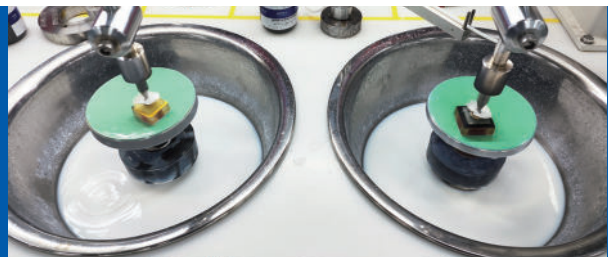
### Quick Response:

Ti:Sapphire can be repaired in as little as 2 weeks<sup>\*1</sup>;

Ti:Sapphire can be customized in as little as 4 weeks<sup>\*2</sup>.

\*1: Since ti:Sapphire processing cycle is greatly affected by size, please consult sales for specific delivery time.

\*2: Our company can deliver quickly if we have materials ready. Please consult sales for the specific delivery date.



Follow us on social media to get more information about Ti:Sapphire crystals

