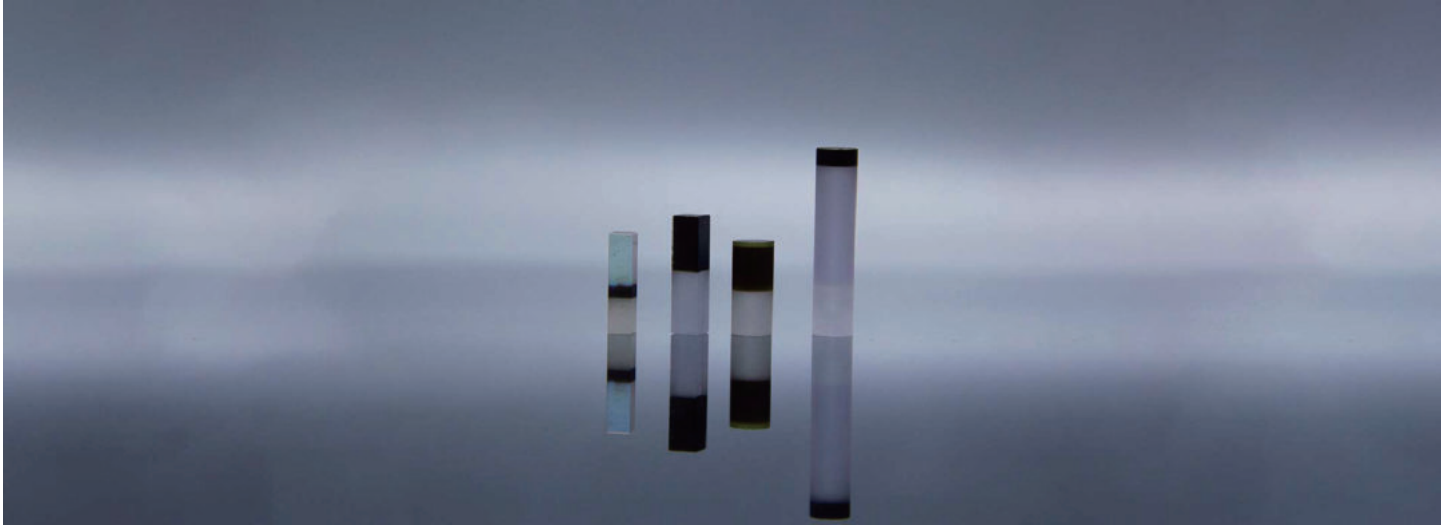


# Nd,Ce:YAG+Cr:YAG



## DESCRIPTION

Nd,Ce:YAG+Cr:YAG bonded crystals, which are formed by bonding Cr:YAG at the end of Nd,Ce:YAG, can effectively improve the comprehensive performance of Nd,Ce:YAG lasers.

The thermal conductivity of Nd,Ce:YAG is 14w/m/k, 20°C, 10.5w/m/k, 100°C. the thermal conductivity of Cr:YAG crystal is 12.13w/m/k. Nd is formed by bonding at both ends. Nd,Ce:YAG+Cr:YAG bonded crystal can improve the beam quality of laser, improve the beam quality, improve the damage threshold, reduce thermal effect, improve efficiency, improve the stability of laser output capacity, and enhance the service life of laser. The molecules on the surface of precision optical processing diffuse and fuse with each other to form a more stable chemical bond, so as to achieve a real sense of integration, which can make the laser device miniaturized and integrated, and improve the thermal performance of the laser rod at the same time.

CRYLINK uses surface activation bonding technology, which is a bonding technology at low or normal temperature. The typical features are surface cleaning and surface activation. Before bonding, the bombardment of fast atoms or ion beams on the bonding surface can effectively increase the bonding strength and achieve high-quality bonding between inorganic materials, metals and semiconductor materials. Compared with the high-temperature thermal bonding method, the surface activation bonding technology has higher bonding force interface, better optical absorption loss and surface shape change control, while the impurities on the thermal diffusion bonding surface cannot be removed and are bonded on the bonding surface. Surface activated bonding technology has the advantages of removing various polishing residual components, removing organic pollutants, removing surface oxide layer, breaking chemical bonds of materials, and improving activation energy.

The produced Nd,Ce:YAG+Cr:YAG bonded crystals have high bonding strength, small bonding surface absorption loss (generally less than 20ppm) and small change of bonding surface shape (bonding surface shape  $< \lambda/8$ ). The initial transmission of cr:yag is 30 ~ 99%. The shape of the bonded crystal can be rod, plate, waveguide or sandwich. Various types of coatings can be provided at both ends of the bonded crystal, such as two end antireflection films ar/AR@1064nm, or s1: HR@1064nm, S2: PR@1064nm, etc. Nd,Ce:YAG+Cr:YAG bonded crystals are widely used in biophysics, medicine, military, machinery, scientific research and construction.



# Nd,Ce:YAG+Cr:YAG

## FEATURES

- Improve the beam quality of laser
- Improve beam quality, increase damage threshold and reduce thermal effect
- Improve efficiency and stability of laser output capacity
- Improve the service life of the laser

## APPLICATIONS

- Material processing, welding and cutting
- Medical laser system
- Pulse and continuous wave operation
- Slab technology

## PRODUCT PARAMETERS

Nd,Ce:YAG+Cr:YAG		
Materials	Nd,Ce:YAG	Cr:YAG
Concentrations	0.6%\1.0%\1.1%	/
Initial Transmission	/	30 ~ 99%
Structure	Rods/Slabs/Sandwich/Waveguide/	
End-face Configuration	Flat/Convex/Wedge	
Side Configuration	Polish/Fine Ground	
Coating available	AR@1064nm	AR@1064nm
	HR@1064nm	PR@1064nm
	others	others

