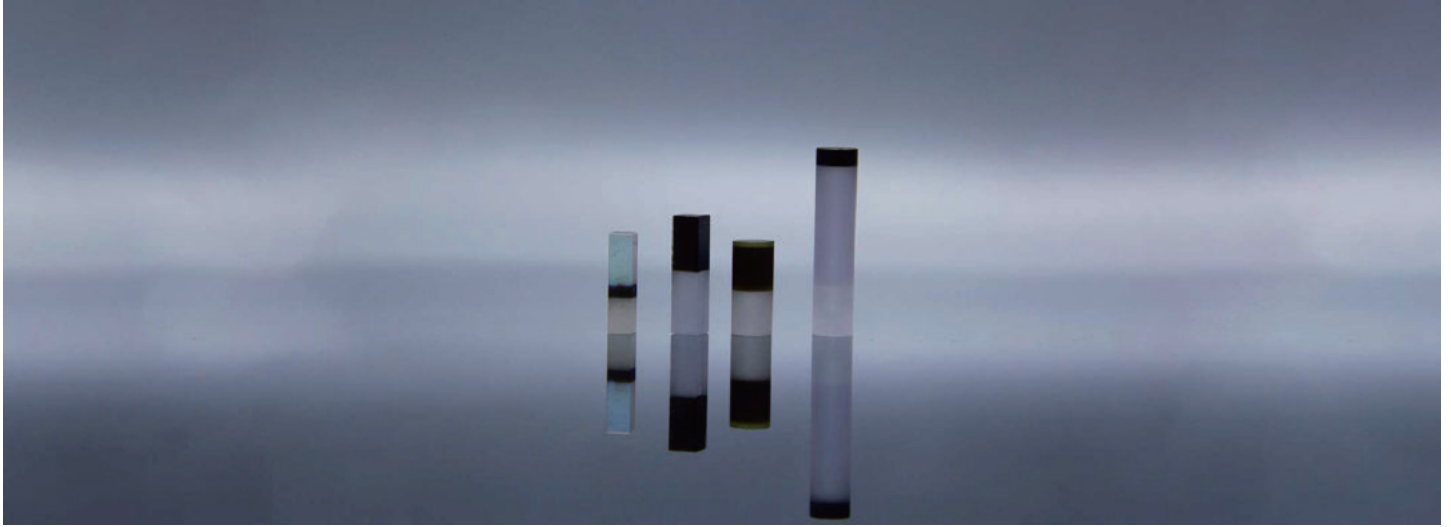


# ZnSe+Cr:ZnSe+ZnSe



## DESCRIPTION

ZnSe+Cr:ZnSe+ZnSe bonding crystal is a bonding crystal formed by bonding pure Cr:ZnSe at both ends of Cr:ZnSe, which can effectively improve the comprehensive performance of Cr:ZnSe laser.

The thermal conductivity of Cr:ZnSe is 14w/cm/°k@ 20°C, and the thermal conductivity of Cr:ZnSe crystal is 18w/m/k. ZnSe+Cr:ZnSe+ZnSe bonded crystal is formed by bonding at both ends, which can effectively improve the thermal effect of Cr:ZnSe crystal, reduce the thermal lens effect formed during laser pumping, improve the beam quality of laser, improve the stability of laser output capacity, and improve the service life of laser. Wide adjustability (from 2.1 to 3.1 μm emission), increasing gain cross section ( $\sigma_{\text{Launch}} \sim 9 \times 10^{-19} \text{cm}^2$ ) and the minimum problem of excited state absorption (spin transition of upper level excited state is not allowed).

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 ZnSe+Cr:ZnSe+ZnSe bonded crystals produced have high bonding strength, small bonding surface absorption loss (generally less than 20ppm) and small change in bonding surface shape (bonding surface shape  $< \lambda/8$ ). 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@2300 ~2500nm, etc. ZnSe+Cr:ZnSe+ZnSe bonded crystals are widely used in optical communication, pollution gas detection, industrial combustion products testing and other fields.



# ZnSe+Cr:ZnSe+ZnSe

## FEATURES

- It can effectively improve the thermal effect of cr:znse crystals
- Reduce the thermal lens effect formed during laser pumping
- Improve the beam quality of laser
- It can improve the stability of the output capacity of the laser and the service life of the laser
- Wide adjustability, increasing gain cross section and excited state absorption

## APPLICATIONS

- Optical communication
- Pollution gas detection
- Industrial combustion product test

## PRODUCT PARAMETERS

ZnSe+Cr:ZnSe+ZnSe			
Materials	ZnSe	Cr:ZnSe	ZnSe
Concentrations	/	$(1\sim 9)*10^{18}/\text{cm}^3$	/
Structure	Rods/Slabs/Sandwich/Waveguide/		
End-face Configuration	Flat/Convex/Wedge		
Side Configuration	Polish/Fine Ground		
Coating available	AR@2300~2500nm	/	AR@2300~2500nm
	others	/	others

