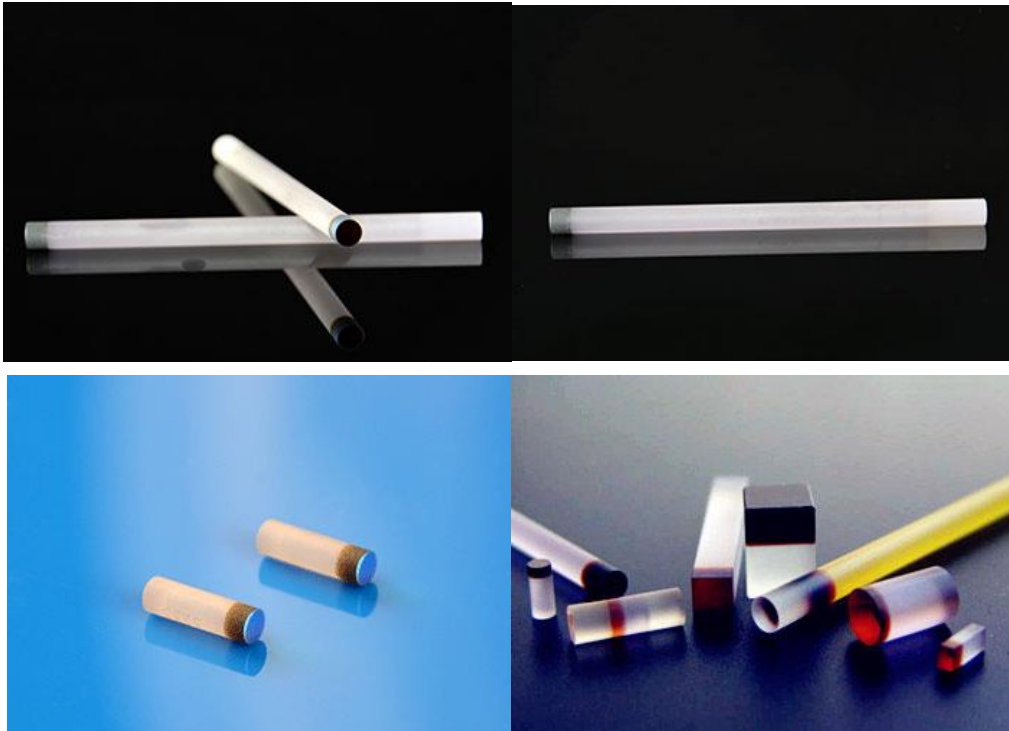


Diffusion Bonding Laser Crystals

- **Decrease thermal lens effect**
- **Improve efficiency and damage threshold**
- **Compact size and better beam quality**

Diffusion Bonding Crystals are crystals consisting of two, three or more parts with different types, **Bonding Crystals** are often used to decrease thermal lens effect, that is conducive to the stability of lasers and high-power laser operation. This bonding technology in laser applications can not only greatly improve the laser performance and beam quality, but also conducive to the integration of laser systems and access to large-size crystal.



SPECIFICATIONS

Specifications	
Damage	$\leq 3.0 \times 10^{-3} \text{ cm}^{-1}$
Flatness	$< \lambda/10$
Parallelism	$\leq 10''$
Perpendicularity	$\leq 5'$
Surface Quality	10/5 (MIL-O-13830A)
Optical Quality	Interference fringes $\leq 0.125/\text{inch}$
Size	Diameter 2~ 18 mm, Length 3~ 200 mm
Dimensional tolerances	Diameter $+0.000/-0.05\text{mm}$, Length $\pm 0.5\text{mm}$ Chamfer: $<0.1 \text{ mm @ } 45^\circ$
Coating	Upon request of customer

Modules or types

Following diffusion bonding crystals are available in Hangzhou Shalom EO:

Bonding Crystals Types	Doping Concentration (atm) or Optical Density (cm ⁻¹)	Aperture (mm)	Length (mm)
YAG+Nd :YAG	Nd:0.6~1.2%	2×2~20×20	2~200
YAG+Cr4+ :YAG	0.6~7	2×2~20×20	2~50
Nd :YAG + Cr4+:YAG	Nd:0.6~1.2% / 0.6~7	2×2~20×20	2~200
YAG+Nd :YAG+YAG	Nd:0.6~1.2%	2×2~20×20	3~200
YAG+Nd:YAG+Cr4+:YAG	Nd:0.6~1.2% / 0.6~7	2×2~20×20	3~200
YAG+Nd:YAG+Cr4+:YAG+YAG	Nd:0.6~1.2% / 0.6~7	2×2~20×20	5~200
Cr:YAG+Nd:Ce:YAG	0.6-7/Nd:0.9~1.3% Ce:Nd=1:10	2×2~10×10	5~130
YAG+Cr4+:YAG+Nd:Ce:YAG+YAG	0.6~7/Nd:0.9~1.3%, Ce:Nd=1:10	2×2~10×10	5~130
YVO4+Nd:YVO4+YVO4	Nd:0.1~3%	2×2~10×10	1~20
YVO4+Nd:YVO4+YVO4	Nd:0.1~3%	Dia.2~10	3~20

Other types of custom bonded crystals are available upon customer's request.

Some diffusion bonding rods modules example as reference

Diffusion Crystals Modules	Diffusion Bonding types	Descriptions
SHYAG-B-D6.35x105-T20	Nd:YAG+Cr:YAG	Nd:YAG D6.35x105mm; HR1064nm Cr:YAG T0=20%; PR=40%
SHYAG-B-D3x50-T40	Nd:Ce:YAG+Cr:YAG	Nd:YAG D3x50mm; HR1064nm Cr:YAG T0=40%; PR=40%
SHYAG-B-D3x10-T40	Nd:YAG+Cr:YAG	Nd:YAG D3x7.5mm; HR1064nm Cr:YAG T0=40%; PR=40%
SHYAG-B-D3x10-T45	YAG+Nd:YAG+Cr:YAG	YAG D3x0.7mm; HR1064nm; Nd:YAG D3x7.3mm; Cr:YAG T0=45; PR=45%

Other types of custom bonded crystals are available upon customer's request.