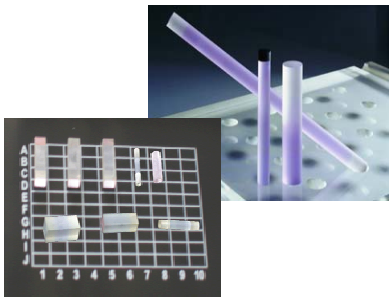
Diffusion Bonded Composite Crystals consist of one laser crystal and one or two undoped material. They are combined by optical contact method and further bonded under high temperature. Diffusion Bonded Crystal helps to decrease thermal lensing effect considerably.



Advantages of Diffusion Bonded Composite Crystals:

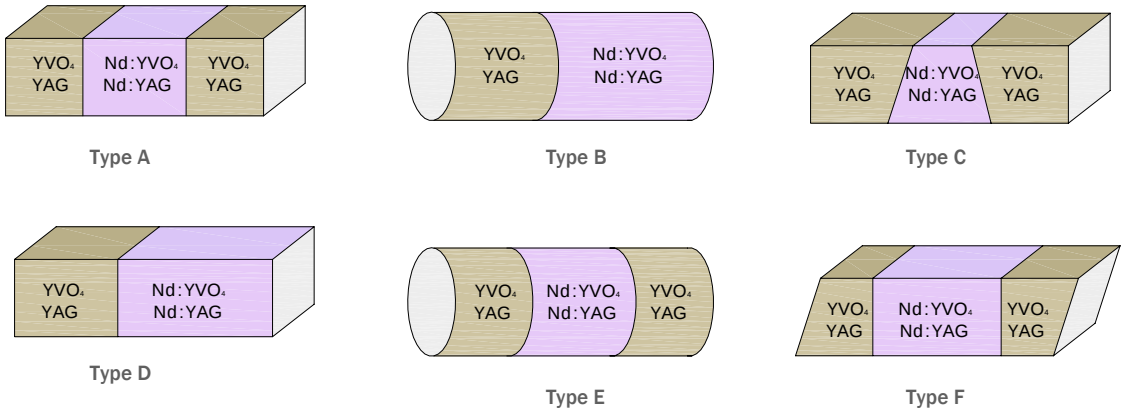
- Decrease thermal effect
- Improve efficiency
- High damage threshold
- Improve beam quality
- Compact

Applications:

Composite crystals are used to effectively decrease heat effect of Solid-State High-Average-Power Laser. Such products include YVO_4-Nd:YVO_4-YVO_4, YAG-Nd:YAG-YAG, YAG-Nd:YAG-Cr^{4+}:YAG-YAG crystals, etc.

Material	Doping Concentration	Aperture (mm)	Length (mm)
YVO_4+Nd:YVO_4+YVO_4	0.2-3%	2x2-10x10	3-20
YVO_4+Nd:YVO_4+YVO_4	0.2-3%	ϕ3-10	3-20
YAG+Nd:YAG+YAG	0.5-1.1%	2x2-10x10	3-200
YAG+Nd:YAG+YAG	0.5-1.1%	ϕ3-15	3-200
YAG+Nd:YAG+Cr^{4+}:YAG+YAG	0.5-1.1%, T=5-90%	ϕ3-15	3-200

We have several assembly types as follows:



For other assembly type please contact us for more information.

Standard Specifications

Wavefront Distortion	< λ/8 at 633 nm
Scattering Sites	invisible, probed with a He-Ne laser
Orientation	± 0.5deg.
Dimensional Tolerance	± 0.1mm
End-faces Configuration	Plano/Plano
Flatness	λ/10 @633 nm
Parallelism	< 10 arc seconds
Surface Quality	10/5 Scratch/Dig per MIL-O-13830A
Clear Aperture	> Central 90%
Coatings	AR or HR coatings

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