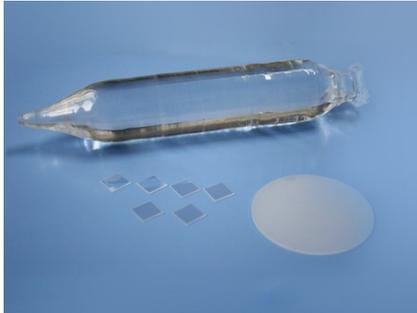




YAG



Nd:YAG is the most early and mature laser rod material adopted by R&D, medical and industrial customs. it is ubiquitous presence for near-infrared solid-state lasers and their frequency-doubler .tripler.

YAG Crystal

Un-doped YAG Crystal(pure YAG) is an excellent material for UV-IR optical windows, particularly for high temperature and high energy density, The mechanical and chemical stability is comparable to sapphire crystal, but YAG is unique with non-birefringence and available with higher optical homogeneity and surface quality. Up to 3" YAG boule grown by CZ method, as-cut blocks, windows and mirrors are available from A-Star Photonics.

Main Features:

- 1) Transmission in 0.25-5.0 m m, no absorption in 2-3 mm.
- 2) Extremely hard and durable.
- 3) High thermal conductivity.
- 4) High bulk damage threshold.
- 5) High index of refraction and Non-birefringence.

Basic Properties:

| | |
|--------------------------|---|
| Crystal structure | Cubic |
| Density | 4.5g/cm 3 |
| Transmission Range | 250-5000nm |
| Melting Point | 1970°C |
| Specific Heat | 0.59 W.s/g/K |
| Thermal Conductivity | 14 W/m/K |
| Thermal Shock Resistance | 790 W/m |
| Thermal Expansion | 6.9×10 -6 /K |
| dn/dt, @633nm | 7.3×10 -6 /K -1 |
| Mohs Hardness | 8.5 |
| Refractive Index | 1.8245 @0.8 m m, 1.8197 @1.0 m m, 1.8121 @1.4 m m |

Main Specifications of YAG Windows and Mirrors:

| | |
|----------------------|---|
| Orientation | [111] within 5° |
| Diameter | +/-0.1mm |
| Thickness | +/-0.2mm |
| Flatness | better than $\lambda/8@633\text{nm}$ |
| Parallelism | better than 30" |
| Perpendicularity | better than 5' |
| Scratch-Dig | 10-5 per MIL-O-1383A |
| Wavefront Distortion | better than $\lambda/2$ per inch@1064nm |

Other high-precision windows, AR- and HR-coatings are available upon request.

Contact Info

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