

α -BBO crystal :

1. α -BBO crystal

α-BBO (α -BaB₂O₄) is a uniaxial negative crystal with a large birefringence in a wide penetration range of 190-3500nm. α-BBO is especially excellent in UV and high-power applications. The physical, chemical, optical, and thermal properties of the α -BBO are similar to those of the BBO crystals, but the α -BBO does not exhibit the nonlinear optical properties because of the central symmetry of its crystal structure.



Main features:

- High ultraviolet through
- Larger birefringence
- High injury threshold
- Stable physical and chemical properties

Materials properties:

Transmission range	190-3500nm
Density	3.85g/cm ³
Hvrgroscopy	low
Moh's hardness	4.5
Thermal expansion coefficient (/°C)	-9.3×10 ⁻⁶ (C)
Damage threshold	1GW
Refractive index	no=1.6776 , ne=1.5534 , at 532nm no=1.6579 , ne=1.5379 , at 1064nm
Sellmeier Equation (λ in μm)	no ² =2.7471+0.01878/(λ ² -0.01822)-0.01354λ ² ne ² =2.37153+0.01224/(λ ² -0.01667)-0.01516λ ²

Product Parameter:

Size	1mm-40mm
Finish	10/5
Light axis orientation accuracy	6'
Depth of parallelism	< 10"
Flatness	λ/4 @ 633nm
Effective optical aperture	> 90%
Coating film	reflection reducing coating