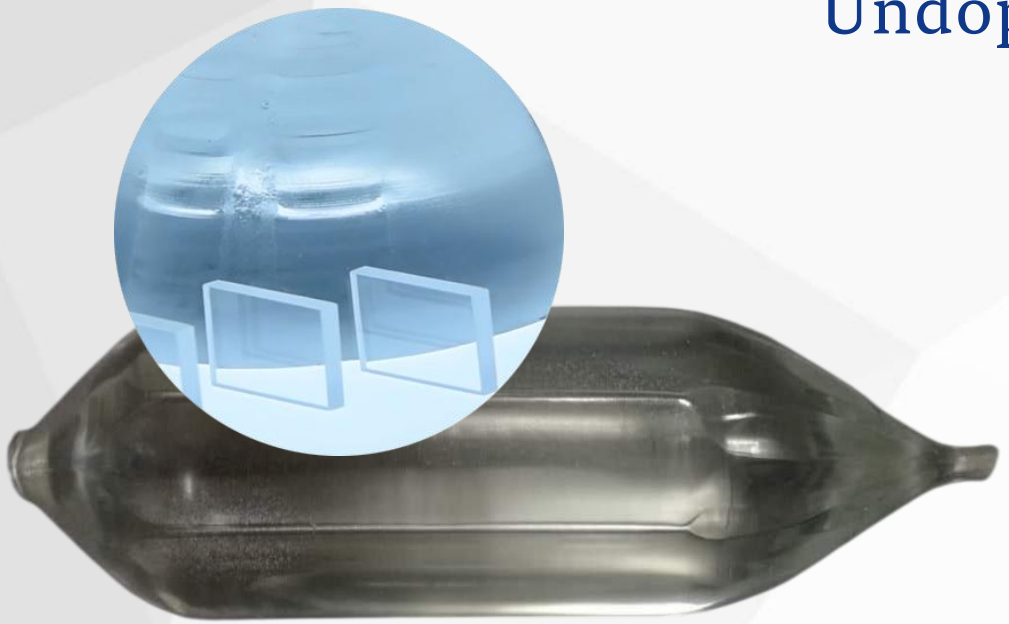
Undoped:YAG crystals

Undoped YAG Crystal is an excellent material for UV-IR optical windows, particularly for high temperature and high energy density application. 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.

Undoped YAG Crystal or Pure yttrium aluminium garnet provides an interesting alternative to sapphire for UV optics, IR optics and refractometry

Undoped YAG crystals



- High thermal conductivity, 10 times better than glasses
- Extremely hard and durable
- Non-birefringence
- Stable mechanical and chemical properties
- High bulk damage threshold
- High index of refraction, facilitating low aberration lens design

Basic properties	
Product Name	Undoped YAG
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	6.9x10^{-6}/K
dn/dt, @633nm	7.3x10^{-6}/K^{-1}
Mohs Hardness	8.5
Refractive Index	1.8245 @0.8mm, 1.8197 @1.0mm, 1.8121 @1.4mm

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Technical properties	
Orientation	[111] within 5°
Diameter	+/-0.1mm
Thickness	+/-0.2mm
Flatness	l/8@633nm
Parallelism	≤ 30"
Perpendicularity	≤ 5 ′
Scratch-Dig	10-5 per MIL-O-1383A
Wavefront Distortion	better than l/2 per inch@1064nm

- Transparency from UV to IR spectral range
- Excellent optical quality
- Very low internal stress
- No birefringence
- High index of refraction
- High hardness and durability
- High heat and chemical resistance
- High bulk damage threshold

Standard dimension:
- Undoped YAG- 10*10*0.5mm
- Undoped YAG-15*10*2mm
- Undoped YAG-15*1mm

Features:
- Transmission in 0.25-5.0 mm, no absorption in 2-3 mm
- High thermal conductivity
- High index of refraction and Non-birefringence