

# TGG crystals

TGG is an excellent magneto-optical crystal used in various Faraday devices (Rotator and Isolator) in the range of 400nm-1100nm, excluding 475-500nm.



- Large Verdet constant (35 Rad T<sup>-1</sup> m<sup>-1</sup>)
- Low optical losses (<0.1%/cm)
- High thermal conductivity (7.4W m<sup>-1</sup> K<sup>-1</sup>).
- High laser damage threshold (>1GW/cm<sup>2</sup>)

# T G G c r y s t a l s

## Basic properties:

Chemical Formula	Tb <sub>3</sub> Ga <sub>5</sub> O <sub>12</sub>
Lattice Parameter	a=12.355Å
Growth Method	Czochralski
Density	7.13g/cm <sup>3</sup>
Mohs Hardness	8
Melting Point	1725°C
Refractive Index	1.954 at 1064nm

## Applications:

Orientation	[111], ±15'
Wavefront Distortion	< λ/8
Extinction Ratio	> 30dB
Diameter Tolerance	+0.00mm/-0.05mm
Length Tolerance	+0.2mm/-0.2mm
Chamfer	0.10mm @ 45°
Flatness	< λ/10 @633nm
Parallelism	< 30"
Perpendicularity	< 5'
Surface Quality	10/5
AR coating	< 0.2%

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