

## Optical grade

Thermal conductivity @ 300K ( $\text{Wm}^{-1}\text{K}^{-1}$ )	1900-2200
@ 500K ( $\text{Wm}^{-1}\text{K}^{-1}$ )	1100
Thermal expansion coefficient @ 300K ( $\text{ppmK}^{-1}$ )	$1.0 \pm 0.1$
@ 1000K ( $\text{ppmK}^{-1}$ )	$4.4 \pm 0.1$
Specific heat capacity 300K ( $\text{Jkg}^{-1}\text{K}^{-1}$ )	520
Hardness 300 K (GPa)	70-120 (Orientation dependent)
Fracture stress (MPa)	Surface finish 3500
Fracture toughness ( $\text{MPam}^{0.5}$ )	5-7
Young's modulus (GPa)	1054
Poisson's ratio	0.1
Birefringence	$> 5 \times 10^{-4}$
Refractive index 350 nm (UV A)	2.4838
540 nm (green)	2.4240
1000 nm (IR)	2.3927
FWHM Rocking curve of the (004) reflection	$< 0.15^\circ$
$\theta/2\theta$ -scan of the (004) reflection	$< 0.15^\circ$
Nitrogen concentration	$< 100 \text{ ppb}$
Boron concentration	$< 10^{16} \text{ cm}^{-3}$
Dislocation density	$> 10^7 \text{ cm}^{-2}$
Transmission (%)	

