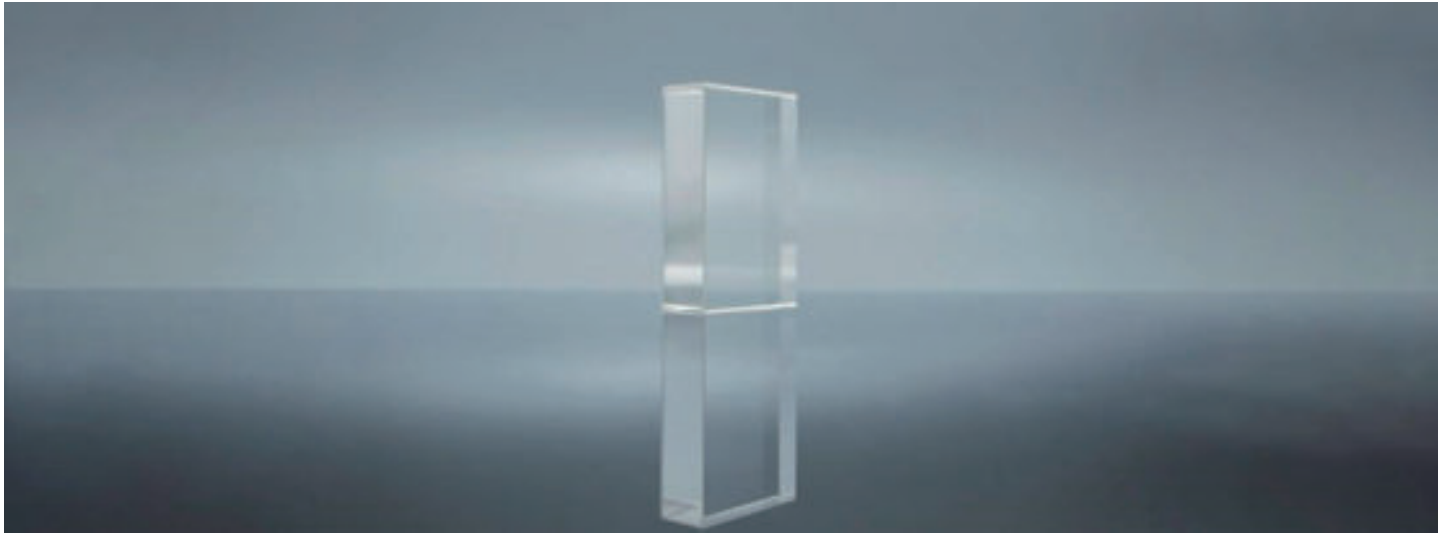


TeO₂



DESCRIPTION

TeO₂ crystal, also known as tellurium dioxide, is a kind of acousto-optic crystal material with high-quality factors and excellent performance, TeO₂ crystal has the advantages of fast response, low driving power, and high diffraction efficiency, stable and reliable performance. It is widely used in various types of acousto-optic devices such as acousto-optic deflectors, acousto-optic modulators, acousto-optic harmonizers, acousto-optic filters, and tunable filters. Therefore, TeO₂ crystals are a promising material for acousto-optic devices, especially for acousto-optic modulators and acousto-optic harmonizers, and have a wide range of applications in optical computing, optical communication, and optical microscopic imaging.

PARAMETERS

Attribute	Numerical value
Chemical formula	TeO ₂
Molar mass	159.60 g/mol
Colour	colourless
Density	5.99 ± 0.03 /cm ³
Melting point	733°C
Mohs hardness	3 ~ 4
Thermal expansion	10 ⁻⁶ K ⁻¹ : α ₁₁ = 17.7; α ₂₂ = 17.7; α ₃₃ = 5.5
Symmetry	Tetragonal crystal system, 422 (D ₄)
Cell parameters	a = 4.8122 Å; c = 7.6157 Å
Transmittance	>70% @ 633nm
Launch range	0.33 ~ 5.0 μm
Dielectric constant	ε ₁₁ = 22.9; ε ₃₃ = 24.7
Elastic constant · 10 ⁻¹⁰ N/m ²	c ₁₁ = 5.57; c ₃₃ = 10.58; c ₄₄ = 2.65; c ₆₆ = 6.59; c ₁₂ = 5.12; c ₁₃ = 2.18
Photoelastic coefficient @0.6328 μm	p ₁₁ = 0.0074; p ₁₂ = 0.187; p ₁₃ = 0.340; p ₃₁ = 0.0905; p ₃₃ = 0.240; p ₄₄ = -0.17; p ₆₆ = -0.0463



TeO₂

FEATURES

- High refractive index
- Low sound attenuation
- High Quality Factor
- High transparency to visible light
- Excellent sound and light characteristics

APPLICATIONS

- Acousto-optical deflector
- Sound and light modulator
- Acousto-optic adjustable filter
- Acoustooptic coordination filter
- 355nm, 532nm, 2000nm, 2100nm lasers

SPECTRA

