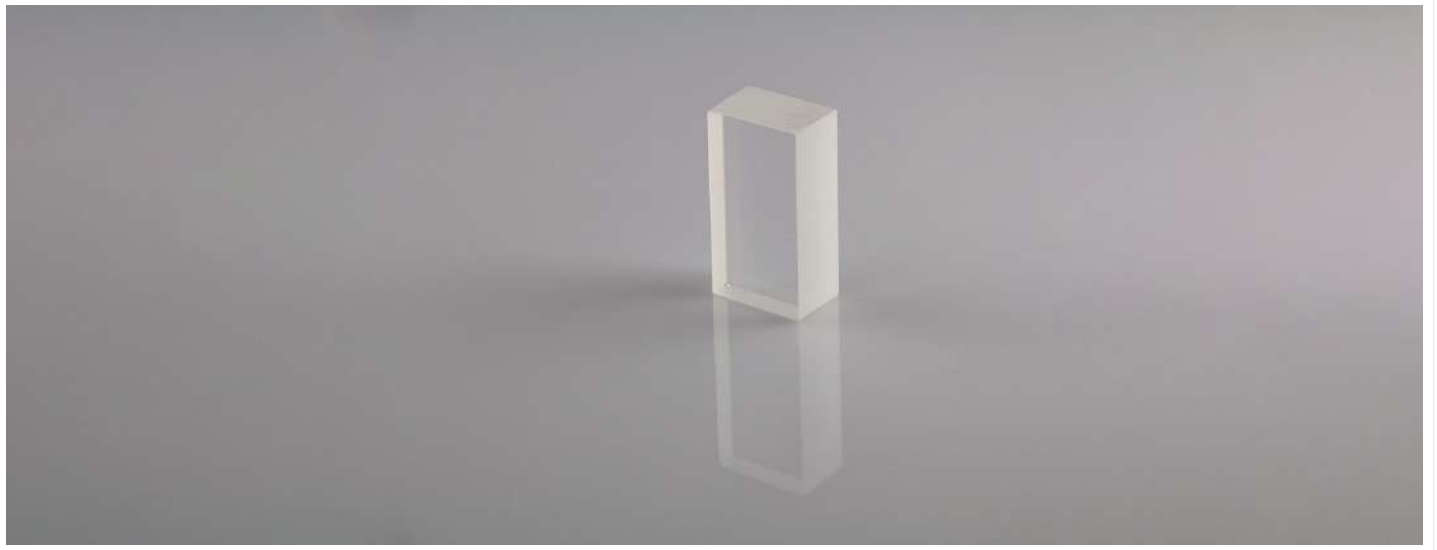


SrF₂



DESCRIPTION

Strontium Fluoride (SrF₂) is one of the most important alkaline-earth fluorides. It has many physical properties, such as low energy phonon, high ionization, high resistance coefficient and good anion conductivity. It has been widely used in light-emitting devices, optical imaging, biomarkers, anion conductors and other fields. Compared with oxide and calcium fluoride, strontium fluoride has lower phonon energy, higher thermal conductivity and negative thermal optical coefficient, especially negative thermal optical coefficient, which can compensate the thermal lens effect in the process of laser oscillation. Strontium fluoride has promoted the research of optical materials and the improvement of optical instruments with its unique material structure and properties

APPLICATIONS

- UV and VUV spectroscopy
- Intermediate infrared laser matrix material
- Manufacture optical materials for different devices, like glasses, windows and lenses

FEATURES

- Poorly soluble in water, ethanol and methanol
- Can transmit ultraviolet and infrared waves
- Not flammable
- High conductivity and optical properties similar to calcium fluoride
- Very dangerous to the health, poisonous when inhaled or ingested and in low concentration can cause irritation to skin and eyes.



SrF₂

PARAMETERS

Physical and Chemical Properties

Crystal Structure	Single crystal, synthetic
Crystal Type	Cubic (CaF ₂ type)
Lattice Constants	5.7996
Density	4.24 g/cm ³
Melting Point	1477°C
Thermal Conductivity (W·m ⁻¹ ·K ⁻¹ @298k)	1.42
Specific Heat Capacity (J·kg ⁻¹ ·K ⁻¹)	544
Thermal Expansion (10 ⁻⁶ ·K ⁻¹ @293k)	18.4
Hardness (Mohs)	130
Young`s Modulus /(GPa)	99.91
Shear Modulus /(GPa)	34.6
Bulk Modulus /(GPa)	24.65
Elastic Coefficient/(GPa)	C11=124; C12=44; C44= 31.8
Cleavage	-111
Solubility in Water/(g/100g)	0.021@298K

Optical characteristics

Transmission Range (50%)	0.14 ... 9μm @thickness 2mm
Refractive Index	1.436914@633nm
Reflective Loss	1.74% @10 μm
Poisson Ratio	0.29
Dielectric Constant	7.69@2MHz
Reststrahlen	40μm

Spectrum

