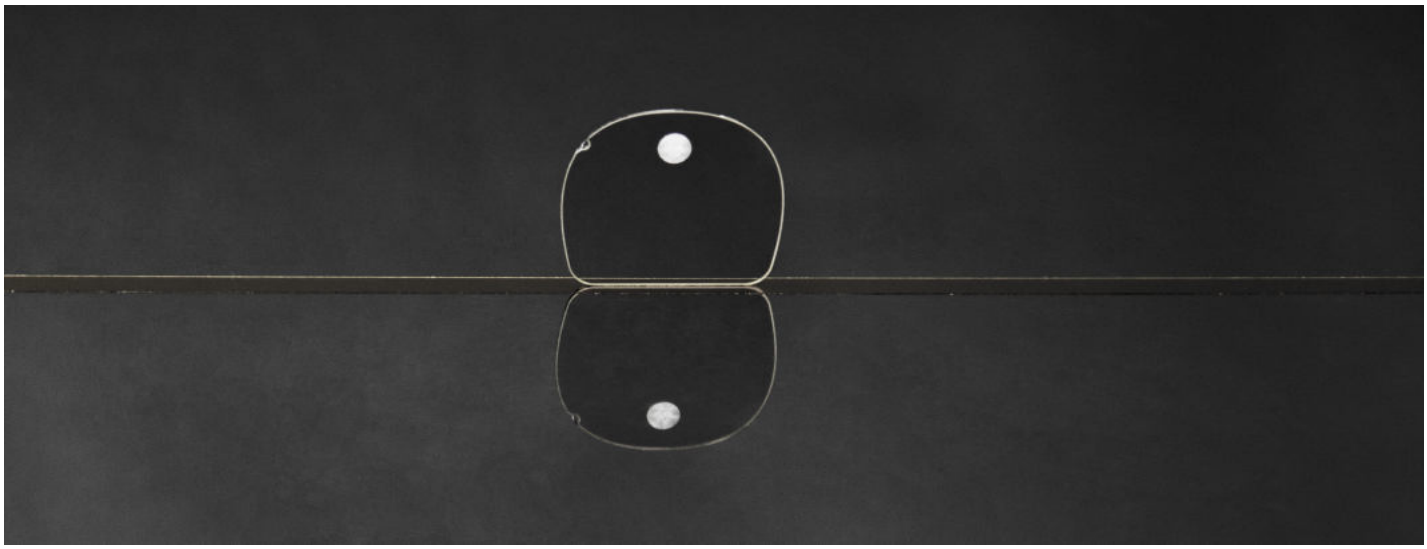
NaCl

Sodium Chloride (NaCl) Crystal Substrate



DESCRIPTION

Sodium Chloride (NaCl) Crystal is a wide-band good conductor engaged for research work and commonly used as substrate materials for epitaxial thin film growth. NaCl is hygroscopic by nature and very sensitive to moisture. NaCl crystal substrates must be stored in desiccator container to avoid hydration.
NaCl single crystal substrates are typically suitable for growing epitaxial film and studying interface diffusion and defects. The film can be easily removed from NaCl substrate either by floating it off on water or by dissolving the underlying substrate.

FEATURE

- High infrared transmittance
- Easy preparation

APPLICATION

- Infrared spectroscopy analyzer
- Ultraviolet and infrared optical components
- laser windows
- Infrared devices

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PARAMETER

Physical and Chemical Properties

Crystal Structure	Cubic
Symmetry Class	m3m
Lattice Constants	5.642
Specific mass	2.16g/cm^3
Melting Point	801°C
Cleavability	(100), perfect
Thermal Conductivity /(W·m^{-1}·K^{-1}@35°C)	6.15
Specific Heat (J·kg^{-1}·K^{-1})	871
Thermal Expansion(10^{-6}·K^{-1}@60°C)	36.4 40.8
Hardness (Mohs)	3
Vickers Microhardness(GPa)	0.2
Constant of Elastic Compliance(10^{-12}·Pa^{-1})	S11=22.85, S12=-4.69, S44=78.34
Young Modulus (GPa)	43.7@, 32.7@
Shear Modulus (GPa)	15.9@, 12.8@

Main Specification

Orientation Tolerance	<0.5°
Parallelism	5″
Perpendicularity	3′
Surface Quality	10^{-5} (Scratch/Dig)
Wavefront Distortion	<λ/4 @632nm
Surface Flatness	<λ/8 @632 nm
Clear Aperture	>90%
Chamfer	<0.1×45°
Thickness/Diameter Tolerance	±0.05mm