

Calcite Crystals

Description

Calcite is a natural crystal that has high birefringence, wide spectral transmission and availability in reasonably sized rhombs. It's a negative uniaxial crystals and mostly used as visible, near IR, and also UV polarizers. Advanced(AD) Photonics will provide you a wide variety calcite crystal with guaranteed low price. We have unique technique to change yellow calcite to colorless, which will result in a 15%~20% increase in transmission below 420nm.

Physical and Optical Properties

Transparency Range	230~2300nm
Crystal Structure	Rhombohedral
Density	2.7 g/cm ³
Hygroscopic Susceptibility	Low susceptibility to moisture
Mohs Hardness	3.0
Thermal Expansion Coefficient	$\alpha_{\perp}=24.39 \times 10^{-6}/k$; $\alpha_{\parallel}=5.68 \times 10^{-6}/k$
Crystal Class	Negative uniaxial with $n_o=n_a=n_b$, $n_e=n_c$
Refractive index, birefringence($\Delta=n_e-n_o$) and walk-off angle at 45°C (ρ)	$n_o=1.6557$, $n_e=1.4852$ $\Delta n=-0.1705$, $\rho=6.20^\circ$ @ 630nm
	$n_o=1.6629$, $n_e=1.4885$ $\Delta n=-0.1705$, $\rho=6.20^\circ$ @ 1300nm
Sellmeier Equation	$n_o^2=2.69705+0.0192064/(\lambda^2-0.01820)-0.0151624\lambda^2$ $n_e^2=2.18438+0.0087309/(\lambda^2-0.01018)-0.0024411\lambda^2$

Calcite Grades

- **Laser Grade:** less than $\lambda/10$ peak-peak wavefront distortion over the clear aperture and free of scatter when examined by He-Ne laser
- **UV Grade:** colorless material with high transmission in UV range and free of fluorescence under UV lamp
- **Optical Grade:** slight striae and scatter when examined by He-Ne laser
- **Standard Grade:** Wavefront distortion of less than one wave peak-peak and many conspicuous scatter center when examined by He-Ne laser

Standard Size Catalog

- ✓ <20x20x20mm (<25g)
- ✓ >20x20x20mm (<70g)
- ✓ >25x25x25mm (>70g)
- ✓ >30x30x30mm (>100g)
- ✓ >40x40x40mm (>200g)
- ✓ >50x50x50mm (>400g)
- ✓ >60x60x60mm (>600g)
- ✓ >70x70x70mm (>1kg)

AD Photonics

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Product Information

- Raw materials
- Semi-finished
- Finished Polarizer