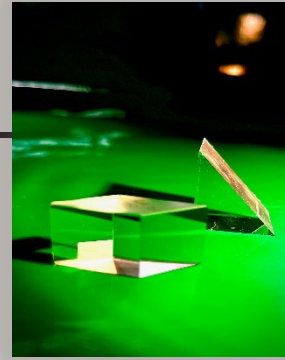


MATERIAL PROPERTIES & SPECIFICATIONS

Crystalline Quartz

Crystalline quartz is an anisotropic monoaxial crystal with a repeating arrangement of SiO₄ tetrahedra, located spirally to the main axis of the crystal and twisting in the right or left directions depending on the initial orientation of the seed that is used in the growth process. Our crystal quartz is characterized by high internal crystalline perfection and optical homogeneity.

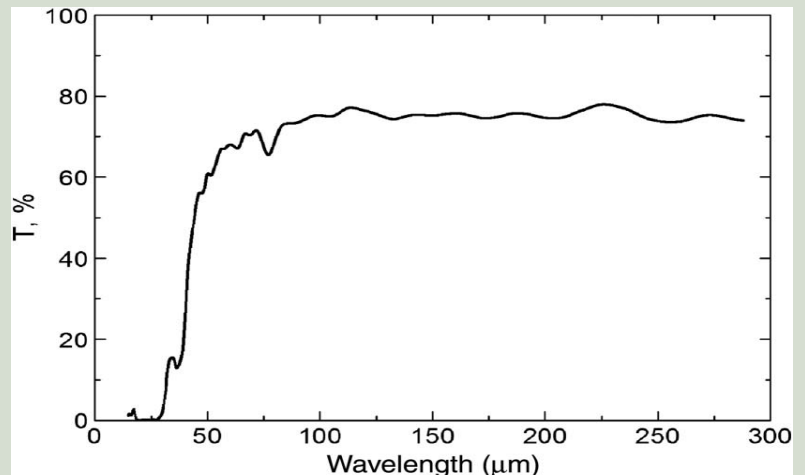
It has low stress birefringence and wide range of optical transmission. Quartz crystal is also very stable in presence of an intensive laser radiation including UV. Due to its' unique qualities, the crystal can be used in a production of varies optical instruments as well as complex integrated systems that require operation in a UV spectrum.



	Quartz	
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Properties	
Transmission Range	0.15-4.36 μm
Density	2.65g/cc
Thermal Conductivity	10.7 (parallel to axis Z), 6.2 (perpendicular to axis Z) W/(m x K) (T = 25°C)
Thermal Coefficient of linear expansion (0-25 deg C)	7.1x10 ⁻⁶ (parallel to axis Z), 13.2x10 ⁻⁶ (perpendicular to axis Z)
Crystal Structure	hexagonal
Transmittance	80%
Dialectric constant at 30 MHz	4.34(parallel to axis Z), 4.27 (perpendicular to axis Z)
Hardness	7 Mohs
Modulus of rupture	80 MPa

Transmission Spectrum of Crystalline Quartz 0.4mm thick x-cut



Substance	Form	Diameter Range	Thickness Range	Transmission Range (μm)	Transmittance @ 2.7 (μm)
Quartz	Single Crystal	10 to mm *	1 to mm*	0.15-4.36 μm	> 80%

* Special orders available **

Standard finish – other finish available upon request