

## **QUARTZ SINGLE CRYSTALS [ SiO2 ]**

Crystal quartz is a very useful material because of its high UV, VIS and NIR transmittance, birefringence, ability to rotate plane polarized light, high damage threshold and resistance to scratching.

The optical grade material is featured by highest possible transmittance throughout range 200 - 2400nm, virtual freedom from bubbles and inclusions, conformity with Military striae Grade A. Grown boules are Z - crystals and about 50mm in the direction down optic axis that limits corresponding dimension in an optical part.



Specification	
Transmission Range	200nm ~ 2400nm
Density	2.649 g/cm3
Melting Point	1467 ℃
Specific Heat	0.17 cal/ [ g K ] at 273 K
Knoop Hardness	741 kg/mm2
Mohs Hardness	7 Mohs
Debye Temperature	470 K
at 20 K [ parallel / perpendicular ]	720 / 370 W/ [ m · K ]
at 194 K [ parallel / perpendicular ]	20 / 10W/ [ m · K )
at 323 K [ parallel / perpendicular ]	10.7 / 6.2W/ [ m · K ]
Thermal Expansion [ parallel / perpendicular ]	8.0 × 10-6 / 13.4 × 10-6 1/K at 273-253K
Young's Modulus [ parallel / perpendicular ]	97.2 / 76.5 GPa
Bulk Modulus	36.4 GPa
Shear Modulus	31.14 GPa
Bangap	8.4

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