SCERAM
Advanced Ceramics

MATERIAL QUARTZ

BASIC PROPERTIES

- High chemical purity
- Very weak expansion coefficient
- Very high thermal shock resistance
- Working temperature : 1050°c
- Peak temperature lapses: 1200°c
- Can be worked when heated. Possibility to produce complex shapes
- Can be welded
- Very good optical properties. Transmission in UV spectrum

APPLICATIONS

Sight discs
Optical
Semi-conductors.
Laboratory material
Electronic
Infrared

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MATERIAL QUARTZ

MATERIAL		QUARTZ (GE124)
Chemical Formula		SiO2
Aspect / color		White / transparent
Porosity		Impervious
Mechanical	**Measuring unit**	
Poisson's ratio	-	0,17
Hardness Mohs	Mohs	7
Hardness Knoop		>600
Young modulus	GPa	70
Compression resistance	MPa	650-1100
Compression resistance	N/mm2	1100
Tensile resistance	MPa	48
Flexion resistance	MPa	80
Tensile strength	N/mm2	48
Tensile strength in usage	N/mm2	6,9
Torsion modulus	N/mm2	3,1 x 10^3
Physical		
Maximum temperature use in neutral atmosphere	°c	1200
Absolute density	g/cm3	2,2
Electrical resistivity at 20°	Ohm, m	10^{18}
Electrical resistivity	Wcm	6 x 10^{10}
Dielectric strength	kV/mm	25-40
Dielectric constant at 25°c and 1 MHz	Hz	3,8
Thermal		
Softening temperature	°K	1943
Specific heat at 25°	cal/g.°c	0,16
Expansion coefficient	x $10^{-6K°}$	0,58
Linear expansion coefficient 20-500°	x 10^{-6} /°c	0,45
Thermal conductivity at 20°	W/m.°K	1,40
Thermal shock resistance	Δ T°c	>1400
Optical		
Refractive index		1,4585

**These values are for informational purposes only and do not bind company's responsibility.*

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