

Data sheet

Quartz glass

Sphere made of pure silicon dioxide (quartz). light glass, chemically inert. Surfaces are optimally machinable. High temperature resistance, thermally loadable.

Field of application

Due to the high softening temperature, thermal load capacity and temperature resistance, excellent for applications in the high temperature range: special bearings and valves, mixing units, metering pumps, flow meters, measuring instruments, plastic bearings, applications made of optical fibers, ink cartridges, bottle caps, centrifugal jets, grinding processes, etc.

Certificate for biocompatibility is not available.

Corrosion resistance

Insoluble in water, very good resistance to alkalis and acids (except hydrofluoric acid), No optimum behavior in alkaline solutions (not resistant to sodium hydroxide, potassium and sodium carbonate).

Chemical composition in %

SiO ₂	Other
99,96 - 99,99	0,01 - 0,04

Physical / mechanical / thermal / electrical / magnetic characteristics

Characteristic	Symbol	Unit	Type	Note	Value
Density	δ	g/cm ³	Physical	Environmental temp.	2,20 - 2,22
Modulus of elasticity	E	GPa	Mechanical	-	73
Refractive index	n	-	Optical	-	1,459
Softening temperature	-	°C / °F	Thermal	Umg. T. / Atm. D	1650 / 3002
Linear coefficient of thermal expansion	α	10 ⁻⁶ / °C	Thermal	($\Delta T = 0 - 100^\circ C$)	0,5
Thermal conductivity	λ	W / (m*K)	Thermal	Environmental temp.	1,42
Volume resistivity	ρ	$\Omega * m$	Electrical	-	> 10 ¹⁵
Relative magnetic permeability	μ	-	Magnetic	Diamagnetic	< ~1

Technical characteristics

Characteristic	Type	Unit	Type	Unit	Value
Hardness	Mechanical	Knoop	420 - 520	Mohs	7
Break load in traction	Mechanical	MPa	1050 - 1150	psi * 10 ³	152 - 166
Operating temperature	Thermal	°C	0 - 1000	°F	32 - 1832

Available with

Diameter min / max (mm)	Diameter min / max (in)	Surface	Precision grade
0,3 - 50	1/64 - 2	polished / matt	G10 - G50

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