

Product Data Sheet



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SiLibeads Glass Beads Type Q

First created on: 2019-01-11
Next inspection on: 2019-12-31

Updated on: 2019-03-04
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Version: V4/2019

Product: SiLibeads Glass Beads Type Q

Material: Polished Glass beads made of (synthetic) Quartz glass

Density: 2.20 kg/dm³

Hydrolytic resistance: HGB 1 (based on DIN ISO 720)

Acidic resistance: S1 (according to DIN 12116)

Alkaline resistance: A1 (according to DIN ISO 695)

Application: Use as high-purity beads for cell disintegration and autogenous grinding; grinding of conductive pastes, glass paints and high-purity silicate materials; in the laboratory as a carrier material with bioactive or catalytic surface; as a filler material in the cosmetics, semi-conductor and pharmaceutical industries; as an optical conductor in the UV range (sterilization); as optical sphere / hemisphere for UV sources / light conductors; as photovoltaic sphere with a transmission range of 170 - 5,000 nm; as filter material for very high temperatures and many other applications.

Technical Data:

Roundness: ≥ 0.95 (ratio width/length (x_{min}/x_{max}))

Bulk density: 1.35 kg/dm³ (mean value, belonging to diameter)

Refractive index: 1.46 (at 550 nm)

Transformation temperature: approx. 1100 °C

Softening point (Littleton point): 1730 °C

Max. usage temperature: 1100°C (short time: 1300°C)

Specific thermal conductivity at 20 °C: 1.38 W/(m·K)

Linear thermal expansion coefficient α (20-300 °C): $5.5 \times 10^{-7} \text{ K}^{-1}$

Youngs-Module: 75 GPa

Electric breakdown field strength: 250 - 400 kV/cm at 20 °C / 40 - 50 kV/cm at 500 °C

Dielectric dissipation factor: $\tan \delta = 5 \times 10^{-4}$ at 7.5 GHz

Permittivity: $\epsilon_r = 3.7$ at 20 °C and 7.5 GHz

Chemical analysis; Glass beads made of Quarz glass:

Name	Method	Weight (Reference values)	CAS-Nr.	EINECS
Siliciumdioxid SiO ₂	DIN 51001	99.98 %	7631-86-9	231-545-4

Impurities:

Component	Al	Cr	Ca	Fe	K	Li	Mg	Na	P	Ti	V	Zn	Zr
ppm	< 3	< 0.01	< 10	< 0.02	< 0.1	< 0.01	< 0.01	< 0.1	< 0.1	< 0.2	< 0.01	< 0.02	< 1

Standard size:

0.8 -1.2 mm (other diameters on request)

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Additional Information:

Storage indication: Store in a dry manner in closed (original) container by room temperature
Disposal: Please consult national laws and local regulations in force for disposal or landfill
Safety advice: High risk of slipping due to spillage of product
Product information: Safety Data Sheet SiLibeads Type Q; Test Reports

Hersteller/Lieferant

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All data are reference values – subject to change without prior notice