

Product Data Sheet

First creation on: 23.11.2011 Updated on: 24.11.2011
 Next inspection on: 23.11.2012 Printed on: 28.11.2011

Product	SiLibeads Glass beads
Material	Polished glass beads made of soda lime glass Specific weight: 2.50 kg/l Hydrolytic resistance: HGB 1 (based on DIN ISO 719) Acid resistance: S2 - S3 (according to DIN 12116) Alkaline resistance: A1 - A2 (according to DIN ISO 695)
Fields of application	Glass beads are used as back-up and borehole filter material
Major Advantages of SiLibeads Glass beads	<ul style="list-style-type: none"> • Highest possible effective pore space due to exact particle size and spherical shape • Optimal adaption of well screen openings due to narrow grading curve of glass beads • High purity hence no Pump cleaning necessary • No disinfection before installation required • Minimal, smooth surface inhibits iron and manganese incrustation • Improved regeneration of filter body due to large and regular pore spaces • No subsequent subsidence of filter pack • Due to low friction and high sphericity no bridging or jamming during fill-in process • Higher fracture strength than quartz
Technical Data	
Sizes	See table of standard sizes
Transformation temperature	542 °C
Softening point (Littleton point)	719 °C
Melting point	1441 °C
Specific thermal Conductivity	1.129 W/km
Hardness according to Mohs	≥ 6

All data are reference values

Chemical Analysis; Glass beads made of soda lime glass; CAS-Nr. 65997-17-3 / EINECS 266-046-0				
Name	Method	Weight (reference values)	CAS-No.	EINECS
Silicon dioxide SiO ₂	DIN 51001	66.0 – 73.0 %	7631-86-9	231-545-4
Sodium oxide Na ₂ O	DIN 51001	13.0 – 14.5 %	1313-59-3	215-208-9
Calcium oxide CaO	DIN 51001	8.0 – 9.2 %	1305-78-8	215-138-9
Aluminium oxide Al ₂ O ₃	DIN 51001	max: 3.2 %	1344-28-1	215-691-6
Magnesium oxide MgO	DIN 51001	max. 4.2 %	1309-48-4	215-171-9

Assessment acc. to Food Legislation

The tested Glass beads are a consumer good in the sense of §2 Abs. 6 No. 1 German Code for Food Stuff (LFGB), Commodities and Feeding Stuff. Therefore they have to comply with the legal requirements.

The Glass beads comply with the requirements § 31 of the German Food and Feed Code (LFGB) and of the European Food Regulation 1935/2004/EC, Article 3.



Heavy metal content of Glass beads within the limits of RoHS.

SiLibeads fulfill the micro biological requirements according to DIN EN ISO 14698-1 and VDI 6022.

Conformity to Water Well and Water Filtration Specifications

SiLibeads Glass beads meet **AWWA A 100** water well specification.
 SiLibeads Glass beads meet **AWWA B 100** filtration specification.

Product Data Sheet

First creation on: 23.11.2011
 Next inspection on: 23.11.2012

Updated on: 24.11.2011
 Printed on: 28.11.2011

Conformity to EN 1423 / BS EN 1423 – Certificate No. 0780-CPD-85103

TÜV Rheinland LGA Bautechnik GmbH Glass has established through thorough examinations, that SiLibeads with article numbers 45015 to 4506 are conform to EN 1423:1997/A1: 2003, which is the same as BS EN 1423:1998.

Standard sizes (Other diameters and tolerances are available on inquiry)

Article	Diameter	Bulk density	Pieces per kg (Reference values)	Compression Resistance (Reference values)	Roundness ^{*)} (Nominal values)
Art. 4501	0.25 – 0.50 mm	1.51 kg/l	14.486.600	---	0.94
Art. 45015	0.40 – 0.60 mm	1.50 kg/l	6.111.500	---	0.93
Art. 4502	0.50 – 0.75 mm	1.49 kg/l	3.129.100	---	0.95
Art. 4503	0.75 – 1.00 mm	1.48 kg/l	1.140.300	170 N	0.93
Art. 4504	1.00 – 1.30 mm	1.47 kg/l	502.300	250 N	0.95
Art. 4505	1.25 – 1.65 mm	1.47 kg/l	250.580	370 N	0.93
Art. 4506	1.55 – 1.85 mm	1.47 kg/l	155.490	520 N	0.93
Art. 4507	1.70 – 2.10 mm	1.47 kg/l	111.370	620 N	0.95
Art. 4508	2.00 – 2.40 mm	1.47 kg/l	71.740	770 N	0.95
Art. 4510	2.40 – 2.90 mm	1.47 kg/l	41.050	920 N	0.95
Art. 4511	2.85 – 3.45 mm	1.46 kg/l	24.440	1.270 N	0.95
Art. 4512	3.40 – 4.00 mm	1.46 kg/l	15.080	1.550 N	0.95
Art. 4513	3.80 – 4.40 mm	1.45 kg/l	11.080	1.900 N	0.95
Art. 4514	4.50 – 5.50 mm	1.45 kg/l	6.040	2.350 N	0.94
Art. 4515	5.00 – 6.00 mm	1.45 kg/l	4.500	3.150 N	0.92
Art. 5016	9.50 – 10.50 mm	1.45 kg/l	760	6.000 N	0.99
Art. 5017	10.50 – 11.50 mm	1.45 kg/l	570	7.500 N	0.99
Art. 5018	11.50 – 12.50 mm	1.45 kg/l	440	10.500 N	0.98
Art. 5021	13.50 – 14.50 mm	1.43 kg/l	270	13.200 N	0.99
Art. 5023	15.20 – 16,80 mm	1.43 kg/l	180	16.500 N	0.98

^{*)} simultaneous measurement of roundness through digital image processing (Retsch-Camsizer, value b/13)

Free of Silanes / Glycol / Epoxy

We hereby confirm that Silanes, Glycol or Epoxy are not used during the production and packaging process.

Additional Information

Disposal	Please consult national laws and local regulations in force for disposal or landfill.
Safety advice	High risk of slipping due to spillage of the product
Product information	Sample card SiLibeads ... glass beads for technical applications Material safety data sheet SiLibeads; test reports

Certifications

According to
DIN EN ISO 9001:2008



According to
HACCP-Standard
for glass beads in
contact with food
stuffs



Manufacturer/Supplier

Sigmund Lindner GmbH, Oberwarmensteinacher Str. 38, 95485 Warmensteinach, Germany
 Phone: ++49-9277-9940
 Fax: ++49-9277-99499
 E-Mail: sili@sigmund-lindner.com
 Web: www.sili.eu