



## SiLibeads® - Glass beads for water filtration

First created on: 2020-01-29 Updated on: 2020-09-24  
 Next inspection on: 2021-06-30 Printed on: 2020-09-24

Version: 4/2020

**Product:** SiLibeads® Glass beads

**Material:** Polished glass beads made of soda lime glass  
 Specific weight: 2.50 kg/l  
 Hydrolytic resistance: (DIN ISO 720) HGB 3 [ $< 9.0$  mm] / HGB 3 [ $> 9.5$  mm]  
 Acid resistance: (DIN 12116) S 1 [ $< 9.0$  mm] / S 1 [ $> 9.5$  mm]  
 Alkali resistance: (DIN ISO 695) A 1 [ $< 9.0$  mm] / A 2 [ $> 9.5$  mm]

**Fields of application:** High performances filter media for single-, multi-layer and multi-media filtration at water reclaiming and water treatment systems.

- Major Advantages of Glass beads:**
- Precise and narrow gradations for an applied filter bed design and dust-free filter charging.
  - High fracture strength and abrasion resistance for mechanical and chemical stability.
  - Highly effective filtering process due to optimal hydraulic conditions.
  - Excellent self-cleaning and fluidization-properties during back wash.
  - Significant reduction of the need of water and energy due to reduced back wash duration.
  - Reduction of chemical agents and extended service intervals.
  - Almost unlimited durability.

**Technical Data:**

Sizes: see table of standard sizes  
 Deformation temperature: 600 °C  
 Softening point (Littleton point): 741 °C  
 Melting point: 1475 °C  
 Specific thermal Conductivity: 1.135 W/(mK)  
 Hardness according to Mohs:  $\geq 6$

**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 <sub>2</sub>	DIN 51001	65.0 - 75.0 %	7631-86-9	231-545-4
Sodium oxide Na <sub>2</sub> O	DIN 51001	12.0 - 17.0 %	1313-59-3	215-208-9
Calcium oxide CaO	DIN 51001	$< 10.0$ %	1305-78-8	215-138-9
Aluminium oxide Al <sub>2</sub> O <sub>3</sub>	DIN 51001	$< 5.0$ %	1344-28-1	215-691-6
Magnesium oxide MgO	DIN 51001	$< 5.0$ %	1309-48-4	215-171-9

The heavy metal content of the Glass beads keeps the permitted limits of EU directive 2011/65/EC (RoHS).

Lead  $< 1000$  ppm      Cadmium  $< 100$  ppm      Chrome VI  $< 1000$  ppm      Mercury  $< 1000$  ppm

**Assessment acc. to Food Legislation:**

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.

Glass beads comply with the requirements of the European Food Regulation 1935/2004/EC, Article 3 and fulfill the micro biological requirements according to DIN EN ISO 14698-1 and VDI 6022.

**Free of Silanes / Glycol / Epoxy:**

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

# Product Data Sheet



The German spirit of quality since 1854



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### NSF-Certificate No. C0104873-01 / Conformity to BS 6920:2000:

Sigmund Lindner is NSF International certified and complies with NSF/ANSI/CAN 61 requirements and fulfill the criteria set out in BS 6920: Part 1: 2000 "Specification" and thus complies with the requirements of the "Water Regulations Advisory Scheme Tests of Effect on Water Quality".



Certified to NSF/ANSI/CAN 61

### Standard Sizes (special diameters by request):

Article	Name	Diameter	Bulk density (Reference values)	Resistance to compression <sup>*)</sup>	Roundness <sup>**)</sup>
Art. 5216	SiLibeads® FM MICRO	0.20 – 0.30 mm	1.44 kg/l	---	0.89
Art. 5223	SiLibeads® FM MICRO	0.30 – 0.40 mm	1.46 kg/l	---	0.89
Art. 45015	SiLibeads® FM MICRO	0.40 – 0.60 mm	1.47 kg/l	---	0.95
Art. 45016	SiLibeads® FM MED	0.40 – 0.80 mm	1,48 kg/l	---	0.95
Art. 4502	SiLibeads® FM MED	0.50 – 0.75 mm	1.49 kg/l	---	0.95
Art. 4503	SiLibeads® FM MED	0.75 – 1.00 mm	1.50 kg/l	170 N	0.95
Art. 4504	SiLibeads® FM BIG	1.00 – 1.30 mm	1.51 kg/l	250 N	0.95
Art. 4505	SiLibeads® FM BIG	1.25 – 1.65 mm	1.51 kg/l	370 N	0.95
Art. 4506	SiLibeads® FM BIG	1.55 – 1.85 mm	1.52 kg/l	520 N	0.95
Art. 4507	SiLibeads®	1.70 – 2.10 mm	1.52 kg/l	620 N	0.95
Art. 4508	SiLibeads®	2.00 – 2.40 mm	1.53 kg/l	770 N	0.95
Art. 4510	SiLibeads® FM XXL	2.40 – 2.90 mm	1.53 kg/l	920 N	0.95
Art. 4511	SiLibeads® FM XXL	2.85 – 3.45 mm	1.53 kg/l	1,270 N	0.95
Art. 4512	SiLibeads® FM XXL	3.40 – 4.00 mm	1.53 kg/l	1,550 N	0.95
Art. 4513	SiLibeads® FM XXL	3.80 – 4.40 mm	1.53 kg/l	1,900 N	0.95
Art. 4514	SiLibeads® FM XXL	4.50 – 5.50 mm	1.49 kg/l	2,350 N	0.94
Art. 4515	SiLibeads® FM XXL	5.00 – 6.00 mm	1.47 kg/l	3,150 N	0.92
Art. 5016	SiLibeads® FM XXL	9.50 – 10.50 mm	1.45 kg/l	6,000 N	0.98
Art. 5017	SiLibeads® FM XXL	10.50 – 11.50 mm	1.45 kg/l	7,500 N	0.98
Art. 5018	SiLibeads® FM XXL	11.50 – 12.50 mm	1.45 kg/l	10,500 N	0.98
Art. 5021	SiLibeads® FM XXL	13.50 – 14.50 mm	1.43 kg/l	---	0.98
Art. 5023	SiLibeads® FM XXL	15.20 – 16.80 mm	1.43 kg/l	---	0.98

### Special Mixtures

Art. 4500412	SiLibeads® FM FINE	0.40 – 1.20 mm	1.49 kg/l	---	0.95
Art. 4500510	SiLibeads® FM FINE	0.50 – 1.00 mm	1.49 kg/l	---	0.95
Art. 4500713	SiLibeads® FM FINE	0.70 – 1.30 mm	1.50 kg/l	---	0.95
Art. 4501019	SiLibeads® FM BIG	1.00 – 1.90 mm	1.51 kg/l	---	0.95
Art. 4501029	SiLibeads® FM BIG	1.00 – 2.90 mm	1.51 kg/l	---	0.95
Art. 4501225	SiLibeads® FM BIG	1.20 – 2.50 mm	1.51 kg/l	---	0.95
Art. 4501521	SiLibeads® FM BIG	1.50 – 2.10 mm	1.51 kg/l	---	0.93
Art. 4502029	SiLibeads® FM XXL	2.00 – 2.90 mm	1.53 kg/l	---	0.95
Art. 4502035	SiLibeads® FM XXL	2.00 – 3.50 mm	1.53 kg/l	---	0.95
Art. 4502535	SiLibeads® FM XXL	2.50 – 3.50 mm	1.53 kg/l	---	0.95
Art. 4502840	SiLibeads® FM XXL	2.80 – 4.00 mm	1.53 kg/l	---	0.95
Art. 4503455	SiLibeads® FM XXL	3.40 – 5.50 mm	1.53 kg/l	---	0.95
Art. 4503860	SiLibeads® FM XXL	3.80 – 6.00 mm	1.53 kg/l	---	0.95

\*) Resistance to compression: internal test with Compressive strength inspector No. 10004.1, Company Hegewald & Peschke

\*\*\*) Ratio width/length (xmin/xmax): internal test with Retsch-Camsizer



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### Additional Information:

**Storage:** Store containers (big bags) in a dry place, protected from direct sunlight.

**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®  
Material safety data sheet "SiLibeads for Water wells + Water filtration"

### Certifications:

according to  
DIN EN ISO 9001:2015



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



**Manufacturer/Supplier:** Sigmund Lindner GmbH  
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All data are reference values – subject to change without prior notice