

# Product Data Sheet



The German  
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## SiLibeads Glass beads Type SL

First created on: 2017-02-14 Updated on: 2019-03-04  
Next inspection on: 2019-12-31 Printed on: 2019-03-04

Version: V16/2019

**Product:** SiLibeads Glass beads Type SL

**Material:** Aluminium-Borosilicate Glass beads  
Specific weight: 2.59 kg/l  
Hydrolytic resistance: (DIN ISO 720) HGB 2  
Acidic resistance: (DIN 12116) S 4  
Alkaline resistance: (DIN ISO 695) A 2

**Application:** Grinding media for all sorts of pearl mills for the grinding and dispersion of products with special quality requirements such as magnetic bands coating for audio- and video tapes, anti-corrosion lacks, pH-sensitive suspensions and the grinding of the coatings for thermo-paper of fax machines.

### Technische Daten:

Roundness:  $\geq 0.95$  (ratio width/length ( $x_{min}/x_{max}$ ))  
Compressive strength: up to 2500 N (belonging to diameter)  
Refractive index: 1.54  
Size (Diameter): from 0.50 up to 4.40 mm (see table Standard Sizes)  
Transformation temperature: 785 °C  
Softening point (Littleton point): 923 °C  
Melting point: 1466 °C  
Specific thermal Conductivity: 1.127 W/(m·K)  
Thermal expansion:  $5.13 \cdot 10^{-6} \text{ K}^{-1}$  [20 °C] (Coefficient of linear expansion  $\alpha$ )  
Specific thermal capacity: 1.317 kJ/kg K [>600 °C]  
Youngs-Module: 77 GPa  
Hardness according to Mohs:  $\geq 6$

### Assessment acc. to Food Legislation:

The Glass beads are a consumer good in the sense of §2 clause 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.

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

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

Article	Diameter	Resistance to compression *)	Bulk density	Amount (pieces per kg)
7502	0.50 – 0.80 mm	---	1.55 kg/l	3,020,370
7503	0.75 – 1.00 mm	---	1.54 kg/l	1,100,710
7504	1.00 – 1.40 mm	250 – 400 N	1.53 kg/l	426,730
7505	1.30 – 1.70 mm	375 – 550 N	1.53 kg/l	218,480
7507	1.70 – 2.10 mm	550 – 775 N	1.53 kg/l	107,500
7508	2.00 – 2.60 mm	750 – 900 N	1.53 kg/l	64,730
7510	2.50 – 3.00 mm	900 – 1450 N	1.53 kg/l	35,450
7511	2.90 – 3.50 mm	1400 – 1750 N	1.52 kg/l	24,750
7512	3.30 – 3.90 mm	1725 – 2200 N	1.51 kg/l	15,800
7513	3.90 – 4.40 mm	2150 – 2500 N	1.50 kg/l	10,310

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

### Chemical Analysis; Glass beads made of Aluminium-Borosilicate 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	55.00 %	7631-86-9	231-545-4
Calcium oxide CaO	DIN 51001	19.30 %	1305-78-8	215-138-9
Aluminium oxide Al <sub>2</sub> O <sub>3</sub>	DIN 51001	13.40 %	1344-28-1	215-691-6
Boric oxide B <sub>2</sub> O <sub>3</sub>	DIN 51086-1	6.50 %	1303-86-2	215-125-8
Magnesium oxide MgO	DIN 51001	4.20 %	1309-48-4	215-171-9
further		1.60 %		

### 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: Sample card ... glass beads for technical applications,  
Safety Data Sheet SiLibeads Type SL; Test Reports

**Manufacturer/Supplier:** Sigmund Lindner GmbH; Oberwarmensteinacher Str. 38; 95485 Warmensteinach / GERMANY  
Phone: +49-9277-9940  
Fax: +49-9277-99499  
Web: [www.sili.eu](http://www.sili.eu)  
E-Mail: [sili@sigmund-lindner.com](mailto:sili@sigmund-lindner.com)

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