

Product Data Sheet
 First created on: 2017-02-14
 Next inspection on: 2017-12-31

 Updated on: 2017-02-14
 Printed on: 2017-02-14

| | |
|-----------------------------------|--|
| Product | SiLibeads Glass beads Type SL |
| Material | Aluminium-Borosilicate Glass beads Specific weight: 2.59 kg/l Hydrolytic resistance on Glass beads: HGB 1 (based on DIN ISO 720) Acidic resistance on Glass beads: S4 (according to DIN 12116) Alkaline resistance on Glass beads: A1 (according to DIN ISO 695) |
| 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 | ≥ 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/km |
| Thermal expansion | $5.13 \cdot 10^{-6} \text{ K}^{-1}$ [20 °C] (Coefficient of linear expansion α) |
| Specific thermal capacity | 1.317 kJ/kg K [>600 °C] |
| Youngs-Module | 77 GPa |
| Hardness according to Mohs | ≥ 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 ₂ | 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 ₂ O ₃ | DIN 51001 | 13.40 % | 1344-28-1 | 215-691-6 |
| Boric oxide B ₂ O ₃ | 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 Strasse 38; 95485 Warmensteinach / GERMANY Phone: +49-9277-9940 Fax: +49-9277-99499 Web: www.sili.eu E-Mail: sili@sigmund-lindner.com |

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