



SiLibeads Glass beads Type M

First created on: 2016-08-01 Updated on: 2019-09-05
Next inspection on: 2020-12-31 Printed on: 2019-09-05

Version: V16/2019

Product: SiLibeads Glass beads Type M

Material: polished Glass beads made of soda lime glass

Specific weight: 2.50 kg/l

Hydrolytic resistance: (DIN ISO 720) HGB 2 [< 9.0 mm] / HGB 3 [> 9.5 mm]

Acid resistance: (DIN 12116) S 3 [< 9.0 mm] / S 1 [> 9.5 mm]

Alkali resistance: (DIN ISO 695) A 2 [< 9.0 mm] / A 2 [> 9.5 mm]

Application:

In the size range between 1.5 mm and 16.0 mm, Glass beads Type M are mainly used as stirring and mixing media in aerosol sprays, as valves for bottle closures and for the mechanical coating of small metallic pieces, through a special plating process (mechanical plating).

Their high degree of purity allows them to reach excellent results in the grinding and dispersing of pigments, dyestuff, agro-chemicals, pharmaceuticals and cosmetic preparations.

Glass beads Type M are further used as stilts- and filter material for construction of bubblers.

Technical Data:

Roundness: ≥ 0.98 ; ratio width/length (x_{min}/x_{max})

Compressive strength: up to 20 kN (belonging to diameter)

Refractive index: + 1.5

Size (Diameter): from 1.5 mm up to 16.0 mm (see table Standard Sizes)

Transformation temperature: 542 °C

Softening point (Littleton point): 719 °C

Melting point: 1441 °C

Specific thermal Conductivity: 1.129 W/(m·K)

Thermal expansion: $9.73 \cdot 10^{-6} \text{ K}^{-1}$ [20 °C] (Coefficient of linear expansion α)

Specific thermal capacity: 1.312 kJ/kg K [> 600 °C]

Youngs-Module: 65 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.

Microbiological requirements are fulfilled.

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

Product Data Sheet



The German
spirit of quality
since 1854



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Standard Sizes (special diameters by request):

Article	Diameter	Tolerance	Bulk density	Amount (pcs. per kg)
5002	1.5 mm	+/- 0.2 mm	1.50 kg/l	226,350
5003	2.0 mm	+/- 0.2 mm	1.50 kg/l	95,490
5004	2.5 mm	+/- 0.2 mm	1.50 kg/l	48,890
5005	3.0 mm	+/- 0.3 mm	1.50 kg/l	28,290
5006	3.5 mm	+/- 0.3 mm	1.50 kg/l	17,810
5009	4.0 mm	+/- 0.3 mm	1.50 kg/l	11,930
5010	4.5 mm	+/- 0.3 mm	1.50 kg/l	8,380
5011	5.0 mm	+/- 0.3 mm	1.50 kg/l	6,110
5012	6.0 mm	+/- 0.3 mm	1.48 kg/l	3,530
5013	7.0 mm	+/- 0.3 mm	1.48 kg/l	2,220
5014	8.0 mm	+/- 0.4 mm	1.48 kg/l	1,490
5015	9.0 mm	+/- 0.4 mm	1.45 kg/l	1,040
50151	9.5 mm	+/- 0.4 mm	1.45 kg/l	880
5016	10.0 mm	+/- 0.5 mm	1.45 kg/l	760
50165	10.3 mm	+/- 0.5 mm	1.45 kg/l	670
5017	11.0 mm	+/- 0.5 mm	1.45 kg/l	570
5018	12.0 mm	+/- 0.5 mm	1.45 kg/l	440
5021	14.0 mm	+/- 0.5 mm	1.43 kg/l	270
5023	16.0 mm	+/- 0.8 mm	1.43 kg/l	180

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	68.10 %	7631-86-9	231-545-4
Sodium oxide Na ₂ O	DIN 51001	15.00 %	1313-59-3	215-208-9
Calcium oxide CaO	DIN 51001	8.30 %	1305-78-8	215-138-9
Aluminium oxide Al ₂ O ₃	DIN 51001	3.30 %	1344-28-1	215-691-6
Magnesium oxide MgO	DIN 51001	2.50 %	1309-48-4	215-171-9
further		2.80 %		

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 M; Test Reports

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