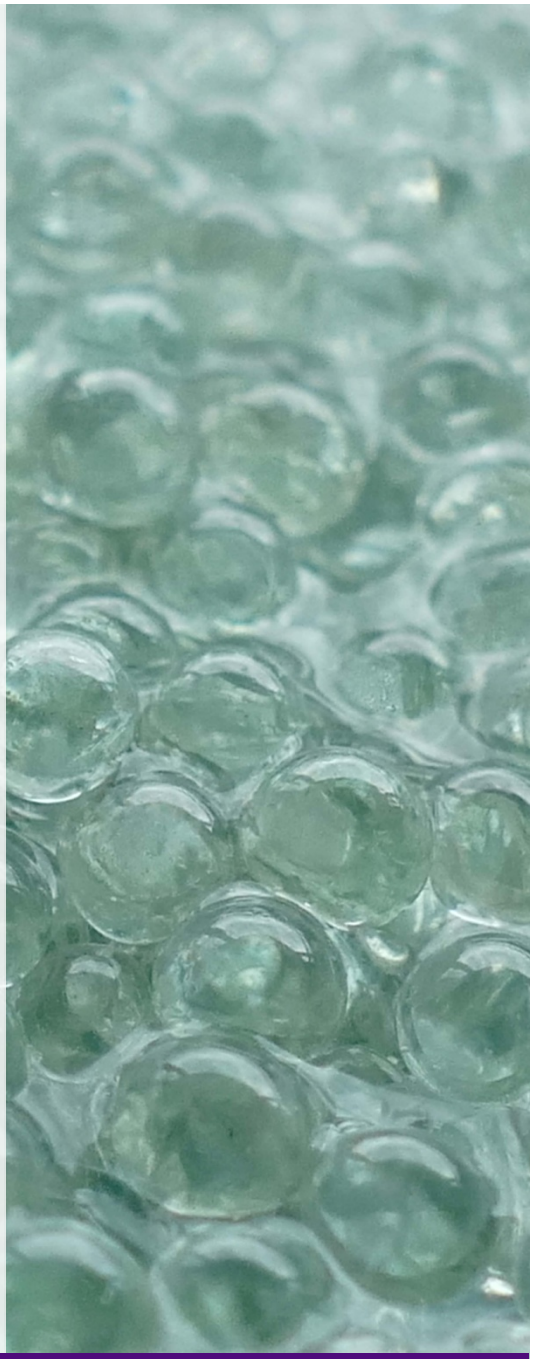
TECHNICAL DATASHEET

OVIVO® GLASS BEADS

for filtration



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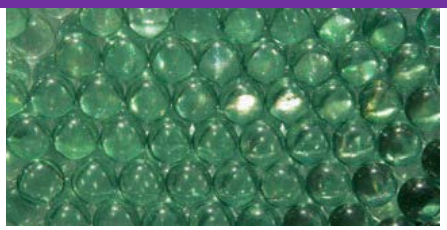
OVERVIEW

Major advantages of Glass Beads filtration compared to filter sand / gravel

Glass Beads	Filter Sand
	
Geometry	
- Even, geometric shape - Calibrated - Smooth, closed surface - High material hardness and surface quality (minimal abrasion and lowest wear)	- Amorphous, uneven shape - Porous to very porous surface - Low material hardness and surface quality - High abrasion, excessive wear - High dust content (undersize, zero grain)
Permeability	
- regular equal sphere packing - homogeneous hydraulic conditions - short retention of pore water - uniform permeability and low risk of contamination and infection - complete utilization of filter bed	- Amorphous, chaotic arrangement - Inhomogeneous hydraulic conditions - Long retention time of pore water - High risk of contamination and infection - Limited usage of filter bed
Dirt adhesion before backwashing	
- trapping of the contaminants within the pore space - optimum sphere packing - no deposits and clogging, no adhesion	- continuous increase of deposits and adhesions - porous surface - high risk of clogging
Operation	
- No removal of undersized particles after filling in new glass beads required. - No flushing required after filling in new glass beads. - High capacity of retention of suspended solids (long filter cycle time) - Optimal backwash cleaning due to large and regular pore spaces - No pre-filtration required - Considerably reduced quantity of backwash water and energy. - Long lifetime and increased maintenance intervals. - The glass beads can be conditioned or recycled.	

Product Description

Material		
- Polished glass beads made of soda lime glass		
- Specific weight:	2.50	kg/l
- Hydrolytic resistance on Glass beads:	HGB 1	(based on DIN ISO 719)
- Acidic resistance on Glass beads (> 10,0 mm):	S1	(according to DIN 12116)
- Acidic resistance on Glass beads (< 6,0 mm):	S3	(according to DIN 12116)
- Alkaline resistance on Glass beads:	A1	(according to DIN ISO 695)

Fields of application
Filter material for water treatment and water recovery in single layer or multi layer filters.

TECHNICAL DATA

Sizes	see table of standard sizes	
Deformation temperature	600 °C	1112 °F
Softening point (Littleton point)	741 °C	1366 °F
Melting point	1475 °C	2687 °F
Hardness according to Mohs	≥ 6	

Standard sizes

Article	Diameter (mm)	Mesh value (approx.)	Bulk density (approx.) (kg/l – Lb/Ft3)
Ovivo-GB-Grade 01	0.25 – 0.50	35 – 60	1.46 - 91
Ovivo-GB-Grade 02	0.40 – 1.00	18 – 40	1.49 - 93
Ovivo-GB-Grade 03	1.50 – 2.10	10 - 14	1.51 – 94
Ovivo-GB-Grade 04	2.80 – 4.00	5 - 7	1.53 - 96
Sphericity ≥ 0,95 (simultaneous measurement of roundness through digital image processing (Retsch-Camsizer, value b/l3))			

Chemical Analysis

Name	Method	Weight (reference values)	CAS-Nr.	EINECS
Glass beads made of soda lime glass; CAS-Nr. 65997-17-3 / EINECS 266-046-0				
Silicon dioxide SiO_2	DIN 51001	65,0 - 75,0 %	7631-86-9	231-545-4
Sodium oxide Na_2O	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
Aluminum oxide Al_2O_3	DIN 51001	< 5,0 %	1344-28-1	215-691-6
Magnesium oxide MgO	DIN 51001	< 5,0 %	1309-48-4	215-171-9
Free of Silanes / Glycol / Epoxy Silanes, Glycol or Epoxy are not used during the production and packaging process.				

SAFETY, DISPOSAL

Safety advice

High risk of slipping due to spillage of the product

Disposal

Please consult national laws and local regulations in force for disposal or landfill.

CONFORMITY, CERTIFICATIONS

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

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

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.
The glass beads fulfill the micro biological requirements according to DIN EN ISO 14698-1

Conformity

ANSI / NSF61 certification for quality and purity

Certifications

According to DIN EN ISO 9001:2008	
According to HACCP-Standard for Glass Beads in contact with food	

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