



Product Data Sheet

First created on: 2015-11-24
 Next inspection on: 2018-12-31

Updated on: 2017-11-24
 Printed on: 2017-11-24

Product	SiLibeads Ceramic beads Type ZS
Material	Ceramic beads made of sintered Zirconium Silicate.
Application	SiLibeads Type ZS are made of sintered Zirconium Silicate. These beads are very dense with a homogeneous structure as a result of our specialized production method. Therefore, they show excellent performance features in all grinding systems.
<u>Colour and Paint Industry:</u>	- grinding and dispersion of coating and paint systems in the middle viscosity range in most of water based systems - grinding and dispersion of pigments to dye textiles and plastics - grinding of inorganic and organic pigments
<u>Plant Protection:</u>	- dispersion of fungicides, herbicides, insecticides
<u>Filler material- and the Coating Industry:</u>	- process of whitener (CaCO ₃) for the paper production - grinding of coatings for video and audio tapes
<u>Mining Industry:</u>	- grinding of minerals and precious metals
Technical Data	
Specific Weight	4.1 kg/l
Bulk density	see table Standard Sizes
Youngs-Module	100 GPa
Microhardness	1000 HV ₁₀
Colour	white

Standard Sizes (special diameters by request)		
Article	Diameter	Bulk density
9305	0.40 – 0.60 mm	2.39 kg/l
9307	0.60 – 0.80 mm	2.40 kg/l
9309	0.80 – 1.00 mm	2.41 kg/l
9311	1.00 – 1.20 mm	2.42 kg/l
9313	1.20 – 1.40 mm	2.43 kg/l
9315	1.40 – 1.60 mm	2.43 kg/l
9317	1.60 – 1.80 mm	2.44 kg/l
9319	1.80 – 2.00 mm	2.45 kg/l
9321	2.00 – 2.20 mm	2.46 kg/l
9323	2.20 – 2.50 mm	2.46 kg/l
9327	2.50 – 2.80 mm	2.48 kg/l
9330	2.80 – 3.20 mm	2.48 kg/l
9335	3.00 – 4.00 mm	2.49 kg/l

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Chemical Analysis; Beads made of Zirconium Silicate

Name	Method	Weight (reference values)	CAS-No.	EINECS
Zirconium dioxide $ZrO_2^{(1)}$ + Hafnium dioxide $HfO_2^{(1)(2)}$	DIN 51001	≥ 54,0 %	1314-23-4 12055-23-1	215-227-2 235-013-2
Silicon dioxide $SiO_2^{(1)(3)}$	DIN 51001	≤ 33,0 %	7631-86-9	231-545-4
Aluminium oxide Al_2O_3	DIN 51001	≤ 10,0 %	1344-28-1	215-691-6
others		≤ 3,0 %		

⁽¹⁾ Traces of naturally occurring uranium (U) and thorium (Th) are present in concentrations of < 0.05 %.

⁽²⁾ natural origin (residue from processing of raw material Zircon sand)

⁽³⁾ Silica glass, free from crystalline forms of silica

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 SiLibeads Ceramic Beads, Safety Data Sheet SiLibeads Type ZS; 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