



Product name	Ceramic Beads, Zirconia Alumina Composite, Sintered		
Product type	ZAL-32 / ZAL-27		
Features	- Light density medias with unique formulations, patented		
	- Superior price-performance ratio to other low-medium density grinding medias		
	- Substitute glass beads very well by reducing media & mill wear and increasing grinding		
	efficiency		
Main applications	ZAL-32 / ZAL-27 beads can be used in milling and dispersion of following materials, just		
	name a few:		
	- Coatings (paints, inks)		
	- Pigments and dyes		
	- Mineral fillers e.g. TiO <sub>2</sub> , GCC , Zircon and Kaolin		
	- Gold, silver, platinum, lead, copper and zinc sulfide		
Technical data*	ZAL-32	ZAL-27	
Specific density	$3.2 \pm 0.05 \text{ g/cm}^3$	2.7 ± 0.05 g/cm <sup>3</sup>	
Bulk density	2.2 kg/l	1.7 kg/l	
Hardness	854 (HV10)	793 (HV10)	
Mohs' Hardness	8	8	
Color	White (glossy sheen)	White (glossy sheen)	

<sup>\*</sup>typical values

Standard sizes (Ø,mm) *				
0.4 - 0.8	0.8 - 1.2	1.2 - 1.4		
1.4 – 1.7	1.8 – 2.2	2.0 – 2.5		
2.5 – 3.0	3.0 – 4.0	4.0 – 5.0		
5.0 – 6.0				

<sup>\*</sup>other sizes can be customized

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Safety Data Sheet **Type: ZAL-32 / ZAL-27** 

Updated on 29/01/2021



Composition	Weight*	CAS No.
Zirconium dioxide ZrO <sub>2</sub> +	2 – 20 %	1314-23-4
Hafnium dioxide HfO <sub>2</sub>		12055-23-1
Silicon oxide SiO <sub>2</sub>	35 %	7631-86-9
Aluminum oxide Al <sub>2</sub> O <sub>3</sub>	40 – 60 %	1344-28-1
Others	3-5%	-

<sup>\*</sup>typical values

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Hazards identification	Health rating: 0 – None	
	Flammability rating: 0 – None	
	Reactivity rating: 0 – None	
	Contact rating: 0 – Slight	
	Possible irritation through abrasive friction.	
	Risk of slipping if the product (beads) is spread out on the floor.	
	As such, the product should not cause an inhalation problem but its utilization	
	can create dust.	
First aid measures	Eyes: may be abrasive through friction, treat as particle in eye.	
Fire fighting measures	This product is not combustible or explosive. It is compatible with all standard fire-	
	fighting methods.	
Accidental release	Isolate the area and sweep the floor in order to collect the beads to avoid the	
measures	slipping by rolling.	
	Wear eye protectors and dust mask.	
Handling and storage In case of operations, which generate dust, wear dust mask. Wear ey		
	Heavy material, respect the security rules in case of stocking. Use safety shoes for	
	handling.	
Physical / Chemical	Appearance and odor: odorless white beads	
Properties	Solubility in water: insoluble	
	Volatiles by volume at 21℃: 0%	
	Boiling point: NAIF	
	Melting point: over 1600℃	
Disposal consideration	Whatever cannot be saved for recovery or recycling should be managed in an	
	appropriate waste disposal facility. Dispose of packaging and unused contents	
	in accordance with governmental and local requirements.	
Transport information	Not regulated	
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