

Zirconia milling media for the battery industry



		<i>Zr Silicate</i>	<i>Ceria Zirconia</i>	<i>Yttria Zirconia</i>
Series		MM ZS 100	MM CZ 200	MM YZ 300
Composition	wt %	60-65% ZrO ₂ 30-35% SiO ₂	78-80% ZrO ₂ 20-22% CeO ₂	94.5% ZrO ₂ 5.2% Y ₂ O ₃
Bulk Density	Kg/L	2.6-2.7 (dia 2mm)	>3.6 (dia 2mm)	>3.6 (dia 2mm)
Specific Density	g/cm ³	>4.00	>6.00	>6.02
Hardness	Vicker's	>1100	>1150	>1250
Elastic modulus	GPa	200	200	200
Crushing Load	KN	>15 (dia 2mm)	>18 (dia 2mm)	>20 (dia 2mm)
Fracture Toughness	MPam ¹⁻²	8	9	9
Grain Size	um	<0.5	<0.5	<0.5
Wear loss	ppm/h	<0.8	<0.15	<0.12
Bead Sizes	mm	0.4 - 5	0.4 - 3	0.5 - 50

Performance

Zirconium Silicate mid density bead suitable as a glass replacement

Ceria Zirconia high density bead for performance grinding

Yttria Zirconia high density bead with high wear resistance

Applications

Battery Materials – blending of anode, cathode and solid electrolyte materials

Ceramic powders – grinding of fine powders for technical ceramics

Paints and Inks – blending and grinding of an extensive mix of raw materials