



TECHNICAL DATA SHEET OF WHITE ALUMINA TOUGHENED ZIRCONIA (ATZ)

	PROPERTIES	VALUE
CHEMICAL	ZrO ₂ + HfO ₂	67.5 %
	Al ₂ O ₃	25.0 %
	Y ₂ O ₃	5.0 %
	SiO ₂	1.5 %
	Others	1.0 %
PHYSICAL	Colour	White
	Surface Finish	Satin Smooth
	Density	5.20 ± 0.05 g/cm ³
	Bulk Density	3.30 ± 0.05 kg/ltr
	Porosity	Nil
	Water Absorption	Nil
	Hardness on Moh's Scale	9+
	Hardness on Vicker's Scale	1350 - 1400 Hv ₅
	Flexural Strength 3 P.B. (@ Room Temperature)	600 MPa
	Compressive Strength (@ Room Temperature)	2000 MPa
	Young's Modulus	220 GPa
	Crushing Strength (@ Room Temperature : Ø 1.5mm Bead)	130 - 140 kgf
	Bead Sphericity 90%	≥0.95
	% Cumulative Weight Loss / Hr (Wear Test Conducted in High Speed Bead Mill. Media Size Ø 1.2 to 1.7 mm)	
	After 24 Hrs.	0.012
	After 96 Hrs.	0.008
THERMAL	Coefficient of Linear Thermal Expansion (Room Temperature to 1000 °C)	9 x 10 ⁻⁶ / °C
	Thermal Conductivity (@ Room Temperature)	10 W/mK
	Max Temperature of Use (No Load Condition)	1400 °C (2552 °F)
ELECTRICAL	Dielectric Strength (@ Room Temperature)	-
	Dielectric Constant (@ Room Temperature @ 1 MHz)	-
	Dissipation Factor (@ Room Temperature @ 1 MHz)	-
	Volume Resistivity (@ Room Temperature)	-

Kindly note that all values mentioned are based on test pieces and may vary according to component design and manufacturing process. The values are not guaranteed by Jyoti Ceramic Ind. in anyway whatsoever and should be treated as indicative only. All values refer to a testing temperature of 20 °C, unless otherwise specified.



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