

Zirconia 3Y-TZP (Hipped)

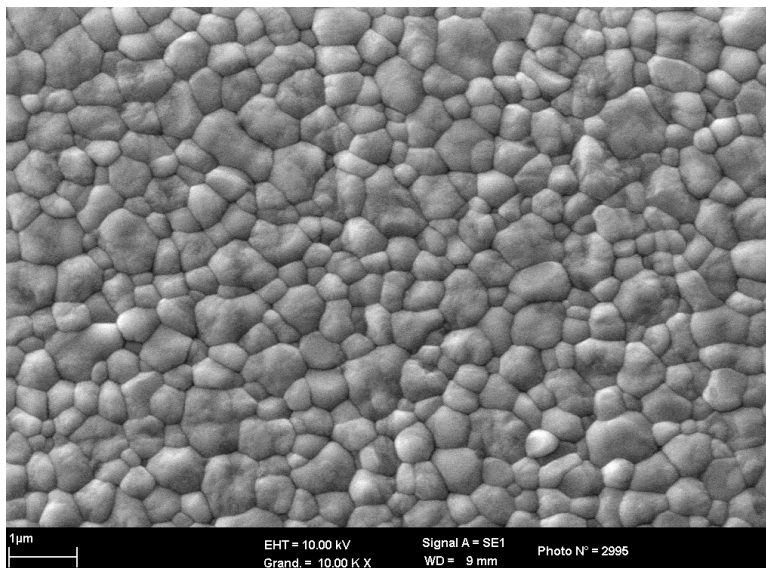
CHEMICAL COMPOSITION			* by difference
	ZrO ₂	93%wt	
	HfO ₂	<2%wt	
	Y ₂ O ₃	5.2%wt	
	Al ₂ O ₃	0.25%wt	
	SiO ₂	<0.02	
	Fe ₂ O ₃	<0.01	

PHYSICAL PROPERTIES		
	Mean grain size	0.5±0.1 μm
	Sintered density	6.07 g/cm ³
	Bending strength at 20° C	1700 MPa
	Hardness H _{v0.5}	1300 Hv

THERMAL PROPERTIES		
	Thermal conductivity at 20°C	2.5 W.m ⁻¹ .k ⁻¹

ELECTRICAL PROPERTIES		
	Dielectric constant at 25°C-1MHz	29 (1MHz)
	tan δ	2.10 ⁻³ (1GHz)
	DC Volume resistivity at 25°C	1.10 ¹² Ω.cm
	Dielectric strength at 3mm	19 kV/mm ⁻¹

MICROSTRUCTURE



KEY FEATURES	
	High mechanical strength, biocompatible

TYPICAL APPLICATIONS	
	Electrosurgical endoscopy tips, watch casings and jewelry, welding pins, severe duty valves and pumps, food processing, metal forming, materials handling, blades and cutting edges, gas and oil field applications, pump and valve components, canning and metal packaging, automotive (eg weld pins).