ceramaret Switzerland

Silicon nitride Si_3N_4-Y_2O_3

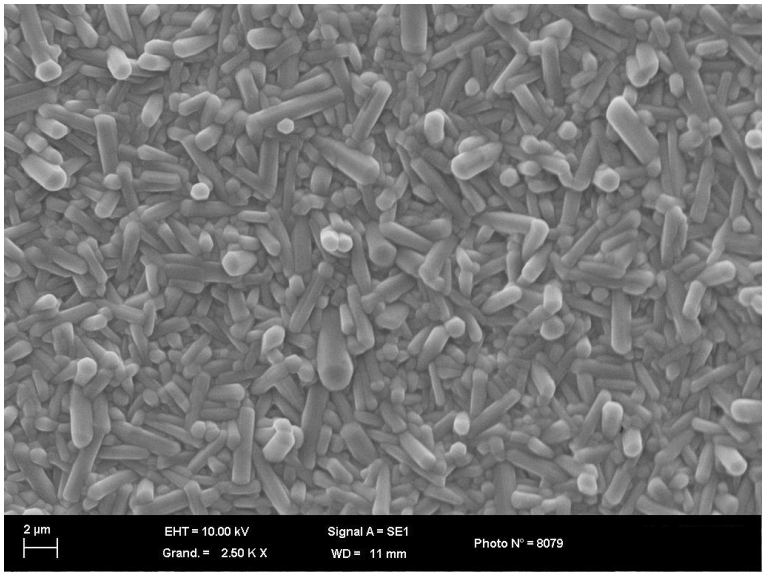
CHEMICAL COMPOSITION	Si_3N_4	90%wt	* by difference
	Y_2O_3	5%wt	
	Al_2O_3	5%wt	
	Fe	0.05	

PHYSICAL PROPERTIES	Mean grain size	-
	Sintered density	3.21 g/cm^3
	Bending strength at 20° C	850 MPa
	Hardness $H_{v0.5}$	1600 Hv

THERMAL PROPERTIES	Thermal conductivity at 20°C	20 W.m^{-1}.k^{-1}

ELECTRICAL PROPERTIES	Dielectric constant at 25°C-1MHz	8 (1MHz)
	tan δ	-
	DC Volume resistivity at 25°C	1.10^{14} Ω.cm
	Dielectric strength at 3mm	19 kV/mm^{-1}

MICROSTRUCTURE



KEY FEATURES

Light weight, good wear resistance, high mechanical strength

TYPICAL APPLICATIONS

Thermal Insulators, nozzles, sliding parts, watch movement components, bearing balls and rollers, cutting tools, valves, turbocharger rotors for engines, turbine blades, welding jigs and fixtures, severe duty valves and pumps, weld rolls for Steel & Aluminum tube production, food processing, scientific Instrumentation, materials handling.