

# Alumina 99.9% (Hipped)

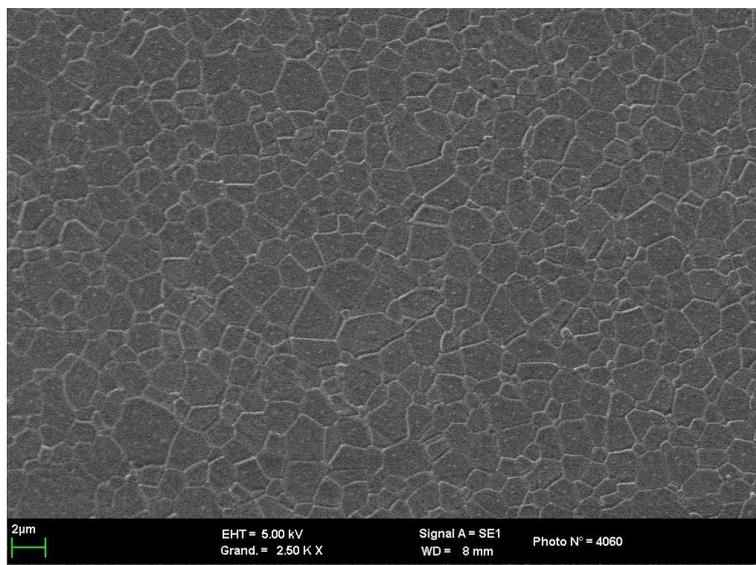
CHEMICAL COMPOSITION			
	Al <sub>2</sub> O <sub>3</sub>	99.9%wt	* by difference
	MgO	0.05%wt	
	Na <sub>2</sub> O	<25 ppm	
	SiO <sub>2</sub>	<25 ppm	
	Fe <sub>2</sub> O <sub>3</sub>	<25 ppm	
	CaO	<25 ppm	

PHYSICAL PROPERTIES		
	Mean grain size	3±1 μm
	Sintered density	3.97 g/cm <sup>3</sup>
	Bending strength at 20° C	550 MPa
	Hardness H <sub>v0.5</sub>	1900 Hv

THERMAL PROPERTIES		
	Thermal conductivity at 20°C	30 W.m <sup>-1</sup> .k <sup>-1</sup>

ELECTRICAL PROPERTIES		
	Dielectric constant at 25°C-1MHz	9 (1MHz)
	tan δ	5.10 <sup>-3</sup> (9GHz)
	DC Volume resistivity at 25°C	5.10 <sup>14</sup> Ω.cm
	Dielectric strength at 3mm	19 kV/mm <sup>-1</sup>

## MICROSTRUCTURE



KEY FEATURES	
	Superior mechanical strength and hardness
	Biocompatible
	Smooth surfaces

TYPICAL APPLICATIONS	
	High purity alumina is usually well suited for applications such as pistons and cylinders for precision dosing devices, feedthrough for medical devices, precision rotor valves components, pump seals & plungers, electrical insulators & inductors, wear nozzles, electrical connector housings, injector tubes & gas nozzles, wear resistant components.
	The hot isostatic pressing or HIP process increases the general mechanical resistance through diminishing the remaining porosity.