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### Basic properties

- Very hard
- Abrasion resistant
- Can be milled with great precision
- Can be polished
- Stable at high temperatures
- No open porosity
- Excellent electrical properties
- Chemically inert
- High corrosion resistant

### Applications

- Mechanical components
- Pistons, pump stages
- Mechanical seals
- Sealing bushes
- Faucet keys and seats
- Electrical insulator
- Pyrometry
- Laboratory items, crucibles
- Vacuum items
- Welding nozzles

### Chemical composition:

Aluminium Oxide 99,7% / Silica: 0,05% / Magnesia 0,03 % Sodium Oxide 0,15% / Iron oxide 0,02% / Calcium Oxide 0,03% / Titanium Oxide <0,01 / Boron Oxide <0,02%

Material		Alumina 99,7%
Chemical Formula		Al <sub>2</sub> O <sub>3</sub>
Aspect / color		
Porosity		Impervious
<b>Mecanical</b>	Measuring unit	
Poisson's ration	-	
Hardness Mohs	Mohs	
HardnessVickers		1800
Young modulus	GPa	310
Bending strength	MPa	250
Crushing strength at 20°C	MPa	1800
Tenacity	MPa.m <sup>1/2</sup>	4,6
Max. use temperature	°c	1850
Max. use temperature in air	°c	1750
Opened porisité	%	0
Absolute density	g/cm <sup>3</sup>	3,9
Density	g/cm <sup>3</sup>	3,8
Melting point	°c	2050
<b>Electrical</b>		
Electric resistivity at 20°C	Ohm, m	1014
Electric resistivity at 600°C	Ohm, m	108
Loss tangent for 1 Ghz	Hz	2,5x10 <sup>-4</sup>
Loss tangent for 1 Mhz	Hz	6x10 <sup>-3</sup>
<b>Thermal</b>		
Thermal conductivity at 1000°C	W/m.°K	9,1
Thermal conductivity at 20°C	W/m.°K	29
Thermal conductivity at à 500°C	W/m.°K	12,1
Thermal choc resistance	°C	medium
Linear expansion	x10 <sup>-6</sup>	8,6

\*These datas are for information purpose only. They do not engage SCERAM's responsibility.