

BASIC PROPERTIES

- AlN resists to numerous metal welding (ferrous alloys and super alloys)
- It has a good resistance to thermal shock
- It is a good electrical insulator and has a good thermal conductivity.

APPLICATIONS

Electronic application
Microelectronic (LSI , portes capteurs, high frequency models)
Naval radio systems
Defense systems
Railways systems (inverters for driving systems)
Aviation systems (telecommunication, research satellites)
Environmental: émission control

MATERIAL		ALUMINIUM NITRIDE
Chemical Formula		AlN
Aspect / color		Grey / black
Porosity		0 (Impervious)
Mechanical		Measuring unit
Poisson's ratio	-	0,25
Hardness	Mohs	5
Hardness	Vickers	1200
Hardness	Knoop	1170
Young modulus	GPa	300
Compression resistance	MPa	2068
Flexion resistance	MPa	428
Mechanical resistance (3pts flexion) at 20°C	MPa	300
Crushing resistance at 20°C	MPa	2100
Traction resistance at 20°C	MPa	190
Fracture toughness	MPa.m ^{1/2}	3,5
Physical		
Maximum temperature use (inert atmosphere)	°C	1600
Absolute density	g/cm ³	3,3
Density	g/cm ³	3,3
Water absorption	%	0
Electrical		
Electrical resistivity at 20°C	Ohm, m	> 10 ¹³
Electrical resistivity	Wcm	10 ¹⁴
Dielectric constant at 1 MHz	-	8 - 9,1
Dielectric strength	kV/mm	15
Loss tangent for 1 MHz	Hz	5x10 ⁻⁴
Thermal		
Specific heat at 20°C	cal/g.°C	0,25
Thermal conductivity at 20°C	W/m.°K	82,30
Thermal conductivity at 500°C	W/m.°K	-
Thermal shock resistance	Δ T°C	400

**These values are for informational purposes only and do not bind company's responsibility.*