

BASIC PROPERTIES

- Wear resistance
- Consistency at high temperature
- Hardness
- Low thermal expansion coefficient
- Resistance to corrosion and oxidation
- Chemically inert
- Low density compare to metals
- Does not wet with molten metals

APPLICATIONS

Excellent substitute of hard metals in industrial applications requiring strength at high temperature
 Thermocouple protective tubing
 Heating pipes
 Industry of non ferrous metals: Aluminium melting...
 Welding positioning slugs
 Metal shaping tools

MATERIAL		SIALON
Chemical Formula		Si-Al-O-N
Aspect / color		Grey / black
Porosity		Impervious
Mechanical		Measuring unit
Poisson's ratio	-	0,23
Hardness	Mohs	91 - 91,2
Hardness	Vickers (Kg/mm)	1500
Weibull modulus at 20°C		11
Young modulus	GPa	288
Tensile resistance	MPa	400
Mechanical resistance (flexion at 3 pts) at 20°C	MPa	945
Wear resistance	2 times higher than mirror glass	
Crushing resistance	MPaxm ^{1/2}	7,7
Physical		
Maximum temperature use	°c	1200
Open porosity	%	0
Density	g/cm ²	3,23 - 3,26
Electrical		
Electrical resistivity at 20°C	Ohm, m	1010
Dielectric constant		8,1
Loss tangent for 10 GHz	Hz	0,0019
Thermal		
Specific heat	J/Kg.°K	620
Coefficient of expansion	x10 ⁻⁶ K°	3,04
Thermal conductivity at 20°C	W/m.°K	28
Thermal shock resistance	ΔT°C	900

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