

Machinery Ceramic Parts Datasheet

Discs, pistons and wear parts that go straight into pumps, taps and textile machinery as a drop-in replacement for metal.

Material: Alumina and zirconia

Performance advantages: good electrical insulation, high mechanical strength, excellent wear resistance, excellent corrosion resistance, low dielectric constant

Industry applications: machinery, electronics, chemicals, petroleum

Typical parts: water pump discs, tap discs, pump seals and other components, ceramic plunger for high pressure cleaner, wear resistant inserts

Alumina Ceramic Disc For Water Pump

Alumina ceramic (Aluminum Oxide or Al2O3) is an excellent electrical insulator and one of the most widely used advanced ceramic materials. Additionally, it is extremely resistant to wear and corrosion. Alumina components are used in a wide range of applications such as electronics, pump components and automotive sensors.

Material	Alumina ceramic
Shape	Round or custom
Color	White
Usage	Refractory
Density	3.6 g/cm3 - 3.9 g/cm3
Method	Hot pressing / Dry pressing

99% Alumina Ceramic Properties

Physical Properties		
Color		Ivory/Beige
Density	g/cm3	3.85
Alumina Content	%	99%
Gas permeability		0
Water Absorption		0
Mechanical Properties		
MONS' Hardness	Grade	9
Rockwell Hardness	HRA	92
Vickers Hardness (Hv50)	Gpa(Kg/mm2)	15.7 (1600)
Flexural Strength (20C)	Mpa	330
Compressive Strength (20C)	Mpa	2000
Fracture Toughness (20C)	MPam1/2	4
Modulus of Elasticity	Gpa	350-400
Thermal Properties		

Thermal Conductivity (20C-400C)	W(m.K)	27.5
Thermal Expansion Coefficient	10-6/C	7.6
Thermal Shock Resistance	dT C	200
Maximum Use Temperature	C	1650
Electronic Properties		
Dielectric Strength	KV/mm	> 10
Dielectric Constant	Er	9.1
Dielectric Loss Angle (1MHz)		0.0002-0.0003
Volume Resistivity (20C)	ohm.cm	> 10^14

Shenzhen Huaxin Precision Ceramics Co., Ltd | Tel 0086-0755-28520996 | WhatsApp +86 135 3021 6316 | tom@zirconia-ceramic.com | Nanshan District, Shenzhen, Guangdong, China