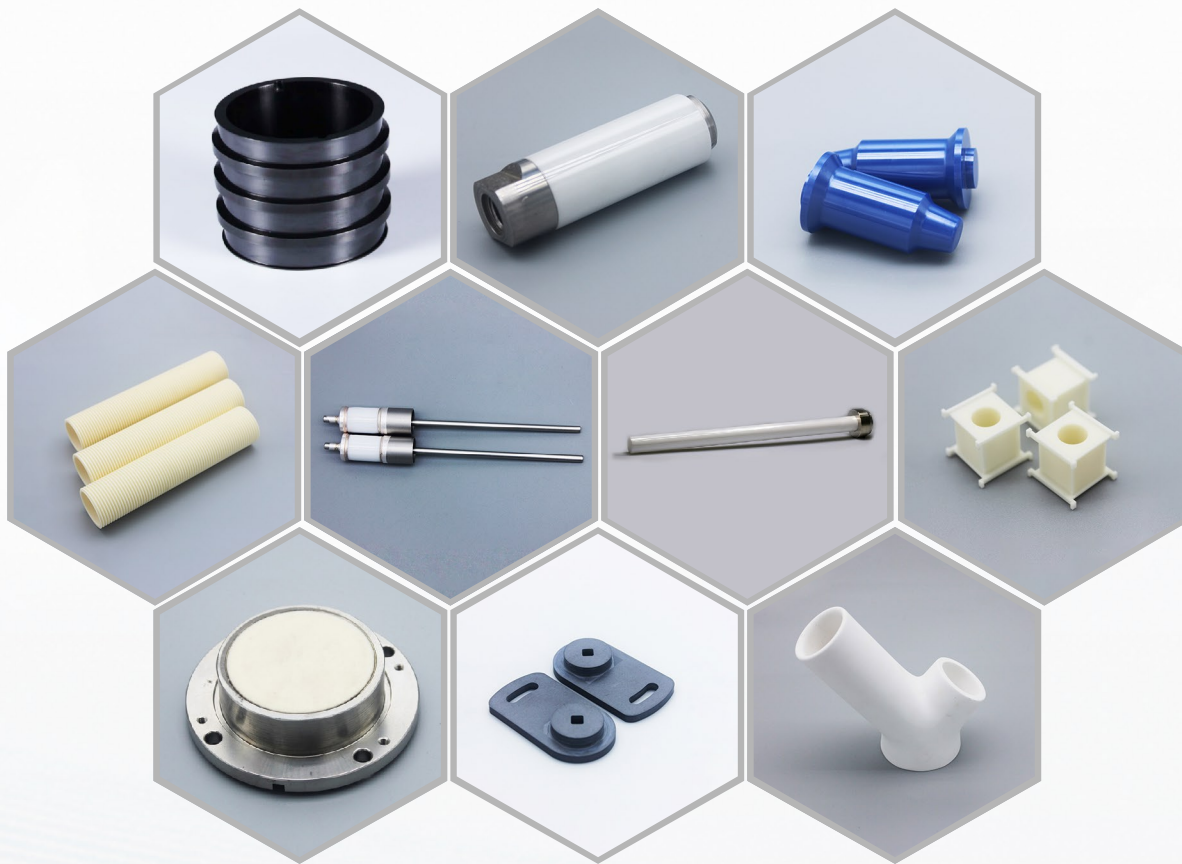


3X Ceramic Parts



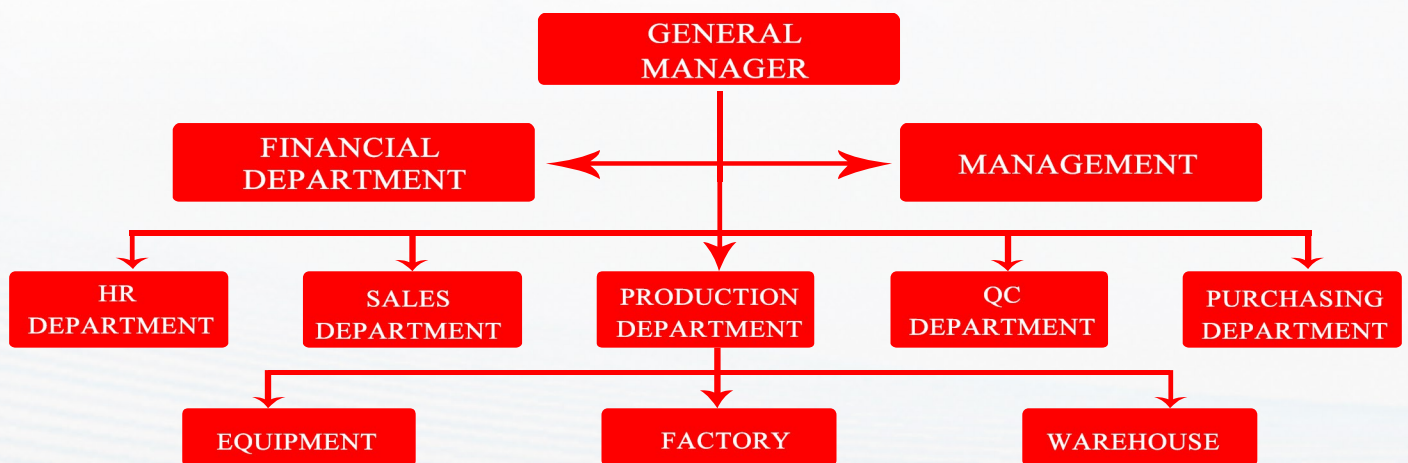
3X CERAMIC PARTS CO., LTD
High Precision Ceramic Manufacturer

SHENZHEN·CHINA

COMPANY PROFILE



COMPANY STRUCTURE



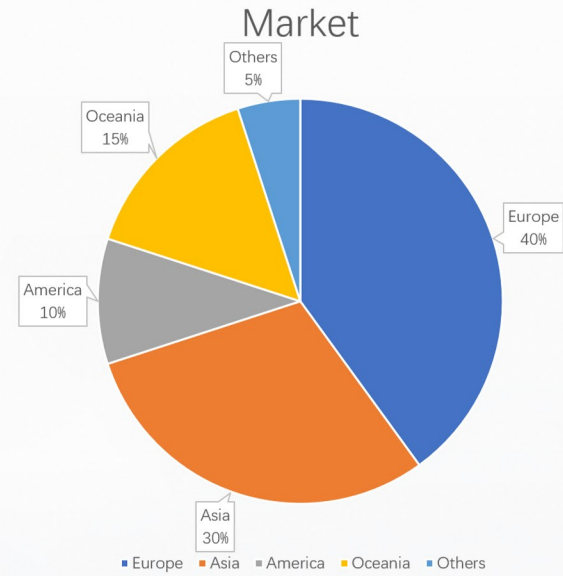
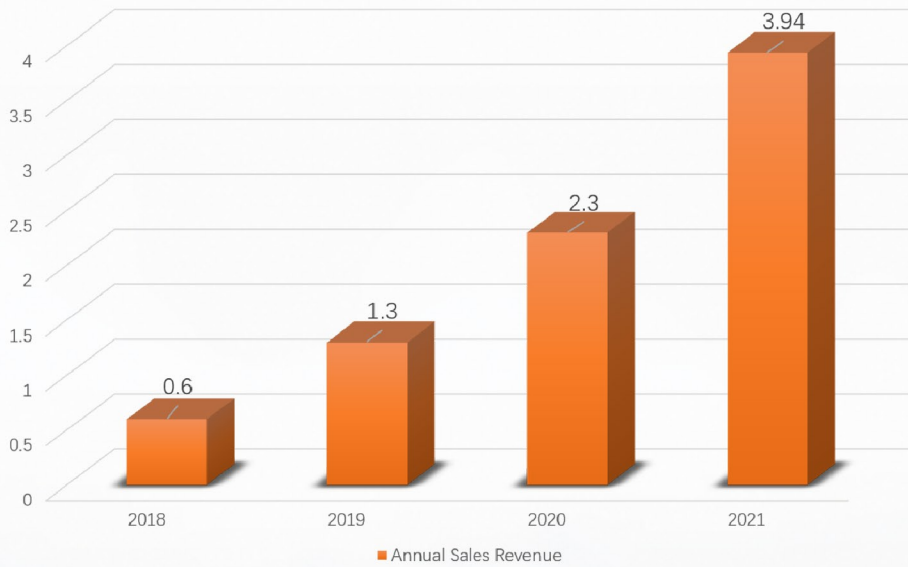
3X Ceramic Parts Co., Ltd was founded in the year of 2018 , covering a area of 6000m2, with 6 senior engineers, a total of 116 employees. Now we has been a leading high precision ceramic components manufacturer of developing and producing various types of technical ceramic material parts machining including Aluminum Oxide, Zirconium Oxide, Silicon Nitride, Aluminum Nitride , Silicone Carbide , and Machinable Ceramic Components, etc.

Our company are equipped with advanced ceramic forming , sintering and machining machinery which covering isostatic pressing , injection molding, dry pressing and sintering furnace . Machining equipments we have internal & external grinding , centerless grinding , flap grinding, cnc machining , polishing , laser cutting and honing machine, so our company ' core competitive advantages is that we can provide one top service of ceramic structural parts used in the fields of high temperature fields, semiconductor, pumps and valves, new energy , fluid controlling, machinery wearable parts , etc. We could select the most suitable engineering solution according to different custom made parts and technical demands . Offering the idea solution for customer's different application demands, no matter whether it is on cost saving for customer or engineering solution, our aim is to find the most reasonable way for customer.

COMPANY PROFILE

ANNUAL TURNOVER & MARKET

Million US Dollars

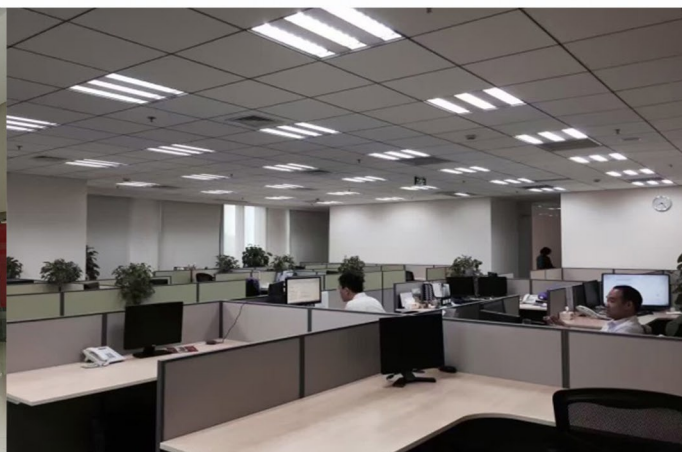


COMPANY GENERAL DATA

Company	3X CERAMIC PARTS CO., LTD
Company Area	6000m ²
Senior Engineer	6 Nos
QC Dep.	6 Nos
Production Line	4 production lines
Production Staff	96 Nos
Sales Staff	8 Nos
Total Staff	116 Nos

COMPANY PROFILE

OUR TEAM



OUR FACTORY



Machining Workshop



CNC Machine



Injection Molding



Sintering Furnance



Inspection Room

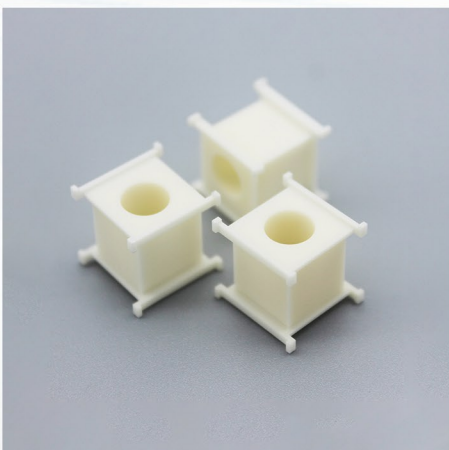
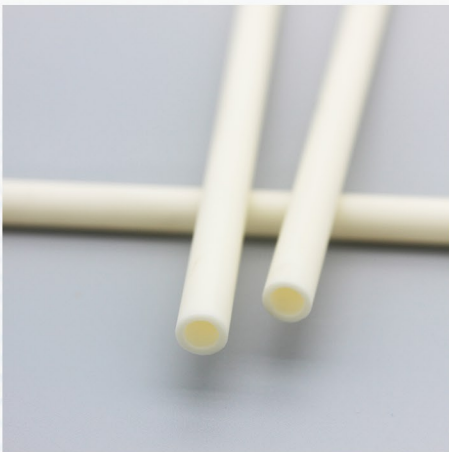
ALUMINA CERAMICS

Characteristics

1. Alumina ceramic has excellent thermal stability, which means that it is widely used in areas where resistance to high temperatures is essential.
2. Alumina is an electrically insulating material.
3. Alumina is insoluble in water and only slightly soluble in strong acid and alkaline solutions.
4. Alumina is also a good electrically insulating material.

Applications

- Electronics
- Pumps & Valves
- Chemical Industry
- Semiconductor
- New Energy
- High Temperature Resistance
- Machinery Parts
- Wearable Parts



ZIRCONIA CERAMICS

Characteristics

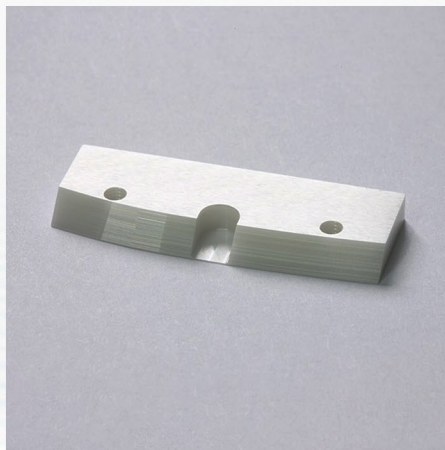
1. Anti - Chemical properties: The strong acid and alkali resistance.
2. High toughness , not easy to break , High hardness , high density. Wear resistance property: not easy to wear, with strong durability.
3. Heat resistance property: Can maintain the mechanical strength under high temperature, can be used in the condition with high temperature .
4. Good surface finish quality , could get more glossy smooth surface . Small coefficient of wear , with quite good self - lubricating function ,
5. With nice surface and more optional beautiful colors, so it is good material for decoration accessories

Applications

- Cutting Blade
- Automotive Welding

- Plungers
- Pumps & Valves

- Medical
- Mechanical Parts



SILICON NITRIDE CERAMICS

Characteristics

- 1.High temperature resistance - It is characterized by high strength at room temperature and high temperature;
- 2.High strength - at room temperature and high temperature. The strength of silicon nitride tube can be maintained at 1200 °C;
- 3.Good thermal conductivity & Low coefficient of thermal expansion - makes it a ceramic material with excellent thermal shock resistance.
- 4.Oxidation resistance - does not react with oxygen in a dry atmosphere below 800°C;



Applications

- Machinery Industry
- Aerospace
- Metallurgical Industry
- New Energy Automobile
- Semiconductor
- Industrial Wear Parts

SILICON CARBIDE CERAMICS

Characteristics

1. High Hardness - Silicon carbide behaves almost like a diamond, It's the hardest ceramic material;
2. Light - Silicon Carbide is not only the hardest Ceramic material, it's also the Lightest Ceramic material;
3. Excellent thermal conductivity - Thermal Conductivity could match 80W/mk, and it's also has low thermal expansion, which makes it won't crack easily in the environment of sudden cold or hot;
4. Wear Resistance & acid and alkali resistant & High heat resistance.



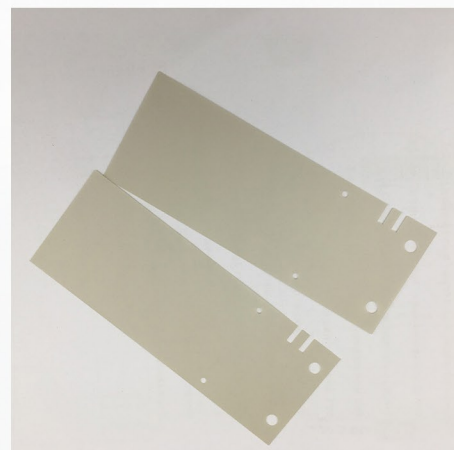
Applications

- Valve & Nozzle (Oil)
- Aerospace
- Chemical Industry
- Cylinder & Piston
- Machinery Industry
- Semiconductor

ALUMINUM NITRIDE CERAMICS

Properties Sheet

Subject	Unit	Value
Density	g/cm ³	3.33
Water Absorption Rate	%	0
Surface finish	μm	0.3-0.7
Heat Conductivity	W/(m · k)	>170
Flexural Strength	Mpa	>400
Waviness	Length%	2%
Dielectric Constant	1MHZ	8.8
Dielectric Loss	1MHZ 10 ⁻⁴	3
Breakdown strength	KV/mm	17
Heat Expansion Coefficient	6-10/°C (25-100°C)	4.5



Applications

- High Power Module
- 5G Communication
- Printer Heater
- Semiconductor Process Equipment
- SMD Encapsulation

MACHINABLE GLASS CERAMICS

Properties Sheet

	Value	Remark
Density	2.48g /cm ³	Archimedes
Apprant porosity	0.069%	-
Water absorbtion	0	-
Hardness	4~5	Moh
Color	White	-
Thermal Expansion Coefficient	72×10 ⁻⁷ /°C	-50°C to 200°C average
Heat Conductivity Rate	1.71W/m.k	25°C
Use Temperature	800°C	-
Flexural Strength	>108MPa	-
Compression Strength	>508 MPa	-
Thock Fracturness	>2.56KJ/ m ²	-
Elastic Modulus	65GPa	-
Dielectric loss	1~ 4×10 ⁻³	Room temperature
Dielectric Constant	6~7	-
Thock Strength	>40KV/mm	Sample thickness 1mm
Volume Resistance	1.08×10 ¹⁶ Ω.cm	25°C
	1.5×10 ¹² Ω.cm	200°C
	1.1×10 ⁹ Ω.cm	500°C
Room Temperature Outgas rate	8.8×10 ⁻⁹ ml/s. cm ²	Vaccum burn in 8 hours
Helium penetrate rate	1×10 ⁻¹⁰ ml/s	After 500°C sintering, cold to room temperature
5%HCl	0.26mg/ cm ²	95°C, 24 hours
5%HF	83mg/ cm ²	-
50%Na ₂ CO ₃	0.012 mg/ cm ²	-
5%NaOH	0.85mg/ cm ²	-



PROPERTIES SHEET

Properties	Units	95 Alumina	99 Alumina	ZrO ₂	Silicone Carbide	Silicone Nitride
Density	g / cm ³	3.65	3.92	5.95-6.0g/cm ³	3.12	3.23
Water absorption	%	0	0	0	0	0
Coefficient of thermal expansion	10 ⁻⁶ /K	7.9	8.5	10.5	3	3.2
Modulus of Elasticity Young's Mod	GPa	280	340	210	440	300
Poisson's ratio	/	0.21	0.22	0.3	0.17	0.26
HV Hardness HV	MPa	1400	1650	1300-1365	2800	1500
Flexural Strength at room temperature	MPa	280	310	950	390	720
Flexural Strength at 700°C	MPa	220	230	210	380	450
Compressive Strength at room temperature	MPa	2000	2200	2000	1800	2300
Fracture Toughness	MPa *m ^{1/2}	3.8	4.2	10	3.9	6.2
Heat conductivity at room temperature	W/ m*k	18-25	26-30	2-2.2	120	25
Electrical Resistivity at room temperature	Ω*mm ² /m	>10 ¹⁵	>10 ¹⁶	>10 ¹⁵	>10 ³	>10 ¹³
Max use temperature	°C	1500	1750	1050	1550	1050
Resistance to acid alkaline	/	high	high	high	high	high
Dielectric Constant	/	9	9.6	29	9.66~10.03	/
Dielectric Strength	KV/mm	8.3	8.7	9	/	/
Thermal Shock Resistance	Δ T (°C)	220	180-200	280-350	230-260	/
Tensile Strength at 25 °C	MPa	200	248	252	/	/

3X Ceramic Parts



Address: No 104 Feng Hua Yun Gu , The 1st Industrial District , Lou Cun
Xin Hu Street , Lou Cun Guang Ming Area, Shenzhen City , 518107

Tel: 008675527156186

Mob/WhatsApp: 008615988537579

Sales Contact: Judy Xiao admin@3xceramicparts.com

Troye Liu sales10@3xceramicparts.com

Lucky Xia lucky@3xceramicparts.com

Alibaba Web: www.3xceramicparts.en.alibaba.com

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