



Bhise Ceramics Pvt. Ltd.

.....A provider of quality ceramic products.....

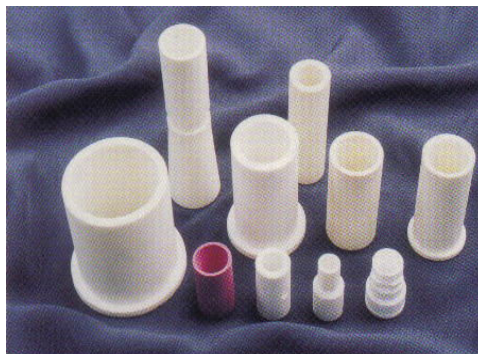
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Product Catalogue: Pump Components





Bhise Ceramics Pvt. Ltd.

Corporate Office: 19, Shah Industrial Estate, Deonar, Mumbai 400 – 088, India
Tel: 91-22-2556 6724/2557 2933 **Fax:** 91-22-25566724 **E-mail:** bhisecer@vsnl.net

Introduction

Welcome to the world of Bhise Ceramics Pvt. Ltd., a provider of high quality ceramic products.

We have a wide array of products that serve a broad spectrum of industrial applications. Our products, typically, may be classified to four categories on basis of their end use:

- Insulators
- Wear Resistant Parts
- Porous Filters
- Refractory Products

Our core ability is the ability to customize and innovate. With the backing of the solid experience of our product development team, we are in a position to manufacture products as per the commercial and technical requirements of the client. For us, component geometry is not a restriction. As we say, if you can draw it, we CAN make it.

We have been in this field for more than 35 years and have developed the technology indigenously, so have total mastery over managing the efficiency of the applications. We believe in adding competitive advantage to the client by enhancing the operational effectiveness of their processes.

Bhise Ceramics Pvt. Ltd. is a quality conscious organization: We are ISO9001 Certified for our quality assurance in design, development, production and delivery. This shows our commitment to quality. We believe in setting very high standards to exceed the expectations of our customers.

Our expertise in supply chain management enables us to have the optimum quality at the optimum price.

If you have any queries about our products or need more information, feel free to contact us. We look forward to having a long and a mutually beneficial business relationship with you.

Count on us to deliver the best, always!

Thanks,

The BCPL Team



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Our Product Range:

Wear Resistant Parts

- Textile and Wire Drawing guides
- Mechanical and Chemical Seals
- Custom Wear Parts
- Ceramic Coatings
- Ytria Stabilized Zirconia Structural Ceramics



Insulators

- Resistor Casing
- Fuse Bodies
- Ignitors
- Heat Resistant Interlocking Beads

Special Refractory Products

- Crucibles
- Ferrules and Custom Shapes
- Thermocouple Sheaths and other labware.
- Coil Supports and Infra-Red Heaters



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Product Introduction: Pump Components



Bhise Ceramics Pvt. Ltd. High Wear Resistant pump components like **pistons, plungers, wear plates, bushes, liners and sleeves and mechanical and chemical seal rings**. These are typically used in Jet Pumps, Water Jetting Pumps, High Pressure Pumps and High Pressure Water Supply Pumps, which find tremendous applications in industries including Automobiles, Chemical and Petrochemicals,

Foundries, Oil Refineries, Paper and Pulp Manufacture, Cement Manufacturing, Food Processing, Thermal Power Plants and Steel Plants etc.

We produce this product by various process technologies such as Uni-axial Pressing, Isostatic Pressing, Extrusion and injection molding. The manufacturing process is based on the component size, geometry and the required production volume. Since the technology has been developed by us, we know how to manage the critical parameters to produce the best quality products. We can machine the components to very close tolerances and can give a high surface finish of **Ra~0.2 microns**. This speaks volumes about our technical capabilities.

Our standard materials for wear resistant ceramics include **Alumina (from 85% to 99.8%), Yttria Stabilized Zirconia, Tungsten Carbide and Silicon Carbide**. Chemically inert and having hardness only surpassed by diamond (9 on Mohs Scale), they are capable of withstanding high temperatures and extremely corrosive environment. These are an ideal choice for enhancing the pump life.






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We can also have pistons made of steel to which ceramic is bonded. The ceramic is bonded to the steel using either of three methods:

 Epoxy Adhesive Binder

 Shrink Fitting

 Bolting

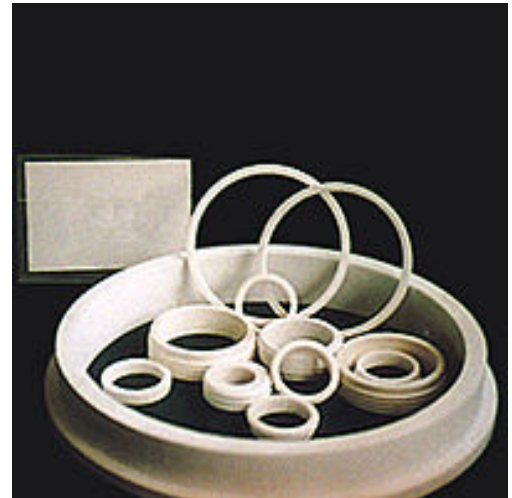


However, the materials, the product, the processes do not define our core competence. Our core ability is the ability to customize and innovate. With the backing of the solid experience of our product development team, we are in a position to manufacture products as per our customer's pricing and technical requirements. For us, component geometry is not a restriction. As we say, if you can draw it, we CAN make it.

Chemical and Mechanical Seal Rings

BCPL's Pump Seal Rings of high purity material have added a new dimension to mechanical seal design. These are available in 80% to 99.8% Alumina as well as Silicon Carbide. These have wide applications in industrial and automobile water pumps.

Finished tolerances of 0.05 mm, high degree of flatness (2-3 light bands) and excellent surface finish are the typical product characteristics with high hardness, high mechanical strength and an excellent resistance to wear. While we offer certain standard sizes, we also offer a high degree of customization. We can tailor the components as per the customer's drawing, bearing in mind the technical and pricing specifications. With our expertise in supply chain management, we are in a position to adhere to the most stringent delivery requirements.





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Specifications Sheet for Alumina 997 components

Alumina Content	99.7%
Density (g/cm³)	3.9
Hardness (GPa)	83
Elastic Modulus (GPa)	370
Poisson Ratio	0.22
Tensile Strength (MPa)	260
Fracture Toughness(MPa m^{1/2})	4 – 5
Compression Strength (MPa)	2600
Thermal Conductivity (W/m °K)	30
Flexural Strength (MPa)	375
Coefficient of Thermal Expansion (/°C)	8.2 x 10 ⁻⁶
Maximum Application Temperature	1650 °C
Specific Heat (J/kg*K)	880
Color	Ivory

Important Note:

Please note that the above results are from test samples and should be used only for guidance. This chart is intended to illustrate typical properties of advanced ceramic materials available from M/S Bhise Ceramics Pvt. Ltd. The buyer should recognize that exact properties may vary according to product configuration and may sometimes be tailored to meet specific requirements. The information set forth herein is offered for comparison only, and is not to be construed as absolute engineering data or constituting a warranty or representation for which M/S Bhise Ceramics Pvt. Ltd assume legal responsibility.



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Specifications Sheet for Yttria Stabilized Zirconia components

Property	Specification
COMPOSITION	ZrO ₂ – 94.6% Y ₂ O ₃ – 5.4%
DENSITY	> 6.0 gm/cm ³
HARDNESS ON VICKERS (HV)	1250
HARDNESS ON Mohs	>9
ELASTIC MODULUS	205 GPa
WATER ABSORPTION	NIL
POROSITY	NIL
FRACTURE TOUGHNESS	>9 Mps.m ^{1/2}

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BCPL CERAENGINEERED: Reliable Alumina and Yttria Stabilized Zirconia Components

