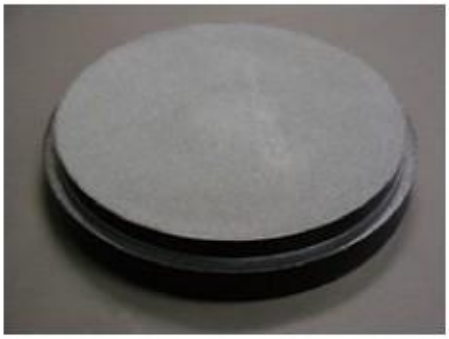
Introductions

The range of Innovacera porous ceramic filters are made from aluminum oxide and silicon carbide. The strong, uniform porous ceramic has 40-50% open porosity with a tortuous pore structure and is available in pore sizes ranging from 0.25 to 90 microns. Monolithic, single grade, aluminum oxide porous ceramic is available in 6, 15, 30, 50, 60 and 120 micron pore sizes.

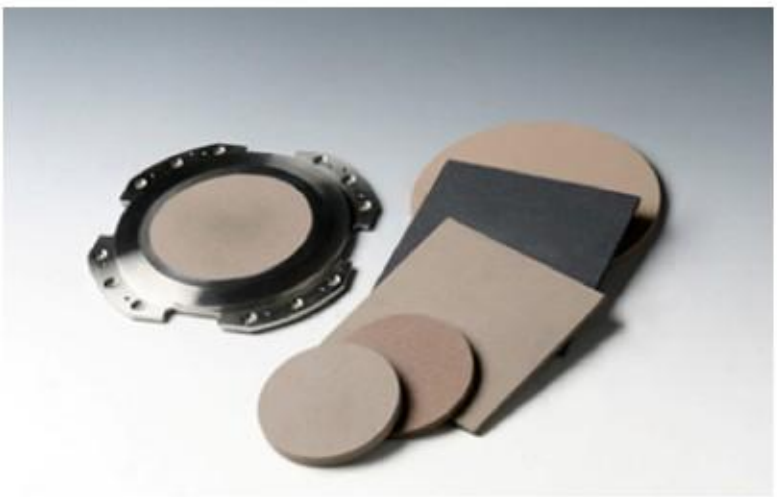


Aluminum oxide is the most standard material, with a density of 2.2 g/cc, and has a maximum operating temperature of 1400 F (800 C).

Silicon Carbide is more of a special order material, with a density of 1.9 g/cc, for more aggressive applications and has a maximum operating temperature of 1800 F (1000 C) and has excellent thermal shock resistance. These standard porous ceramic materials are naturally hydrophilic. For special applications they maybe coated or impregnated to achieve a certain performance characteristic.

Specifically tailored techniques include:

- Spraying
- Brushing
- Backwashing
- Oven firing
- Dilute acid cleaning
- Solvent cleaning plus steam
- Ultrasonic cleaning



The range of porous ceramic products includes:

- Membrane and monolithic tubes
- Discs
- Plates and other components made from aluminum oxide and silicon carbide where tightly controlled pore size and porosity is critical.

Used in tough applications to replace porous metal or as an alternative to plastic or fabric media
Cleaned and reused using a variety of methods depending on the contaminant to be removed

Applications

Filters for gases and liquids

Capillary Electrophoresis

Filtration for heavy metal ions (Cr, Ni etc) in water

High temperature chemical support for gas absorption

High efficiency flow through catalytic supports

Gas burners

Chromatography

Micro trapping systems and bio-catalytic supports

Vacuum holding plates (vacuum chunk)

Nano-membrane supports for sensor applications

Micro-bubble diffusers

Fine or micro channels for electrophoresis

Chemical or bio reactor

Different Color

Color for Alumina porous ceramic includes:light brown(15um), brown(30um), blue-gray(50-100um)
Color for SiC porous ceramic includes:blue-gray(15um), black-blue(30, 50um).

Available Porous Ceramics

Alumina Ceramic Components;

Silicon Carbide Components

Max Size: 450mm

Properties

Uniform pore sizes and high surface areas

Excellent chemical resistance in both acid and alkaline conditions.

Good wearing and erosion resistance.

Withstands high temperature.

Good rigidity and dimensional stability.

Can be coated or immobilized with virtually any catalytic or other functional materials.

High porosity and uniform pore size enable low resistance for both gas and liquid flow through applications.

Materials and Specifications

Alumina materials properties:

Item	Unit	Value
Al2O3	wt%	≥80
SiO2	wt%	16-18
Density	g/cm3	2.3—2.5
Hardness (HRA)	HRA ≥	50
Flexural Strength	MPa ≥	40
Compressive Strength	≥	600
Porosity	%	40
Pore Size	um	15,30, 50 and 60,100(Customized is available)
Operating Pressure	MPa ≤	10
Acid Resistance	mg/cm2 ≤	10.0
Alkali Resistance	mg/cm2 ≤	20.0

Silicon Carbide Materials Properties:

Properties	Unit	Pore Ceramic
SiC Content	wt%	⩾ 85
SiO2 Content	wt%	12
Density	g /cm3	2.0—2.2
Hardness (HRA)	HRA ⩾	40
Flexural Strength	MPa ⩾	30
Compressive Strength	⩾	500
Porosity Factor	%	45
Pores Diameter	μ m	15, 30, 50 (Customized is available)
Work Pressure	MPa ⩽	10
Acid Resistance	mg/cm2 ⩽	15.0
Alkali Resistance	mg/cm2 ⩽	25.0

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