

## **POROUS CERAMIC FILTERS**

**Porous Ceramic Filters** are used for solid particulate removal in liquid and gas applications as the filter media in chemical process, petrochemical, semiconductor, food & beverage, and pharmaceutical industries. Porous ceramic filters are commonly referred to as ceramic elements or candle filters.

The range of **Chemflo Porous Ceramic Filters** are made from aluminum oxide and silicon carbide. The strong, uniform porous ceramic with a tortuous structure has 40-50% open porosity 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 90 micron pore sizes. In addition, Velcon Process produces a ceramic membrane that uses a medium pore substrate with a thin coating of fine porous ceramic membrane in 0.25, 1, 3 and 6 micron pore sizes. Non destructive permeability and bubble point testing is performed to verify pore size and filter rating.

Aluminum oxide is the most standard material and has a maximum operating temperature of 1400°F (800°C). Silicon Carbide is more of a special order material for more aggressive applications and has a maximum operating temperature of 1800°F (1000°C) and has excellent thermal shock resistance.

Both of these porous ceramic materials are resistant to solvents and have good acid resistance with the exception of hydrochloric and phosphoric acids. The advantages of porous ceramics are that they are not only mechanically strong but inert and can be cleaned and reused in many process applications. Porous



ceramic is used in tough applications to replace porous metal or as an alternative to plastic or fabric media. Porous ceramic is cleaned and reused using a variety of methods depending on the contaminant to be removed. Specifically tailored techniques include spraying, brushing, backwashing, oven firing, dilute acid cleaning, solvent cleaning plus steam and ultrasonic cleaning.

Standard cartridge, tube and candle sizes include: 2 ½", 2 ¾", 4 ¼" OD x up to 48" Long and they are produced to order in styles with both ends open or with flanges and closed ends (for the 2 ½" size). We have also produced porous ceramic under drain filter plates in 6" x 12" and 12 inch square sizes.

We work closely with our customers to define their needs and requirements of each specific filter application. Our engineering and sales team is great at attacking technical design and process problems, then customizing an innovative solution using our broad range of advanced industrial ceramics. Contact us with your filter application requirements.