

## 8, Ceramic Foam Filter (Silicon Carbide, Alumina, Zirconia, Magnesia)



Ceramic foam filter is just developed as a new type of molten metal filters to decrease casting flaw recently. It is made from high quality ceramic materials, whose main components are  $\text{Al}_2\text{O}_3$ ,  $\text{SiC}$ ,  $\text{ZrO}_2$ ,  $\text{MgO}$  etc. Ceramic Foam Filter has the characters of light weight, high mechanical strength, large specific surface areas, high porosity, excellent thermal shock resistance, chemical corrosion resistance and high temperature stability in molten metal. With the distributing pores net structure, they are able to increase the surface areas, and absorb the sinter, the liquid metal becomes more pure, waster quality problems such as sand pore and air pore are much less and the cast quality becomes much better.

### Classification and Specifications:

#### \*Alumina / $\text{Al}_2\text{O}_3$ Ceramic Foam Filter

It's mainly for filtration of aluminum and aluminum alloys in foundries

#### \*Zirconia / $\text{ZrO}_2$ Ceramic Foam Filter

It's used for molten all types of steels like unalloyed, low alloyed, stainless and high-alloyed as well as Nickel and Cobalt-based super-alloys

#### \*Silicon Carbide/ $\text{SiC}$ Ceramic Foam Filter

It's mainly for filtration of cast iron (grey iron & ductile iron) and non-ferrous alloys

#### \* $\text{MgO}$ /Magnesia Ceramic Foam Filter

It's mainly for filtration of molten magnesium and its alloys

### Advantages:

#### \*High porosity

#### \*Low loss of thermal shock

#### \*High mechanical strength at normal and high temperature

#### \*Large specific surface

#### \*Good chemical stability

#### \*Excellent filtering functions of screen

#### \*Excellent filtering residua collection and absorption

Type	Alumina CFF	Silicon carbide CFF	Zirconia CFF	Magnesia CFF
Material	Al <sub>2</sub> O <sub>3</sub>	SiC	ZrO <sub>2</sub>	MgO
Applied temperature	≤1200celsius degree	≤1500celsius degree	≤1700celsius degree	≤1100celsius degree
Color	White	Grey black	Yellow	Yellow
Bulk Density	0.35~0.55g/cm <sup>3</sup>	0.45~0.65g/cm <sup>3</sup>	1~1.5g/cm <sup>3</sup>	0.5~0.7g/cm <sup>3</sup>
Bore Density	10~60PPI	10~60PPI	10~60PPI	10-60ppi
Porosity	80~90%	80~90%	80~90%	80-90%
Bending Strength	0.6Mpa	0.8Mpa	0.8-1.0Mpa	0.6Mpa
Compression Strength	≥0.8Mpa	≥1.0Mpa	≥1.5Mpa	≥0.8Mpa
Thermal Shock Resistance (1100celsius degree ~ Room Temperature)	Not break after 6 times thermal shock testing			
Application	Molten Aluminum and Alloy	Molten Iron and Alloy	Molten Stainless Steel , Alloy and other metal in precision molding	Molten magnesium and its alloys