

Silicon Carbide Ceramic Foam Filter

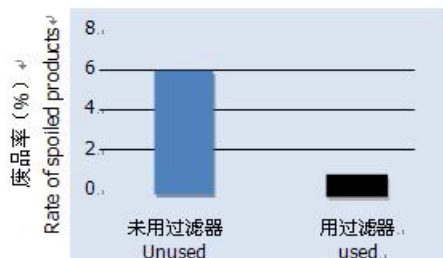


Silicon Carbide Ceramic Foam filter is a new type molten metal filter to decrease casting flaw in recent years. With its characteristics of light-weight, high mechanical strength, large specific surface areas, high porosity, excellent thermal shock resistance, erode resistance, high-performance, It is designed for filtering impurities from molten Iron & Alloy, nodular cast iron castings, gray iron castings, brass casting, bronze casting, and malleable castings, etc.

With their excellent resistance to attack and corrosion from molten iron liquid, they can effectively remove inclusions, reduce trapped gas from liquid metal and provide laminar flow, and then the filtered metal is significantly cleaner. Cleaner metal results in higher-quality castings, less scrap, and fewer inclusion defects, all of which contribute to bottom-line profit.

1、Silicon carbide ceramic foam filter have many excellent properties as follows:

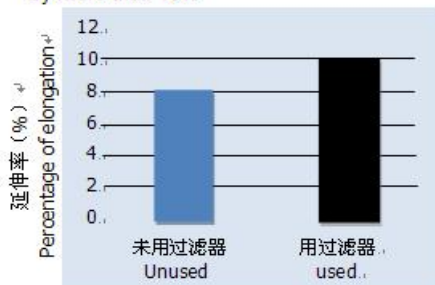
Reduce the number of rejects with inclusions:
rejects with inclusions dropped by more than 50%



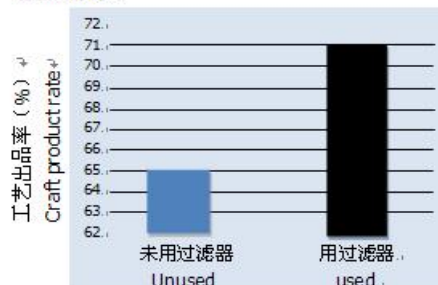
Improve the machining properties of casting: ↑
increase the machining properties of casting ↑
by more than 30% ↑



Improve the mechanical properties of casting:
increase the mechanical properties of casting
by more than 10%



Improve the rate of craft product: \uparrow
increase the rate of craft product by more \uparrow
than 10% \uparrow



2、Silicon carbide ceramic foam filter size:

The size are available in square, round and custom geometric shapes; sizes ranging from 10mm up to 500mm, and thicknesses from 10-50mm. The most common porosities are 10ppi, 15ppi, 20ppi, 25ppi, 30ppi, 40ppi. Custom required sizes are possible to be produced.

Sizes in Round shape:

DIA40x11mm, DIA40x15mm, DIA40x22mm, DIA50x15mm, DIA50x20mm, DIA50x22mm, DIA60x22mm, DIA70x22mm, DIA75x22mm, DIA80x22mm, DIA90x22mm, DIA100x22mm, DIA120x25mm

Sizes in Square shape:

37x37x12.5mm, 30x50x22mm, 40x40x11mm, 40x40x13mm, 40x40x15mm, 40x40x22mm, 50x50x13mm, 50x50x15mm, 50x50x22mm, 60x60x15mm, 60x60x22mm, 75x75x22mm, 50x75x22mm, 100x75x22mm, 100x100x22mm, 55x55x15mm, 55x55x12.5mm, 66x66x12.5, 150x150x22mm, 150x150x25mm

3、Physical properties for SiC ceramic foam filters:

Porosity(%)	80~90%
Working Temperature	$\leq 1500^{\circ}\text{C}$
Bending Strength(Mpa)	0.8
Compression Strength(Mpa)	0.9
Thermal Shock Resistance	1100 $^{\circ}\text{C}$ ---room temperature 6 times
Volume Density	0.4-0.5g/cm ³
Heat Temperature Resistance	$\geq 1550^{\circ}\text{C}$

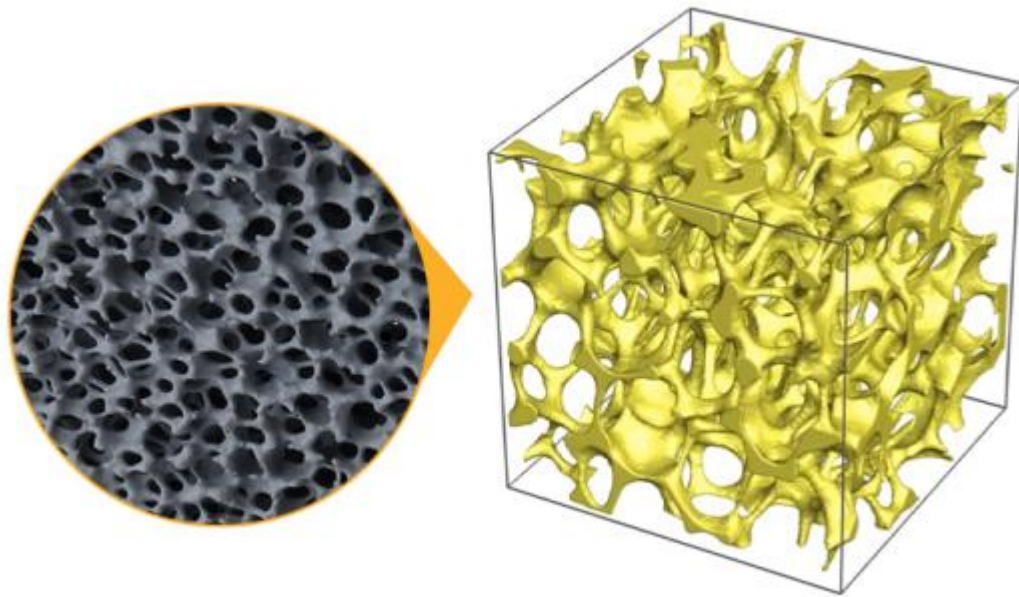
4、Chemical composition for SiC ceramic foam filters:

SiC	Al ₂ O ₃	SiO ₂
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70-75%	≤25%	≤3%
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5、Silicon carbide ceramic foam filter filtration capacity

Size mm	Filtration capacity(kg)		Flow rate kg/cm3	
	Ductile iron	Grey iron	Ductile iron	Grey iron
30*50*22	30	60	3	4
40*40*22	32	64	3	4
50*50*22	50	100	4	6
75*50*22	75	150	6	9
100*50*22	100	200	8	12
75*75*22	110	220	9	14
100*75*22	150	300	12	18
100*100*22	200	400	16	24
150*100*22	300	600	24	36
150*150*22	450	900	36	54
200*200*40	800	1600	64	95
Φ40*11	20	40	2	3
Φ50*22	35	70	3	4.5
Φ60*22	50	100	4.2	6.5
Φ70*22	75	150	5.5	8.8
Φ80*22	100	200	7.2	11
Φ90*22	120	240	9	14
Φ100*22	140	280	11	17
Φ150*22	350	700	25	38
Φ200*40	620	1240	44	67

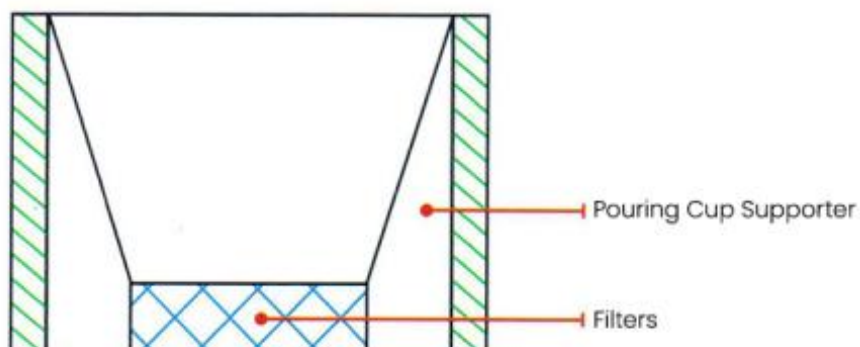


10PPI / 15PPI / 25PPI / 30PPI / 40PPI

Installation Mode

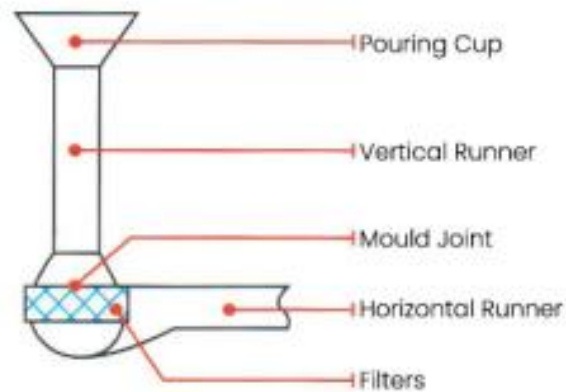
Installation in the pouring cup:

Commonly for precision casting and the casting of iron model covers the granulated substance



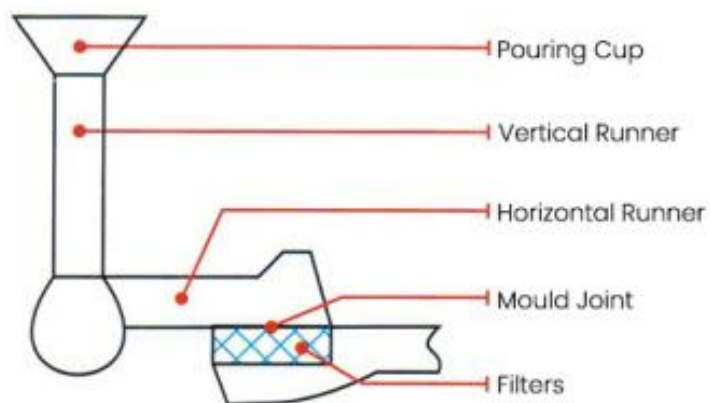
Horizontal installation in vertical runner:

For small part with few pouring molten iron, especially for casting system with a vertical runner located at mould center and multiple branches of horizontal runner.



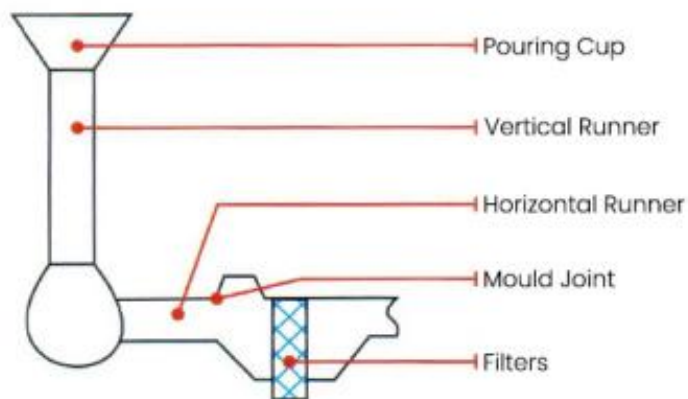
Horizontal installation in horizontal runner:

It makes molten metal casting stable, avoiding directly impacting the filter. This will increase slag blocking ability and make installation convenient.



Vertical installation in horizontal runner:

To increase molten metal flow speed and enhance the filling capacity. Since molten metal directly impacts the filters, the impact resistance of filters should be considered.



Ceramic Foam Filter Application

Cangzhou Sefu Ceramic New Materials Co., LTD.

