

# SiC Filter Bucket





# Filter Bucket

## Quality improvement and tool longevity

Filters out 98% of impurities larger than 15 microns, and lowers the scrap rate of castings. This effectively reduces slag and pore formations in the final product, prevents tool damage and breakage, increases the yield rate and reduces running costs.

## Extended service life

With proper use, the SiC filter bucket can achieve service life over 4 months with a maximum filtering rate of 600 kg/m<sup>3</sup>/min. Customization is also possible based on size and flow requirements.

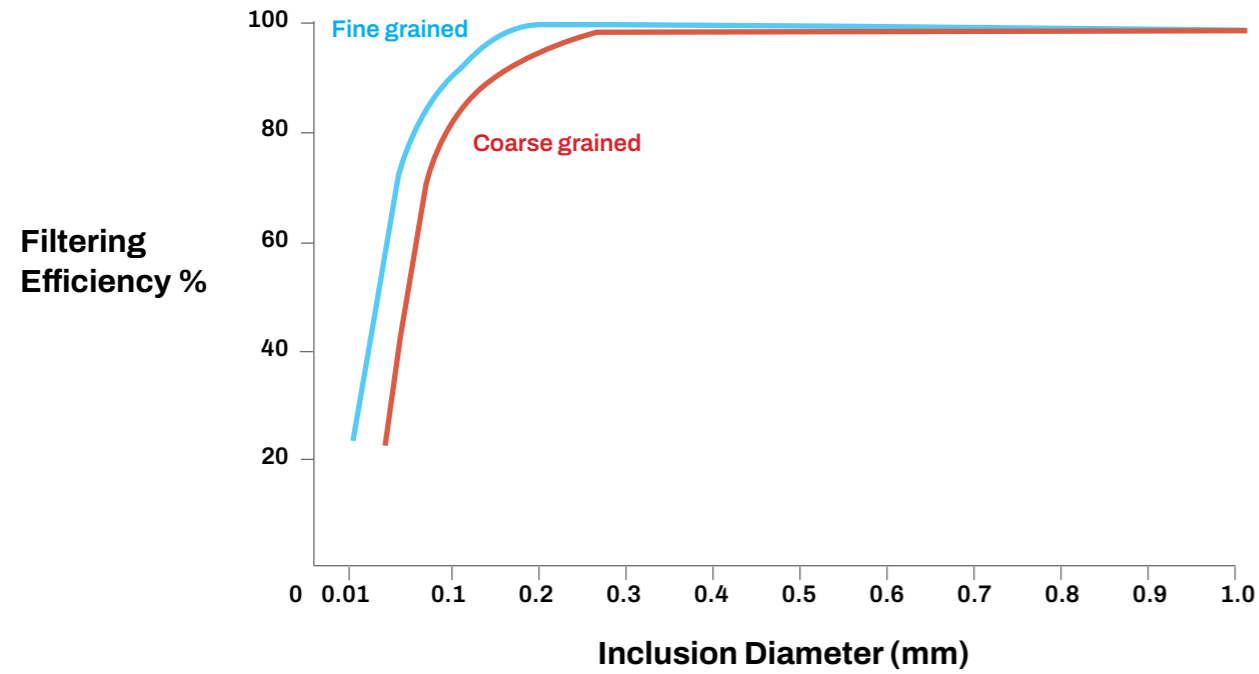
## Easy and quick installation

Each filter bucket is installed with metal support rail for quick and easy installation on-site.





### Filter Efficiency

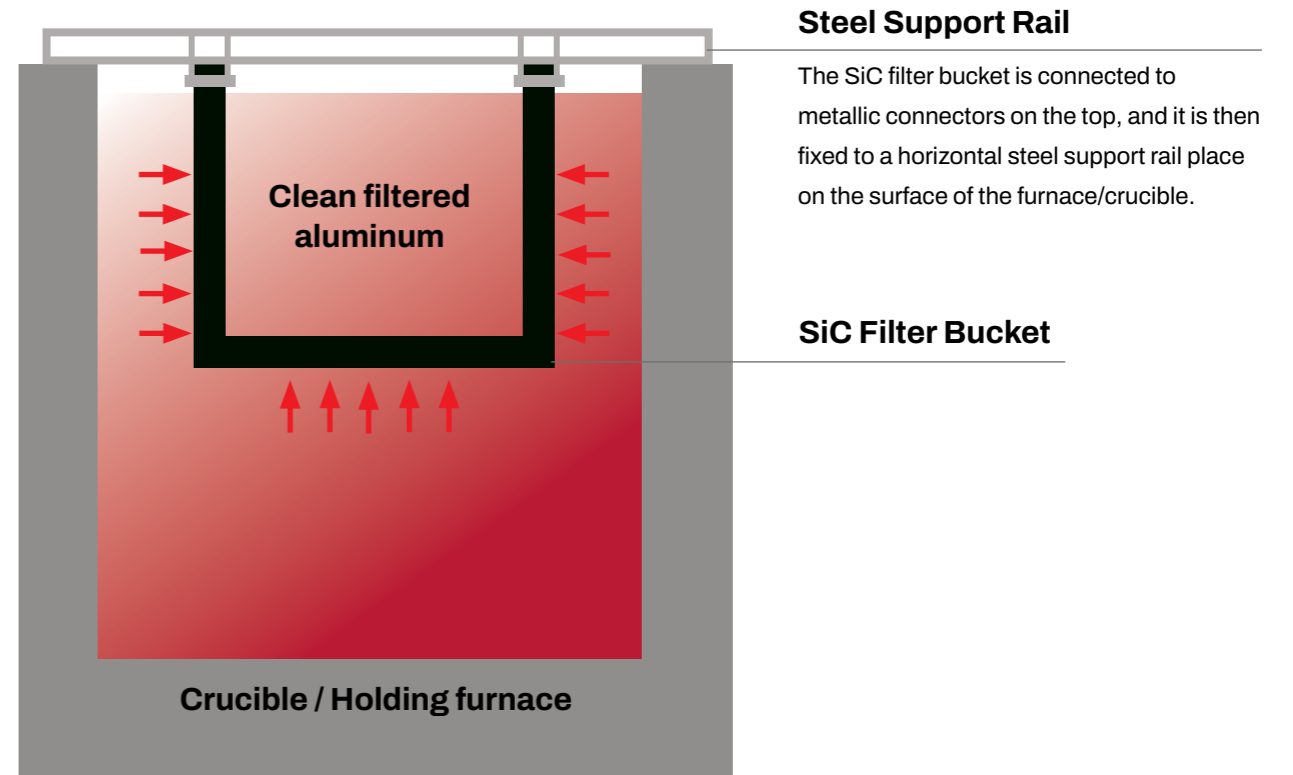


### Technical Specifications

|                      |   |
|----------------------|---|
| Filtering Capability | >98% (for inclusion over 15 /25 micron)   |
| Max Operating T      | 1000°C                                    |
| Service Lifetime     | >4 months depending on aluminum quality   |
| Processing Capacity  | 600 kg/m <sup>3</sup> /min for SiC filter |
| Available dimension  | Compatible for max. 8kg ladle             |
| Chemical Composition | SiC >94%                                  |
|                      | Si <sub>3</sub> N <sub>4</sub> >4%        |
|                      | SiO <sub>2</sub> >1%                      |
|                      | Si <0.1%                                  |

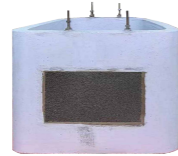
### Filtration principle

The SiC Filter bucket is installed at the withdraw chamber of the furnace or crucible. The filter bucket forms a 3D closure of the aluminum, and the inclusions are blocked at the outside of the bucket, the filter bucket also absorbs the small inclusions, leaving the inside of the bucket with clean and filtered aluminum.





## Available Models



| Filter Type           | Full SiC (D shaped)   | SiC-Ceramic Fiber Composite                                   | Full SiC (round/oval)                                    |
|-----------------------|---|---|--|
| Compatible Ladle Size | <1.5kg  | 2-3.5kg   | 5-8kg  |
| Crucible Size         | 350kg, 500kg  | 500kg -1000kg   | >1000kg  |
| Processing Capacity   | >80kg/min   | >50kg/min   | 80kg - 100kg/min   |
| Delivery Time         | 95 days   | 30 days   | 95 days  |
| Service Lifetime      | 3 months - 5months  | 2- 3 months   | 3 months - 5months                                       |
|                       | *depending on aluminum quality                                | *depending on aluminum quality                                | *depending on aluminum quality                           |
| Filtering Capability  | >98%  | >98%  | >98%   |
|                       | Inclusion removal over 15 micron (with fine grained filter)   | Inclusion removal over 15 micron (with fine grained filter)   | Inclusion removal over 15 micron (fine grained filter)   |
|                       | Inclusion removal over 25 micron (with coarse grained filter) | Inclusion removal over 25 micron (with coarse grained filter) | Inclusion removal over 25 micron (coarse grained filter) |
|                       |   |   |  |

## Installation and caution of use

### Preheating

When installing a new filter bucket, make sure it is preheated above the aluminum surface for 30mins. If installed in new/empty furnaces, the filter bucket can be preheated together in the furnace, while the furnace heats up.

### Installation

When replacing the filter bucket, simply lifting away the old filter, and put the new filter bucket at the same place as the old one.

### Cleaning

Use Nitrogen gas to blow off the oxide/dross that accumulated on the filter bucket.

### Production shut down

During production shut down or switching to a different grade of aluminum, the filter bucket can still be used after heating up.

### Caution of use

Make sure the filter bucket is submerged in aluminum at all time to prevent thermal shock, this prolongs the service lifetime of the filter bucket.



## **Ceramic Expert Industrial Know-how**

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