

# Product Catalogue





## Ceramic expert with flexible material production and industrial know-how

Degassing and filtration are crucial in the aluminum casting process, to ensure the quality and integrity of the final product. Degassing removes dissolved hydrogen from the molten aluminum, preventing porosity and improving mechanical properties. This step is essential to minimize casting defects such as micro-porosity and pinhole porosity. Filtration, on the other hand, eliminates solid inclusions and oxides from the melt, resulting in a cleaner and more refined final products. This process enhances the surface finish and structural integrity of the final casting. Together, degassing and filtration are vital for producing high quality aluminum castings with fewer defects and superior performance.

Standard Ceramic has extensive industrial know-how acquired through rigorous application and testing. The company tests its products internally on furnaces and equipments manufactured by its sister company, LG Intelligent Equipment. Through application feedback and continuous iterations, each product is developed to achieve optimal durability and performance.

### Graphite

- 4 **Degassing Rotor**
- 5 **Graphite Parts**

### Silicon Carbide (SiC)

- 6 **Filter Bucket**
- 8 **Filter Plate**
- 10 **Heating Element**



# Graphite Parts

## Excellent thermal and electrical conductivity

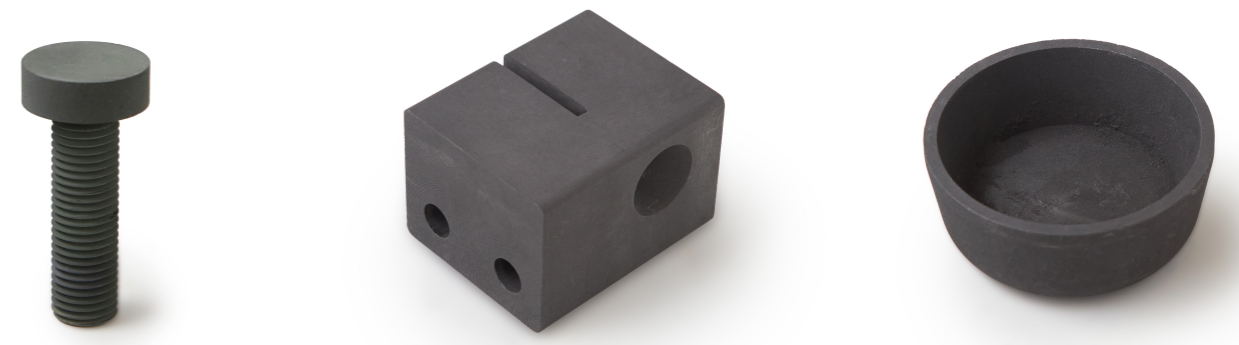
Efficiently transfers heat and conducts electricity, ideal for heat exchangers and electrodes.

## Long service life

Graphite is able to withstand harsh environments and reduces friction, enhancing the production continuity in any mechanical systems.

## Machinability and structural integrity

Graphite has great machinability and can be shaped into complex forms while maintaining strength under extreme conditions, perfect for high-temperature applications with precision requirements.



# Degassing Rotor

## Efficient hydrogen and impurity removal

Graphite rotors contribute to producing high-quality aluminum products by removing impurities such as hydrogen, from molten aluminum. Lowering impurity content minimizes casting porosity and improves the integrity of the final product.

## Service longevity

High-quality graphite rotors have good mechanical strength and thermal shock resistance. Their durability is achieved through a special anti-oxidation treatment in-house, which ensures longer service life, reducing downtime and maintenance costs. Graphite rotors do not chemically react with aluminum, making them ideal for use in aggressive environment for extended time.



# 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 Plate

## High filtration efficiency

Each SiC filter plate is thoroughly sintered two times at 1,450°C, forming uniformly sized pores between the bonded silicon carbide particles.

The complex filtration system deeply filters the aluminum melt, blocks and absorbs impurities larger than 15 microns, achieving a filtration efficiency of 98%.



## Easy and quick installation

The SiC filter plate is installed at the gate of the ladle chamber in the furnace. With proper installation, it is able to completely block and filter impurities suspended in the aluminum that flow from the holding chamber to the ladle chamber.





# Heating Element

## Highly efficient fast heating

SiC heating elements are resistant to thermal shock and have a long lifespan. Its high thermal conductivity, ensures heat is dissipated quickly along the entire length, and therefore providing great energy efficiency. With heating temperature up to 1,600°C, SiC heating element is ideal for heating in extreme environments.

## Precise temperature control and easy maintenance

SiC heating element offers accurate temperature control and are easy to install and maintain, reducing downtime and enhancing productivity in any industrial applications.

## Technical Specifications

Density	2.6 g/cm <sup>3</sup>
Porosity	18% - 20%
Bending Strength	50 MPa
Hardness (Moh's)	9.8
Thermal Expansion Coefficient	4.8 x 10 <sup>-6</sup> K <sup>-1</sup>
Specific Heat	0.183cal/g·°C
Resistivity (hot zone at 1050°C)	700-1500 Ω·mm <sup>2</sup> /m
Resistivity (cold zone at 20°C)	18-24 Ω·mm <sup>2</sup> /m
Chemical Composition	SiC >98.5%
	Fe <sub>2</sub> O <sub>3</sub> <0.5%
	Al <sub>2</sub> O <sub>3</sub> <0.2%
	Si and SiO <sub>2</sub> <0.4%
	C <0.3%





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

+86 (021)31255767

Monday - Friday

9:00 - 17:00

[info@sceramic.com](mailto:info@sceramic.com)

#3601 Dongfang Rd, Pudong District,  
Shanghai, P.R.China, 200125

[www.sceramic.com](http://www.sceramic.com)

Standard Carbon Co.,Ltd.

