

FILTEC PRECISION CERAMICS CO.,LTD.

佛山市非特高温材料有限公司



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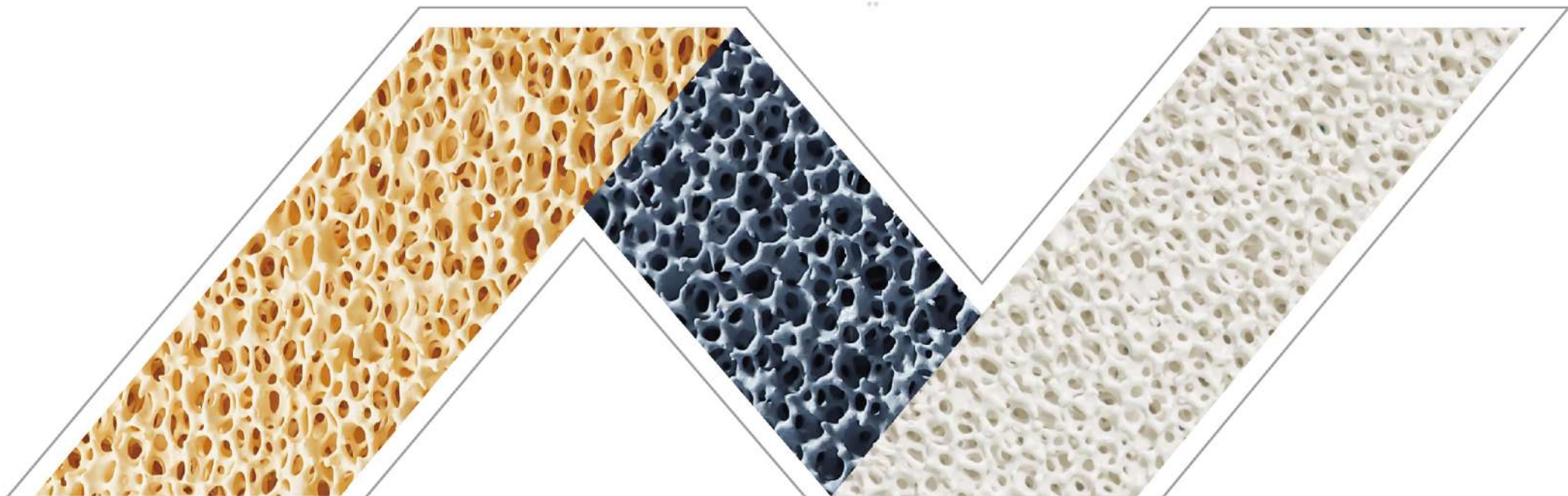




# PRECISION CERAMICS 非特新材料

FILTEC PRECISION CERAMICS CO.,LTD. 佛山市非特新材料有限公司

## PRODUCT MANUAL | 产品手册



## 公司简介 Company Introduction

佛山市非特新材料有限公司成立于2005年，坐落在千年古城佛山市，是一家以技术开发为核心的国家级高新技术企业，专业从事功能结构陶瓷、特种耐火材料和无机多孔材料的研究生产和销售。主要产品有泡沫陶瓷过滤器和陶瓷型芯，其中我司自主研发的专利产品高纯氧化锆泡沫过滤器，具有独特的耐高温相结构，应用于母合金净化和航空航天国防等高端铸件制造领域。作为介质媒体，我司产品还大量应用于空气过滤、消音除尘、高温废气处理，以及水族观赏养殖的生化过滤系统。

佛山市非特新材料有限公司始终贯彻“以质量求生存，以信誉求发展”的理念，自2006年首次获得质量体系认证至今，ISO9001质量体系一直贯穿内部管理的各个环节，用严苛的生产管理做优质良品的保障。公司重视技术开发和知识产权保护，坚持开展多种“产、学、研”合作，已获得了多项发明专利和高新技术产品认证。

公司拥有以博士硕士挂帅的研发团队，敬业严谨的生产管理团队，经验丰富的销售团队，完善的物流仓储网络，能够高效便捷为全球客户提供服务。经过二十年的发展，公司产品不仅得到国内客户的认可，还出口到包括美洲、欧洲、东南亚、澳洲和非洲等多个国家和地区，深受客户好评。

公司秉承勤恳做事、踏实做人的宗旨，承诺以不断进步之技术制造质优价廉之产品，为客户创造价值。

FILTEC PRECISION CERAMICS CO., LTD. (In short: FILTEC) was started from April 2005, located in the historical city Foshan, Guangdong, China. We specialized in manufacturing consumable engineering ceramics and unique refractory products for the foundry industry, metallurgical industry, air-purification, heat treatment area, etc.

As an ISO-9001 certified enterprise, FILTEC focuses on providing engineering ceramic consumables in consistent quality and continuous technical improvement. With more than 20 years of effort, our products have been used in many countries with good performance. Under the help of worldwide sales and logistics network, we can reach and serve customer quickly and conveniently.

Basing on strong R&D ability and manufacturing capacity, FILTEC has always been dedicated to the customer with qualified products and professional service. Our FILTEC products have the capability to satisfy a wide range of customer requirements and specifications.



守合同重信用企业



国家高新技术企业

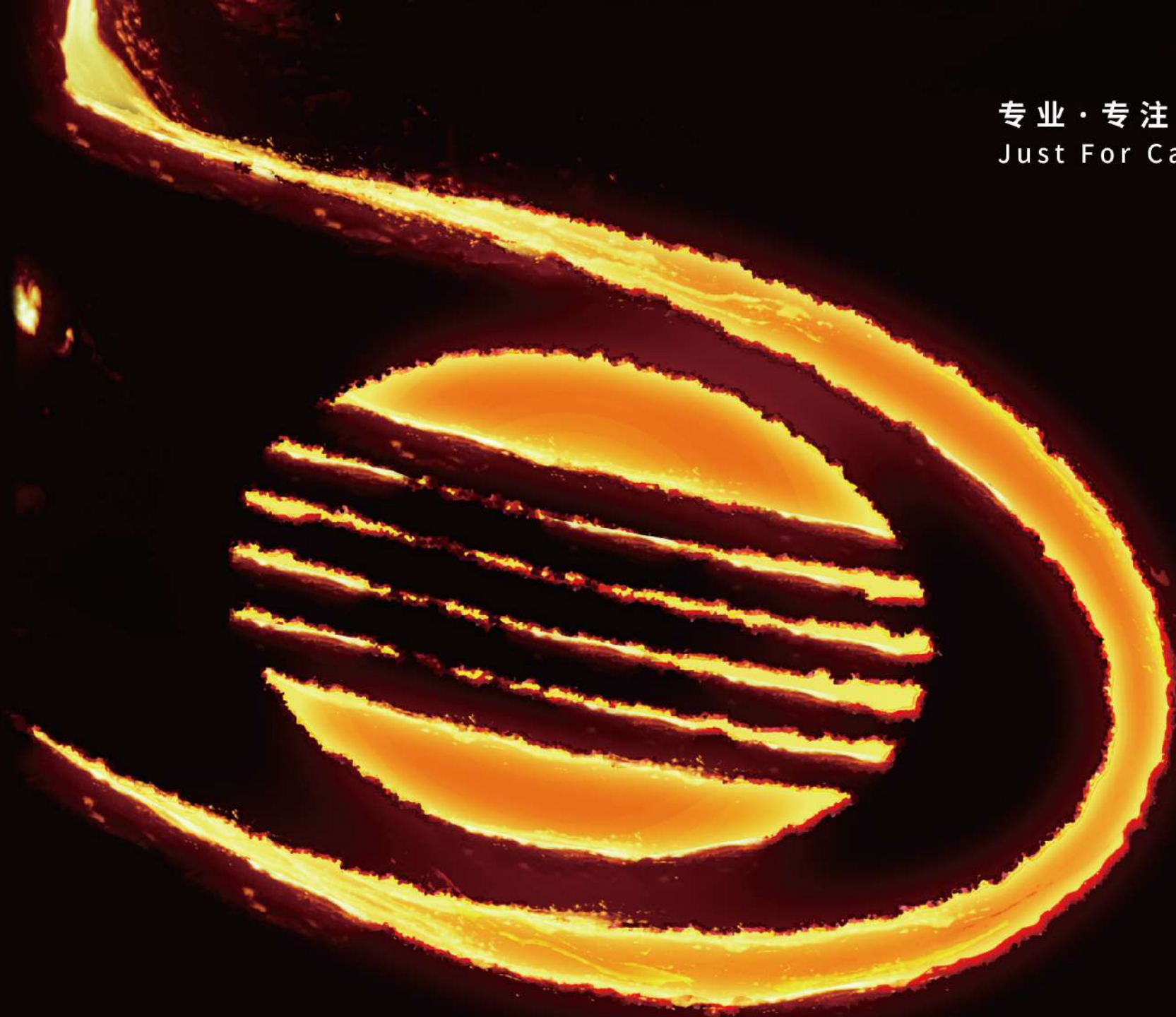


ISO证书



隐形冠军

专业·专注·浇注  
Just For Casting



## CF200 系列

### 铸铝用泡沫陶瓷过滤器

#### CF200 Ceramic Foam Filter For Molten Aluminum and Nonferrous Alloy

该产品为氧化铝材质，应用于铸铝和铝合金等有色金属生产中的净化工艺，还应用于各种污水处理、分离介质、催化剂载体，吸音环保等领域。

CF200 ceramic foam filter is a phosphate-free, high alumina-based product. It is widely used for molten aluminum and nonferrous alloy's filtration. It is also applied as filtrating media for air-purification, catalyst support, etc. The filter is supplied with soft/hard gasket to prevent metal bypass. The filter's dimension ranges from 20 to 600mm with pore size from 10-60ppi.

#### 产品特性

#### Characteristics

- ◎尺寸精度高
  - ◎机械力学强度高
  - ◎化学成分稳定，抗液态铝及其合金的腐蚀
  - ◎不含磷，环境友好
  - ◎净化铝液，提升铝材品质
  - ◎降低缺陷，减少次品率
  - ◎降低成本，增加生产效率
  - ◎使用简单灵活
  - ◎尺寸从20mm到600mm，可按客户要求定制
- 
- ◎High Mechanical Strength.
  - ◎Chemical Stability and Corrosion-resistance
  - ◎Phosphate-free, No Pollution for Environment.
  - ◎Quality Improvement.
  - ◎Defect Reduction.
  - ◎Cost Effective.
  - ◎Yield Rate Improvement.
  - ◎Easy to Use.
  - ◎Size From 20-600mm Available.



## 主要产品规格和装箱数量 Size and Package

规格:mm Size:mm	装箱数量 pc/box
100*100*22	180
150*150*22	70
200*200*22	38
229*229*50	10
305*305*50	10
381*381*50	5
432*432*50	5
508*508*50	5
584*584*50	5
Dia.150*22	70
Dia.100*22	180
Dia.80*22	300
Dia.80*15	480
Dia.60*22	560
Dia.60*15	800
Dia.50*22	800
Dia.50*15	1200

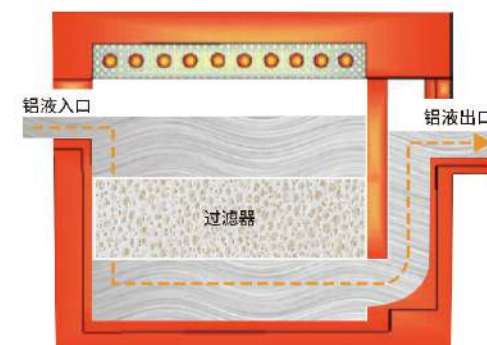


### 主要技术指标 Specification

孔隙率 % Porosity %	≥ 80.0
抗压强度 MPa Compression Strength MPa	≥ 0.8
体积密度 g/cm <sup>3</sup> Bulk Density g/cm <sup>3</sup>	0.30-0.50
最高使用温度 °C Max Working Temperature °C	1260

说明:可以根据客户要求提供异型产品的定制。  
Note: Custermization is available per order.

### 过滤原理 Principle of Filtration



包装:纸箱+木箱包装, 纸箱/托板。  
Package: Paper tray + Carton box/Pallet.

## CF400 系列

### 铸铁用泡沫陶瓷过滤器

#### CF400 Ceramic Foam Filter For Iron Foundries

该产品为碳化硅材质，主要应用于球铁、灰铁等铁合金生产中的净化工艺，特殊型号用于碳钢、铸铜和铸铝等铸件生产，也可以用于燃烧器等废气处理领域。

CF400 ceramic foam filter is SiC based material, widely used for liquid iron and its alloy' s filtration in ferrous casting. Several special designed filters are also applied in carbon steel, liquid copper and aluminum filtration.

#### 产品特性

#### Characteristics

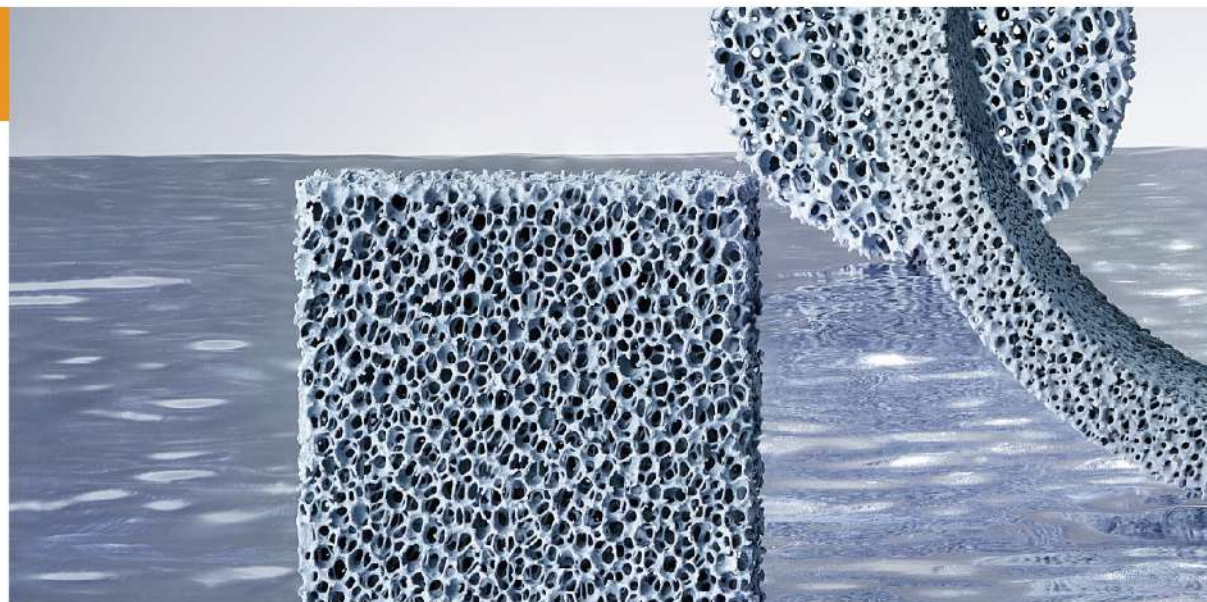
- ◎尺寸精度高
- ◎机械力学强度高
- ◎化学成分稳定，抗铁水及其合金的腐蚀
- ◎净化铁水，提升品质
- ◎降低缺陷，减少次品率
- ◎降低成本
- ◎提高铸件加工效率
- ◎使用简单灵活
- ◎尺寸大小从30mm到600mm，可按客户要求定制

- ◎High Mechanical Strength.
- ◎Chemical Stability and Corrosion-resistance for Molten Iron.
- ◎Quality Improvement.
- ◎Slag Reduction
- ◎Cost Effective.
- ◎Yield Rate Improvement.
- ◎Size from 30-600mm available.



## 主要产品规格和装箱数量 Size and Package

规格:mm Size:mm	装箱数量 pc/box
100*100*22	180
150*100*22	105
150*150*22	70
100*75*22	228
90*90*22	210
75*75*22	312
60*60*22	560
75*50*22	520
50*50*22	800
50*30*22	1280
Dia.80*22	300
Dia.70*22	360
Dia.70*15	522
Dia.60*22	560
Dia.60*15	800
Dia.50*22	800
Dia.50*15	1200
Dia.40*22	1000
Dia.40*15	1500
Dia.40*11	2400

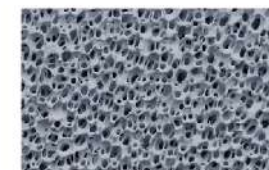


### 主要技术指标 Specification

孔隙率 % Porosity %	≥80.0
抗压强度 MPa Compression Strength MPa	≥1.0
体积密度 g/cm <sup>3</sup> Bulk Density g/cm <sup>3</sup>	0.36-0.50
最高使用温度 °C Max Working Temperature °C	1500

说明:可以根据客户要求提供异型产品的定制。  
Note: Custermization is available per order.

### 过滤原理 Principle of Filtration



包装:纸箱+木箱包装, 纸箱/托板。  
Package: Paper tray +Carton box/Pallet.



# CF600 系列

## 铸钢用泡沫陶瓷过滤器

### CF600 Ceramic Foam Filter For Steel Foundries

该产品为氧化锆材质,适合铸钢和不锈钢等高温合金铸件生产的净化工艺。其内含独特的耐高温相结构,具有高温强度大和耐热冲击的特点,广泛应用铸钢不锈钢等铸件制造领域,特别组合产品可应用于大型铸钢件。

CF600 Ceramic Foam Filter is zirconia based material, widely used for molten steel and its alloy's filtration in various steel casting manufacturing processing, including sand casting, investment casting, vacuum casting, etc. It is also applied as fuel distributor in burner assembly and absorbing media in high-temperature waste-gas decontamination engineering.

#### 产品特性

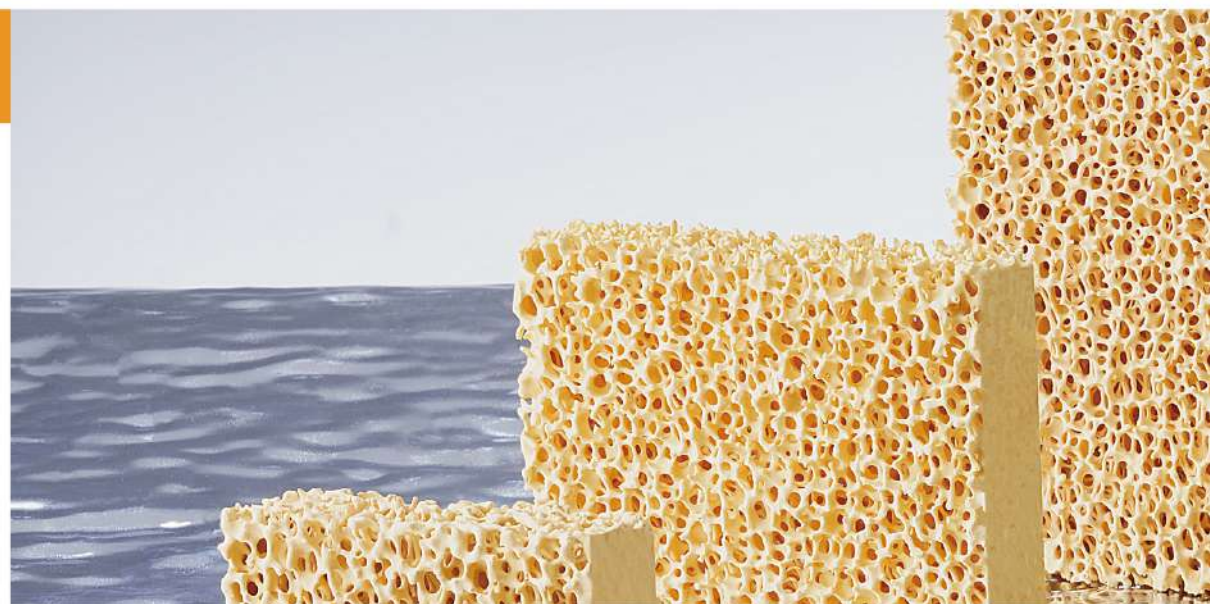
#### Characteristics

- ◎净化钢水提高铸钢件的质量
- ◎减少铸件夹杂物,降低表面缺陷
- ◎减少机械加工余量延长刀具寿命
- ◎减少清理时间缩短交货期
- ◎减低检验成本
  
- ◎Steel Casting Quality Improvement.
- ◎Slag Reduction.
- ◎Improved Machinability
- ◎Yield Improvement.
- ◎Cost Effective.



## 主要产品规格和装箱数量 Size and Package

规格:mm Size:mm	装箱数量 pc/box
Dia.100*25	76
Dia.150*30	36
Dia.50*15	550
Dia.60*15	360
Dia.50*22	375
Dia.60*22	240
Dia.70*25	185
Dia.90*25	117
Dia.50*20	400
40*40*12	1080
50*50*15	550
60*60*15	360
75*75*25	140
100*100*25	76
150*150*30	36
125*125*25	85
100*100*22	100



## 主要技术指标 Specification

孔隙率 % Porosity %	≥76.0
抗压强度 MPa Compression Strength MPa	≥1.2
最高使用温度 °C Max Working Temperature °C	1700

说明:可以根据客户要求提供异型产品的定制。  
Note: Custermization is available.

包装:纸箱+木箱包装, 纸箱/托板。  
Package: Paper tray +Carton box/Pallet.

## 过滤原理 Principle of Filtration



# CF610 系列

## 特种钢用泡沫陶瓷过滤器

### CF610 Ceramic Foam Filter For Steel Foundries

区别于传统的铸钢过滤器,该产品为白色氧化锆材质,特点是杂质含量低,具有更高的高温强度,能耐更大的热冲击,应用于高端铸件特别是航空铸件的过滤。

CF610 Ceramic Foam Filter is made by highly refined raw materials. It is widely used for super alloy 's filtration in various manufacturing processing, including investment casting, vacuum casting and master alloy' s manufacturing. Specially, it is suitable for high-end castings of aerospace industry and medical industry and sports industry.

#### 产品特性

#### Characteristics

- ◎材质纯净
- ◎杂质含量低
- ◎更高的高温强度
- ◎更耐热冲击
- ◎使用温度更高
  
- ◎Casting Quality Improvement.
- ◎Slag Reduction.
- ◎Machinability Improvement.
- ◎Shorten Lead time.
- ◎Cost Effective.
- ◎Yield Improvement.



## 主要产品规格和装箱数量 Size and Package

规格: mm Size: mm	装箱数量 pc/box
Dia.40*11	120
Dia.50*15	550
Dia.60*15	360
Dia.60*20	256
Dia.70*22	200
Dia.80*22	147
Dia.150*30	36
50*50*20	400
60*30*15	500
83*83*25	117
122*61*20	154
140*135*20	50
174*134*20	44



### 主要技术指标 Specification

孔隙率 % Porosity %	≥76.0
抗压强度 MPa Compression Strength MPa	≥1.2
最高使用温度 °C Max Working Temperature °C	1800

说明:可以根据客户要求提供异型产品的定制。  
Note:Customization is available per order.

包装:纸箱+木箱包装, 纸箱/托板。  
Package: Paper tray +Carton box/Pallet.

### 过滤原理 Principle of Filtration



## EC85 系列 精密陶瓷型芯

### EC85 Ceramic Core for Investment Casting

陶瓷陶芯是一种功能结构陶瓷制品,用于精密铸造铸件生产过程中,作为形成铸件内部空腔的转接体,或者形成铸件的内腔结构的模具。使用中陶瓷型芯与外部型模及模壳一起共同保证铸件对空腔的尺寸精度要求。

陶瓷型芯广泛用于形成复杂形状或不易成形的铸件型腔作为简化工艺难度降低成本提高制品合格率的一种特殊的工艺手段。

EC85 Ceramic Core works as an internal-cavity' s tool for casting. It is characterized by high strength and refractoriness and superior thermal stability. Such properties enable the EC85 ceramic core to bear attack from wax injection and extreme thermal shock during casting pouring. With excellent thermal stability and leachability, the EC85 Ceramic Core is widely used as processing tool for castings with open and blind internal cavity-forming.

### 浇注不变形 尺寸精准

No deformation during pouring & Dimensional accuracy

### 产品特性

### Characteristics

- ◎强度高,足够承受射蜡及其它处理工艺所需求的强度;
  - ◎有足够的耐火度,适用于铸铝、铸铁、铸钢和各种高温合金材料的精密铸造。
  - ◎化学稳定性好,高温下不与铸件的金属熔液(铁水或钢水)发生化学反应。
  - ◎热膨胀系数低,保证铸件空腔的精度;
  - ◎成型易,能够制造形状复杂的陶芯,适应各种复杂空腔的铸件要求,解决任何内部孔槽的问题。
  - ◎尺寸精度高,尺寸公差一般为 $\pm 0.5\%$ ,特殊尺寸可达 $\pm 0.2\sim 0.3\%$ 。
  - ◎陶芯表面细腻光滑,采用陶芯形成的铸件型腔的表面光洁度是普通型砂铸件的无法比拟的。
  - ◎定制化生产,满足客户的个性化需求
- 
- ◎High strength to bear attack from wax injection and other processing treatment.
  - ◎Enough refractoriness, suitable for Al, Iron and Steel casting.
  - ◎No reaction with metal liquid at high temperature.
  - ◎Low thermal expansion coefficient to ensure the accuracy of casting cavity.
  - ◎An ideal tool to solve any internal cavity with complicated shape.
  - ◎General tolerance is between  $\pm 0.5\%$ , special items go up to  $\pm 0.2\sim 0.3\%$ .
  - ◎Surface quality, generally 10 times more smooth than that of the common sanding casting.

### 内壁光滑 易于清理

Smooth inner wall & Easy to clean up

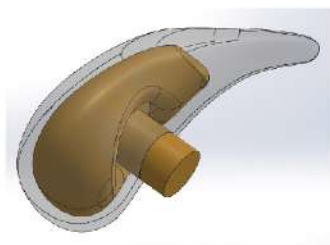
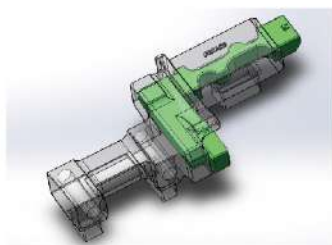


## 材料组成以及性能 Composition and Specification

材料体系 Specification	硅基 EC85-SY	铝基 EC85-ML	TQ系列 EC85-XX-T
SiO <sub>2</sub>	> 75%	< 30	< 35%
ZrO <sub>2</sub>	> 15%	> 10%	< 5%
Al <sub>2</sub> O <sub>3</sub>	< 10%	> 60%	> 60%
气孔率 Porosity	15~20%	25~35%	40~45%
吸水率 Water Absorption	8~12%	10~15%	20~30%
体密度 Bulk Density	1.8~2.2g/cm <sup>3</sup>	2.0~2.2g/cm <sup>3</sup>	1.5~1.8g/cm <sup>3</sup>
抗弯强度 Bending Strength	>12MPa	>15MPa	>5MPa
清理方式 Leachable Method	机械+碱煮 Drilling + Alkali Blasting	机械+酸泡 Drilling + Acid Immersing	机械+酸泡/碱煮 Drilling+ Acid immersing/ Alkali Blasting



产品应用 Application



3D效果图 3D Diagram



叶轮铸件 Impeller casting



叶轮陶芯 Impeller Core

我们提供多种材料体系的陶瓷型芯，其中EC85-SY系列，以硅基为主要材料，特点是强度高，可以采用碱煮或碱爆方式进行清砂处理，一般适用于复杂弯曲的内空腔或细长的弯曲流道空腔等。EC85-ML系列，以铝基为主要材料，可以采用泡酸方式进行清砂处理，亦可以采用一般的机械喷砂、抛丸等方式清理。为增加陶芯的清砂性，我们亦提供以上材质的TQ系列产品，其特点是产品孔隙率高，容易清砂，特别适用于碳钢铸件的精密铸造。

Two kinds of ceramic core are available. Between the two, the EC85-SY series core of silicon base is characterized by high strength, that can be removed by alkali boiling or blasting after drilling. Generally it is used for sophisticated cavity-forming inside casting. While the EC85-ML series is alumina-based, that can be removed by acid immersing or sand blasting after drilling. To improve core's leachability, we also provide the EC85-TQ series of the above materials. It is highly porous and easily removed, especially suitable for internal cavity-forming inside carbon steel casting.



叶轮陶芯 Impeller core



陶瓷型芯的使用情况  
Use Of Ceramic Core