

ICS 81.060.20

CCS J 31



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 25139-2025

Replacing GB/T 25139-2010

Ceramic foam filter for foundry

铸造用泡沫陶瓷过滤网

Issued on: March 28, 2025

Implemented on: October 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

Foreword

1 Scope

2 Normative references

3 Terms and definitions

3.1 Ceramic products with different structures for filtering metal melts

3.2

3.3 Porosity

3.4 Hole density holedensity

3.5 Bulk density bulkdensity

3.6

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document replaces GB/T 25139-2010 "Foundry Foam Ceramic Filters". Compared with GB/T 25139-2010, except for the structural adjustment In addition to the integration and editorial changes, the main technical changes are as follows.

- a) The scope of application of foam ceramic filters for casting has been changed (see Chapter 1, Chapter 1 of the 2010 edition);
- b) The terms and definitions of thermal shock resistance and cracking have been deleted (see Chapter 3 of the 2010 edition);
- c) The classification and brand have been changed (see Chapter 4, Chapter 4 of the 2010 edition);
- d) The performance indicators have been changed (see 5.1, 5.1 of the 2010 edition);
- e) The dimensional tolerance requirements have been changed (see 5.2, 5.2 of the 2010 edition);
- f) Deleted the determination of pore density (see 6.3 of the 2010 edition);
- g) The determination of thermal shock resistance has been deleted (see 6.7 of the 2010 edition);

h) Factory inspection has been deleted (see 7.2 of the 2010 edition);

i) The marking requirements have been changed (see 8.1, 8.1 of the 2010 edition).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document is proposed and coordinated by the National Casting Standardization Technical Committee (SAC/TC54).

This document was drafted by: Jinan Shengquan Group Co., Ltd., Guangdong Foshan Ceramic Research Institute Holding Group Co., Ltd., Suzhou Xingye Materials Technology Co., Ltd., Sun Moon Heavy Industry Co., Ltd., Xiamen Jiajiada Machinery Co., Ltd., Baoding Ningxin Group Co., Ltd., China Machinery Engineering Institute Group Shenyang Foundry Research Institute Co., Ltd., Shandong Yongchuang Materials Technology Co., Ltd., Guangdong Zhuli Casting Technology Co., Ltd., Shandong Heavy Equipment Testing Technology Co., Ltd., Huazhong University of Science and Technology, Hohai University, Zhejiang Mechanical and Electrical Vocational and Technical University, Wuhan University of Technology, Ludong University, Harbin Xinrun Industrial Co., Ltd., Andaco (Jiangsu) Ceramics Co., Ltd., Lishui Xianghao Technology Service Co., Ltd.

Ltd., Qufu Longxiang Metallurgical and Casting Auxiliary Materials Co., Ltd., Jiangsu Jiubao Lian Industrial Co., Ltd., Jinan Shengquan Casting Materials Co., Ltd., Shanxi Fu Qian Special Ceramics Co., Ltd., Zhengzhou Jinzheng Huyi Casting Technology Co., Ltd., Shandong Juncheng Metal Technology Co., Ltd., Changsha Daixiang Auto Parts Technology Co., Ltd.

Technology Co., Ltd., Changsha Deka Technology Co., Ltd., Chiping Xinfu Aluminum Products Co., Ltd., Tianrun Industrial Technology Co., Ltd., China Aerospace Harbin Dongan Engine Co., Ltd.

The main drafters of this document are: Liu Jinghao, Yang Shujin, Li Yuancai, Qiu Baofu, Chen Dengning, Ren Xianwei, Wang Zehua, Cong Jianchen, Wang Wenhao, Sun Zhiyong, Guo Rui, Wang Shenghua, Chen Kaimin, Li Bin, Gao Yalong, Liu Ye, Liu Chunjing, Kong Bing, Cui Lanfang, Wang Huiming, Qian Zheng, Li Wenxuan, Cheng Nan, Sun Pu, Zhang Jianyu, Liu Qinshuang, Li Dongyu, Shi Wenming, Liu Mingwei, Tian Jiangang, Lv Chenming, Wan Peng, Sun Xin, Hao Caihui, Liu Jun, Li Xiaomeng, Zheng Haipeng.

This document was first published as GB/T 25139-2010 in 2010 and this is the first revision.

Foam ceramic filter for casting

1 Scope

This document specifies the classification and grade, technical requirements, test methods, inspection rules and marking, packaging, Transportation and storage.

This document is applicable to refractory materials such as zirconium oxide, silicon carbide, aluminum oxide, mullite, carbon, magnesium oxide composite, etc., which are sintered at high temperature.

Foam ceramic filter for casting.

2 Normative references

GB/T 8170

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Ceramic products with different structures for filtering metal melts

Using open-cell polyurethane foam as the precursor, the refractory slurry impregnation molding process is adopted, and the three-dimensional network structure is sintered at high temperature.

3.2

The maximum stress value that a material can withstand under static pressure.

3.3 Porosity

The ratio of the volume of pores (open pores) filled with liquid to the outline volume of the specimen when immersed at room temperature.

3.4 Hole density holedensity

Number of holes per 25.4mm length.

3.5 Bulk density bulkdensity

The ratio of the mass of a dry sample to its total volume.

3.6

The ultimate bending stress that a specimen can withstand at high temperature.

Note 1. When the filter material is zirconia, the ultimate bending stress that the sample can withstand at 1400°C.

Note 2. When the filter material is a composite of silicon carbide, mullite, alumina, and magnesium oxide, the ultimate bending stress that the sample can withstand at 1200°C.