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

GB/T 46538-2025

Alumina staple fibre

氧化铝短纤维

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Table of Contents

- 1 Scope
- 2 Normative references
- 3 Terms and Definitions
- 4 Classification and Identification
- 5 Determination of fiber diameter of glass fibers

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the National Technical Committee on Standardization of Chemical Fibers (SAC/TC586). This document was drafted by: Shandong University, Shandong Dongheng Guoxian New Materials Co., Ltd., Molun (Zhuhai) New Materials Technology Co., Ltd., and Shandong... Luko New Materials Co., Ltd., Shanghai Rongrong New Materials Technology Co., Ltd., Aerospace Special Materials and Process Technology Research Institute, National Equipment New Materials Technology (Jiangsu) Co., Ltd., Hubei Shuoli New Materials Technology Co., Ltd., Chengdu Aircraft Industry (Group) Co., Ltd., Shandong Dongheng Colloid Materials Co., Ltd., Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, Rongrong New Materials Technology (Guangxi) Co., Ltd., China Chemical Fiber Textile Industry Association, Shanghai Textile Industry Technical Supervision Institute. The main drafters of this document are: Chen Dairong, Jiao Xiuling, Song Jiandong, Zhao Jizhou, Wang Ying, Guan Ketian, Lü Yi, Ma Xiaodong, Liu Wei, and Yang Haitang. Jing Liangxiao, Zhong Junjun, Li Xiaohu, Li Deli, Wang Lili. alumina short fibers

1 Scope

GB/T 46538-2025 is the Chinese national standard covering short alumina fibre for insulation and reinforcement - the composition and phase, the fibre diameter distribution and the shot content that has to be low, the thermal conductivity and the shrinkage after long exposure at temperature. First edition, with the continuous fibre standard GB/T 46537-2025. In force from 1 May 2026. Issued on 31 October 2025, it has been in force since 1 May 2026.

This document specifies the product identification, technical requirements, inspection rules, marking, packaging, transportation, storage, and safety precautions for alumina short fibers. The diagram describes the corresponding testing methods and provides a product classification. This document applies to alumina staple fibers with an alumina content of at least 70%. Other alumina staple fibers should refer to this document for further information.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 3044-2020 Chemical Analysis Methods for White Corundum and Chrome Corundum

GB/T 6682 Specifications and test methods for water used in analytical laboratories

GB/T 6900-2016 Chemical Analysis Methods for Aluminosilicate Refractory Materials

GB/T 7690.5-2013 Test methods for reinforcing yarns - Part

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Crushing resistance The ability of a certain amount of alumina short fibers to remain intact after being subjected to rated pressure for a certain period of time.

Note. The dispersion ability of the fiber in 1000 mL of deionized water after the pressure test is used to characterize the fiber.

4 Classification and Identification

4.1 Product Classification Based on their chemical composition and crystal phase, alumina short fibers are classified into four types. AFS7, AFS8, AFS9, and AFS99. In the text, AF represents alumina fiber; S represents short fiber; and 7, 8, 9, and 99 represent alumina content.

4.2 Product Identification Product identification should include information such as product name and product type.

5 Determination of fiber diameter of glass fibers

GB/T 8170-2008 Data rounding rules and the representation and determination of limit values

GB/T 14334-2006 Sampling Method for Short Fibers of Chemical Fibers

GB/T 17911 Test methods for refractory fiber products

GB/T 31290 Determination of tensile properties of carbon fiber monofilaments JY/T 0587

General Rules for Polycrystalline X-ray Diffraction Methods

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