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

GB/T 9258.3-2025

Replacing GB/T 9258.3-2017, GB/T 9258.1-2000, GB/T 9258.1-2000

**Coated abrasives - Determination and designation of grain size
distribution - Part 3: Microgrit sizes P240 to P5000**

(English Translation)

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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 is Part 3 of GB/T 9258 "Testing and marking of abrasive grain size composition for coated abrasives". GB/T 9258 has been the following parts were published.

--- Part 2: Coarse abrasive particles P12 to P220;

--- Part 3: Micropowders P240 to P2500.

This document replaces GB/T 9258.3-2017 "Abrasive particle size analysis for coated abrasives Part 3: Micropowder P240~P2500 particle size group the document partially replaces GB/T 9258.1-2000 "Abrasive particle size analysis for coated abrasives Part 1: Particle size composition".

GB/T 9258.3-2017 is the main standard, which integrates the contents related to

micropowder in GB/T 9258.1-2000.

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope has been changed (see Chapter 1, Chapter 1 of the 2017 edition);
- b) Changed terms and definitions (see Chapter 3, Chapter 3 of the 2017 edition);
- c) The content of the determination method mark has been deleted (see 4.2 and 5.2 of the 2017 edition);
- d) The content of calibration sand has been changed (see 5.1.3, 4.3.3.3 of the 2017 edition);
- e) The sample dispersion step has been changed (see 5.4.2, 4.3.4.2.3 of the 2017 edition);
- f) The provisions for recording measured values have been changed (see 5.4.6, 4.3.4.2.7 of the 2017 edition);
- g) Added general provisions for the evaluation of micropowders P240 to P1200 (see 5.5.1);
- h) The provisions for determining volume fraction have been changed (see 5.5.3, 4.3.5.2 of the 2017 edition);
- i) The content of particle size composition curve drawing has been changed (see 5.5.4, 4.3.5.3 of the 2017 edition);
- j) The content of the determination of corundum sample examples has been changed (see 5.5.6, 4.3.5.5 of the 2017 edition);
- k) The particle size composition and test methods of micropowders P1500 to P2500 have been changed (see Chapters 6 and 7, and Chapter 5 of the 2017 edition);
- l) Added content and test methods for particle size composition of P3000, P4000 and P5000 (see Chapters 6 and 7);
- m) Added test report requirements (see Chapter 8);
- n) The marking provisions have been changed (see Chapter 10, Chapter 7 of the 2017 edition).

This document is modified to adopt ISO 6344-3:2021 "Testing and marking of abrasive grain size composition for coated abrasives - Part 3: Micropowders" P240~P5000".

This document has the following structural adjustments compared to ISO 6344-3:2021.

--- Tables 3 to 8 correspond to Tables 4 to 9 in ISO 6344-3:2021, and Table 3 in ISO 6344-3:2021 is deleted;

--- Added Appendix A;

--- Deleted Appendix A in ISO 6344-3:2021.

This document has many technical differences compared to ISO 6344-3:2021.

A list of these technical differences and their reasons is given in Appendix A.

The following editorial changes have been made to this document.

--- Deleted the notes in Table 1 and Table 5;

--- Deleted Appendix A (informative) "Theoretical equivalent particle size d of fused corundum powder and silicon carbide powder".

Introduction

Due to the different requirements of grinding purpose, grinding efficiency, grinding accuracy, etc., the requirements for abrasive size are also different, so the abrasive needs to be the abrasive is processed and graded into different particle sizes to meet different grinding requirements. This requires characterization and testing of the particle size of the abrasive and its Row standardization.

Particle size composition is a specific characterization of abrasive particle size, which is based on the corresponding detection technology.

There are many technologies for the characterization and detection of particle size. However, due to the limitations of the technology, as well as considerations of efficiency and economy, no one technology has been successfully used.

This technology is fully applicable to the characterization and detection of all particle sizes of abrasives.

Generally, the particle size of coarser abrasives is characterized and tested based on sieving methods, while the particle size of finer abrasives is characterized and tested based on sedimentation methods and other methods.

Correspondingly, the particle size of abrasives is divided into coarse abrasive particles and fine powder from coarse to fine.

GB/T 9258 "Testing and marking of abrasive grain size composition for coated abrasives" is intended to consist of two parts.

--- Part 2: Coarse abrasive grains P12~P220. The purpose is to provide the particle size characterization and detection method of coarse abrasive grains for coated abrasives.

law and specifies marking and logo requirements.

--- Part 3: Micropowders P240~P5000. The purpose is to provide the particle size characterization and detection methods of micropowder abrasives for coated abrasives, and Specify marking and signage requirements.

Detection and marking of abrasive particle size composition for coated abrasives Part 3: Micro powder P240~P5000

1 Scope

This document specifies the determination or test method for the particle size composition of ordinary abrasive micropowders P240~P5000 for coated abrasives.

This document applies to abrasives used in the manufacture of coated abrasives and to abrasives recovered from coated abrasives for testing purposes.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 4676 Sampling Methods for Common Abrasives (GB/T 4676-2018, ISO 9138:2015, MOD) GB/T 16458 Terminology of Abrasives and Grinding Tools JB/T 6569 Packaging of general abrasives ISO 13317-3 Determination of particle size composition by gravity liquid sedimentation method Part 3: X-ray gravimetric technique)

3 Terms and Definitions

The terms and definitions defined in GB/T 16458 and the following apply to this document.

microgrit

Abrasive particles with an equivalent median particle size of 58.5 μm to 2.7 μm and a particle size composition (3.2) determined by sedimentation method.

The mass fraction of abrasive particles of different sizes in a certain particle size number.

[Source. GB/T 16458-2021, 3.1.5.2]

4 Particle size composition of micropowder P240~P1200

For the determination of fine powder with particle size of P240~P1200 by sedimentation method, a sedimentation tube particle size analyzer (see 5.2.1) should be used.

The volume of the suspended abrasive sample settled in the collection tube within a certain period of time and the equivalent particle size were calculated according to Stokes' law.

The criteria for determining the particle size composition of micropowder P240~P1200 are as follows.