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

GB/T 2481.1-2025

Replacing GB/T 2481.1-1998

**Bonded abrasives - Determination and designation of grain size
distribution - Part 1: Macrogrits F4 to F220
(English Translation)**

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Table of Contents

Preface
Introduction
1 Scope
2 Normative references
3 Terms and Definitions
4 Particle size composition test
5 Standard particle size classification limit
6 Mark
Appendix A (Normative) Standard Sand Calibration Method

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 1 of GB/T 2481 "Testing and marking of abrasive grain size composition for bonded abrasives".

The following parts were published.

- Part 1: Coarse abrasive grains F4~F220;
- Part 2: Micronized powders.

This document replaces GB/T 2481.1-1998 "Testing and marking of abrasive grain size composition for bonded abrasives - Part 1: Coarse abrasive grains F4~F220", compared with GB/T 2481.1-1998, 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 1998 edition);
- b) The provisions for screening test machines have been modified (see 4.1.1, 4.1.1 of the 1998 edition);
- c) The provisions for balances have been changed (see 4.1.3, 4.1.3 of the 1998 edition);
- d) The provisions on timers have been modified (see 4.1.4, 4.1.4 of the 1998 edition);
- e) The provisions for sample preparation and weighing have been modified (see 4.2.1, 4.2.2, and 4.2.1 of the 1998 edition);

- f) The provisions for sieving and weighing have been changed (see 4.2.4, 4.2.3 of the 1998 edition);
- g) Added the provisions on the difference between two test results (see 4.2.6);
- h) The description of the test results has been changed (see 5.2, 5.2 of the 1998 edition);
- i) Changed the usage examples in Table 1 and Table 2 (see 5.3, 1998 edition);
- j) The description outlined in the standard sand calibration method has been changed (see A.1 of the 1998 edition).

This document is modified from ISO 8486-1:1996 "Testing and marking of abrasive grain size composition for bonded abrasives - Part 1: Coarse abrasive grains" F4~F220".

This document has the following structural adjustments compared to ISO 8486-1:1996.

---4.1.5 was added in 4.1;

--- 4.2.1 and 4.2.2 in 4.2 correspond to 4.2.1, 4.2.3 and 4.2.4 in ISO 8486-1:1996, respectively, which correspond to ISO 8486-1.

4.2.2 and 4.2.3 in 1996, 4.2.5 and 4.2.6 were added.

The technical differences between this document and ISO 8486-1:1996 and their reasons are as follows.

--- Added normative reference GB/T 16458 (see Chapter 3) to facilitate the understanding and application of the standard;

--- ISO 9284 (see 4.1.1) is replaced by the normative reference GB/T 18845 to adapt to my country's technical conditions;

--- ISO 3310-1 (see 4.1.2) is replaced by the normative reference GB/T 6003.1 to adapt to my country's technical conditions;

--- Deleted Table 1 in the international standard because GB/T 6003.1 (GB/T 6003.1-2022, ISO 3310-1:2016, MOD) the technical requirements for test sieves have changed;

--- Changed the provisions for balance and timer (see 4.1.3 and 4.1.4) to improve the detection accuracy;

--- Added the use of standard sand and standard sand calibration method (see 4.1.5, 4.2.5 and Appendix A) to conform to my country's actual situation and improve the inspection Measurement accuracy;

--- ISO 9138 (see 4.2.1) is replaced by the normative reference GB/T 4676 to adapt to my country's technical conditions;

--- Changed the provisions for sieving and weighing (see 4.2.4) to improve the applicability of the standard;

--- Added two screening test requirements (see 4.2.6) to improve the accuracy of the test results.

The following editorial changes have been made to this document.

--- Deleted Appendix A (informative) "References" in the international standard.

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 characterizing and detecting 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 abrasive particle sizes.

Generally, the particle size of coarser abrasives is characterized and tested based on sieving methods; 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 2481 "Testing and marking of abrasive grain size composition for bonded abrasives" is intended to consist of two parts.

--- Part 1: Coarse abrasives F4~F220. The purpose is to provide the particle size characterization and detection method of coarse abrasives for bonded abrasive tools.

law and specifies marking and logo requirements.

--- Part 2: Micropowder. The purpose is to provide the particle size characterization and detection methods of micropowder abrasives for bonded abrasives, and to specify the marking and labeling Willingness requirements.

Detection and marking of abrasive grain composition for bonded abrasives Part 1: Coarse abrasive grains F4~F220

1 Scope

This document specifies the particle size composition and test method of ordinary abrasive coarse abrasive grains F4~F220 for bonded abrasive tools, and specifies the particle size standard.

Remember the method.

This document applies to abrasives used in the manufacture of bonded abrasives and for general industrial purposes, as well as abrasives recovered from bonded abrasives.

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 6003.1 Test sieves - Technical requirements and inspection - Part 1: Wire mesh test sieves (GB/T 6003.1-2022, ISO 3310-1:2016, MOD) GB/T 16458 Terminology of Abrasives and Grinding Tools GB/T 18845 Abrasive Sieving Tester (GB/T 18845-2017, ISO 9284:2013, MOD)

3 Terms and Definitions

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

4.1.1 Screening test machine

The screening test machine shall comply with the requirements of GB/T 18845.

4.1.2 Test sieve

The test sieve should be selected from the test sieves that comply with GB/T 6003.1 and should be calibrated with standard sand (see A.3.4 in Appendix A).

The test sieve is marked with its mesh size. If the mesh size is less than 1 mm, it is expressed in μm . If the mesh size is equal to or greater than 1mm, then express it in mm.

4.1.3 Balance

The graduation value of the balance should not be greater than 0.1g.