

ICS 19.120
CCS A 28



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

GB/T 47100-2026

**Particulate materials - Sampling and sample splitting for the
determination of particulate properties**

颗粒材料 颗粒特性测定中的取样和样本缩分

(English Translation)

Issued on: January 28, 2026

Implemented on: August 1, 2026

Issued by: State Administration for Market Regulation

Table of Contents

Preface	
Introduction	
1 Scope	
2 Normative References	
3 Terms and Definitions	
4 Symbols and Abbreviations	
5 Principles of Sampling and Sample Reduction	
5.1 General Rules	
5.2 Basic Error	
5.3 Total Error/Sample Size or Increment	
6 Sampling Plan	
7 General Procedures	
7.1 Security Protection Procedures	
7.2 Initial Sampling	
7.3 Sample Processing	
7.4 Sample Containers	
7.5 Labeling of Sample Containers	
8 Sample reduction techniques 9.	
8.1 Overview	
8.2 Rotary Sample Distributor	
8.3 Static Sample Divider	
8.4 Conical Quartering Method	
8.5 Incremental Segmentation Method	
8.6 Scoop sampling	
8.7 Sampling of Paste-like Substances	
8.8 Sampling of suspension	
9 Verification	
Appendix A (Informative) Calculation of Variance at Different Stages in the Sampling Sequence	
A.1 Overview	
A.2 The entire sequence	
A.3 Partial Sequence	

Appendix B (Informative) Estimation of Sampling Error and Minimum Sampling Quality

B.1 Overview

B.2 Graphical representation of the sample quality required when the basic error is 3%

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.

This document is equivalent to ISO 14488:2007 "Sampling and sample reduction in determination of particle properties of particulate materials".

The following minimal editorial changes have been made to this document.

---Includes the technical errata from ISO 14488:2007/Amd1.2019;

---Corrected the editing errors in the formulas in Appendix B (Informative).

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 Particle Characterization, Sorting and Screening (SAC/TC168).

Introduction

Characterization of particle properties, such as particle size, shape, and specific surface area, follows rigorous sampling and sample reduction procedures. These characteristic values...

Distribution is related to the number of particles, but the number of particles cannot be increased as in chemical analysis sampling. This is because the distribution of particles from a given sample mass of powder...

The obtained powder contains particles of different sizes and shapes, which will cause deviations in statistical values.

Sampling and... in the determination of particle properties of granular materials Sample reduction

1 Scope

This document describes how to obtain a certain confidence level of a sample from a given batch of particulate material (powder, paste, suspension, or dust).

Methods for testing representative samples.

This document applies to the measurement of particle size, particle size distribution, and surface area.

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.

Safety insampling

cabulary)

ISO 9276-2 Presentation of results from particle size analysis - Part 2: Calculation of mean particle size/diameter and moments of each order from particle size distribution (Repre-ISO 14887 Sample preparation - Dispersing procedures

3 Terms and Definitions

The terms and definitions defined in ISO 6206 and the following terms and definitions apply to this document.

bias

The systematic difference between the true value (or accepted value) and the measured value.

critical size class

For a specific particle size range, the sampling error of its mass fraction has a significant impact on product performance.

error

The difference between the measured value and the true value can be random or systematic.

Gross sample

The primary sample consists of multiple sample increments.