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

GB/T 46596-2025

**Copper, lead, zinc and nickel concentrates - Sampling of
slurries**

铜、铅、锌和镍精矿 矿浆取样

(English Translation)

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting is scheduled.

This document is modified to adopt ISO 11794:2017 "Sampling of copper, lead, zinc and nickel concentrate pulp".

Compared with ISO 11794:2017, this document has undergone many structural adjustments. A table comparing the changes in structural numbering between the two documents is provided.

See Appendix A.

The technical differences between this document and ISO 11794:2017 are indicated by a vertical single line (|) in the outer margin of the relevant clauses.

The technical differences and their reasons are as follows.

--ISO 12744 has been replaced with the normatively referenced GB/T 27679 (see Chapter 3, 4.3.2, 4.3.4) to adapt to my country's technical requirements.

Conditions, increasing operability;

--ISO 13292 (see Chapter 3, 13.3) has been replaced with the normatively referenced GB/T 27680 to adapt to my country's technical conditions.

Increase operability;

--The term and definition of "pulp" have been added (see 3.1) to highlight the importance of core terms and facilitate understanding;

--The word "should" in section 4.1 "If the filtrate needs to be analyzed, it should be retained" has been changed to "shall" (see 4.1). When the filtrate needs to be analyzed...

During analysis, retaining the filtrate is a necessary step.

--The term "Vezin Sampler" has been changed to "Circular Path Falling Sampler" (see 6.1) to highlight its main structural principle and facilitate...

understand;

--The word "should" in 6.1 "After installing the sampler, the average mass of the sample should be checked regularly" has been changed to "shall" (see 6.1).

Regularly checking the average mass of the samples after installing the sampler is a necessary procedure to obtain representative samples.

--The word "deltat" in formula (23) has been changed to "deltat'" and "n" to "nl" (see Chapter 10) to distinguish it from formula (22);

--The order of the legends in Figure 6 (b) and (c) has been changed (see 11.2.5) to classify and describe the two correct sampling legends together with the incorrect sampling legends.

The examples are distinguished to facilitate understanding;

--Chapter 13 "Static slurry sampling" in ISO 11794:2017 has been deleted because this content is already described in the scope and is redundant.

To elaborate further.

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 by the China Nonferrous Metals Industry Association.

This document is under the jurisdiction of the National Technical Committee on Standardization of Nonferrous Metals (SAC/TC 243).

1 Scope

This document specifies the basic methods for sampling mineral slurries formed by mixing mineral particles with liquids (usually water). In industry and mining...

In mineral processing literature, slurry is also referred to as pulp, but this term is not used in this document. When the solid-liquid mixture has a high solid-liquid ratio, the material exhibits...

The mixture is in a soft, plastic form; this mixture is specifically referred to as a paste, and this document does not cover sampling of the paste.

The procedure described in this document is applicable to sampling mineral particles transported in the form of a slurry, but not to pressurized slurries. Slurry flow it can be a freefall, or it can be transported through pipes, chutes, channels, sluices, spiral chutes, or similar channels. This document neither recommends nor relates to this.

And to sample static slurries (such as slurries that have settled or been stirred evenly in containers or dams).

This document describes the procedure designed to provide representative samples that represent the quality characteristics and particle size of the slurry solids to be tested.

Degree distribution. After filtering and measuring the liquid volume of the slurry sample, the wet sample containing mineral particles in the slurry can be dried (if necessary) to ensure unbiased distribution.

Differential methods and known precision are used to assess one or more quality characteristics through chemical analysis, physical testing, or a combination of both.

Measurement.

This document applies to mineral slurries that require testing to verify compliance with product specifications, and the measurement results of their quality characteristics are used