

ICS 19.020
CCS N33



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

GB/T 15246-2022

Replacing GB/T 15246-2002

**Microbeam analysis - Quantitative analysis of sulfide minerals
by electron probe microanalysis**

微束分析 硫化物矿物的电子探针定量分析方法

Issued on: October 14, 2022

Implemented on: February 1, 2023

**Issued by: State Administration for Market Regulation;
Standardization Administration of China**

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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 of Standardization Documents" drafted. This document replaces GB/T 15246-2002 "Method of Electron Probe Quantitative Analysis of Sulfide Minerals". This document is related to GB/T 15246- Compared with.2002, except for structural adjustment and editorial changes, the main technical changes are as follows:

- a) The performance requirements for electron probe instruments and equipment for scanning electron microscopes are added (see 4.1);
- b) The sample preparation method is added (see 5.2);
- c) Changed the description of the analytical selection standard (see 6.1, 6.1 of the.2002 edition);
- d) Deleted the working time requirement for the beam to reach a steady state (see 7.3.1 of the.2002 edition);
- e) The requirements for beam current stability have been added (see 7.3);
- f) Changed the selection of the spectral crystal of sulfur element and the line system of tungsten element (see 7.4, 7.4 of the.2002 edition);
- g) changed "background" to "background" (see 7.6, 7.6 of the.2002 edition);
- h) Deleted the method of spectral line overlap correction in energy spectrum analysis (see

1 Scope

GB/T 15246-2022 is the Chinese national standard on microbeam analysis - quantitative analysis of sulfide minerals by electron probe microanalysis, in the field of testing. The /T

suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 14 October 2022 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 February 2023. Classification: ICS 19.020, CCS N33. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the equipment, sample preparation, standard sample, selection of analytical test conditions, spectrum for measuring the composition of sulfide minerals with electronic probes Line overlap correction, analysis steps, result processing and inspection reports. This document applies to sulfide minerals stable under electron beam bombardment, as well as arsenide, antimonide, bismuth, telluride, selenide and other minerals Electron probe quantitative analysis of compounds. This document applies to quantitative analysis with electron probes and also for quantification with a scanning electron microscope equipped with a spectrometer analyze.

2 Normative references

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, dated citations documents, only the version corresponding to that date applies to this document; for undated references, the latest edition (including all amendments) applies to this document.

GB/T 8170 Numerical Rounding Rules and Representation and Judgment of Limit Values

GB/T 15074 General Principles of Electron Probe Quantitative Analysis Methods

GB/T 17359 Microbeam Analysis Energy Spectrometry Quantitative Analysis

GB/T 17366 Preparation method of samples for electron probe analysis of mineral rocks

GB/T 20725 Spectroscopic Characteristic Point Analysis Guidelines for Electron Probe Microanalysis

GB/T 21636 Microbeam Analysis Electron Probe Microanalysis (EPMA) Terminology

3 Terms and Definitions

GB/T 21636 and the following terms and definitions apply to this document.

3.1 sulfide minerals A metallic mineral whose anion group is composed of sulfur.

3.2 light sheet polishedsection The rock or ore sample is cut into a certain size, and the surface to be observed is ground and polished.

3.3 light sheet polishedthinsection A sample of rock or ore cut to a certain size, thinned to transmit light, and ground and polished on both sides.

3.4 sandpolishedsection Embed the particle samples in epoxy or conductive resin or prepare flat, polished specimens on glass flakes.

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