

ICS 71.040.99

CCS N53



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

GB/T 17366-2025

Replacing GB/T 17366-1998

**Microbeam analysis - Electron probe microanalysis - Methods
of specimen preparation for minerals and rocks**

微束分析 电子探针显微分析 矿物岩石试样的制备方法

Issued on: August 29, 2025

Implemented on: March 1, 2026

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

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Instruments, Equipment and Materials	1
5.Basic requirements for test specimens	2
6.Sample Preparation Method	2
3 Reference	4

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 supersedes GB/T 17366-1998 "Preparation Methods of Samples for Electron Probe Analysis of Minerals and Rocks", and is consistent with GB/T 17366- Compared to.1998, aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The "Method Summary" (see Chapter 3 of the.1998 edition) has been removed;
 - b) Added terms and definitions (see Chapter 3);
 - c) The requirements for instruments, equipment, and materials have been changed (see Chapter 4, Chapter 4 of the.1998 edition);
 - d) The labeling for the preparation and analysis locations of block samples, particulate samples, and fine powder samples has been changed (see 6.2-6.5,.1998 edition). (6.1~6.4 and Chapter 7);
 - e) The coating on the sample was changed (see Chapter 7, Chapter 8 in the.1998 edition).
- 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 Microbeam Analysis (SAC/TC38). This document was drafted by: Institute of Mineral Resources, Chinese Academy of Geological Sciences; Institute of Geology and Geophysics, Chinese Academy of Sciences; and Nuclear Industry. Beijing Institute of Geology, Shougang Group Co., Ltd., Guangdong Academy of Sciences Industrial Analysis and Testing Center, Institute of Chemistry, Chinese Academy of

Sciences. The main drafters of this document are. Chen Zhenyu, Mao Qian, Fan Guang, Ju Xinhua, Wu Chaoqun, Wang Yanhua, and Zhou Jianxiong. This document was first published in.1998, and this is its first revision. Microbeam analysis electron probe microscopy Methods for preparing mineral and rock samples

1 Scope

GB/T 17366-2025 is the Chinese national standard on microbeam analysis - electron probe microanalysis - methods of specimen preparation for minerals and rocks, in the field of chemical technology. 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 29 August 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 March 2026. Classification: ICS 71.040.99, CCS N53. 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 describes a general method for preparing samples for electron probe microanalysis of various minerals, rocks, and other geological samples. This document applies to the preparation of samples for electron probe microanalysis of minerals and rocks.

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.

GB/T 41074 Powder sample preparation method for microbeam analysis for wave spectroscopy and energy spectroscopy

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 polished section The blocky rock or ore sample is cut and ground into a sample of a certain size, polished on one side, and can be observed under a microscope under reflected light.

Note. Light slides are generally suitable for samples containing a large amount of opaque

metallic minerals.

3.2 thin section The blocky rock or ore sample is cut and ground into a sample of a certain size, polished on both sides, and can be observed under a microscope under transmitted and reflected light.

Note. Thin sections are generally suitable for rock samples that are mainly composed of transparent minerals. The grinding thickness is generally 30 μ m~100 μ m depending on the needs of microscopic observation.

3.3 sandpolished section; sandpolished mount The sample is prepared by embedding the particulate sample and then grinding and polishing it.

Note. Sanding sheets are generally used for particle samples of millimeter size and below. Sometimes, irregular block samples of centimeter size are also embedded to make regular sanding sheets.

4.1 Instruments and Equipment

4.1.1 Vacuum coating machine.

4.1.2 Ultrasonic cleaning device.

4.1.3 Optical microscope.

4.1.4 Slicer (cutting machine).

4.1.5 Grinding mill.