

ICS 71.040.99

CCS N 53



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

GB/T 17363-1998

Replacing GB/T 17363-1998

**Nondestructive mensuration of gold content in the gold
products -- Part 1: Method of electron probe microanalysis
(English Translation)**

Issued on: March 19, 2009

Implemented on: December 1, 2009

Issued by: Standardization Administration of China

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Foreword

"Gold products destructive determination of gold content" is divided into two parts.

- Part 1. electron probe micro-analysis;
- Part 2. Comprehensive measurement method.

This is Part 1.

This Part replaces GB/T 17363-1998 "Method of quantitative electron probe microanalysis on gold products." this portion of the GB/T 17363-1998 main changes are as follows.

- Added Appendix A (informative) "original record format";
- Added Appendix B (informative) "Measurement Report Format";
- With "accuracy" indicates the measurement error range, to use the "standard uncertainty" represents a measurement error range;
- Scope added "component of relatively uniform gold products";
- Increasing the scope of the articles in "determination does not apply to non-uniform composition or gold plated gold content of the article as a whole";
- "Weight percent" to "quality score." Appendix A of this section and Appendix B is an informative annex.

This part of the National Standardization Technical Committee microbeam analysis and focal points.

This section is drafted. Shanghai Polytechnic University, Tongji University, Shanghai ingot Energy Technology Co., Ltd., the Ministry of Mineral Resources and Mineral Research the,

ASTRI Institute of Mineral Resources, Shanghai Institute of Measurement and Testing,
Nonferrous Metals Corporation, Institute of Geology and Minerals.

1 Scope

GB/T 17363 in this section specifies the method for the determination of gold content of the main elements of the article with an electron probe spectrometer.

This section applies to the determination of composition is relatively homogeneous gold products. Also applicable to the determination of thickness greater than 3 μ m gold or gold products Surface gold content.

This section does not apply to non-uniform composition or determination of gold content of the article as a whole gold plating.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this section, however, encourage the parties to this part of the research agreement Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 4930 micro beam analysis electron probe microanalysis standard specimen technical conditions Guidelines JJG901 electron microprobe analyzer national verification procedures JJF1001-1998 common measurement terms and definitions

3 Terms and Definitions

JJF1001-1998 and the following terms and definitions apply to this section.

Surface gold content Some products have a surface coating or cladding. Gold plating or cladding content called "surface gold content." 3.2 Simple substance it made of a material elements called "elemental." Such as. gold, silver, copper and the like.

Quality Score

Mass of an element in the quality of the sample divided by the sample values
obtained, expressed as a percentage.

4 Fundamentals

Without changing the electron probe micro-analyzer operation state conditions were measured electron excitation area measured gold articles and reference materials Characteristic X-ray intensity emitted, and calculate the characteristic X-ray intensity ratio k related elements, then ZAF correction calculation, eligible it was the mass fraction of gold

and gold products in other major elements.

5.1 Instrument

5.1.1

Electron microprobe analyzer. According JJG901 certified by.

5.1.2

vertical upright microscope. more than 300 times magnification.

5.2 Equipment

5.2.1

micro-polishing machine. polishing region millimeter.