

ICS 77.120.60
CCS H 13

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**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 461.10-2013

Replacing YS/T 461.10-2003

**Methods for chemical analysis of lead and zinc bulk
concentrates. Part 10: The determination of gold and silver
contents. Fire-assaying methods**

混合铅锌精矿化学分析方法 第10部分：金量与银量的测定火试金法
(English Translation)

Issued on: January 1, 1970

Implemented on: January 1, 1970

Issued by: Ministry of Industry and Information Technology

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Foreword

YS/T 461 "Lead and Zinc concentrates - Methods" is divided into 11 parts.

--- Part 1. Determination of the amount of lead and zinc content Na₂EDTA precipitation titration;

--- Part 2. Determination of iron content Na₂EDTA titration;

--- Part 3. Determination of sulfur content of combustion - neutralization titration method;

--- Part 4. Determination of arsenic content of iodine titration;

--- Part 5. Determination of silicon dioxide content - Molybdenum blue spectrophotometric method;

--- Part 6. Determination of the amount of mercury atomic fluorescence spectrometry;

--- Part 7. Determination of cadmium content by flame atomic absorption spectrometry;

--- Part 8. Determination of copper content - Flame atomic absorption spectrometry;

--- Part 9. Determination of the amount of silver by flame atomic absorption spectrometry;

--- Part 10. the amount of gold and silver contents - fire assay;

--- Part 11. arsenic, bismuth, cadmium, cobalt, copper, nickel, antimony content - Inductively Coupled Plasma - Atomic Emission Spectrometry.

This section YS/T Part 10 461.

This section drafted in accordance with GB/T 1.1-2009 given rules.

The partial replacement of YS/T 461.10-2003 "Lead and Zinc concentrates - Methods for chemical analysis of gold - Determination of the amount of silver fire assay" Compared with YS/T 461.10-2003, the main changes are as follows.

--- Text format has been modified;

- Increase secondary assaying correction method;
- Added "reproducibility" clause, delete the words "to allow poor" clause;
- Added "the test report" requirement.

The non-ferrous metal part by the National Standardization Technical Committee (SAC/TC243) centralized.

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1 Scope

This section YS/T 461 specifies the method for determination of the amount of mixing zinc concentrates gold and silver content.

This section applies to the determination of the amount of mixing zinc concentrates gold and silver content. Measurement range. Silver. 500g/t ~ 3000g/t; gold. 0.5g/t ~ 15.0g/t.

2 Method summary

After sample ingredients, high temperature melting, in order to capture the lead in a sample of the formation of lead and silver buckle, and other substances flux generated in a sample of molten eutectic Slag. Made silver and gold by cupellation with lead separation to give a combined gold and silver grains. Gold is insoluble in nitric acid utilizing the nature of the gold, silver separation. By gravimetric method Gold and silver content.

3 Reagents

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled or deionized water or equivalent purity.

3.1

Sodium glass frit. Industrial pure, powder.

3.2

Borax. Industrial pure, powder.

Anhydrous sodium carbonate 3.3. Industrial pure, powder.

3.4 Lead tetroxide. Industrial pure, powdered (wAu 4 instruments and equipment

4.1 Balances.

4.1.1 loading balance. minimum scale of 0.1g.

4.1.2 Analytical Balance. minimum scale of 0.001g.

4.1.3 microbalance. minimum scale of 0.01mg.