

ICS 77.120.01
CCS H 13

YS

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

YS/T 775.5-2011

**Methods for chemical analysis of lead anode slime. Part 5:
Determination of gold and silver content. Fire assay gravimetric
method**

铅阳极泥化学分析方法 第5部分：金量和银量的测定火试金重量法
(English Translation)

Issued on: December 20, 2011

Implemented on: July 1, 2012

Issued by: Ministry of Industry and Information Technology

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Foreword

YS/T 775-2011 "lead anode mud chemical analysis method" is divided into seven parts.

- Part 1. Determination of lead content - Na₂EDTA titration;

Part 2. Determination of Bismuth Flame Atomic Absorption Spectrometry and Na₂EDTA Titration;

- Part 3. Determination of arsenic content - Potassium bromate titration;

- Part 4. Determination of antimony content - Flame atomic absorption spectrometry and cerium sulphate titration;

- Part 5. Determination of gold and silver;

- Part 6. Determination of copper content - Iodometric method;

Part 7. Determination of arsenic, copper and selenium - Inductively coupled plasma atomic emission spectrometric method.

This section is part 5.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part is the national nonferrous Metals Standardization Technical Committee (SAC/TC243).

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Methods for chemical analysis of lead anodes Part 5. determination of gold and silver Fire test gold weight method

1 Scope

This section specifies the method for the determination of gold and silver in lead electrolytic anode mud.

This part is applicable to the determination of gold and silver in lead electrolytic anode mud. Determination of the range of gold 0.050kg/t ~ 1.000kg/t;

Silver 50.00kg/t ~ 250.00kg/t.

2 Method summary

The sample with the right amount of flux melting at the same time, lead to capture gold, silver to form a buckle. Other impurities and flux generated fusible slag, the use of the density of the lead and the slag is different from that of the slag and the slag is separated from the slag, and the gold and silver are obtained by soaking. The amount of gold and silver is measured by weighing method. Use gold insoluble in the nature of nitric acid, gold and silver separation, with the weighing method to determine the amount of gold, the amount of gold minus the amount of silver.

3 Reagent

Unless otherwise stated, only the reagents identified as analytical reagents and distilled or deionized water or comparable purity were used in the analysis.

3.1

anhydrous sodium carbonate, powder, industrial pure.

3.2 Lead oxide, powder. (Au 4 instruments and equipment

4.1 balance. ultra-micro balance, the amount of 0.001mg.

4.2 test electric furnace. the maximum heating temperature of 1350 °C.

4.3 test crucible. material for the fire-resistant clay, the volume of about 300mL ~ 500mL.

4.4 gray dish. the top diameter of about 35mm, the bottom diameter of about 40mm, about 30mm high, about 17mm deep.

Method. mix with the same amount of cement and ashes, add the right amount of water to stir, in the gray machine (4.5) on the compression molding, dry for two months Back-up.

4.5 ash machine.

4.6 porcelain crucible. the volume of 30mL.