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

YS/T 1084.2-2015

**Methods for chemical analysis methods of crude selenium. Part
2: Determination of silver content. Flame atomic absorption
spectrometric method**

粗硒化学分析方法 第2部分：银量的测定 火焰原子吸收光谱法

(English Translation)

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Foreword

YS/T 1084 "crude selenium chemical analysis method" is divided into two parts.

--- Part 1. Determination of the amount of gold fire assay gravimetric method and atomic absorption spectrometry;

--- Part 2. Determination of silver content - Flame atomic absorption spectrometry.

This section YS/T 1084 Part 2.

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

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

This section is responsible for drafting. Guangzhou Research Institute of Nonferrous Metals, Tongling Nonferrous Metals Group Holdings Limited.

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1 Scope

YS/T 1084 This section provides the determination of the amount of crude selenium and silver.

This section applies to the determination of the amount of crude selenium and silver. Determination of the range of $5.0\text{g/t} \sim 8000.0\text{g/t}$.

2 Method summary

The silver content in a sample using at 5.0g/t ~ 300.0g/t nitric acid, hydrochloric acid to dissolve the sample, volatile sulfuric acid addition of selenium, the volume fraction Determination of 10% hydrochloric acid medium silver content; in a sample silver content > 300.0g/t using nitric acid to dissolve ~ 8000.0g/t, the volume fraction 25% hydrochloric acid medium atomic absorption spectrometer the absorbance was measured at 328.1nm silver.

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

hydrochloric acid ($\rho = 1.19\text{g/mL}$).

3.2 Nitric acid ($\rho = 1.42\text{g/mL}$)

3.3 hydrochloride (11).

3.4 hydrochloride (13).

3.5 sulfate (11).

3.6 silver standard stock solution. Weigh 0.5000g of silver ($w_{\text{Ag}} \geq 99.99\%$), placed in 100mL beaker, add a little water, add 10mL Nitric acid (3.2), low-temperature heating to dissolve the oxides of nitrogen purge boiling, remove the cooling. Brown moved into the 500mL flask, add 15mL Nitric acid (3.2), the solution was diluted with water to the mark and mix. 1mL solution containing 1mg silver.

3.7 Silver standard solution. Pipette 50.00mL standard silver stock solution (3.6) in a brown 500mL volumetric flask, 25mL of nitric acid was added (3.2), the solution was diluted with water to the mark and mix. This solution 1mL containing 100 μg silver.

4 Instrument

Atomic absorption spectrometer, with a silver hollow-cathode lamp.

Under optimum working conditions for those who can reach the following indicators can be used.

--- Characteristic concentration. consistent with the measurement of the sample solution matrix solution, wherein the concentration of silver is not more than 0.02 $\mu\text{g/mL}$.

--- Precision. measuring the absorbance of 11 with the highest concentration of the standard solution, the relative standard deviation should not exceed 1.0%; the lowest

concentration Degree standard solution (not "zero" concentration of the standard) measuring the absorbance of 11 times, the relative standard deviation should not exceed 0.5%.

--- Linear curve. The curve is divided into five sections according to concentration, absorbance difference between the absorbance difference between the highest and the lowest segment of the segment Ratio of not less than 0.7.