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

YS/T 1047.8-2015

**Methods for chemical analysis of copper magnetite. Part 8:
Determination of silicon dioxide content. Gravimetric method**

铜磁铁矿化学分析方法 第8部分：二氧化硅量的测定 重量法

(English Translation)

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Table of Contents

Foreword

1 Scope

2 Normative references

3 Method summary

4 Reagents

Foreword

YS/T 1047-2015 "Methods for chemical analysis of copper magnetite" is divided into 11 sections.

--- Part 1. Determination of copper content of 2,2'-quinoline spectrophotometry and flame atomic absorption spectrometry;

--- Part 2. Determination of total iron content of dichromate method;

--- Part 3. Copper and iron - Determination of the amount of sodium thiosulfate titration;

--- Part 4. Determination of the amount of sulfur by high frequency combustion infrared absorption spectroscopy;

--- Part 5. Determination of phosphorus content titration;

--- Part 6. copper, total iron, silica, alumina, calcium oxide, magnesium oxide, titanium oxide, manganese and phosphorus contents - wave Long-dispersive X-ray fluorescence spectrometry;

--- Part 7. copper, manganese, aluminum, calcium, magnesium, titanium and phosphorus content - Inductively coupled plasma atomic emission spectrometry.

--- Part 8. silicon dioxide content - Gravimetric method;

--- Part 9. Determination of metallic iron content of sulfonic acid spectrophotometry;

--- Part 10. Determination of the amount of ferrous oxide dichromate method;

--- Part 11. Determination of the amount of magnetic iron dichromate method.

This section 8.

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

This standard by the national non-ferrous metals Standardization Technical Committee (SAC/TC243) centralized.

1 Scope

YS/T 1047 This section specifies the method for the determination of silicon dioxide content of copper magnetite.

This section applies to the determination of silicon dioxide content of copper magnetite.

Measurement range (mass fraction) 7.00% - 26.00%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 6730.3 chemical analysis of iron gravimetric method for the determination of hygroscopic moisture in analytical samples GB/T 10322.1 iron ore sampling and sample preparation methods

3 Method summary

Sample decomposition with hydrochloric acid, filtered, and the residue was neutralized with sodium carbonate - potassium carbonate - boric acid flux melt, dilute hydrochloric acid leaching, combined with the main solution was evaporated Salt to the wet form. In concentrated hydrochloric acid was added to make silicone glue cohesion, filtered silicon molybdenum blue spectrophotometric determination of silicon dioxide filtrate the amount. After precipitation with hydrochloric acid burning - in addition to boron ethanol, and then calcined to constant weight. With hydrofluoric acid, sulfuric acid treatment, the silicon to form silicon tetrafluoride Plaza, burning to Constant, the reduction in the amount of silica and the filtrate is the sum of the content of silica.

4 Reagents

Unless otherwise stated, use only in the analysis confirmed analytically pure reagents and third grade water GB/T 6682 regulations.

Mixed flux of 4.1. anhydrous sodium carbonate, anhydrous potassium carbonate, boric acid in a ratio of mixing 1.5.1.5.0.7.

4.2

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

4.3

hydrochloride (11).

4.4

hydrochloric acid (595).

4.5

hydrochloride (892).

4.6

Hydrofluoric acid ($\rho = 1.15\text{g/mL}$).

4.7

sulfate (11).

4.8

ethanol.

4.9

HCl - ethanol solution (11).

4.10

ammonium thiocyanate solution (50g/L).

4.11

silver nitrate solution (10g/L).

4.12

gelatin solution (10g/L). The 1g gelatin is dissolved in 100mL boiling water, cooled, and mix.

4.13

phenolphthalein ethanol solution (5g/L).

4.14

potassium hydroxide solution (200g/L).