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YS

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

YS/T 325.2-2009

Replacing YS/T 325-1994

**Methods for chemical analysis of nickel-copper alloy. Part 2:
Determination of copper content. Electrolysis weight method**

镍铜合金化学分析方法 第2部分：铜量的测定 电解重量法

(English Translation)

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Foreword

YS/T 325-2009 "nickel-copper alloy chemical analysis method" a total of six sections.

- Part 1. Determination of nickel content Na₂EDTA titration
- Part 2. Determination of copper content - Gravimetric method electrolysis
- Part 3. Determination of iron content by flame atomic absorption spectrometry
- Part 4. Determination of manganese content by flame atomic absorption spectrometry
- Part 5. Determination of aluminum content Na₂EDTA titration
- Part 6. Determination of titanium content security for DAM spectrophotometry this section YS/T Part 2 325.

The partial replacement of YS/T 325-1994 Determination of copper content in "nickel-copper alloy (NCu28-2.5-1.5) Methods for chemical analysis." this section compared with YS/T 325-1994, the main changes are as follows.

- Specifies the determination of the scope of the method.
- The sample was dissolved nitrate - mixed sulfuric acid, nitric acid instead - hydrofluoric acid.
- Increase the determination of residual copper content, incorporation assay results.
- Supplementary terms of quality assurance and control, increased precision terms.

The non-ferrous metal part by the National Standardization Technical Committee and centralized.

This section is responsible for drafting unit. aluminum Shenyang Nonferrous Metals Processing Co., Ltd.

Participated in the drafting of this section. Guangzhou Nonferrous Metal Research Institute, Ltd. high-tech copper sheets.

1 Scope

YS/T in this part 325 specifies the method for determination of nickel-copper alloy of copper content.

This section applies to the determination of nickel-copper alloy of copper content.

Measurement range. 15.00% - 50.00%.

2 Principle of the method

Sample dissolved in nitric acid and hydrofluoric acid, the hydrogen peroxide reduction of nitrogen oxides electrodeposited copper. Join the platinum anode lead losses Reduce to a minimum, the electrolytic copper deposited on the platinum cathode, dried and weighed. The amount of residual copper electrolyte by atomic absorption spectrometry.

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

ethanol.

3.2

Hydrofluoric acid ($\rho=1.13\text{g/mL}$).

3.3

nitric acid (1 + 1).

3.4

Hydrogen peroxide (1 + 9).

3.5

ammonium chloride solution (0.02g/L).

3.6

lead nitrate solution (10g/L).

3.7

copper standard stock solution. Weigh 1.0000g copper (mass fraction of copper $\geq 99.99\%$), placed in 250mL beaker, add 40mL of nitric acid (3.3), cover sheet pan, heated until completely dissolved, boiled to remove nitrogen oxides, washed with water and dish table cup wall, cooling. Moved 1000mL volumetric flask, dilute with water to volume, and mix. 1mL solution containing 1mg of copper.

3.8

Copper Standard Solution. Pipette 10.00mL copper standard stock solution (3.7), placed in 500mL volumetric flask, 10mL of nitric acid was added Diluted (3.3) with water to volume, and mix. This solution 1mL containing 20 μ g copper.

4 Instrument

4.1 250mL teflon beaker.

4.2

pairs sectional polytetrafluoroethylene sheet pan.

4.3

with automatic stirring device and a precision DC ammeter, voltmeter electrolyzer.

4.4

platinum cathode. with a diameter of about 0.11mm ~ 0.12mm platinum wire, woven into 52 holes per square centimeter mesh screen made of mesh cylinder shape. See Figure 1.

4.5

platinum anode. spiral. See Figure 2.