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

YS/T 325.6-2009

**Methods for chemical analysis of nickel-copper alloy. Part 6:
Determination of titanium content. The diantipyrylmethane
molecular absorption spectrophotometric method**

镍铜合金化学分析方法 第6部分：钛量的测定 二安替吡啉甲烷分光光度法
(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 the amount of titanium di Zhao DAM spectrophotometry this section YS/T Part 6 325.

The partial modification of the use of ISO 11433:1993 "nickel alloy Jin Eran for DAM Determination of titanium content," measurement range expansion Exhibition of 0.050% ~ 5.00%, ISO 11433:1993 measurement range of 0.3% to 5.0%. This section lists the informative Appendix A List of control clauses and the corresponding chapter of the international standards. This section in the use of international standards on the part of the content has been modified. These techniques Operation of a single vertical line identifies the differences in the terms they are involved in the margin. Technical differences and their causes, see Appendix A, Appendix B.

This section of the Appendix A, Appendix B is an informative annex.

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

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1 Scope

YS/T of the provisions of section 325 of the method for measuring the amount of titanium nickel-copper alloy.

This section applies to the determination of titanium content of the nickel-copper alloy. Measurement range. 0.050% to 5.00%.

2 Principle of the method

Sample was dissolved in hydrochloric acid and nitric acid, sulfuric smoke. Hydrochloric acid, sulfuric acid medium, ascorbic acid was added to eliminate the interference of iron, titanium Zhao Pyrazoline Methane and titanium to form a yellow complex, absorbance was measured in a spectrophotometer at a wavelength of 410nm.

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

Hydrofluoric acid (rho1.15g/mL).

3.2

hydrochloride (rho1.19g/mL).

Nitrate 3.3 (rho1.42g/mL).

3.4

sulfate (1 + 1).

3.5

HCl (1 + 1).

3.6

sulfate (19 + 1).

3.7

ascorbic acid solution (10g/L). the time is now equipped with.

3.8

two antipyrine DAM solution (50g/L). Weigh 20g two antipyrine DAM placed in 500mL beaker, add salt 400mL Acid (1 + 24), heating and stirring until completely dissolved,

cooling, mix placed in a brown bottle.

3.9

Titanium standard stock solution. Weigh 0.5000g pure titanium (Ti mass fraction $\geq 99.95\%$) placed in a platinum dish, after adding a small amount of water slowly Solution of hydrofluoric acid (3.1) to dissolve, then dropping nitric acid (3.3) will be completely oxidized low-cost titanium added 20mL sulfuric acid (3.4), shake, heating steam Send to white smoke, remove, cool. Water moved into 500mL volumetric flask, dilute sulfuric acid (3.6) to the mark. This solution containing 1mL 1mg titanium.

3.10

Titanium Standard Solution A. Pipette 25.00mL Titanium standard stock solution (3.9) was placed in 250mL volumetric flask, dilute sulfuric acid (3.6) to the mark. This solution 1mL containing 100 μ g titanium.

3.11

Titanium standard solution B. Pipette 25.00mL titanium standard solution A (3.10) into 250mL volumetric flask, dilute sulfuric acid (3.6) to Mark and shake. This solution 1mL containing 10 μ g titanium.

4 Instrument

Spectrophotometer.

5 Sample

Thickness of less than 1mm debris.