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

YS/T 861.2-2013

**Methods for chemical analysis of niobium-titanium alloy. Part 2:
Determination of oxygen and nitrogen content. Inert gas fusion
infrared/thermal conductivity method**

铌钛合金化学分析方法 第2部分：氧、氮量的测定惰气熔融红外吸收热导法

(English Translation)

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Foreword

YS/T 861 "niobium-titanium alloy chemical analysis method" is divided into five sections.

--- Part 1. aluminum, nickel, silicon, iron, chromium, copper, tantalum content - Inductively coupled plasma atomic emission spectrometry;

--- Part 2. oxygen, the determination of nitrogen inert gas fusion infrared absorption/thermal conductivity method;

--- Part 3. Determination of hydrogen content of inert gas fusion thermal conductivity method;

--- Part 4. Determination of carbon content in the high-frequency combustion infrared absorption method;

--- Part 5. Determination of the amount of titanium ammonium ferric sulfate titration.

This section YS/T 861 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) centralized.

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Niobium-titanium alloys Part 2. oxygen, nitrogen determination of Inert gas fusion infrared

absorption/thermal conductivity method

1 Scope

This section YS/T 861 specifies the method for measuring the amount of oxygen and nitrogen in the niobium-titanium alloy.

This section applies to the determination of niobium-titanium alloy in the oxygen and nitrogen, and oxygen measurement range. 0.0010% - 0.25%, nitrogen measurement range. 0.0005% to 0.025%.

2 Method summary

Melting the sample, the sample in the form of CO oxygen precipitates in an inert atmosphere (helium), CO is oxidized to CO₂, the CO₂ infrared detection cell Detecting oxygen content; nitrogen in the sample precipitates in the form of N₂, is detected by a thermal conductivity detector cell nitrogen content.

3 Reagents and materials

Unless otherwise indicated, this part of the reagents used were of analytical grade reagents.

3.1

ether.

3.2

graphite crucible. hot crucible or set of crucibles.

3.3

Nickel basket. $wO \leq 0.0005\%$; $wN \leq 0.00005\%$.

3.4

Helium. Volume fraction $\geq 99.995\%$.

3.5

Standard sample. the sample selection and composition, oxygen and nitrogen content similar to standard samples or other applicable standard sample.

3.6

tweezers.

4 Instrument

Oxygen, nitrogen analyzer. Instrument sensitivity is not less than 0.00001%.

5 Sample

5.1

Samples cut from about 0.050g sample, washed with diethyl ether (3.1), allow to dry.

5.2

sample can not be contaminated during operation, with special forceps.

6.1 Warm up

To fully preheated before instrumental analysis, so that the indicators of the instrument reaches the set value.