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

YS/T 861.4-2013

**Methods for chemical analysis of niobium-titanium alloy. Part 4:
Determination of carbon content. The high-frequency infrared
absorption method**

铌钛合金化学分析方法 第4部分：碳量的测定高频燃烧红外吸收法
(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 Section 4861 of.

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 4. Determination of carbon contents Frequency combustion infrared absorption method

1 Scope

YS/T 861 This part specifies the method for the determination of carbon content of niobium-titanium alloy material.

This section applies to the determination of niobium-titanium alloy material in the amount of carbon, measuring range. 0.0020% to 0.10%.

2 Method summary

Sample combustion in oxygen to produce carbon dioxide or carbon monoxide in a high frequency induction furnace, carbon monoxide is converted into carbon dioxide catalytic furnace, Carbon dioxide in the infrared cell detection.

3 Reagents

3.1

W flux (carbon content of not more than 0.0005%).

3.2

Ceramic crucible. a muffle furnace at 1000 °C ~ 1100 °C in burning at least after 2h, placed in a desiccator save.

3.3

Oxygen. volume fraction $\geq 99.5\%$.

3.4

Standard sample. selection and composition, carbon content similar to standard samples or other applicable standard sample.

4 Instrument

High-frequency infrared carbon and sulfur analyzer. Instrument sensitivity is not less than 0.00001%.

5 Sample

5.1

sample uniform crumb-like samples.

5.2

processes to avoid overheating the sample, allowed to use any coolant samples should be processed to prevent contamination.

6.1 Warm up

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

6.2 Instrument Leak

The use of the instrument or other auxiliary equipment leak detection program to determine the instrument without leakage phenomenon.

6.3 Instrument Calibration

Calibrated with standard samples (3.4), make the analysis value within the allowable fluctuation range of the standard values.