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YS

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

YS/T 904.1-2013

**Methods for chemical analysis of iron-chromium-aluminum
fiber. Part 1: Determination of nitrogen content. Inert gas fusion
thermal conductivity method**

铁铬铝纤维丝化学分析方法 第1部分：氮量的测定惰性气体熔融热导法
(English Translation)

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Foreword

YS/T 904 "filament chemical analysis of iron chrome aluminum" is divided into five sections.

--- Part 1. Determination of nitrogen inert gas fusion thermal conductivity method;

--- Part 2. chromium, aluminum content - Inductively coupled plasma atomic emission spectrometry;

--- Part 3. silicon, manganese, titanium, copper, lanthanum, cerium content - Inductively coupled plasma atomic emission spectrometry;

--- Part 4. Determination of phosphorus content - Molybdenum blue spectrophotometric method;

--- Part 5. carbon, sulfur content was measured high-frequency combustion infrared absorption method.

This section YS/T Part 1 904.

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.

This section is drafted. Western Metal Materials Co., Ltd., Guangzhou Nonferrous Metal Research Institute, Beijing Nonferrous Metal Research Institute.

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Iron chrome aluminum fiber filament chemical analysis Part 1. Determination of nitrogen content the inert gas fusion thermal conductivity method

1 Scope

YS/T of the provisions of section 904 of the determination of iron chrome aluminum fiber yarn nitrogen content.

This section applies to iron chrome aluminum filaments in the determination of nitrogen, the measurement range. 0.0005% to 0.040%.

2 Method summary

Samples in an inert atmosphere (helium) in the molten sample of nitrogen in the form of N₂ precipitated by a thermal conductivity detector to detect nitrogen pool.

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.

3.3

Nickel bag [w (N) ≤ 0.00008%].

Helium 3.4 (volume fraction ≥ 99.995%).

3.5

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

4 Instrument

Nitrogen analyzer. Instrument sensitivity is not less than 0.00001%.

5 Sample

5.1

Samples cut from the approximately 0.10g sample was 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.

6.2 Instrument Leak

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