

ICS 77.120.99
CCS H 14

YS

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

YS/T 1075.6-2015

**Methods for chemical analysis of vanadium-aluminium and
molybdenum-aluminium master alloys. Part 6: Determination of carbon
content. High frequency combustion infrared absorption method**

钒铝、钼铝中间合金化学分析方法 第6部分：碳量的测定 高频燃烧-红外吸收法
(English Translation)

Issued on: April 30, 2015

Implemented on: October 1, 2015

Issued by: Ministry of Industry and Information Technology

Table of Contents

Foreword
1 Scope
2 Method summary
3 Reagents and materials
4 Instrument
5 Sample
6 Step, Analysis
6.1 Warm up
6.2 Instrument Leak

Foreword

YS/T 1075 "aluminum vanadium, molybdenum intermediate aluminum alloy chemical analysis method" including a total of 8 sections.

- Part 1. Determination of iron content - 1,10-phenanthroline spectrophotometry;
- Part 2. Determination of molybdenum content of lead molybdate gravimetric method;
- Part 3. Determination of silicon content - Molybdenum blue spectrophotometric method;
- Part 4. vanadium content - Inductively coupled plasma atomic emission spectrometry and ferrous ammonium sulfate titration;
- Part 5. Determination of aluminum content EDTA titration;
- Part 6. Determination of carbon content in the high-frequency combustion - infrared absorption method;
- Part 7. Determination of the amount of oxygen in the inert gas fusion - infrared method;
- Part 8. molybdenum, aluminum X- determining the amount of fluorescence spectroscopy.

This section YS/T 1075 Part 6.

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) and focal points.

This section is drafted. big Chengde Vanadium Industry Co., Ltd., Guangzhou Nonferrous Metal Research Institute, Northwest Nonferrous Metal Research Institute, Shangluo days

Wild Advanced Materials Co., Ltd., Beijing Nonferrous Metal Research Institute, Western Metal Materials Co., Ltd., the high-tech metal material Donggang East Limited.

1 Scope

YS/T 1075 This section provides the vanadium aluminum, master alloy of molybdenum determination of carbon content.

This section applies to aluminum vanadium, molybdenum determination of carbon content of aluminum master alloy. Measurement range. 0.005% to 0.60%.

2 Method summary

High frequency induction heating furnace combustion, burning through the sample into the crucible by electromagnetic induction heating, the sample under high temperature conditions in carbon and a small amount of CO₂ released in the form of CO, CO₂ and CO into the infrared detection cell for testing.

3 Reagents and materials

3.1

Carrier gas. oxygen (volume fraction of not less than 99.99%).

3.2

Power gas. nitrogen (0.28MPa) or oil-free compressed air.

3.3

iron flux. $w_C \leq 0.0005\%$.

3.4

tungsten tin flux. $w_C \leq 0.0008\%$.

3.5

porcelain crucible. 900 °C ~ 1100 °C after burning to 4h constant blank value removed in a desiccator.

3.6

standard sample.

4 Instrument

Carbon and sulfur analyzer (including the high-frequency furnace, vacuum devices, carrier gas purification system, analysis of the gas conversion system, infrared detection system).

5 Sample

The specimen shall crush a particle size less than 500 μ m. If oil test results will be high, we need to use an organic reagent (carbon tetrachloride, ether, Acetone, etc.) to clean and pulverized detected.

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.