

ICS 77.120
CCS H 71

YS

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

YS/T 574.1-2009

Replacing YS/T 574.1-2006

**Methods for chemical analysis of zirconium powder for
electro-vacuum uses. The gravimetric method for determination
of total zirconium and active zirconium**

电真空用锆粉化学分析方法重量法测定总锆及活性锆量

(English Translation)

Issued on: December 4, 2009

Implemented on: June 1, 2010

Issued by: Ministry of Industry and Information Technology

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Foreword

YS/T 574 "Methods for chemical analysis of zirconium powder for electro - vacuum" is divided into eight sections.

--- Determination of the total amount of zirconium and zirconium active YS/T 574.1 electric vacuum zirconium powder - Gravimetric method;

--- YS/T 574.2 electric vacuum Chemical analysis of zirconium powder sulfosalicylic acid spectrophotometric determination of iron content;

--- Determination of silicon content YS/T 574.3 electric vacuum chemical analysis of zirconium powder Molybdenum blue spectrophotometric method;

--- YS/T 574.4 electric vacuum zirconium powder chemical analysis of molybdenum blue spectrophotometric determination of phosphorus content;

Emission spectrometry measurement of calcium, magnesium content --- YS/T 574.5 electric vacuum zirconium powder chemical analysis by inductively coupled plasma;

--- YS/T 574.6 electric vacuum zirconium powder chemical analysis of Chromium Azure S spectrophotometric determination of aluminum content;

--- YS/T 574.7 electric vacuum Chemical analysis of zirconium powder with methylene blue spectrophotometric determination of sulfur content;

Determination of the amount of hydrogen heating thermal conductivity method --- YS/T 574.8 electric vacuum Chemical analysis of zirconium powder with an inert atmosphere.

This section YS/T 574 - Part 1.

The partial replacement of YS/T 574.1-2006 "power vacuum was determined by chemical

analysis of zirconium powder, zirconium and gravimetric method for total active zirconium" (formerly GB/T 3256.1-1982).

This portion of YS/T 574.1-2006 compared to the main changes are as follows.

--- Complements the precision and quality assurance and control provisions.

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

This in part by Western Metal Materials Co., Ltd., China Nonferrous Metals Industry Institute of Standards Metrology and Quality is responsible for drafting.

This part by CITIC Jinzhou Ferroalloy Co., Ltd., Northwest Nonferrous Metal Research Institute participated in the drafting.

1 Scope

This section provides electric vacuum zirconium powder, zirconium and determination of the total activity of zirconium content.

This section applies to the total electric vacuum determination of zirconium powder, zirconium and zirconium content of the activity. Measurement range (mass fraction). 85%.

2 Principle of the method

A sample at 800 °C ~ 850 °C ignition to constant weight, based on the weight gain of the sample to calculate the total amount of zirconium and zirconium activity.

3 Step, Analysis

3.1

Determination of the number of Analysis should be weighed in duplicate samples were measured, the measured value should be within the allowable difference in the mean value.

3.2 Sample

Weigh 1.00g sample, accurate to 0.0001g.

3.3 Determination

3.3.1

The sample was placed on a burned at 800 °C ~ 850 °C to constant weight of 20mL quartz crucible, the sample spread evenly on the bottom of the crucible Unit, placed on a hot plate heated to complete combustion.

3.3.2

Cover the crucible lid, the crucible is placed in a furnace, gradually raising the temperature to 800 °C ~ 850 °C, and at this temperature burning 1h ~ 2h.

3.3.3

crucible was taken out, placed in a desiccator, cool to room temperature, and weighed. Repeat ignition to constant weight.

Calculation results of the analysis of 4 Total zirconium and zirconium content of the active mass of the total mass fraction of 1 zirconium and zirconium active fraction 2 and its value is expressed in%, according to equation (1) and (2) Calculated.

Where.

0.7403 --- zirconia (ZrO_2) in terms of zirconium (Zr) factor;

Ratio of 2.8508 --- Zr/O_2 's.

5.1 Repeatability

Found two independent test results obtained under repeatability conditions within the average range given below, these two test results