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YS

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

YS/T 555.10-2009

Replacing YS/T 555.11-2006

**Methods for chemical analysis of molybdenum concentrate.
Determination of rhenium content. Thiocyanate
spectrophotometry**

钼精矿化学分析方法铼量的测定硫氰酸盐分光光度法

(English Translation)

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Foreword

YS/T 555 "Methods for chemical analysis of molybdenum concentrate" includes 11 parts.

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"Concentrates - Methods of measuring the amount of rhenium" in this section instead of YS/T 555.11-2006 (formerly GB/T 15079.11-1994).

This portion of YS/T 555.11-2006 compared to the main changes are as follows.

--- Increasing the precision of the terms;

--- Text format has been modified, supplemented with quality assurance and control provisions.

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

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1 Scope

This section provides the determination of rhenium content of molybdenum concentrate.

This section applies to the determination of the rhenium content of molybdenum concentrate. Measurement range. 0.0010% to 0.20%.

2 Method summary

Samples to fusion with sodium peroxide, flooding out. In pH12 ~ pH13 solution, rhenium and the four phenylarsonic chloride hydrochloride formed over rhenium acid tetraphenyl Arsine, extracted with chloroform, and molybdenum separation. With 6mol/L hydrochloric acid, and extracted tin dichloride reduction, color thiocyanate, extracted with ethyl acetate Take, on a spectrophotometer at a wavelength of 430nm measured absorbance.

3 Reagents

3.1

sodium peroxide.

3.2

tartaric acid.

3.3

chloroform.

3.4

ethyl acetate.

3.5

hydrochloride (rho1.19g/mL).

3.6

sulfuric acid solution (1 + 1).

3.7

hydrochloric acid solution (1 + 1).

3.8

Sodium hydroxide solution (400g/L).

3.9

solution of potassium thiocyanate (350g/L).

3.10

stannous chloride solution (200g/L). Weigh 200g of tin dichloride in 1000mL beaker, was added a solution of hydrochloric acid (3.7) were dissolved and Volume to 1000mL, the time is now equipped with.

3.11

disodium ethylenediamine tetraacetate (EDTA) solution (100g/L).

3.12

four phenylarsonic chloride hydrochloride solution (10g/L).

3.13

tetracene arsine chloride hydrochloride bath. in 1000mL of water were added 10mL tetracene arsine chloride hydrochloride solution (3.12), 8mL hydroxide Sodium solution (100g/L), and mix.

3.14

ethanol solution (98 + 2).

3.15

rhenium standard stock solution. Weigh 0.1000g powder metal rhenium (Re mass fraction greater than or equal to 99.99%) in the 150mL beaker, Hydrochloric acid solution was added 20mL (1 + 1), 5mL solution of nitric acid (1 + 1), heated until completely dissolved, cooled to room temperature, transferred to 1000mL container Volumetric flask, dilute to the mark and mix. This solution 1mL containing 100µg rhenium.

3.16

Rhenium standard solution. Pipette 20.00mL rhenium standard stock solution (3.15) in 500mL volumetric flask, dilute to the mark, mix uniform. 1mL solution containing 4µg rhenium.

3.17

resorcinol products yellow indicator (1g/L).

4 Instrument

Spectrophotometer.