

ICS 77.120.01

CCS H 14

YS

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

YS/T 745.3-2010

**Methods for chemical analysis of copper anode slime. Part 3: Determination of
platinum content and palladium content. Fire assay collection-inductively
coupled coupled plasma atomic emission spectrometric methods**

铜阳极泥化学分析方法 第3部分：铂量和钯量的测定火试金富集-电感耦合等离子
体发射光谱法

(English Translation)

Issued on: November 22, 2010

Implemented on: March 1, 2011

Issued by: Ministry of Industry and Information Technology

Table of Contents

Foreword
1 Scope
2 Method summary
3 Reagents

Foreword

YS/T 745 "Methods for chemical analysis of copper anode mud" is divided into nine sections.

- Part 1. Determination of copper content iodometry;
- Part 2. gold and silver content determination fire assay gravimetric method;
- Part 3. the amount of platinum and palladium contents - fire assay enrichment - Inductively coupled plasma atomic emission spectrometry;
- Part 4. Determination of the amount of selenium iodometry;
- Part 5. Determination of tellurium content dichromate method;
- Part 6. Determination of lead content Na₂EDTA titration;
- Part 7. Determination of bismuth content - Flame atomic absorption spectrometric method and Na₂EDTA titration;
- Part 8. Determination of arsenic content by hydride generation - atomic fluorescence spectrometry;
- Part 9. Determination of antimony content - Flame atomic absorption spectrometry.

This is Part 3.

This section is in accordance with GB/T 1.1-2009 given rules drafted.

The non-ferrous metal part by the National Standardization Technical Committee (SAC/TC243) centralized.

This section is responsible for drafting unit. Daye Nonferrous Metals Corporation.

This section is drafted. Beijing General Research Institute of Mining and Metallurgy.

Participated in the drafting of this section. Daye Nonferrous Metals Corporation, Tongling Nonferrous Metals Group Holdings Co., Jiangxi Copper shares have Ltd., Jinchuan Group Limited, Northern Copper Co., Ltd., Guangzhou Nonferrous Metal Research Institute,

Hunan Nonferrous Metals Research Institute.

1 Scope

YS/T 745 This section specifies the determination of copper anode slime platinum and palladium content.

This section applies to the determination of platinum, palladium, copper anode mud content. Measuring range Pt 5.00g/t ~ 100.00g/t; palladium 10.00g/t ~ 150.00g/t.

2 Method summary

Sample by fire assay enrichment, the formation of co-grain containing platinum palladium. After co-grain mixed acid dissolution, by inductively coupled plasma atomic emission spectrometry Instrument Determination solution of platinum and palladium.

3 Reagents

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled or deionized water or equivalent purity.

3.1

anhydrous sodium carbonate, commercially pure.

3.2

Lead oxide, palladium-platinum-free, commercially pure.

3.3

silica, commercially pure.

3.4

borax, commercially pure.

3.5

sodium chloride, commercially pure.

3.6

starch.

3.7

nitric acid (17), no chlorine ions.

3.8

glacial acetic acid (13).

3.9

mixed acid. hydrochloric acid, nitric acid (31), (now with the current).

3.10

platinum standard stock solution. Weigh 0.1000g platinum ($\geq 99.9\%$) in 100mL beaker, add 20mL mixed acid (3.9), plus After dissolving heat, add 5 drops of sodium chloride solution 200g L /, on the steam bath to nearly dry, add 20mL hydrochloric acid dissolved and transferred to 100mL volumetric flask the diluted with water to volume, and mix. 1mL solution containing 1mg platinum.

3.11

palladium standard stock solution. Weigh 0.1000g of palladium ($\geq 99.9\%$) in 100mL beaker 20mL mixed acid (3.9), heating After dissolution, add 5 drops of sodium chloride solution 200g L /, on the steam bath to nearly dry, add 20mL dissolved in hydrochloric acid and transferred to 100mL volumetric flask the diluted with water to volume, and mix. 1mL solution containing 1mg palladium.

3.12

platinum, palladium mixed standard solution. platinum were taken above the standard stock solution (3.10), palladium standard stock solution (3.11) each 10.00mL in 100mL flask, add 10mL mixed acid (3.9), diluted with water to volume, and mix. This solution 1mL containing 100 μ g platinum, 100 μ g palladium.