

ICS 59.100.20

CCS F 01

YS

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

YS/T 124.2-2010

Replacing YS/T 124-1994

**Methods of determination and calculation of heat balance in
metallurgical furnaces for production of carbon products. Part
2: Pot-type calciner**

炭素制品生产炉窑热平衡测定与计算方法 第2部分：罐式煅烧炉

(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 Measurement system
- 3 Determination of requirements and time
- 4 Measurement items and methods
 - 4.1 Determination of material into the tank
 - 4.2 Determination of the fuel gas
 - 4.3 Determination of calcined coke

Foreword

YS/T 124 "carbon products manufacturing Determination and calculation of heat balance of the furnace" is divided into five parts.

- Part 1. rotary kiln;
- Part 2. Tank calciner;
- Part 3. Electrical calciner;
- Part 4. roaster;
- Part 5. Graphite resistance furnace.

This section YS/T 124 Part 2.

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

This standard by the national non-ferrous metals Standardization Technical Committee (SAC/TC243) centralized.

This part is YS/T 124-1994 "carbon products manufacturing Determination and calculation of heat balance of the furnace" in the calciner tank repair parts Order. Compared with YS/T 124-1994, the main changes are as follows.

- Standardized units of measurement, symbols and standard text format;
- Highlighting the standards of rigor, unity.

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

This part of the Aluminum Corporation of China Guizhou Branch is responsible for drafting.

1 Scope

YS/T 124 This part provides thermal balance determination carbon products manufacturing various types of tank calciner and calculation basis, measuring strip Member, measurement items and calculation methods.

This section applies to the production of various types of carbon products tank calciner Determination and calculation of heat balance.

2 Measurement system

Measurement system for the tank firing furnace body, including the top charging port; spout cooling water jacket; the flue outlet.

3 Determination of requirements and time

3.1

in the tank firing furnace heat balance measurement cycle, tank furnace production capacity to meet the design production, normal operation, the operation of the furnace thermal parameters the number of stable conditions for the best case, as the measurement time.

3.2

Determination of time of not less than a predetermined continuous 6h, the number of measurements for each measurement item of not less than 3 times the mean value.

4.1 Determination of material into the tank

4.1.1

into the tank of petroleum coke (or smokeless block) measurement used in the production of the metering device (belt scales or electronic scales cumulative measurement), or Artificial volumetric method of measurement, measure the accumulated amount in the measurement cycle.

4.1.2

The physical and chemical analysis of petroleum coke, petroleum coke was measured when the tank temperature, moisture content, applications based low (bits) heat and specific heat.

4.2 Determination of the fuel gas

4.2.1

Gas measuring gas flow meter, measure the gas within the measurement period cumulative

dosage.

4.2.2

When the gas tank pressure and temperature, chemical composition and application based low (bits) Determination of calorific value. Gas applications based low (bits) heat can use the following formula (1).

$Q_{ymgdw} = 126CO + 108H_2 + 359CH_4 + 636C_2H_6 + 234H_2S$ (1) where.

CO, H₂, CH₄, C₂H₆, H₂S --- dry chemical composition of the gas volume fraction (%).

Specific heat is available and add look-up table method calculable.

4.3 Determination of calcined coke

4.3.1

Determination of calcined coke, field measurement using cumulative computational tools and instruments.

4.3.2

Determination of calcined coke application based low (bits) heat and specific heat.