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SN

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

SN/T 2696-2010

**Determination of major and minor elements in coal ash and
coke ash. X-ray fluorescence spectrometric method**

煤灰和焦炭灰成分中主、次元素的测定 X射线荧光光谱法

(English Translation)

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Table of Contents

Foreword

1 Scope

2 Normative references

3 Method summary

Foreword

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

This revised standard adopts ASTM D4326:2004 "X-ray fluorescence method for the determination of coal ash and coke ash composition in major and minor elements Standard Test Method "(in English).

This standard ASTM D4326:2004 compared, there is a technical difference.

- Remove ASTM D4326:2004 Table 1 strontium, lists only 12 elements measured;
- Remove ASTM D4326:2004 of 5.3 requirements for the use of graphite crucible;
- Remove ASTM D4326:2004 of 5.5 ASTM E11 mesh should meet the specification requirements;
- Remove ASTM D4326. 5.8 in 2004 related to the energy dispersive X-ray fluorescence spectrometer requirements, delete and 5.8.2 with energy dispersive X-ray fluorescence spectrometer probes pertaining to the content;
- Remove ASTM D4326:2004 8.3 tablet method using the sample preparation step, delete and related compression method of sample preparation Instruments (5.6) and reagent (6.5);
- Remove ASTM D4326:2004 10.1-house laboratories can single measurement requirements;
- Remove ASTM D4326. precision requirements in 2004;
- Remove ASTM D4326:2004 "on coal and coke ash 7 Preparation", with GB/T 1574-1995 "ash composition analysis side Law "" 5 ash sample preparation "alternative;
- Modify ASTM D4326:2004 Description of the molten sample, increasing the melting detailed sampling procedures and all reagents.

For ease of use, this standard also made the following editorial changes.

- Increasing the scope of this standard description;
- Modify the "Test methods" be replaced by "this standard";
- Modify ASTM D4326:2004 in "5 Instrument" and "6 reagent" are organized adjusted to "4 Reagents and materials" and "5 Instruments";
- Modify ASTM D4326:2004 in 6.4 "flux" added to the flux used in the description;
- Remove ASTM D4326:2004 The meaning and purpose;
- Delete ASTM standards specified number of instructions;
- Remove ASTM D4326. SI units described in 2004;
- Remove ASTM D4326:2004 is not intended to illustrate the description of all security matters;
- Remove ASTM D4326:2004 Keywords legend;
- Remove ASTM D4326:2004 safety warnings in the instructions.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. Tianjin People's Republic of China Exit Inspection and Quarantine, Ningbo Entry-Exit Inspection and People's Republic of China Quarantine Bureau.

1 Scope

This standard specifies the coal ash and coke ash into the main method of measuring the minor elements of X-ray fluorescence spectrometry.

This standard applies to fly ash, coal gangue ash and coke ash determination of silicon, aluminum, iron, calcium, magnesium, sodium, potassium, phosphorus and titanium content of each element determination Range in Table 1.

Table 1 coal ash and coke ash major and minor element oxides measurement range%

Oxide

Ash, dry

Measurement range (mass fraction) SiO₂ 33.2 ~ 57.5 Al₂O₃ 11.6 ~ 33.1 Fe₂O₃ 3.1 ~ 41.8 CaO 1.5 ~ 25.2 MgO 0.4 ~ 4.5 Na₂O 0.2 ~ 7.41 K₂O 0.3 ~ 3.1 P₂O₅ 0.1 ~ 3.4 TiO₂ 0.5 ~ 1.5 Note. MnO₂, SO₃ and BaO value as correcting the above nine elements. Test range MnO₂. 0.008% ~ 0.26%; SO₃. 0.05% ~ 2.84%; BaO. 0.41% ~ 14.72%.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

GB/T 1574 ash component analysis Laboratory use specifications and test methods GB/T 6682 Analysis GB/T 16597 Metallurgical product analysis method X-ray fluorescence spectrometer General

3 Method summary

According to GB/T 1574 coal or coke sample ashes and burned to constant weight, with lithium tetraborate and lithium metaborate (12.22) mixed melt the molten sample ashing agent after the preparation of the test pieces, measuring X-ray fluorescence intensity measured elements, according to X-ray fluorescence of the analyte the quantitative relationship between intensity and analyte content, the choice of regression equations and mathematical correction mode, calculate the analyte content.