International Standard 579

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Coke — Determination of total moisture content

Coke — Détermination de l'humidité totale

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Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 579 was developed by Technical Committee ISO/TC 27, *Solid mineral fuels*.

This second edition was submitted directly to the ISO Council, in accordance with clause 5.10.1 of part 1 of the Directives for the technical work of ISO. It cancels and replaces the first edition (i.e. ISO 579-1974), which had been approved by the member bodies of the following countries :

Australia	Denmark	Philippines
Austria	Egypt, Arab Rep. of	Poland
Belgium	France	Romania
Brazil	Germany, F. R.	Switzerland
Canada	India	Turkey
Chile	Italy	United Kingdom
Colombia	Korea, Rep. of	USA
Czechoslovakia	New Zealand	USSR

The member body of the following country had expressed disapproval of the document on technical grounds :

South Africa, Rep. of

Printed in Switzerland

Coke — Determination of total moisture content

1 Scope and field of application

This International Standard specifies a method for determining the total moisture content of coke.

2 Reference

ISO 2309, *Coke — Sampling.*

3 Principle

A sample is heated in air at 200 °C (see 9.1) and maintained at this temperature until constant mass is obtained. The percentage moisture content is calculated from the loss in mass of the sample. Coke is not liable to oxidation under the conditions stated.

4 Apparatus

4.1 Air oven, capable of maintaining a substantially uniform temperature zone at 200 °C (see 9.1) and in which the rate of atmosphere change is sufficiently rapid for the test (see 9.2).

4.2 Tray, approximately 0,1 m^2 in area and 25 mm deep, made of non-corrodible material such as stainless steel, tinned steel or aluminium.

4.3 Balance, accurate to 1 g (see 9.3).

5 Sample

The sample shall consist of 1 kg of coke (see 9.3), prepared in accordance with the rules prescribed in ISO 2039, and shall be kept in a sealed, air-tight container. During the course of its preparation, the sample may have been air-dried, in which case a formula shall be used to calculate the total moisture content (see 9.4).

6 Procedure

Weigh, to the nearest 0,1 %, the sample and container as received (see clause 5). Weigh the dry, empty tray (4.2), transfer the sample as completely as possible to the tray and spread evenly. Place the charged tray in the oven (4.1) at a temperature of 200 °C (see 9.1). Dry the wet container with any sample adhering to it by warming, transfer the remaining sample to the tray and weigh the dry, empty container (see 9.5). Heat the tray and its contents until constant mass is obtained (see 9.6), weighing the tray hot to avoid absorption of moisture during cooling.

7 Expression of results

The moisture content M of the coke as analysed, expressed as a percentage by mass, is given by the formula

$$\frac{(m_1 - m_4) - (m_3 - m_2)}{(m_1 - m_4)} \times 100$$

where

m_1 is the mass, in grams, of the container plus sample as received;

m_2 is the mass, in grams, of the dry, empty tray;

m_3 is the mass, in grams, of the tray plus sample after heating;

m_4 is the mass, in grams, of the dry, empty container.

If the sample was air-dried during the course of its preparation, calculate the total moisture content by means of the formula given in 9.4.

The result (preferably the mean of duplicate determinations — see clause 8) shall be reported to the nearest 0,1 %.