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ISO

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

ISO RECOMMENDATION

R 579

DETERMINATION OF TOTAL MOISTURE IN COKE

1st EDITION
April 1967

For each individual country the only valid standard is the national standard of that country.

Printed in Switzerland

Also issued in French and Russian. Copies to be obtained through the national standards organizations.

BRIEF HISTORY

The ISO Recommendation R 579, *Determination of Total Moisture in Coke,* was drawn up by Technical Committee ISO/TC 27, *Solid Mineral Fuels,* the Secretariat of which is held by the British Standards Institution (BSI).

Work on this question by the Technical Committee began in 1958 and led, in 1963, to the adoption of a Draft ISO Recommendation.

In March 1964, this Draft ISO Recommendation (No. 681) was circulated to all the ISO Member Bodies for enquiry. It was approved, subject to a few modifications of an editorial nature, by the following Member Bodies:

Australia	Denmark	Romania
Austria	France	Switzerland
Belgium	Germany	Turkey
Brazil	India	U.A.R.
Canada	Italy	United Kingdom
Chili	Korea, Rep. of	U.S.A.
Colombia	New Zealand	U.S.S.R.
Czechoslovakia	Poland	

One Member Body opposed the approval of the Draft:

Republic of South Africa

The Draft ISO Recommendation was then submitted by correspondence to the ISO Council, which decided, in April 1967, to accept it as an ISO RECOMMENDATION.

ISO Recommendation R 579 April 1967

DETERMINATION OF TOTAL MOISTURE IN COKE

1. SCOPE

This ISO Recommendation describes the method of determining the total moisture in coke.

2. PRINCIPLE

A sample of the coke is heated in air at 200 °C (see Note 1) and maintained at this temperature until constant in mass. The percentage moisture content is calculated from the loss in mass of the sample. Coke is not liable to oxidation under the conditions recommended.

3. APPARATUS

3.1 **Air oven,** capable of maintaining a substantially uniform temperature zone at 200 °C (see Note 1) and in which the rate of atmosphere change is sufficiently rapid (see Note 2).

3.2 **Tray,** approximately 1000 cm² in area and 2.5 cm deep, made of non-corrodible material such as stainless steel, tinned steel or aluminium.

3.3 **Weighing machine,** sensitive to 1 g (see Note 3).

4. SAMPLE

The sample should consist of 1 kg of coke (see Note 3), prepared in accordance with the relevant ISO Recommendation*, and should be received in a sealed air-tight container. During the course of its preparation the sample may have been air dried, in which case a formula is used to calculate the total moisture content (see Note 4).

5. PROCEDURE

Weigh the sample and container as received to the nearest 0.1 %. Weigh the dry, empty tray, transfer the sample as completely as possible to the tray and spread evenly. Place the charged tray in the oven at a temperature of 200 °C (see Note 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 Note 5). Heat the tray and its contents until constant in mass (see Note 6), weighing the tray hot to avoid absorption of moisture during cooling.

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* The ISO Recommendation on the sampling of coke is in course of preparation; in the meantime, the sample should be prepared so that the upper size of the coke is 15 ± 5 mm (round aperture).

6. CALCULATION AND EXPRESSION OF RESULTS

If m_1 = mass of container plus sample as received, expressed in grammes,

m_2 = mass of dry empty tray, expressed in grammes,

m_3 = mass of tray plus sample after heating, expressed in grammes,

m_4 = mass of dry empty container, expressed in grammes,

and M = moisture in the coke as analysed, expressed as a percentage

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

The result (preferably the mean of duplicate determinations, see section 7 below) should be reported to the nearest 0.1 %.

7. ACCURACY OF DETERMINATION

Total moisture	Maximum acceptable differences between results obtained	
	in the same laboratory	in different laboratories
	0.5 % absolute	0.7 % absolute

7.1 In the same laboratory

The results of duplicate determinations, carried out at different times in the same laboratory, by the same operator, with the same apparatus, on duplicate moisture samples taken from the same gross sample at the last stage of sample preparation, should not differ by more than the above value.

7.2 In different laboratories

The means of the results of duplicate determinations carried out in each of two different laboratories on representative portions taken from the same gross sample at the last stage of sample preparation, should not differ by more than the above value.