INTERNATIONAL STANDARD

ISO 687

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Solid mineral fuels — Coke — Determination of moisture in the general analysis test sample

Combustibles mineraux solides — Coke — Détermination de l'humidité de l'échantillon pour analyse

Reference number
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Contents

Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 687 was prepared by Technical Committee ISO/TC 27, *Solid mineral fuels*, Subcommittee SC 5, *Methods of analysis*.

This second edition cancels and replaces the first edition (ISO 687:1974), which has been technically revised.

Introduction

The determination of the moisture in the general analysis test sample is required to correct the results of certain analytical determinations, e.g. volatile matter and hydrogen, for the effect of water in the determination and to allow all determinations to be corrected to a dry basis.

Since coke is hygroscopic, its moisture will vary with a change in humidity of the atmosphere, and the moisture in the general analysis test sample should therefore be determined whenever portions are weighed out for other analytical determinations. If test portions for several analytical determinations are weighed out at the same time, a single simultaneous moisture determination will suffice to correct those analyses.

Solid mineral fuels — Coke — Determination of moisture in the general analysis test sample

1 Scope

This International Standard specifies a method for determining the moisture in the general analysis test sample of coke. It can be used for the determination of moisture in blast-furnace coke, foundry-coke and other high-temperature carbonization products.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1213-2:1992, *Solid mineral fuels — Vocabulary — Part 2: Terms relating to sampling, testing and analysis*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1213-2:1992 apply.

4 Principle

A known mass of the coke is heated in air at 120 °C to 200 °C and maintained at this temperature until constant mass is obtained. The moisture content is calculated from the loss in mass of the coke. Coke is not liable to oxidation under the conditions stated.

5 Apparatus

5.1 Analytical balance, capable of weighing to the nearest 0,1 mg.

5.2 Oven, capable of being controlled at a temperature of 120 °C to 200 °C and provided with a means to allow the flow of air or nitrogen.

5.3 Weighing dish, shallow, of glass or of corrosion-resistant metal, with well-fitting covers, of such a size that the coke layer does not exceed 0,20 g/cm^3.

5.4 Cooling vessel, e.g. desiccator, without desiccant, containing a porcelain or metal plate, preferably of aluminium or copper. The vessel may be provided with a means to pass air or nitrogen through it during the cooling period.

6 Preparation of the test sample

The coke used for the determination of moisture content is the general analysis test sample (see ISO 1213-2:1992). Ensure that the moisture content of the sample is in equilibrium with the laboratory atmosphere, exposing it, if necessary, in a thin layer for the minimum time required to achieve equilibrium.