INTERNATIONAL STANDARD

ISO 567

Second edition
1995-07-01

Coke — Determination of bulk density in a small container

Coke — Détermination de la masse volumique en vrac dans un récipient de petites dimensions

Reference number
ISO 567:1995(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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.

International Standard ISO 567 was prepared by Technical Committee ISO/TC 27, *Solid mineral fuels*, Subcommittee SC 3, *Coke*.

This second edition cancels and replaces the first edition (ISO 567:1974), which has been technically revised.

International Organization for Standardization
Case Postale 56 • CH-1211 Genève 20 • Switzerland

Printed in Switzerland

Introduction

The bulk density of coke depends upon its physical characteristics, e.g. apparent relative density, shape and size of the coke particles, and upon the dimensions of the container. The container specified in this International Standard has a capacity of 0,2 m^3. The determination of bulk density of coke in a large container is described in ISO 1013.

This page intentionally left blank

Coke — Determination of bulk density in a small container

1 Scope

This International Standard specifies a method for the determination of the bulk density of coke in a cubical container of capacity 0,2 m^3. It is applicable to coke with a nominal top size not greater than 125 mm.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 579:1981, *Coke — Determination of total moisture content.*

ISO 1013:1995, *Coke — Determination of bulk density in a large container.*

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 bulk density: The mass of a portion of a solid mineral fuel divided by the volume of the container which is filled by that portion under specified conditions.

4 Principle

A weighed container of known volume is filled with coke and the increase in mass is determined.

5 Apparatus

5.1 Cubical container, of capacity 0,200 m^3 and internal dimension 585 mm, with a smooth inner surface, rigidly constructed and fitted with handles.

5.2 Weighing machine, preferably of the platform type, of maximum capacity 300 kg and sufficiently accurate that the weighing error does not exceed 0,1 % of the maximum load or 250 g, whichever is the smaller.

6 Test sample

Take a sample (for physical testing) in accordance with ISO 2309:1980, *Coke — Sampling*[1].

7 Procedure

Place the container (5.1) on the weighing machine (5.2) and record its mass. Charge the coke slowly into the container until pieces of coke project above the top of the container across the whole surface. The height of drop of the coke shall not exceed 250 mm.

Slide a straightedge across the top of the container and remove any pieces of coke which obstruct its passage. Weigh the charged container.

Carry out a duplicate determination by repeating the procedure using a second portion of the test sample.

1) In due course, ISO 2309 will be replaced by ISO 13909-6, *Hard coal and coke — Sampling — Part 6: Coke — Preparation of test samples.*

8 Expression of results

The bulk density in a small container (ρ_s) of the coke, in kilograms per cubic metre, on a dry basis, is given by the equation:

$$\rho_s = \frac{m_2 - m_1}{V} \times \frac{100 - M}{100}$$

where

m_1 is the mass, in kilograms, of the empty container;

m_2 is the mass, in kilograms, of the container plus coke;

V is the capacity, in cubic metres, of the container;

M is the total moisture content of the coke, expressed as a percentage by mass, determined in accordance with ISO 579.

Calculate the mean of the two determinations and report the result to three significant figures.

For calculation of the result on an "as sampled" basis, omit the correction factor for moisture, i.e. "$(100 - M)/100$", in the equation.

9 Precision

9.1 Repeatability limit

The results of duplicate determinations, carried out in the same laboratory by the same operator with the same apparatus on representative portions taken from the same test sample, should not differ by more than 30 kg/m^3.

9.2 Reproducibility

No value for reproducibility can be quoted for determinations carried out in different laboratories because the transport of coke samples involves the risk of breakage and thus alteration of the size distribution and the bulk density.

10 Test report

The test report shall include the following:

a) the method used by reference to this International Standard;

b) a complete identification of the sample;

c) the date of the test;

d) the results expressed in accordance with clause 8;

e) any unusual features noted during the determination;

f) any operation not included in this International Standard, or regarded as optional.

This page intentionally left blank

ICS 75.160.10

Descriptors: solid fuels, coke, tests, physical tests, determination, bulk density.

Price based on 2 pages