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**Hard coal and coke — Determination of  
volatile matter**

*Houille et coke — Détermination des matières volatiles*



## Foreword

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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 562 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 562:1981), which has been technically revised.

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## Introduction

The volatile matter is determined as the loss in mass, less that due to moisture, when coal or coke is heated out of contact with air under standardized conditions. The test is empirical and, in order to ensure reproducible results, it is essential that the rate of heating, the final temperature and the overall duration of the test are carefully controlled. It is also essential to exclude air from the coal or coke during heating to prevent oxidation. The fit of the crucible lid is therefore critical. The moisture content of the sample is determined at the same time as the volatile matter so that the appropriate correction can be made.

Mineral matter associated with the sample may also lose mass under the conditions of the test, the magnitude of the loss being dependent on both the nature and the quantity of the minerals present.

NOTE — When applying this International Standard for classification purposes, to samples obtained directly from coal seams, special care has to be given to the ash content.

The apparatus and procedure are specified so that one or more determinations may be performed simultaneously in the furnace.



# Hard coal and coke — Determination of volatile matter

## 1 Scope

This International Standard specifies a method of determining the volatile matter of hard coal and of coke. It is not applicable to brown coals and lignites.

## 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 331:1983, *Coal — Determination of moisture in the analysis sample — Direct gravimetric method.*

ISO 687:1974, *Coke — Determination of moisture in the analysis sample.*

ISO 11722:—<sup>1)</sup>, *Solid mineral fuels — Hard coal — Determination of moisture in the analysis sample by drying in nitrogen.*

## 3 Principle

A portion of the sample is heated out of contact with air at 900 °C for 7 min. The percentage of volatile matter is calculated from the loss in mass of the test portion after deducting the loss in mass due to moisture.

## 4 Reagent

Cyclohexane of recognized analytical grade.

1) To be published.