



**International
Standard**

ISO 562

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

Houille et coke — Détermination des matières volatiles

**Fourth edition
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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 27, *Coal and coke*, Subcommittee SC 5, *Methods of analysis*.

This fourth edition cancels and replaces the third edition (ISO 562:2010), which has been technically revised.

The main changes are as follows:

- title and references changed to be consistent with the new name of ISO/TC 27;
- editorial updates to be in line with ISO 80000-1.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

In this document, 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 conditions specified in this document are strictly followed. The moisture 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 can also lose mass under the conditions of the test specified in this document. The magnitude of the loss is dependent on both the nature and the quantity of the minerals present.

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

Hard coal and coke — Determination of volatile matter

1 Scope

This document 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 documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 687, *Coke — Determination of moisture in the general analysis test sample*

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

ISO 11722, *Solid mineral fuels — Hard coal — Determination of moisture in the general analysis test sample by drying in nitrogen*

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

4 Principle

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

5 Reagents and materials

5.1 **Cyclohexane**, of recognized analytical grade.

6 Apparatus

6.1 **Furnace**, heated by electricity, in which a zone of uniform temperature of 900 °C ± 5 °C can be maintained.

The furnace may be of the stop-ended type or fitted at the back with a flue approximately 25 mm in diameter and 150 mm long (see [Figure 1](#)).

For furnaces with flues, the furnace door shall seal well. The flue should not reach far out of the oven and should be fitted with a butterfly valve to restrict airflow through the furnace.