
Classification of coals

Classification des charbons



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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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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, *Solid mineral fuels*, Subcommittee SC 5, *Methods of analysis*.

This second edition cancels and replaces the first edition (ISO 11760:2005), of which it constitutes a minor revision.

The main changes compared to the previous edition are as follows:

- replacement of AS 2434-1 with ISO 1018 in Table 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

Coals occur worldwide and vary significantly in their physical and chemical characteristics for a variety of reasons, both with respect to the organic coal substance and to the associated mineral matter that is always present to varying extents. Coals are an important source of energy, as well as being essential for the production of metallurgical cokes, and are widely used as feedstock for other industrial processes such as in the production of gaseous fuels and synthesis gas. Hence, a wide range of procedures has been developed by the International Organization for Standardization (ISO) for the analysis and testing of coals. These ISO procedures are variously designated as being applicable to “hard coals”, “brown coals” and “lignite”, “bituminous coals” and “anthracite”. There are, however, no ISO definitions that specify the boundaries that apply to these descriptive terms, which all relate to the geological maturity (rank) of the coals. Further, there is no simple system for the classification of coals that can provide, on a comparative basis, an indication of coal characteristics on a worldwide basis. This ISO standard provides a basis for addressing both these issues.

The classification is not intended to be used for commercial purposes because the assessment and selection of coals for a specific purpose require detailed information that enables the likely performance of a coal in a particular application to be anticipated. The wide-ranging list of ISO analyses and tests provides that information.

The development of this ISO standard has been guided by the recently published “*International Classification of in-Seam Coals*”^[14]. The ISO standard, however, represents a simplified version that incorporates some significant modifications made for reasons given in the classification details that follow.

Classification of coals

1 Scope

This document describes a simple classification system for coals providing

- guidance on the selection of the appropriate ISO standard procedures for the analyses and testing of coals,
- international comparison of coals in terms of some key characteristics,
- descriptive categorization of coals.

The system is applicable to coals of all ranks, but care is required in relation to the classification of some types of coal.

The system can be applied to a wide range of representative coal samples, provided their exact nature is stated. Such samples include bore-core seam sections and composite samples, raw (as-mined) coal, washed coal, blends of coals of similar rank and selected, specified size fractions.

The system provides a broad framework within which coals can be assessed. The selection of coals for a specific use requires detailed information that enables the likely performance of a coal in a particular application to be anticipated. The wide-ranging list of ISO analyses and test procedures for coals serve this purpose. The selection of the appropriate procedures to be used in assessing a coal depends on the intended use.

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

ISO 7404-1, *Methods for the petrographic analysis of coals — Part 1: Vocabulary*

ISO 7404-5, *Methods for the petrographic analysis of coals — Part 5: Method of determining microscopically the reflectance of vitrinite*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1213-2, ISO 7404-1 and the following apply.

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

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