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Solid mineral fuels — Guidelines for the validation of alternative methods of analysis

Combustibles minéraux solides — Lignes directrices pour la validation de variantes analytiques

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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 on 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 the following URL: 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*.

Solid mineral fuels — Guidelines for the validation of alternative methods of analysis

1 Scope

This document describes procedures for validating alternative methods of analysis for coal and coke either directly by comparison with the relevant International Standard method or indirectly by comparison with reference materials that have been exhaustively analysed using the relevant International Standard method.

The statistical analysis methods used are parametric, i.e. their use is possible only when the characteristic is expressed as a simple number on an approximately linear scale. The results from some methods, for example the Gray-King coke type, are not so expressed and the methods given here need to be used only if the data are converted to a parametric scale.

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 5725-6:1994, *Accuracy (trueness and precision) of measurement methods and results — Part 6: Use in practice of accuracy values*

3 Terms and definitions

For the purposes of this document, the following terms and definitions 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/

3.1
accuracy
closeness of agreement between a test result and the acceptable reference value

Note 1 to entry: The term accuracy, when applied to a set of results, describes a combination of random components and a common systematic error or bias component.

3.2
bias
difference between the expectation of the test results and an accepted reference value

Note 1 to entry: Bias is a systematic error as contrasted to random error. There may be one or more systematic error components contributing to the bias. A larger systematic difference from the accepted reference value is reflected by a larger bias value.

3.3
precision
closeness of agreement between independent test results obtained under prescribed conditions

Note 1 to entry: Precision depends only on distribution of random errors and does not relate to the accepted reference value.