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BSI Standards Publication

Solid biofuels — Determination of calorific value

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National foreword

This British Standard is the UK implementation of EN ISO 18125:2017. It is identical to ISO 18125:2017. It supersedes BS EN 14918:2009, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PTI/17, Solid biofuels.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Biogene Festbrennstoffe - Bestimmung des Heizwertes (ISO 18125:2017)

This European Standard was approved by CEN on 6 April 2017.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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European foreword

This document (EN ISO 18125:2017) has been prepared by Technical Committee ISO/TC 238 "Solid biofuels" in collaboration with Technical Committee CEN/TC 335 "Solid biofuels" the secretariat of which is held by SIS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2017, and conflicting national standards shall be withdrawn at the latest by November 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14918:2009.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 18125:2017 has been approved by CEN as EN ISO 18125:2017 without any modification.

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Contents

Page

Foreword	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	2
4.1 Gross calorific value.....	2
4.2 Net calorific value.....	3
5 Reagents	3
6 Apparatus	4
7 Preparation of test sample	7
8 Calorimetric procedure	8
8.1 General.....	8
8.2 Preparing the bomb for measurement.....	10
8.2.1 General procedure.....	10
8.2.2 Using combustion aid.....	10
8.3 Assembling the calorimeter.....	11
8.4 Combustion reaction and temperature measurements.....	11
8.5 Analysis of products of combustion.....	12
8.6 Corrected temperature rise θ	12
8.6.1 Observed temperature rise.....	12
8.6.2 Isoperibol and static-jacket calorimeters.....	12
8.6.3 Adiabatic calorimeters.....	14
8.6.4 Thermometer corrections.....	14
8.7 Reference temperature.....	14
9 Calibration	14
9.1 Principle.....	14
9.2 Calibrant.....	15
9.2.1 Certification conditions.....	15
9.2.2 Calibration conditions.....	15
9.3 Valid working range of the effective heat capacity ϵ	15
9.4 Ancillary contributions.....	16
9.5 Calibration procedure.....	16
9.6 Calculation of effective heat capacity for the individual experiment.....	17
9.6.1 Constant mass-of-calorimeter-water basis.....	17
9.6.2 Constant total-calorimeter-mass basis.....	17
9.7 Precision of the mean value of the effective heat capacity ϵ	18
9.7.1 Constant value of ϵ	18
9.7.2 ϵ as a function of the observed temperature rise.....	19
9.8 Redetermination of the effective heat capacity.....	19
10 Gross calorific value	19
10.1 General.....	19
10.2 Combustion.....	20
10.3 Calculation of gross calorific value.....	20
10.3.1 General.....	20
10.3.2 Constant mass-of-calorimeter-water basis.....	20
10.3.3 Constant total-calorimeter-mass basis.....	22
10.3.4 ϵ as a function of the observed temperature rise.....	23
10.4 Expression of results.....	23
10.5 Calculation to other bases.....	23
11 Performance characteristics	24

This is a preview of "BS EN ISO 18125:2017". [Click here to purchase the full version from the ANSI store.](#)

11.1	Repeatability limit.....	24
11.2	Reproducibility limit.....	24
12	Calculation of net calorific value at constant pressure.....	24
12.1	General.....	24
12.2	Calculations.....	24
13	Test report.....	25
Annex A	(normative) Adiabatic bomb calorimeters.....	26
Annex B	(normative) Isooperibol and static-jacket bomb calorimeters.....	30
Annex C	(normative) Automated bomb calorimeters.....	36
Annex D	(informative) Checklists for the design and procedures of combustion experiments.....	39
Annex E	(informative) Examples to illustrate the main calculations used in this document when an automated bomb calorimeter is used for determinations.....	44
Annex F	(informative) List of symbols used in this document.....	48
Annex G	(informative) Default values of most used solid biofuels for the calculations of calorific values.....	51
Annex H	(informative) Flow chart for a routine calorific value determination.....	52
Bibliography	53
Index	54

This is a preview of "BS EN ISO 18125:2017". [Click here to purchase the full version from the ANSI store.](#)

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 238, *Solid biofuels*.

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Solid biofuels — Determination of calorific value

1 Scope

This document specifies a method for the determination of the gross calorific value of a solid biofuel at constant volume and at the reference temperature 25 °C in a bomb calorimeter calibrated by combustion of certified benzoic acid.

The result obtained is the gross calorific value of the analysis sample at constant volume with all the water of the combustion products as liquid water. In practice, biofuels are burned at constant (atmospheric) pressure and the water is either not condensed (removed as vapour with the flue gases) or condensed. Under both conditions, the operative heat of combustion to be used is the net calorific value of the fuel at constant pressure. The net calorific value at constant volume may also be used; formulae are given for calculating both values.

General principles and procedures for the calibrations and the biofuel experiments are presented in the main text, whereas those pertaining to the use of a particular type of calorimetric instrument are described in [Annexes A](#) to [C](#). [Annex D](#) contains checklists for performing calibration and fuel experiments using specified types of calorimeters. [Annex E](#) gives examples to illustrate some of the calculations.

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 651, *Solid-stem calorimeter thermometers*

ISO 652, *Enclosed-scale calorimeter thermometers*

ISO 1770, *Solid-stem general purpose thermometers*

ISO 1771, *Enclosed-scale general purpose thermometers*

ISO 14780, *Solid biofuels — Sample preparation*

ISO 16559, *Solid biofuels — Terminology, definitions and descriptions*

ISO 18134-3, *Solid biofuels — Determination of moisture content — Oven dry method — Part 3: Moisture in general analysis sample*

ISO 18135, *Solid biofuels — Sampling*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16559 and the following apply.

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

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