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BSI Standards Publication

## Solid Biofuels - Sampling

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## National foreword

This British Standard is the UK implementation of EN ISO 18135:2017. It is identical to ISO 18135:2017. It supersedes BS EN 14778:2011, which is withdrawn.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.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Compliance with a British Standard cannot confer immunity from legal obligations.**

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 June 2017.

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Date	Text affected
31 May 2018	Implementation of CEN correction notice 10 May 2017: Superseding reference corrected

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## EUROPÄISCHE NORM

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ICS 75.160.40

Supersedes EN 14778:2011

English Version

## Solid Biofuels - Sampling (ISO 18135:2017)

Biocarburants solides - Échantillonnage (ISO  
18135:2017)Biogene Festbrennstoffe - Probenahme (ISO  
18135:2017)

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

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.



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 18135:2017) 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 October 2017 and conflicting national standards shall be withdrawn at the latest by October 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 14778:2011.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association.

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 18135:2017 has been approved by CEN as EN ISO 18135:2017 without any modification.

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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](http://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](http://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 the 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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical committee ISO/TC 238, *Solid biofuels*.

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## Introduction

The objective of this document is to provide unambiguous and clear principles for sampling solid biofuels. It also aims to serve as a tool to enable efficient trading of biofuels and a good understanding between seller and buyer, as well as a tool for communication with equipment manufacturers. It will also facilitate authority permission procedures and reporting.

This document is made for all stakeholders.

Solid biomass is defined in ISO 16559 and according to the specification in ISO 17225-1 covers organic, non-fossil material of biological origin which may be used as fuel for heat and electrical generation.

This document was developed with significant content from EN 14778:2011.



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# Solid Biofuels — Sampling

## 1 Scope

This document describes methods for preparing sampling plans and certificates, as well as taking samples of solid biofuels, for example, from the place where the raw materials grow, from production plant, from deliveries, e.g. lorry loads, or from stock. It includes both manual and mechanical methods, and is applicable to solid biofuels that are either:

- fine (particle sizes up to about 10 mm) and regularly shaped particulate materials that can be sampled using a scoop or pipe, for example, sawdust, olive stones and wood pellets;
- coarse or irregularly shaped particulate materials (particle sizes up to about 200 mm) that can be sampled using a fork or shovel, for example, wood chips and nut shells, forest residue chips, and straw;
- baled materials, for example, baled straw or grass;
- large pieces (particle sizes above 200 mm) that are either picked manually or automatically;
- vegetable waste, fibrous waste from virgin pulp production and from production of paper from pulp that has been dewatered;
- thermally treated and densified biomass materials;
- roundwood.

This document is not applicable to airborne dust from solid biofuels. It may be possible to use this document for other solid biofuels.

The methods described in this document may be used, for example, when the samples are to be tested for moisture content, ash content, calorific value, bulk density, durability, particle size distribution, ash melting behaviour and chemical composition.

## 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 13909-8, *Hard coal and coke — Mechanical sampling — Part 8: Methods of testing for bias*

ISO 14780, *Solid biofuels — Sample preparation*

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

ISO 21398, *Hard coal and coke — Guidance to the inspection of mechanical sampling systems*

## 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>