INTERNATIONAL STANDARD

ISO 18134-3

Second edition
2023-06

Solid biofuels — Determination of moisture content —

Part 3: Moisture in general analysis sample

Biocombustibles solides — Dosage de la teneur en humidité —
Partie 3: Humidité de l'échantillon pour analyse générale

Reference number
ISO 18134-3:2023(E)

© ISO 2023



COPYRIGHT PROTECTED DOCUMENT

© ISO 2023

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

© ISO 2023 – All rights reserved

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Principle **1**
5 Apparatus **2**
6 Sample preparation **2**
6.1 General 2
6.2 Size of test portion 2
7 Procedure **3**
8 Calculation **3**
9 Performance characteristics **3**
9.1 Repeatability 3
9.2 Reproducibility 3
10 Test report **4**
Bibliography **5**

© ISO 2023 – All rights reserved

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).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

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 238, *Solid biofuels*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 335, *Solid biofuels*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 18134-3:2015), which has been technically revised.

The main changes are as follows:

— Clause 6: statement added warning against loss or gain of moisture during sample preparation;

— references updated;

— minor editorial corrections.

A list of all parts in the ISO 18134 series can be found on the ISO website.

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.

© ISO 2023 – All rights reserved

Solid biofuels — Determination of moisture content —

Part 3: Moisture in general analysis sample

1 Scope

This document describes the method of determining the moisture content in the general analysis sample by drying in an oven. The method described in this document is applicable to all solid biofuels. The moisture content of solid biofuels (as received) is always reported based on the total mass of the test sample (wet basis).

Since biofuels in small particle size are very hygroscopic, their moisture content will change with humidity in the atmosphere and, therefore, the moisture of the general analysis sample is determined simultaneously with the determination of other properties being measured (e.g. calorific value, volatile matter, metals, etc.).

NOTE Biomass materials can contain small amounts of volatile organic compounds (VOC) which can evaporate when determining moisture content by oven drying (see References [1] and [2]). The release of such compounds is quite small relative to the overall moisture content as determined by this method and is disregarded in this document.

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

ISO 14780, *Solid biofuels — Sample preparation*

ISO 16559, *Solid biofuels — Vocabulary*

ISO 18135, *Solid Biofuels — Sampling*

ISO 21945, *Solid biofuels — Simplified sampling method for small scale applications*

3 Terms and definitions

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

The test portion of the general analysis sample is dried at a temperature of (105 ± 2) °C in air atmosphere until constant mass is achieved and the percentage moisture is calculated from the loss in mass of the test portion.

© ISO 2023 – All rights reserved