

Solid recovered fuels - Determination of moisture content using the oven dry method - Part 3: Moisture in general analysis sample (ISO 21660-3:2021)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 21660-3:2021 sisaldab Euroopa standardi EN ISO 21660-3:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 21660-3:2021 consists of the English text of the European standard EN ISO 21660-3:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 17.03.2021.	Date of Availability of the European standard is 17.03.2021.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

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EUROPEAN STANDARD

EN ISO 21660-3

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English Version

**Solid recovered fuels - Determination of moisture content  
using the oven dry method - Part 3: Moisture in general  
analysis sample (ISO 21660-3:2021)**

Combustibles solides de récupération - Détermination  
de l'humidité par la méthode de séchage à l'étuve -  
Partie 3: Humidité de l'échantillon pour analyse  
générale (ISO 21660-3:2021)

Feste Sekundärbrennstoffe - Bestimmung des  
Wassergehaltes unter Verwendung des Verfahrens der  
Ofentrocknung - Teil 3: Wassergehalt in gewöhnlichen  
Analysenproben (ISO 21660-3:2021)

This European Standard was approved by CEN on 6 March 2021.

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.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## European foreword

This document (EN ISO 21660-3:2021) has been prepared by Technical Committee ISO/TC 300 "Solid recovered materials, including solid recovered fuels" in collaboration with Technical Committee CEN/TC 343 "Solid Recovered Fuels" the secretariat of which is held by SFS.

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 September 2021, and conflicting national standards shall be withdrawn at the latest by September 2021.

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

This document supersedes EN 15414-3:2011.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 21660-3:2021 has been approved by CEN as EN ISO 21660-3:2021 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)).

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

This document was prepared by Technical Committee ISO/TC 300, *Solid recovered fuels*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 343, *Solid recovered fuels*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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](http://www.iso.org/members.html).

# Solid recovered fuels — Determination of moisture content using the oven dry method —

## Part 3: Moisture in general analysis sample

### 1 Scope

This document specifies a method for the determination of moisture in a general analysis sample by drying the sample in an oven. This method is suitable for use for general analysis samples in accordance with CEN/TS 15414-1<sup>[3]1)</sup>. It is applicable to all solid recovered fuels.

If solid recovered fuels contain large amounts of oil-fractions the Karl-Fischer-Method (for example ISO 760) is advisable. Otherwise, a lower temperature is recommended (e.g. 50 °C ± 10 °C) and a longer drying time until constant mass is achieved.

**NOTE** The term moisture content, when used with recovered materials, can be misleading since solid recovered materials, e. g. biomass, frequently contain varying amounts of volatile compounds (extractives) which can evaporate when determining the moisture content of the general analyses sample by oven drying.

### 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 21637, *Solid recovered fuels — Vocabulary*

ISO 21646<sup>2)</sup>, *Solid recovered fuels — Sample preparation*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21637 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/>

### 4 Principle

The analysis sample of solid recovered fuels is dried at a temperature of 105 °C under air atmosphere or nitrogen atmosphere. The percentage of moisture is calculated from the loss in mass of the test sample. If the sample material is susceptible to oxidation (at 105 °C), drying in nitrogen atmosphere is performed.

1) The adoption of the standard series EN 15414 as standard series ISO 21660 is planned. ISO 21660-3 is published in parallel at CEN level as EN 21660-3.

2) Under preparation. Stage at the time of publication: ISO/DIS 21646:2021.