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Standards

Irish Standard  
I.S. EN ISO 22167:2021

# Solid recovered fuels - Determination of content of volatile matter (ISO 22167:2021)

**I.S. EN ISO 22167:2021**

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## National Foreword

I.S. EN ISO 22167:2021 is the adopted Irish version of the European Document EN ISO 22167:2021, Solid recovered fuels - Determination of content of volatile matter (ISO 22167:2021)

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EUROPEAN STANDARD

EN ISO 22167

NORME EUROPÉENNE

EUROPÄISCHE NORM

March 2021

ICS 75.160.10

Supersedes EN 15402:2011

English Version

## Solid recovered fuels - Determination of content of volatile matter (ISO 22167:2021)

Combustibles solides de récupération - Détermination de la teneur en composés volatils (ISO 22167:2021)

Feste Sekundärbrennstoffe - Bestimmung des Gehaltes an flüchtigen Substanzen (ISO 22167:2021)

This European Standard was approved by CEN on 9 March 2021.

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**EN ISO 22167:2021 (E)**

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## **European foreword**

This document (EN ISO 22167:2021) 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of an identical text or by endorsement, at the latest by September 2021, and conflicting national standards shall be withdrawn at the latest by September 2021.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 15402:2011.

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 22167:2021 has been approved by CEN as EN ISO 22167:2021 without any modification.

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# INTERNATIONAL STANDARD

**ISO  
22167**

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## **Solid recovered fuels — Determination of content of volatile matter**

*Combustibles solides de récupération — Détermination de la teneur  
en composés volatils*



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ISO 22167:2021(E)

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**ISO 22167:2021(E)**



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## ISO 22167:2021(E)

### 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)).

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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).

## Introduction

The volatile matter is determined as the loss in mass of the analysed sample, after moisture removal, when material is heated up under specific conditions of temperature, time and in a reduced atmosphere (anoxic conditions). The test is empirical and, in order to ensure reproducible results, it is essential that the rate of heating, the final temperature and the overall duration of the test are carefully controlled. It is also essential to exclude air from the solid recovered fuel during heating to prevent oxidation.

The moisture content of the sample is determined at the same time as the volatile matter so that the appropriate correction can be made. Mineral matter associated with the sample can also lose mass under the conditions of the test, the magnitude of the loss being dependent on both the nature and the quantity of the minerals present.

This document is primarily geared toward laboratories, producers, suppliers and purchasers of solid recovered fuels, but is also useful for the authorities and inspection organizations.

The method specified in this document is based on EN 15402<sup>[3]</sup> as well as ISO 562.

For information about environmental aspect, see [Annex B](#).



# Solid recovered fuels — Determination of content of volatile matter

## 1 Scope

This document specifies the requirements and a method for the determination of volatile matter of solid recovered fuels.

## 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 21645, *Solid recovered fuels — Methods for sampling*

ISO 21646<sup>1)</sup>, *Solid recovered fuels — Sample preparation*

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

## 3 Terms and definitions

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

#### **ash**

#### **ash content on dry basis**

#### **total ash**

#### *A*

mass of inorganic residue remaining after combustion of a fuel under specified conditions, typically expressed as a percentage of the mass of dry matter in fuel

Note 1 to entry: Depending on the combustion efficiency the ash may contain combustibles.

Note 2 to entry: If a complete combustion is realized, ash contains only inorganic, non-combustible components.

[SOURCE: ISO 16559:2014, 4.13, modified — “Note 1 to entry” was removed and the following ones renumbered, and symbol “A” was italicized.]

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

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