

TAHKED BOKÜTUSED. LAGUNENUD GRAANULITE  
OSAKESTE SUURUSJAOTUS

Solid biofuels - Particle size distribution of  
disintegrated pellets (ISO 17830:2024)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 17830:2024 sisaldab Euroopa standardi EN ISO 17830:2024 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 05.06.2024.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 17830:2024 consists of the English text of the European standard EN ISO 17830:2024.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 05.06.2024.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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ICS 27.190, 75.160.40

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EUROPEAN STANDARD

EN ISO 17830

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Supersedes EN ISO 17830:2016

English Version

## Solid biofuels - Particle size distribution of disintegrated pellets (ISO 17830:2024)

Biocombustibles solides - Distribution  
granulométrique des granules désintégrés (ISO  
17830:2024)

Biogene Festbrennstoffe - Partikelgrößenverteilung  
von Pellet-Ausgangsmaterial (ISO 17830:2024)

This European Standard was approved by CEN on 17 May 2024.

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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

## European foreword

This document (EN ISO 17830:2024) 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of an identical text or by endorsement, at the latest by December 2024, and conflicting national standards shall be withdrawn at the latest by December 2024.

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 ISO 17830:2016.

Any feedback and questions on this document should be directed to the users' national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

## Endorsement notice

The text of ISO 17830:2024 has been approved by CEN as EN ISO 17830:2024 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 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](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 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 17830:2016), which has been technically revised.

The main changes are as follows:

- set of suggested sieves has been modified to better reflect industry practice and to be consistent with ISO 17827-2;
- a specific table for the results of size distribution analysis for quality control of pellets for industrial use has been added. The order of sieves was reversed to align with other standards;
- a figure has been added to show the sample division;
- details have been added to clarify the procedure and to improve the accuracy;
- normative references have been updated and amended;
- editorial changes have been made.

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

In power plants with powder fuel burners for energy production, operators need information about the particle size distribution of the fuel for optimising particle burnout during combustion. Fuel preparation equipment, such as pulverisers, are used for crushing pellets into the original particle sizes before the material is pressed into pellets. The method described in this document is intended to characterize particle size distribution of the material contained within fuel pellets and also allows for a relative comparison of pellets of different manufacturing.

This method is based on experience with pellets made from sawdust, wood shavings and milled wood, as well as straw. The method may also be applicable for pellets produced from other solid biofuel materials provided that they can be disintegrated into its constituents in water.

Pellets that are engineered to resist water, e.g. pellets from materials which have undergone some thermal treatments, cannot be characterised by this method.

# Solid biofuels — Particle size distribution of disintegrated pellets

## 1 Scope

This document specifies the requirements and method used to determine particle size distribution of disintegrated pellets. It is applicable for pellets that fully disintegrate in hot water.

## 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 14780, *Solid biofuels — Sample preparation*

ISO 16559, *Solid biofuels — Vocabulary*

ISO 17827-2, *Solid biofuels — Determination of particle size distribution for uncompressed fuels — Part 2: Vibrating screen using sieves for classification of samples with apertures of 3,15 mm and below*

ISO 18134-1, *Solid biofuels — Determination of moisture content — Part 1: Reference method*

ISO 18134-2, *Solid biofuels — Determination of moisture content — Part 2: Simplified method*

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 and the following 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/>

### 3.1

#### **sieve fraction**

mass fraction of test portion or sub-portion collected on a sieve after particle separation through the sieving process.

## 4 Principle

The particle size distribution is determined after the sample pellets have been disintegrated in hot deionised water and dried in a drying cabinet or oven. The determination is performed by sieving the dried material in accordance with ISO 17827-2.

## 5 Reagents

### 5.1 Deionised water.