



SLOVENSKI STANDARD
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Trdna biogoriva - Določevanje dolžine in premera peletov (ISO/DIS 17829:2024)

Solid Biofuels - Determination of length and diameter of pellets (ISO/DIS 17829:2024)

Biogene Festbrennstoffe - Bestimmung der Länge und des Durchmessers von Pellets (ISO/DIS 17829:2024)

Biocombustibles solides - Détermination de la longueur et du diamètre des granulés (ISO/DIS 17829:2024)

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DRAFT International Standard

ISO/DIS 17829

Solid Biofuels — Determination of length and diameter of pellets

*Biocombustibles solides — Détermination de la longueur et du
diamètre des granulés*

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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).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/TC 238, *Solid biofuels*.

This document replaces ISO 17829:2015, which is technically revised. The main changes compared to the previous document are:

- Extended scope which now includes the determination of specified pellet length fractions, e.g. pellets < 10 mm as specified in ISO 17225-2;
- Description of a procedure to determine fractions of specified length including particles below 10 mm;
- Added definition of pellet length;
- Modified drawings for measuring pellet length;
- Changed sizes of the test portions for the determination of the pellet length and fractions of specific length including pellets > 40 mm;
- Changed procedures for measuring pellet length with two options using a device for measuring the pellet length or a caliper;
- Added informative Annex with a device for measuring the length of pellets with other diameters than 6 mm;
- Added informative Annex with comparing data for the determination of pellet length with different methods
- Updated references
- Modified drawings and the definition of pellet length to avoid potential ambiguity.

ISO/DIS 17829:2024(en)**Introduction**

Pellets with a length and diameter outside the specification can cause problems with transportation in screw conveyors, silo outlets, and burner feeding systems. ISO 17225-1, ISO 17225-2, ISO 17225-6, and ISO 17225-8 stipulate dimensions of pellets. The average pellet length and the amount of pellets of specific size fractions can influence the bulk density and the combustion behaviour.

This document describes procedures for determining the diameter class according to ISO 17225-2 as well as the length and diameter of pellets and the shares of specified pellet length fractions.

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Solid Biofuels — Determination of length and diameter of pellets

1 Scope

This document specifies the methods for the determination of diameter and length of pellets. Concerning the pellet length, methods for the determination of fractions of specified lengths, such as pellets > 40 mm and particles below 10 mm and for determination of the average length are included.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3310-2, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*

ISO 5370, *Solid biofuels — Determination of fines content in pellets*

ISO 14780, *Solid biofuels — Sample preparation*

ISO 16559, *Solid biofuels — Vocabulary*

ISO 17225-1, *Solid biofuels — Fuel specifications and classes — Part 1: General requirements*

ISO 17225-2, *Solid biofuels — Fuel specifications and classes — Part 2: Graded wood pellets*

ISO 17225-6, *Solid biofuels — Fuel specifications and classes — Part 6: Graded non-woody pellets*

ISO 17225-8, *Solid biofuels — Fuel specifications and classes — Part 8: Graded thermally treated and densified biomass fuels for commercial and industrial use*

ISO 18135, *Solid Biofuels — Sampling*

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

3 Terms and definitions

For the purpose of this document, the following terms and definitions given in ISO 16559 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 <https://www.electropedia.org/>

3.1

pellet length

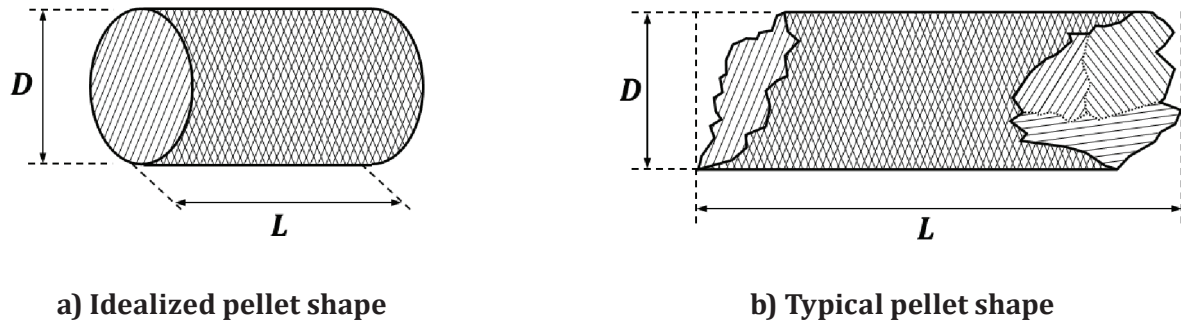
distance from endpoint to endpoint along the pellet axis

Note 1 to entry: Before measuring the pellet length the coarse pellet fines (fraction of particles between 3,15 mm and 5,6 mm) are removed by sieve according to ISO 5370. For the determination of the average pellet length this fraction is not considered. For the determination of specific size fractions the coarse pellet fines are included as mass fraction.

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4 Principle

The diameter of fuel pellets (see [Figure 1](#)) of a representative test sample is measured by means of a caliper. Measuring of the pellet length along the axis of pellets is done with an apparatus as described in [5.2](#) (Option A) or with a caliper as described in [5.1](#) (Option B). The method for length measurement enables the user to determine the share of pellets in specified length classes such as pellets longer than 40 mm or shorter than 10 mm. Furthermore the average length of pellets can be determined.



Key

D diameter of a pellet

L length of a pellet

Figure 1 — Length and diameter of a pellet

Automatic equipment for the determination of the pellet length may be used when the method is validated with biomass reference samples of adequate biomass pellets. The automatic equipment shall fulfil all requirements concerning sample size for length determination given in [Clause 7.1](#).

5 Apparatus

5.1 Caliper as shown in [Figure 2](#) shall have a readability of at least 0,1 mm to be used for the measurement of the pellet length (Option B) and the pellet diameter.

For easier handling a digital caliper is recommended. If technically possible, the digital caliper may be connected to a computer to avoid manual recording of the data.

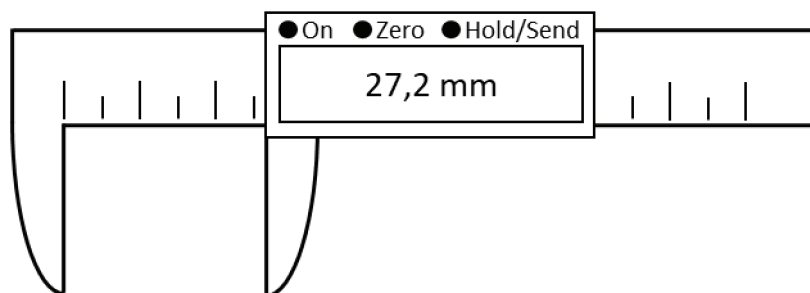


Figure 2 — Example of a digital caliper

5.2 Measuring block with a mounted built-in caliper and metal pin elements. The measuring block (A) has a groove (D) for holding the pellets to be measured (see [Figure 3](#)). The groove has an angle of 90° and shall be deep enough to keep the pellet properly in the correct direction along the groove.