



SLOVENSKI STANDARD
SIST EN 16127:2012

01-maj-2012

Trdna biogoriva - Ugotavljanje širine in premera peletov in cilindričnih briketov

Solid biofuels - Determination of length and diameter for pellets and cylindrical briquettes

Feste Biobrennstoffe - Bestimmung der Länge und des Durchmessers von Pellets

Biocombustibles solides - Détermination de la longueur et du diamètre des pastilles

Ta slovenski standard je istoveten z: EN 16127:2012

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ICS:

75.160.10 Trda goriva Solid fuels

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EUROPEAN STANDARD

EN 16127

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2012

ICS 75.160.10

English Version

Solid biofuels - Determination of length and diameter of pelletsBiocombustibles solides - Détermination de la distribution
granulométrique des granulés et des briquettes cylindriquesFeste Biobrennstoffe - Bestimmung der Länge und des
Durchmessers von Pellets

This European Standard was approved by CEN on 8 January 2012.

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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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Foreword

This document (EN 16127:2012) has been prepared by 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of an identical text or by endorsement, at the latest by August 2012, and conflicting national standards shall be withdrawn at the latest by August 2012.

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

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Introduction

Pellets with a length and diameter outside the specification can cause problems with transportation in screw conveyors and silo outlets. According to EN 14961-1, EN 14961-2 and FprEN 14961-6 measurements of length and diameter of pellets need to be performed. This document describes the measuring procedure.

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1 Scope

This European Standard describes methods for the determination of diameter and length of pellets. Concerning the pellet length methods for both determination of the share of oversized pellets and for determination of the average length are included. It is intended for persons and organisations that manufacture, plan, sell, erect or use machinery, equipment, tools and entire plants related to fuel pellets, and to all persons and organisations involved in producing, purchasing, selling and utilising fuel pellets.

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.

EN 14588, *Solid biofuels — Terminology, definitions and descriptions*

EN 14778, *Solid biofuels — Sampling*

EN 14780, *Solid biofuels — Sample preparation*

EN 15210-1, *Solid biofuels — Determination of mechanical durability of pellets and briquettes — Part 1: Pellets*

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3 Terms and definitions (standards.iteh.ai)

For the purpose of this document, the terms and definitions given in EN 14588 apply.

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4 Principle

The length and diameter of fuel pellets of a representative sample of fuel pellets are measured by using a caliper. The length of a pellet is always measured along the axis of the cylinder (Figures 1 and 2). The diameter is measured perpendicular to the axis.

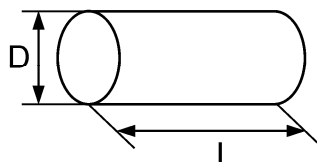


Figure 1 — Length and diameter of a pellet (D Diameter, L Length)

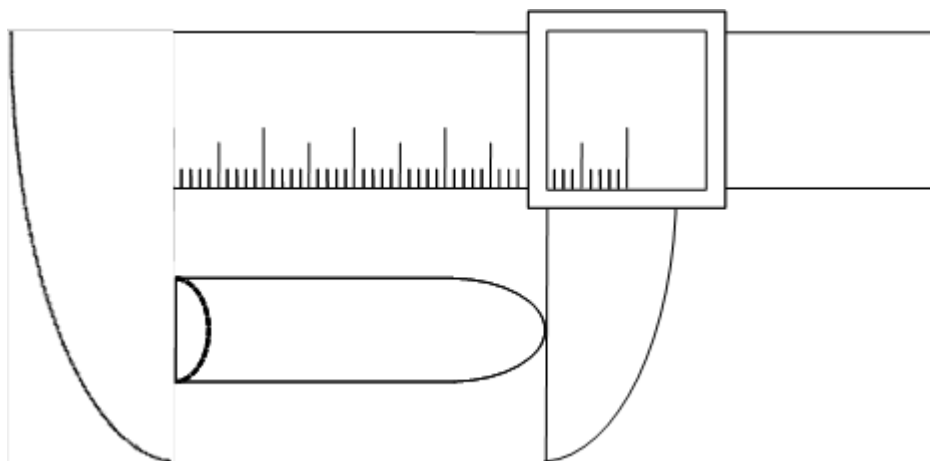


Figure 2 — Measuring the length of a pellet by use of a caliper

5 Apparatus

5.1 Measuring caliper

Use a caliper with a resolution of at least 0,1 mm for measuring of length and diameter.

5.2 Sample reduction equipment (standards.iteh.ai)

If sample reduction equipment is used it shall be chosen in accordance with the requirements as specified in EN 14780.

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5.3 Balance

The balance shall have a resolution of at least 0,01 g.

6 Sample preparation

The sample used for the measurement of length and diameter shall be taken according to EN 14778. From this sample a test portion is extracted by division according to EN 14780.

The test portion sizes shall be selected from Table 1.

Table 1 — Test portion size

Pellet diameter	Portion size
<6 mm	60 g to 80 g
6 mm to 8 mm	80 g to 100 g
8 mm to 10 mm	100 g to 150 g
10 mm to 12 mm	150 g to 200 g
12 mm to 25 mm	200 g to 600 g (minimum 50 pellets)

The test portion is sieved by hand using a sieve with hole diameters of 3,15 mm as described in EN 15210-1. The sieving procedure in EN 15210-1 shall be followed.

The sieving shall be done in a way that the fine particles are separated but the creation of new fine particles is avoided. This is usually achieved when the test portion is shaken in about five to ten circular movements on a sieve of 40 cm diameter. If other equipment is used, the procedure and the test portion size can be adjusted to achieve the same effect.

NOTE Attention is drawn to the fact that rough treatment during sample reduction and screening might influence the result.

7 Procedure

7.1 General

The procedure is divided into two parts; A and B.

Procedure A describes the method to determine the share of oversized pellets in compliance with quality requirements.

Procedure B describes the method to determine the average length of pellets.

Depending on the desired parameter, either both or only one of the two procedures is applied.

7.2 Procedure A: Determination of share of oversized pellets

7.2.1 Weighing

Determine the mass of the test portion by weighing.

7.2.2 Sorting by length

Pellets with a length greater than the requirement are separated from the test portion by hand. Any measurement required may be made by the use of a caliper as shown in Figure 2.

NOTE Depending on the quality requirements there may be more than one pellet length to be considered in sorting.

7.2.3 Weighing of the fractions

Weigh the separated fraction(s) to the nearest 0,01 g and record the result.

7.2.4 Measuring of pellet diameter

In order to determine the diameter class, select a minimum number of 10 pellets randomly from the test portion and determine each pellet diameter by use of the caliper. Record each result.

7.3 Procedure B: Determination of the average length of pellets

7.3.1 Measuring of individual pellet length

The total length of each pellet of the test portion is measured by using a caliper as shown in Figure 2. The result from each determination is recorded.

NOTE If the tests according to procedure A (7.2) have also been performed, the same test portion can be used for the determination according to procedure B.