



NSAI
Standards

Irish Standard
I.S. EN ISO 17225-6:2021

Solid biofuels - Fuel specifications and classes - Part 6: Graded non-woody pellets (ISO 17225-6:2021)

I.S. EN ISO 17225-6:2021

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

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National Foreword

I.S. EN ISO 17225-6:2021 is the adopted Irish version of the European Document EN ISO 17225-6:2021, Solid biofuels - Fuel specifications and classes - Part 6: Graded non-woody pellets (ISO 17225-6:2021)

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EUROPEAN STANDARD
NORME EUROPÉENNE
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EN ISO 17225-6

July 2021

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Supersedes EN ISO 17225-6:2014

English Version

Solid biofuels - Fuel specifications and classes - Part 6:
Graded non-woody pellets (ISO 17225-6:2021)

Biocombustibles solides - Classes et spécifications des combustibles - Partie 6: Classes de granulés d'origine agricole (ISO 17225-6:2021)

Biogene Festbrennstoffe - Brennstoffspezifikationen und -klassen - Teil 6: Klassifizierung von nicht-holzartigen Pellets (ISO 17225-6:2021)

This European Standard was approved by CEN on 12 June 2021.

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

EN ISO 17225-6:2021 (E)

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European foreword

This document (EN ISO 17225-6:2021) 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of an identical text or by endorsement, at the latest by January 2022, and conflicting national standards shall be withdrawn at the latest by January 2022.

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 17225-6:2014.

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 websites.

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 17225-6:2021 has been approved by CEN as EN ISO 17225-6:2021 without any modification.

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INTERNATIONAL STANDARD

**ISO
17225-6**

Second edition
2021-07

Solid biofuels — Fuel specifications and classes —

Part 6: Graded non-woody pellets

*Biocombustibles solides — Classes et spécifications des
combustibles —*

Partie 6: Classes de granulés d'origine agricole



Reference number
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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ISO 17225-6:2021(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).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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.

This document was prepared by Technical Committee ISO/TC 238, *Solid biofuels*.

This second edition cancels and replaces the first edition (ISO 17225-6:2014), which has been technically revised. The main changes compared to the previous edition are as follows:

- Arsenic and chlorine values changed in Class B
- Ash melting behaviour added as an informative property
- Specification of pellets produced from cereal straw, miscanthus and reed canary grass has been included in [Table 1](#).

A list of all parts in the ISO 17225 series can be found on the ISO website.

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.

Introduction

The objective of the ISO 17225 series is to provide unambiguous and clear classification principles for solid biofuels and to serve as a tool to enable efficient trading of biofuels and to enable good understanding between seller and buyer as well as a tool for communication with equipment manufacturers. It will also facilitate authority permission procedures and reporting.

This document supports the use of graded non-woody pellets in specially designed appliances for residential, small commercial and public buildings as well as industrial energy generation applications, which require classified pellet quality.

The residential, small commercial and public building appliances require higher quality fuel for the following reasons:

- Small-scale equipment does not usually have advanced controls and flue gas cleaning
- Appliances are not generally managed by professional heating engineers
- Appliances are often located in residential and populated districts

Non-woody pellets have high ash, chlorine (Cl), nitrogen (N) and sulfur (S) content and major element contents, so non-woody pellets are recommended to be used in appliances, which are specially designed or adjusted for this kind of pellet.

In general, non-woody biomass materials have higher content of ash forming elements and produces ashes with lower melting temperature compared to most woody biomass. Be aware that herbaceous or fruit biomass may influence the fuel ash composition differently depending on growth and soil conditions. This may result in fouling, slagging and corrosion inside boilers. These problems are especially related to materials that have high content of potassium (K) and silicate (Si) and low content of calcium (Ca). The content of chlorine (Cl), phosphate (P) and potassium (K) in the material may form chlorides and phosphorous and other chemical compounds resulting in high hydrochloric emissions and chemically active ash causing corrosion. Special attention should be paid to the risk of corrosion in small and medium scale boilers and flue gas systems. Blending with woody biomass can improve the combustion characteristics.

NOTE For individual contracts ISO 17225-1 can be used.

Although this document may be obtained separately, it requires a general understanding of the standards based on and supporting ISO 17225-1. It is recommended to obtain and use ISO 17225-1 in conjunction with this document.

Solid biofuels — Fuel specifications and classes —

Part 6: Graded non-woody pellets

1 Scope

This document determines the fuel quality classes and specifications of graded non-woody pellets. This document covers only non-woody pellets produced from the following raw material (see ISO 17225-1:2021, Table 1):

- 2 Herbaceous biomass
- 3 Fruit biomass
- 4 Aquatic biomass
- 5 Biomass blends and mixtures

NOTE 1 Herbaceous biomass originates from plants that have a non-woody stem and which die back at the end of the growing season. It includes grains or seeds crops from food production or processing industry and their by-products such as cereals.

NOTE 2 Blends and mixtures include blends and mixtures from the main origin-based solid biofuel groups woody biomass, herbaceous biomass, fruit biomass and aquatic biomass.

Blends are intentionally mixed biofuels, whereas mixtures are unintentionally mixed biofuels. The origin of the blend and mixture is to be described using ISO 17225-1:2021, Table 1.

If solid biofuel blend or mixture contains chemically treated material it shall be stated.

NOTE 3 Thermally treated biomass pellets (e.g. torrefied pellets) are not included in the scope of this document.

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 — Terminology, definitions and descriptions*

ISO 16948, *Solid biofuels — Determination of total content of carbon, hydrogen and nitrogen*

ISO 16968, *Solid biofuels — Determination of minor elements*

ISO 16994, *Solid biofuels — Determination of total content of sulfur and chlorine*

ISO 17225-1:2021, *Solid biofuels — Solid biofuels – Part 1 – General requirements*

ISO 17828, *Solid biofuels — Determination of bulk density*

ISO 17829, *Solid Biofuels — Determination of length and diameter of pellets*

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