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Solid biofuels - Fuel specifications and classes - Part 7: Graded non-woody briquettes (ISO 17225-7:2014)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Solid biofuels - Fuel specifications and classes - Part 7: Graded non-woody briquettes (ISO 17225-7:2014)

Biocombustibles solides - Classes et spécifications des combustibles - Partie 7: Classes de briquettes d'origine agricole (ISO 17225-7:2014)

Feste Biobrennstoffe - Brennstoffspezifikationen und -klassen - Teil 7: Einteilung von nicht-holzartigen Briketts (ISO 17225-7:2014)

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Foreword

This document (EN ISO 17225-7:2014) 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of an identical text or by endorsement, at the latest by November 2014, and conflicting national standards shall be withdrawn at the latest by November 2014.

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Endorsement notice

The text of ISO 17225-7:2014 has been approved by CEN as EN ISO 17225-7:2014 without any modification.

Solid biofuels — Fuel specifications and classes —

Part 7: Graded non-woody briquettes

*Biocombustibles solides — Classes et spécifications des
combustibles —*

Partie 7: Classes de briquettes d'origine agricole





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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*.

ISO 17225 consists of the following parts, under the general title *Solid biofuels — Fuel specifications and classes*:

- *Part 1: General requirements*
- *Part 2: Graded wood pellets*
- *Part 3: Graded wood briquettes*
- *Part 4: Graded wood chips*
- *Part 5: Graded firewood*
- *Part 6: Graded non-woody pellets*
- *Part 7: Graded non-woody briquettes*

Introduction

The objective of the ISO 17225 series is to provide unambiguous and clear classification principles for solid biofuels; to serve as a tool to enable efficient trading of biofuels; 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 part of ISO 17225 supports the use of graded non-woody pellets for residential, small commercial and public building applications.

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

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

Non-woody briquettes have high ash, chlorine, nitrogen, sulfur and major element contents, so non-woody briquettes are recommended to be used in appliances, which are specially designed or adjusted for this kind of briquettes.

NOTE 1 Briquettes produced according to this part of ISO 17225 may be used in stoves, fireplaces, cookers, roomheaters and multifired sauna stoves, which are tested according to European standards EN 13229[1], EN 12815[2], EN 12809[3], EN 13240[4], EN 15250[5] and EN 15821[6], and boilers systems tested according to EN 303-5[7].

NOTE 2 When using non-woody materials for combustion special attention should be paid to the risk of corrosion in small and medium scale boilers and flue gas systems. Be aware that herbaceous or fruit biomass may influence the fuel ash composition differently depending on growth and soil conditions. The content of chlorine, phosphate and potassium in the material may form chlorides and phosphates and other chemical compounds resulting in high hydrochloric emissions and chemically active ash with low melting temperature causing corrosion.

NOTE 3 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. This may result in fouling, slagging and corrosion inside boilers. These problems are especially related to materials that contain high content of potassium (K) and silicate (Si) and low content of calcium (Ca).

NOTE 4 For individual contracts ISO 17225-1 can be used.

Although these product standards may be obtained separately, they require 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 these standards.

Solid biofuels — Fuel specifications and classes —

Part 7: Graded non-woody briquettes

1 Scope

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

- 2 Herbaceous biomass

NOTE 1 *Herbaceous biomass* is 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.

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

NOTE 2 Group 5 *Blends and mixtures* include blends and mixtures from the main origin-based solid biofuel groups woody, 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, Table 1.

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

NOTE 3 Thermally treated biomass briquettes (e.g. torrefied briquettes) are not included in the scope of this part of ISO 17225. Torrefaction is a mild pre-treatment of biomass at a temperature between 200 – 300 °C.

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.

NOTE ISO standards describing methods for analysis of fuel properties listed in the Bibliography, will become normative references when they are published.

ISO 16559, *Solid biofuels — Terminology, definitions and descriptions*¹⁾

ISO 16948, *Solid biofuels — Determination of total content of carbon, hydrogen and nitrogen*²⁾

ISO 16968, *Solid biofuels — Determination of minor elements*³⁾

ISO 16994, *Solid biofuels — Determination of total content of sulfur and chlorine*⁴⁾

1) To be published.

2) To be published.

3) To be published.

4) To be published.

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

ISO 18122, *Solid biofuels — Determination of ash content*⁵⁾

ISO 18134-1, *Solid biofuels — Determination of moisture content — Oven dry method — Part 1: Total moisture — Reference method*⁶⁾

ISO 18134-2, *Solid biofuels — Determination of moisture content — Oven dry method — Part 2: Total moisture - Simplified method*⁷⁾

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5) To be published.

6) To be published.

7) To be published.