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Solid biofuels — Fuel specifications and classes —

Part 3: Graded wood briquettes

Biocombustibles solides — Classes et spécifications des combustibles —

Partie 3: Classes de briquettes de bois

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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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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 17225-3:2014), which has been technically revised. The main changes compared to the previous edition are as follows:

— raw material basis enlarged

— values for chemical properties changed

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.

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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 document supports the use of graded wood briquettes 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 are not generally managed by professional heating engineers

— Appliances are often located in residential districts

NOTE 1 Wood briquettes produced according to this document can 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 For individual contracts ISO 17225-1 can be used.

Although this document can 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 this document.

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Solid biofuels — Fuel specifications and classes —

Part 3: Graded wood briquettes

1 Scope

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

— 1.1 Forest, plantation and other virgin wood

— 1.2 By-products and residues from wood processing industry

— 1.3.1 Chemically untreated used wood

NOTE Thermally treated biomass briquettes (e.g. torrefied briquettes) 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, *Solid biofuels —Fuels specifications and classes — Part 1: – General requirements*

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

ISO 18125, *Solid biofuels — Determination of calorific value*

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

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

ISO 18135, *Solid Biofuels — Sampling*

ISO 18847, *Solid biofuels — Determination of particle density of pellets and briquettes*

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

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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 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 http://www.electropedia.org/

3.1
additive
material which has been intentionally introduced into the fuel feed stock to improve quality of fuel (e.g. combustion properties or durability), to reduce emissions or to make production more efficient

Note 1 to entry: Trace amounts of e.g. grease or other lubricants that are introduced into the fuel processing stream as part of normal mill operations are not considered as additives.

3.2
biofuel briquette
densified biofuel made with or without additives in pre-determined geometric form with at least two dimensions (length, width, height) of more than 25 mm, produced by compressing biomass

3.3
chemical treatment
any treatment with chemicals other than air, water or heat

EXAMPLE Glue and paint.

Note 1 to entry: Examples of chemical treatment are listed in ISO 17225-1.

3.4
commercial application
facility that utilizes solid biofuel burning appliances or equipment that have similar fuel requirements as residential appliances

Note 1 to entry: Commercial applications should not be confused with industrial applications, which can utilize a much wider array of materials and may have somewhat different fuel requirements.

3.5
woody biomass
biomass originating from trees, bushes and shrubs together with their fruit, leaves and needles inherent to the biomass

Note 1 to entry: This definition includes forest, plantation and other virgin wood, wood processing industry by-products and residues, and used wood

3.6
wood briquette
biofuel briquette (3.2) made from *woody biomass* (3.5)

4 Symbols and abbreviated terms

The symbols and abbreviated terms used in this document conform with the SI system of units as far as possible.

A Designation for ash content, A_d on dry basis [% in mass]

ar as received

D Designation for diameter as received, *D* [mm]

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