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Solid biofuels — Fuel specifications and classes —

Part 9: Graded hog fuel and wood chips for industrial use

Biocombustibles solides — Classes et spécifications des combustibles —

Partie 9: Plaquettes et broyat de bois à usage industriel

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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 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 document replaces ISO/TS 17225-9:2020, which has been technically revised. The main changes are:

— general definitions;

— updated particle size distribution.

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 also facilitates authority permission procedures and reporting.

This document supports the use of graded hog fuel and wood chips for industrial heat and power generation applications, which require graded hog fuel and/or wood chips.

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.

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Solid biofuels — Fuel specifications and classes —

Part 9:
Graded hog fuel and wood chips for industrial use

1 Scope

This document determines the fuel quality classes and specifications of graded hog fuel and wood chips for industrial use. It covers only hog fuel and wood chips produced from the following raw materials (see ISO 17225-1, Table 1):

— 1.1 Forest, plantation and other virgin wood;

— 1.2 By-products and residues from wood processing industry;

— 1.3 Used wood;

— 1.4 Blends and mixtures.

This document covers *hog fuel* that has pieces of varying size and shape, produced by crushing with blunt tools such as rollers, hammers, or flails, and *wood chips* which are defined as chipped woody biomass with a sub-rectangular shape and a typical length of 5 mm to 50 mm typically in the form of pieces with a defined particle size produced by mechanical treatment with sharp tools such as knives.

See 1.1.2 in ISO 17225-1, Table 1 for by-products and residues from wood processing industry, which can include chemically treated material (e.g. glued, painted, laminated), are not allowed to contain halogenated organic compounds or heavy metals at levels higher than those in typical virgin material values or higher than typical values of the country of origin (see Annex B in ISO 17225-1).

NOTE If 1.4 Blends and mixtures includes 1.3.2 Chemically treated used wood, it can be only used in the installations permitted to use 1.3.2.

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 — Fuel specifications and classes — Part 1: General requirements*

ISO 17827-1, *Solid biofuels — Determination of particle size distribution for uncompressed fuels — Part 1: Oscillating screen method using sieves with apertures of 3,15 mm and above*

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

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

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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 19743, *Solid biofuels — Determination of content of heavy extraneous materials larger than 3,15 mm*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16559 and the following terms and definitions 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
chemical treatment
any treatment with chemicals other than air, water or heat

EXAMPLE Glue, paint, laminate.

Note 1 to entry: Examples of chemical treatments are listed in ISO 17225-1:2021, Annex C.

[SOURCE: ISO 17225-1:2021, 3.1]

3.2
contamination
occurrence of any undesirable matter such as chemical, physical and/or microbiological matter in the product

[SOURCE: ISO 16559:—[1)], 4.54]

3.3
heavy extraneous materials
EM_d
extraneous substances ≥ 3,15 mm with a specific density > 1 g/cm^3 of the dry matter in the fuel.

Note 1 to entry: Most of the particles are inorganic material, e.g. stones, glass or metal, but it also can include particles of non-biogenic origin e.g. plastic or rubber.

3.4
inorganic matter
non-combustible fraction of a fuel

[SOURCE: ISO 16559:—, 4.120]

4 Symbols and abbreviated terms

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

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