SLOVENSKI STANDARD
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Trdna biogoriva - Specifikacije goriv in razredi - 5. del: Razvrščena drva (ISO/DIS 17225-5:2020)

Solid biofuels - Fuel specifications and classes - Part 5: Graded firewood (ISO/DIS 17225-5:2020)

Biogene Festbrennstoffe - Brennstoffspezifikationen und -klassen - Teil 5: Klassifizierung von Stückholz (ISO/DIS 17225-5:2020)

Biocombustibles solides - Classes et spécifications des combustibles - Partie 5: Classes de bois de chauffage (ISO/DIS 17225-5:2020)

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Solid biofuels — Fuel specifications and classes —

Part 5:
Graded firewood

Biocombustibles solides — Classes et spécifications des combustibles —

Partie 5: Classes de bois de chauffage

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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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

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 17225-5:2014), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Figure 1 and dimensions 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.

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 part of ISO 17225 supports the use of graded firewood for residential, small commercial and public buildings which require classified firewood quality.

The residential, small and 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 and populated districts.

NOTE 1 Firewood 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 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 5:
Graded firewood

1 Scope

This part of ISO 17225 determines the fuel quality classes and specifications of graded firewood. This part of ISO 17225 covers only firewood produced from the following raw materials (see ISO 17725-1, Table 1):

- 1.1.1 Whole trees without roots
- 1.1.3 Stem wood
- 1.1.4 Logging residues (thick branches, tops etc.)
- 1.2.1 Chemically untreated wood residues

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 16559, *Solid biofuels — Terminology, definitions and descriptions*

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

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*

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
firewood
cut and split oven-ready fuelwood used in household wood burning appliances like stoves, fireplaces and central heating systems

Note 1 to entry: Firewood usually has a uniform length, typically in the range of 15 cm to 100 cm.

Note 2 to entry: Cut-offs from virgin wood can also be used as a firewood.

3.2
commercial application
facility that utilises 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 have vastly different fuel requirements.

4 Symbols and abbreviated terms

The symbols and abbreviated terms used in this part of ISO 17225 comply with the SI system of units as far as possible.

ar as received

D Designation for diameter (*D)* as received [cm]

d dry (dry basis)

E Designation for energy density as received, E_{ar} [MJ/m^3 or kWh/m^3 loose or stacked volume or MJ/kg, kWh/kg]

L Designation for length (*L)* as received [cm]

M Designation for moisture content as received on wet basis, M_{ar} [% in mass]

Q Designation for net calorific value as received, $q_{p,net,ar}$ [MJ/kg or GJ/t or kWh/kg or MWh/t] at constant pressure

U Designation for moisture content on dry basis, U_d [% in mass]

NOTE 1 1 MJ/kg or GJ/t equals 0,2778 kWh/kg (1 kWh/kg equals 1 MWh/t and 1 MWh/t is 3,6 MJ/kg). 1 g/cm^3 equals 1 kg/dm^3. 1 mg/kg equals 0,000 1% or 1 ppm.

NOTE 2 Designation symbols are used in combination with a number to specify property levels in Table 1. For designation of chemical properties, chemical symbols such as S (sulfur), Cl (chlorine), and N (nitrogen) are used and the property class is added at the end of the symbol.

5 Specification of graded firewood

Specification of the firewood is stated in accordance with Table 1 and Figure 1. The determination of the properties shall be carried out in accordance with the methods mentioned in the normative references.

Ash, N, S, Cl and minor elements are not required as firewood is produced from virgin material which has been grown in uncontaminated soil and therefore the likelihood of contamination is very low.

Firewood specified according to classes A1 and A2 are suitable to be used in stoves and fireplaces and class B in log wood boilers.

How to state the dimensions of firewood is expressed in Figure 1.