INTERNATIONAL STANDARD

**ISO 17225-7**

Second edition
2021-07

# 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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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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# Contents

Page

# Foreword

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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 second edition cancels and replaces the first edition (ISO 17225-7:2014), which has been technically revised. The main changes compared to the previous edition are as follows:



— Figure 1 changed;

— Class A is split into two classes, A1 and A2;

— Chlorine value changed in Class A2;

— Arsenic value changed in Class B;

— Ash melting behaviour added as an informative property.

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 will also facilitate authority permission procedures and reporting.

This document supports the use of graded non-woody briquettes in specially designed appliances for residential, small commercial and public building applications and industrial use.

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 briquettes have high ash, chlorine (Cl), nitrogen (N), sulfur (S) 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.

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 different growing and soil conditions of the 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), phosphorous (P) and potassium (K) in the material may form chlorides and phosphates 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 1 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 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.