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**Solid biofuels — Fuel specifications  
and classes —**

**Part 6:  
Graded non-woody pellets**

*Biocombustibles solides — Classes et spécifications des  
combustibles —*

*Partie 6: Classes de granulés d'origine agricole*

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Published in Switzerland

# Contents

Page

<b>Foreword</b> .....	<b>iv</b>
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>2</b>
<b>4 Symbols and abbreviated terms</b> .....	<b>3</b>
<b>5 Specification of graded non-woody pellets</b> .....	<b>3</b>
<b>Bibliography</b> .....	<b>7</b>

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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](http://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](http://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](http://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 17225-6:2014), which has been technically revised. The main changes compared to the previous edition are as follows:

- Arsenic and chlorine values changed in Class B
- Ash melting behaviour added as an informative property
- Specification of pellets produced from cereal straw, miscanthus and reed canary grass has been included in [Table 1](#).

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](http://www.iso.org/members.html).

## Introduction

The objective of the ISO 17225 series is to provide unambiguous and clear classification principles for solid biofuels and to serve as a tool to enable efficient trading of biofuels and 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 pellets in specially designed appliances for residential, small commercial and public buildings as well as industrial energy generation applications, which require classified pellet quality.

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 pellets have high ash, chlorine (Cl), nitrogen (N) and sulfur (S) content and major element contents, so non-woody pellets are recommended to be used in appliances, which are specially designed or adjusted for this kind of pellet.

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 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), phosphate (P) and potassium (K) in the material may form chlorides and phosphorous 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 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.

