First edition 2014-05-01

# Solid biofuels — Fuel specifications and classes —

Part 1: **General requirements** 

Biocombustibles solides — Classes et spécifications des combustibles —

Partie 1: Exigences générales



#### ISO 17225-1:2014(E)

This is a preview of "ISO 17225-1:2014". Click here to purchase the full version from the ANSI store.



#### COPYRIGHT PROTECTED DOCUMENT

© ISO 2014

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office Case postale 56 • CH-1211 Geneva 20 Tel. + 41 22 749 01 11 Fax + 41 22 749 09 47 E-mail copyright@iso.org Web www.iso.org

Published in Switzerland

Con	ntents	Page
Forev	word	iv
Intro	oduction	v
1	Scope	1
2	Normative references	1
3	Terms and definitions	2
4	Symbols and abbreviated terms	3
5	Principle	
6	Classification of origin and sources of solid biofuels 6.1 General 6.2 Woody biomass 6.3 Herbaceous biomass 6.4 Fruit biomass 6.5 Aquatic biomass 6.6 Biomass blends and mixtures	
7	<ul> <li>Specification of solid biofuels based on traded forms and properties</li> <li>7.1 Traded forms of solid biofuels</li> <li>7.2 Specification of properties of solid biofuels</li> </ul>	10
Anne	ex A (informative) Illustrations of typical forms of wood fuels	37
Anne	ex B (informative) Typical values of solid biomass fuels	39
Anne	ex C (informative) Examples of possible causes for deviant levels for different proper of consequences of handling and treatments for the properties of biomass	
Anne	ex D (informative) Calculation of the net calorific value at different bases and energ as received	
Anne	ex E (informative) Comparison of moisture content as received and dry basis	54
Biblio	iography	56

## 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 on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 238, *Solid biofuels*.

ISO 17225 consists of the following parts, under the general title *Solid biofuels — Fuel specifications and classes*:

- Part 1: General requirements
- Part 2: Graded wood pellets
- Part 3: Graded wood briquettes
- Part 4: Graded wood chips
- Part 5: Graded firewood
- Part 6: Graded non-woody pellets
- Part 7: Graded non-woody briquettes

## 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.

The ISO 17225 series is made for all stakeholders.

Solid biomass covers organic, non-fossil material of biological origin which may be used as fuel for heat and electrical generation.

<u>Figure 1</u> describes the bioenergy utilization chain from sources of biomass, to biofuel production to final use of bioenergy. Although biomass can be used for energy generation it has many other primary uses (non-fuels) as a raw material for construction, furniture, packaging, paper products, etc.

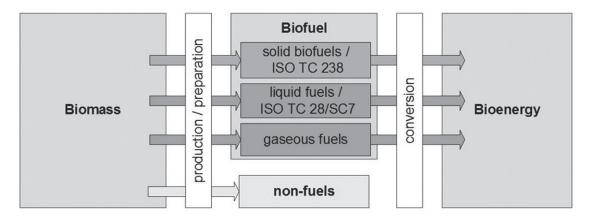


Figure 1 — ISO TC 238 within the biomass — Biofuel — Bioenergy field

The classifications given in this International Standard are provided with the objective of using biomass as a solid biofuel and therefore do not deal with all other uses.

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.

In these product standards, graded means that solid biofuel is used either in commercial applications, such as in households and small commercial and public sector buildings or industrial applications, which demand the use of fuels with specified quality (properties) expressed by quality classes like A1, A2 or B.