

**Solid biofuels - Fuel quality assurance - Part 1: General requirements**

This document is a preview generated by EVS

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 15234-1:2011 sisaldab Euroopa standardi EN 15234-1:2011 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 31.03.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 09.03.2011.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 15234-1:2011 consists of the English text of the European standard EN 15234-1:2011.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 31.03.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 09.03.2011.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

ICS 75.160.10

### Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:  
Aru 10 Tallinn 10317 Eesti; [www.evs.ee](http://www.evs.ee); Telefon: 605 5050; E-post: [info@evs.ee](mailto:info@evs.ee)

### Right to reproduce and distribute belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:  
Aru str 10 Tallinn 10317 Estonia; [www.evs.ee](http://www.evs.ee); Phone: 605 5050; E-mail: [info@evs.ee](mailto:info@evs.ee)

English Version

## Solid biofuels - Fuel quality assurance - Part 1: General requirements

Biocombustibles solides - Assurance de la qualité des combustibles - Partie 1: Exigences générales

Feste Biobrennstoffe - Qualitätssicherung von Brennstoffen - Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 18 January 2011.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

**Contents**

Page

Foreword.....	3
Introduction .....	4
1 <b>Scope</b> .....	5
2 <b>Normative references</b> .....	5
3 <b>Terms and definitions</b> .....	5
4 <b>Symbols and abbreviations</b> .....	6
5 <b>Principle</b> .....	7
6 <b>Quality assurance and quality control measures</b> .....	8
6.1 <b>General</b> .....	8
6.2 <b>Comparison of quality control and quality assurance</b> .....	9
6.3 <b>Traceability</b> .....	10
6.4 <b>Production requirements</b> .....	11
6.5 <b>Transportation, handling and storage</b> .....	14
6.6 <b>Fuel analysis and specification</b> .....	14
6.6.1 <b>General</b> .....	14
6.6.2 <b>Sampling and sample handling</b> .....	15
6.6.3 <b>Accuracy in determination of properties</b> .....	15
7 <b>Product declaration of fuel quality and labelling</b> .....	16
<b>Annex A (informative) Examples of product declarations</b> .....	17
<b>Annex B (informative) Overview of properties being specified in EN 14961-1</b> .....	20
<b>Bibliography</b> .....	22

## Foreword

This document (EN 15234-1:2011) has been prepared by Technical Committee CEN/TC 335 “Solid biofuels”, the secretariat of which is held by SIS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 2011, and conflicting national standards shall be withdrawn at the latest by September 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes CEN/TS 15234:2006.

The European standard series EN 15234 *Solid biofuels — Fuel quality assurance* are provided as a general requirements and additional standards. Additional standards may extend this series over time.

EN 15234 consists of the following parts, under the general title *Solid biofuels — Fuel quality assurance*:

- *Part 1: General requirements;*
- *Part 2: Wood pellets for non-industrial use (under development);*
- *Part 3: Wood briquettes for non-industrial use (under development);*
- *Part 4: Wood chips for non-industrial use (under development);*
- *Part 5: Firewood for non-industrial use (under development);*
- *Part 6: Non-woody pellets for non-industrial use (under development).*

Although these standards may be obtained separately, it should be recognised that they require an understanding of the standards based on and supporting EN 15234-1. It is recommended to obtain and use EN 15234-1 in conjunction with these standards.

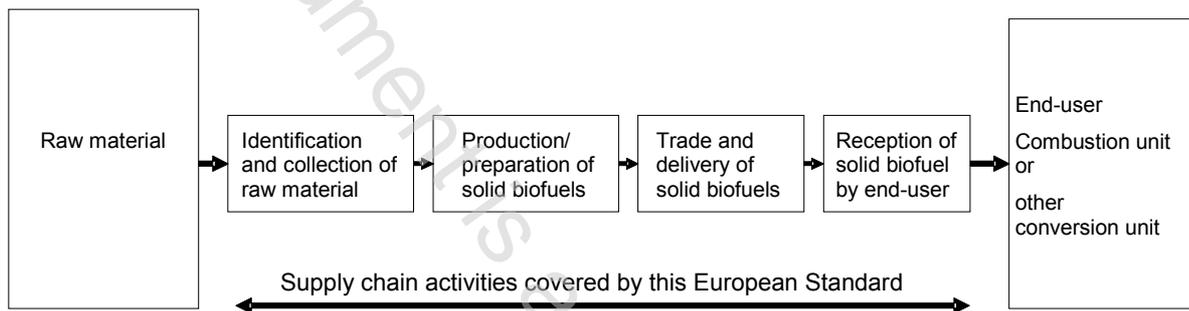
**NOTE** In these standards, non-industrial use means: use in smaller scale appliances, such as, in households, in small commercial and public sector buildings.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

The overall aim of this European Standard is to guarantee the solid biofuel quality through the whole supply chain, from the origin to the delivery of the solid biofuel and to provide adequate confidence that specified quality requirements are fulfilled.

The solid biofuel supply chain usually consists of the main stages described in Figure 1.



**Figure 1—Solid biofuel supply chain**

The objective of this European Standard is to serve as a tool to enable the efficient trading of biofuels. Thereby:

- a) end-user can find a biofuel that corresponds to its needs;
- b) producer/supplier can produce a biofuel with defined and consistent properties and describe the biofuel to the customers.

Quality assurance measures shall establish confidence in the biofuel through systems that are simple to operate and do not cause undue bureaucracy.

Solid biofuels are specified according to EN 14961 series — *Solid biofuels — Fuel specifications and classes*.

According to the terminology of EN ISO 9001:2008 [1], a Quality Management system generally consists of quality planning, quality control, quality assurance and quality improvement. This European Standard covers fuel quality assurance (part of quality management, focused on providing confidence that the quality requirements will be fulfilled) and quality control (part of quality management, focused on fulfilling the quality requirements).

The users of this European Standard may integrate EN 15234-1 in their general quality assurance scheme, e.g. the EN ISO 9000 series [1, 2, 3]. If the company does not have a quality management system, this European Standard can be used on its own to help the supplier in documenting fuel quality and creating adequate confidence between the supplier and the end-user.

**NOTE** This European Standard for fuel quality assurance is only concerned with the fuel part. To ensure the efficient use of solid biofuels, the relationship between the fuel and the combustion unit is also important to consider. It is recommended that the end-users ensure that the combustion technology used and the solid biofuels are compatible to achieve an optimised burning process. In addition to high efficiency, the environmental impact is reduced when the combustion process is optimised (e.g. unburnt carbon in the ash will be reduced; the emissions from the flue gases are reduced, etc.).

## 1 Scope

This European Standard defines the procedures to fulfil the quality requirements (quality control) and describes measures to ensure adequate confidence that the biofuel specification is fulfilled (quality assurance). This European Standard covers the whole chain, from supply of raw materials to point of delivery to the end-user.

According to the mandate given for the standardisation work, the scope of the CEN/TC 335 only includes solid biofuels originating from the following sources:

- products from agriculture and forestry;
- vegetable waste from agriculture and forestry;
- vegetable waste from the food processing industry;
- wood waste, with the exception of wood waste which may contain halogenated organic compounds or heavy metal as a result of treatment with wood preservatives or coating, and which includes in particular such wood waste originated from construction and demolition waste;
- fibrous vegetable waste from virgin pulp production and from the production of paper from pulp, if it is co-incinerated at the place of production and heat generated is recovered;
- cork waste.

NOTE 1 The quality assurance systems applied to the operation of conversion plants fuelled by solid biofuels are outside the scope of this European Standard.

NOTE 2 Health, safety and environmental issues for solid biofuels are important and need special attention, however they are outside the scope of this European Standard.

NOTE 3 For the avoidance of doubt, demolition wood is not included in the scope of this European Standard. Demolition wood is defined as “used wood arising from demolition of buildings or civil engineering installations” (EN 14588:2010, 4.52).

NOTE 4 The biofuels covered by this European standard are identical to the fuels exempted from the Directive 2000/76/EC [Article 2.2 a) from i) to v)] on incineration of waste.

NOTE 5 Aquatic biomass is not included in the scope of this European Standard.

## 2 Normative references

The following referenced documents are indispensable for the application 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.

EN 14588:2010, *Solid biofuels — Terminology, definitions and descriptions*

EN 14961-1:2010, *Solid biofuels — Fuel specifications and classes — Part 1: General requirements*

NOTE In EN 14961-1, there is a list of Normative references of the European Standards for sampling, sample reduction and determination of solid biofuel properties.

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14588:2010 apply.