

This is a preview of "ISO 14780:2017". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2017-04

---

---

## Solid biofuels — Sample preparation

*Biocombustibles solides — Préparation des échantillons*



Reference number  
ISO 14780:2017(E)

© ISO 2017

This is a preview of "ISO 14780:2017". Click here to purchase the full version from the ANSI store.



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2017, Published in Switzerland

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  
Ch. de Blandonnet 8 • CP 401  
CH-1214 Vernier, Geneva, Switzerland  
Tel. +41 22 749 01 11  
Fax +41 22 749 09 47  
copyright@iso.org  
www.iso.org

This is a preview of "ISO 14780:2017". [Click here to purchase the full version from the ANSI store.](#)

## 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>1</b>
<b>4 Symbols</b> .....	<b>2</b>
<b>5 Principles of correct sample reduction</b> .....	<b>2</b>
<b>6 Apparatus</b> .....	<b>2</b>
6.1 Apparatus for sample division.....	2
6.1.1 General.....	2
6.1.2 Riffle boxes.....	2
6.1.3 Rotary sample dividers.....	3
6.1.4 Shovels and scoops.....	4
6.2 Apparatus for particle size-reduction.....	5
6.2.1 Coarse cutting mill or wood crusher.....	5
6.2.2 Cutting mill.....	5
6.2.3 Axe.....	6
6.2.4 Hand saw.....	6
6.2.5 Sieves.....	6
6.2.6 Balance.....	6
<b>7 Sample reduction — General principles</b> .....	<b>6</b>
<b>8 Methods for sample division</b> .....	<b>8</b>
8.1 General.....	8
8.2 Riffing.....	9
8.3 Strip mixing.....	9
8.4 Long pile-alternate shovel method.....	9
8.5 Rotary divider.....	10
8.6 Coning and quartering.....	10
8.7 Mass reducing straw-like material (handful sampling).....	10
<b>9 Method for reducing laboratory samples to sub-samples and general analysis samples</b> .....	<b>11</b>
9.1 Mixing.....	11
9.2 Initial sample division.....	11
9.3 Pre-drying.....	11
9.4 Coarse cutting (particle size reduction to <31,5 mm).....	12
9.5 Sample division of <31,5 mm material.....	12
9.6 Particle size reduction of <31,5 mm material to <1 mm.....	12
9.7 Sample division of <1 mm material.....	13
9.8 Particle size reduction of <1 mm material to <0,25 mm.....	13
<b>10 Storage and labelling</b> .....	<b>13</b>
<b>11 Performance characteristics</b> .....	<b>13</b>
<b>Annex A (informative) Precision in relation to division method</b> .....	<b>14</b>
<b>Annex B (informative) Scheme of sample preparation for samples from single delivery</b> .....	<b>19</b>
<b>Annex C (informative) Scheme of sample preparation for samples from continuous delivery</b> .....	<b>20</b>
<b>Bibliography</b> .....	<b>22</b>

## 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 on 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 the following URL: [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 is a preview of "ISO 14780:2017". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

Biofuels are a major source of renewable energy. International standards are needed for production, trade and use of solid biofuels. For sampling of solid biofuels, see ISO 18135.

This document can be used in regard to production, controlling and analysis of solid biofuels in general.

This document was developed with significant content from EN 14780:2011.