

ICS 75.160.10

English Version

**Solid recovered fuels - Determination of moisture content using  
the oven dry method - Part 1: Determination of total moisture by  
a reference method**

Combustibles solides de récupération - Détermination de  
l'humidité par la méthode de séchage à l'étuve - Partie 1:  
Détermination de l'humidité totale par une méthode de  
référence

Feste Sekundärbrennstoffe - Bestimmung des  
Wassergehaltes unter Verwendung des Verfahrens der  
Ofentrocknung - Teil 1: Bestimmung des Gehaltes an  
Gesamtwasser mittels Referenzverfahren

This Technical Specification (CEN/TS) was approved by CEN on 25 March 2006 for provisional application.

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## Foreword

This document (CEN/TS 15414-1:2006) has been prepared by Technical Committee CEN/TC 343 “Solid recovered fuels”, the secretariat of which is held by SFS.

CEN/TS 15414 “*Solid recovered fuels — Determination of moisture content using the oven dry method*” consists of three parts:

- *Part 1: Determination of total moisture by a reference method*
- *Part 2: Determination of total moisture by a simplified method*
- *Part 3: Moisture in general analysis sample*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this Technical Specification: Austria, Belgium, 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.

## 1 Scope

This Technical Specification specifies a method for the determination of total moisture content of solid recovered fuels by drying a sample in an oven. This method is suitable for use if a high precision of the determination of moisture content is required. It is applicable to all solid recovered fuels.

NOTE 1 The total moisture content of solid recovered fuels is not an absolute value and therefore standardised conditions for its determination are indispensable to enable comparative determinations.

NOTE 2 The term moisture content when used with recovered materials can be misleading since solid recovered materials, e.g. biomass, frequently contains varying amounts of volatile compounds (extractives) which can evaporate when determining moisture content by oven drying.

NOTE 3 This Technical Specification is based on CEN/TS 14774-1 [1].

## 2 Normative references

The following referenced documents are indispensable for the application of this Technical Specification. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CEN/TS 15357:2006, *Solid recovered fuels — Terminology, definitions and descriptions*

prCEN/TS 15442, *Solid recovered fuels — Methods for sampling*

prCEN/TS 15443, *Solid recovered fuels — Methods for laboratory sample preparation*

## 3 Terms and definitions

For the purposes of this Technical Specification, the terms and definitions given in CEN/TS 15357:2006 apply.

## 4 Principle

The sample of recovered fuel is dried at a temperature of 105 °C in air atmosphere until constant mass is reached. The percentage of moisture is calculated from the loss in mass of the sample. The method includes a procedure for the correction of buoyancy effects.

## 5 Apparatus

**5.1 Drying oven**, capable of being controlled at  $(105 \pm 2)$  °C (see declaration of the manufacturer) and in which the air atmosphere changes between three and five times per hour. The air velocity should be such that the sample particles are not dislodged from their dish or tray (5.2).

**5.2 Dishes or trays**, of non-corrodible and heat-resistant material and of such dimensions that they are able to hold the total sample in the proportion of about 1 g of sample per 1 cm<sup>2</sup> of surface area of the dish or tray respectively of about 0,5 g/ cm<sup>2</sup> for samples with very low bulk density of less than 100 kg/m<sup>3</sup>. The surface of the dish or tray shall be such that the possibility to adsorption/absorption is minimised (very clean and even surface).

**5.3 Balance**, with a sufficient accuracy to enable the sample and dish or tray (5.2), as received, to be weighed to the nearest 0,1 g.