Solid recovered fuels - Methods for the preparation of the test sample from the laboratory sample

EESTI STANDARDIKESKUS
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NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 15413:2011 sisaldab Euroopa standardi EN 15413:2011 ingliskeelset teksti.	This Estonian standard EVS-EN 15413:2011 consists of the English text of the European standard EN 15413:2011.
Standard on kinnitatud Eesti Standardikeskuse 30.09.2011 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 30.09.2011 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 07.09.2011.	Date of Availability of the European standard text 07.09.2011.
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English Version

Solid recovered fuels - Methods for the preparation of the test sample from the laboratory sample

Combustibles solides de récupération - Méthodes pour la préparation d'échantillons pour essai à partir d'échantillons pour laboratoire

Feste Sekundärbrennstoffe - Verfahren zur Herstellung der Versuchprobe aus der Laboratoriumsprobe

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Foreword

This document (EN 15413:2011) has been prepared by Technical Committee CEN/TC 343 “Solid Recovered Fuels”, the secretariat of which is held by SFS.

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of an identical text or by endorsement, at the latest by March 2012, and conflicting national standards shall be withdrawn at the latest by March 2012.

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 15413:2006.

This document differs from CEN/TS 15413:2006 as follows:

a) only the dissolution methods that have passed the validity test have been considered.

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

In laboratory praxis, different analytical procedures often need to be applied to the laboratory sample that has been taken according to the sampling plan. For this purpose, sub-sampling is applied in a way that the different test portions are representative for the original laboratory sample with respect to the compounds of interest and the specific analytical procedures. The representativity of the laboratory sample and of the test portions is of major importance to guarantee the quality and accuracy of analytical results. The representativity of the laboratory sample is specified by the sampling plan.

This European Standard is largely based on the work already done by CEN/TC 292 "Characterization of waste", and in particular on latest drafts of just published EN 15002; in fact, some experts who developed EN 15002 also actively participated in the preparation of this European Standard.

EN 15002 was developed for the majority of waste samples, and most of its concepts and specifications are indeed also applicable to SRF samples, but there would be a number of major problems:

— several points of Annex A (normative) of EN 15002:2006 ("Guideline for choosing sample treatment techniques") are simply not applicable to SRF samples due to the very particular nature of these samples and in some cases this could be misleading;

— the main peculiarity that makes SRF samples significantly different from other kinds of waste is that very often SRFs are solid, but neither "granular" nor monolithic; it often happens that SRF samples are fibrous-like materials, so the statistical formula for sampling (Annex B (normative) of EN 15002:2006, that links the minimum amount of sample depending on the particle size and other parameters), that is one of the foundations of EN 15002, is not applicable "as it is": one more term in the statistical equation is needed, namely the "shape factor" (*f*);

— all examples contained in Annex E of EN 15002:2006 are just not applicable for SRF samples, which may lead users who need to analyze SRF samples to misunderstandings.

Because of these reasons, a significant revision of the recently published EN 15002 would have been necessary in order to fulfil all requirements for SRF samples, which presumably would be better carried out jointly by CEN/TC 292 and CEN/TC 343. Moreover, other CEN/TC 292 standards and ENs on sampling of waste would have become inconsistent and would have had to be revised in order to include the "shape factor" in the statistical formula. However, all of this work would probably have caused unacceptable delays for both ENs. Therefore, CEN/TC 343 decided to proceed with the development of a new Standard.

1 Scope

This European Standard specifies the correct sequence of operations to ensure the representativity of the test portions that have been taken according to the sampling plan, prior to physical and/or chemical analysis (e.g. extractions, digestion and/or analytical determinations) of solid samples.

This European Standard specifies the correct sequence of operations and treatments to be applied to the laboratory sample in order to obtain suitable test portions in compliance with the specific requirements defined in the corresponding analytical procedures.

2 Normative references

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

EN 15357:2011, *Solid recovered fuels — Terminology, definitions and descriptions*

EN 15443, *Solid recovered fuels — Methods for the preparation of the laboratory sample*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15357:2011 and the following apply.

3.1
drying
process of removing water from a sample

NOTE For the purpose of test portion preparation, it may be useful to remove just the amount of water that could interfere with other processes involved (e.g. during crushing or milling). In order to minimise the alteration of the sample during test portion preparation, removing the total amount of water present in the sample is not necessarily needed.

3.2
fraction separation
process of dividing components, particles or layers if homogenisation of the sample is practically not applicable and/or the analyses of different fractions or phases are appropriate

3.3
homogenisation
process of combining of components, particles or layers into a more homogeneous state of the original samples (in the case of composite samples) or pre-treated fractions of samples in order to ensure equal distribution of substances in and properties of the sample

3.4
sub-sampling
process of selecting one or more sub-samples from a sample

3.5
test portion; analytical portion
quantity of material of proper size, for measurement of the concentration or other properties of interest, removed from the test sample

NOTE The test portion may be taken from the laboratory sample directly if no preparation of sample is required (e.g. with liquids or samples of proper homogeneity, size and fineness), but usually it is taken from the prepared test sample.