



**NSAI**  
Standards

Irish Standard  
I.S. EN 15413:2011

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

## I.S. EN 15413:2011

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces:*  
CEN/TS 15413:2006

*This document is based on:*  
EN 15413:2011

*Published:*  
14 September, 2011

This document was published  
under the authority of the NSAI  
and comes into effect on:  
14 September, 2011

**ICS number:**  
75.160.10

**NSAI**  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

**Sales:**  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

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

This European Standard was approved by CEN on 15 July 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>Safety remarks</b> .....	6
5 <b>Principle</b> .....	6
6 <b>Apparatus</b> .....	6
7 <b>Interferences and sources of error</b> .....	6
8 <b>Procedure</b> .....	7
8.1 <b>Sample conservation and pre-treatment</b> .....	7
8.2 <b>Key concepts</b> .....	7
8.3 <b>Sequence of treatment techniques</b> .....	8
9 <b>Quality control</b> .....	10
10 <b>Performance characteristics</b> .....	10
11 <b>Test report</b> .....	10
<b>Annex A (normative) Guideline for choosing sample treatment techniques</b> .....	11
A.1 <b>General</b> .....	11
A.2 <b>Homogenisation</b> .....	11
A.3 <b>Fraction separation</b> .....	12
A.4 <b>Drying</b> .....	13
A.5 <b>Particle size reduction</b> .....	15
A.6 <b>Sub-sampling</b> .....	17
<b>Annex B (informative) Relationship between minimum amount of sample and particle size - Equation for the estimation of the minimum amount of sample</b> .....	19
<b>Annex C (informative) Sample treatment equipment</b> .....	22
<b>Annex D (normative) Guidelines - Characteristics of the laboratory sample for chemical analysis of SRF</b> .....	23
<b>Annex E (informative) Results of ruggedness testing</b> .....	25
E.1 <b>Abstract</b> .....	25
E.2 <b>Preparation of samples and application of statistical formula</b> .....	25
E.3 <b>Evaluation of influence of particle size reduction systems</b> .....	28
E.4 <b>Conclusions</b> .....	34
<b>Bibliography</b> .....	36

## **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.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-