

ICS 75.160.10

English Version

Solid recovered fuels - Methods for laboratory sample preparation

Combustibles solides de récupération - Méthodes de
préparation des échantillons de laboratoire

Feste Sekundärbrennstoffe - Verfahren zur Herstellung von
Laboratoriumsproben

This Technical Specification (CEN/TS) was approved by CEN on 13 May 2006 for provisional application.

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Foreword

This document (CEN/TS 15443:2006) has been prepared by Technical Committee CEN/TC 343 “Solid recovered fuels”, the secretariat of which is held by SFS.

This Technical Specification is one of series of technical specifications dealing with solid recovered fuel.

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

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to announce this CEN 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 United Kingdom.

Introduction

Solid recovered fuels are a major source of renewable energy. Technical Specifications are needed for production, trade and use of solid recovered fuels. For sampling and sample preparation of solid recovered fuels the following Technical Specifications can be used:

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

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

Current practice and the best available knowledge have been used to write these Technical Specifications. The results of recent sampling experiments may be used to improve the sampling plans.

These Technical Specifications can be used by production and trading of solid recovered fuels. They are also useful for buyers of solid recovered fuels, regulators, controllers and laboratories.

Figure 1 shows the links between the essential elements of a testing program.

The sample preparation technique adopted depends on a combination of different characteristics of the material and circumstances encountered at the sampling location. The determining factors are:

- the type of solid recovered fuel;
- the physical behaviour of the specific solid recovered fuel;
- the (expected) degree of heterogeneity (e.g. monostreams, mixed fuels, blended fuels);

For the sample preparation of solid biofuels a Technical Specification from CEN/TC 335 is available (1). For the characterization of waste a European standard is available from CEN/TC 292 (2).

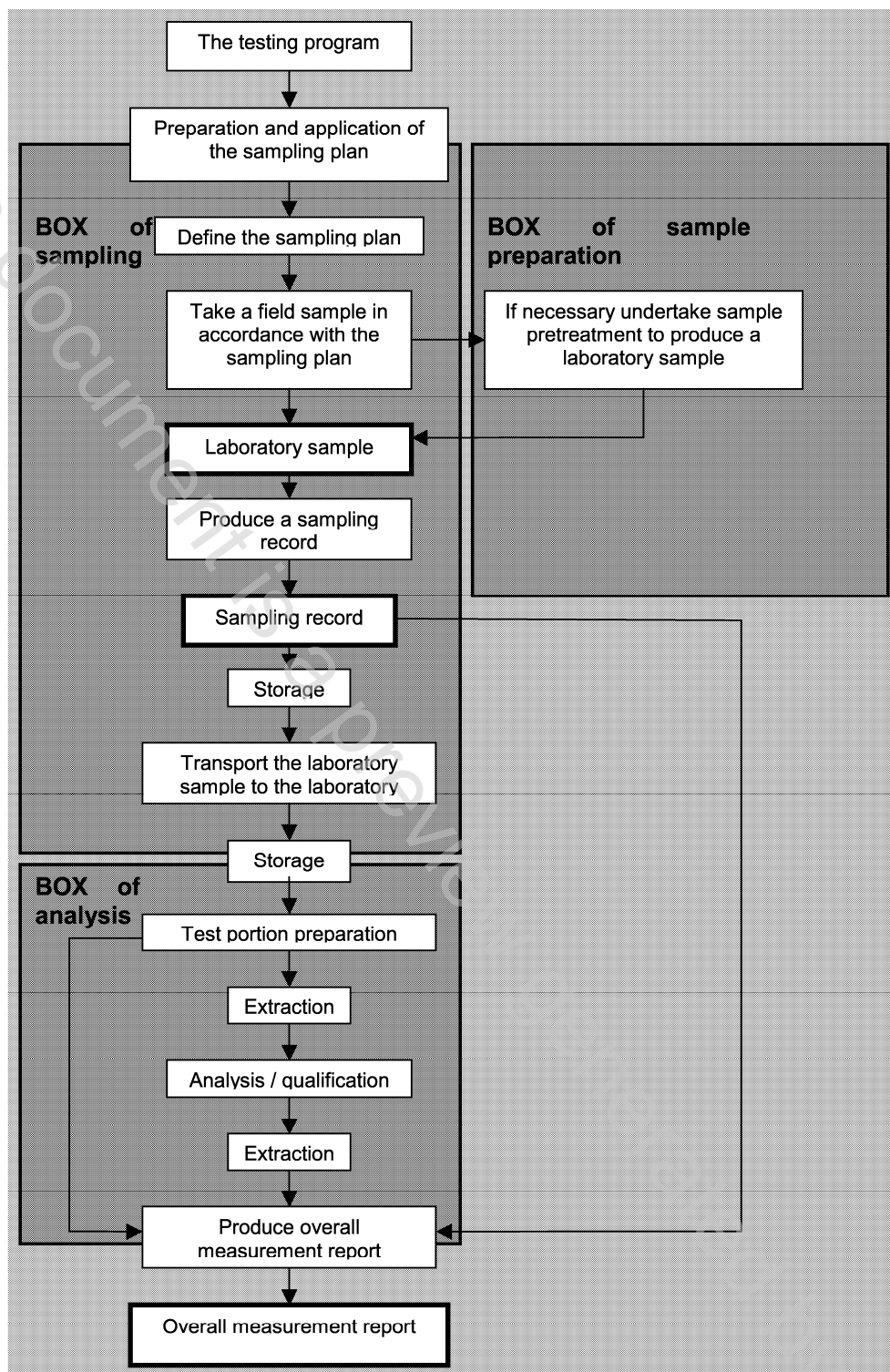


Figure 1 — Links between the essential elements of a testing program

1 Scope

This Technical Specification describes methods for reducing combined samples to laboratory samples and laboratory samples to sub-samples and general analysis samples, and is applicable to solid recovered fuels that are either:

- fine and regularly-shaped particulate materials, particle sizes up to about 10 mm that can be sampled using a scoop or pipe, for example: soft and hard pellets;
- coarse or irregularly-shaped particulate materials, particle sizes up to about 200 mm that can be sampled using a shovel, for example: fluff, chips and chunks;
- large pieces with nominal top size above 200 mm.

The methods described in this Technical Specification may be used for sample preparation, for example, when the samples are to be tested for bulk density, biomass determination, durability, particle size distribution, moisture content, ash content, ash melting behaviour, calorific value, chemical composition, and impurities. The methods are not intended to be applied to the very large samples required for the testing of bridging properties.

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.

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

CEN/TS 15414-1, *Solid recovered fuels —Determination of moisture content using the oven dry method — Part 1: Determination of total moisture by a reference method*

CEN/TS 15414-2, *Solid recovered fuels — Determination of moisture content using the oven dry method — Part 2: Determination of total moisture by a simplified method*

CEN/TS 15414-3, *Solid recovered fuels —Determination of moisture content using the oven dry method — Part 3: Moisture in general analysis sample*

CEN/TS 15415, *Solid recovered fuels — Determination of particle size and distribution by screen method*

CEN/TS 15442, *Solid recovered fuels — Methods of sampling*

3 Terms and definitions

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

3.1

lot

defined quantity of fuel for which the quality is to be determined

3.2

increment

portion of solid recovered fuel extracted in a single operation of the sampling device

3.3

sample

quantity of fuel, representative of a larger mass for which the quality is to be determined