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Solid recovered fuels - Methods for the determination of bulk density

Combustibles solides de récupération - Méthodes pour la détermination de la densité apparente

Feste Sekundärbrennstoffe - Verfahren zur Bestimmung der Schüttdichte

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

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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Foreword

This document (CEN/TS 15401:2006) has been prepared by Technical Committee CEN/TC 343 “Solid recovered fuels”, the secretariat of which is held by SFS.

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.

Introduction

Bulk density is one of the main quality parameters of solid recovered fuels (SRF). It is needed e.g. in a sampling process (volume of sampling tools, volume primary sample), in accessing transport capacity, storage space required or energy density (MWh/m^3) of SRF. Bulk density is not an absolute value, therefore conditions for its determination should be standardised in order to gain comparative measuring results. This Technical Specification specifies the determination of bulk density of solid recovered fuels which can be conveyed in a continuous material flow.

For practical reasons, two standard measuring containers with a volume of 5 l or 50 l are selectable for the determination.

The method specified in this Technical Specification is based on CEN/TS 15103 [1].

1 Scope

This Technical Specification specifies a method for the determination of bulk density of solid recovered fuels using a standard measuring container. This method is applicable to all solid recovered fuels with a nominal top size of maximal 100 mm.

NOTE 1 The reason for the limitation to maximal 100 mm is the practical maximum volume of a measurement container and thus dimensions of the aperture of the container. Particle dimension should not exceed 1/3 of this value.

NOTE 2 Bulk density of solid recovered fuels is subject to variation due to several impacts such as vibration, shock, pressure, biodegradation, drying and wetting. Measured bulk density can therefore deviate from practice conditions during transportation, storage or transhipment.

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*

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 15415, *Solid recovered fuels — Determination of particle size distribution by screen method*

3 Terms and definitions

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

4 Symbols and units

The symbols and units used in this Technical Specification are listed in Table 1.