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Solid recovered fuels - Specifications and classes

Combustibles solides de récupération - Spécification et classes

Feste Sekundärbrennstoffe - Spezifikationen und Klassen

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Foreword

This Technical Specification (CEN/TS 15359:2006) has been prepared by Technical Committee CEN/TC 343 “Solid recovered fuels”, the secretariat of which is held by SFS.

The scope for this Technical Specification is based on the mandate M/325 given by the European Commission to CEN on 2002-08-26.

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

The objective of this Technical Specification is to provide unambiguous and clear classification and specification principles for Solid Recovered Fuels (SRFs). The Technical Specification aims at serving as a tool to enable efficient trading of SRFs, promoting their acceptability on the fuel market and increasing the public trust. The Technical Specification will facilitate a good understanding between seller and buyer, facilitate purchase, transborder movements, use and supervision as well as a good communication with equipment manufacturers. It will also facilitate authority permission procedures and ease the reporting on the use of fuels from renewable energy sources and on other environmental issues.

SRFs are produced from non hazardous waste.[1)] The input waste can be production specific waste, municipal solid waste, industrial waste, commercial waste, construction and demolition waste, sewage sludge etc. It is thus obvious that SRFs are a heterogeneous group of fuels. A well defined system for classification and specification is therefore of great importance to reach the above mentioned objectives and intentions.

This Technical Specification covers all types of SRFs and will thus have a wide field of application. It supports the objectives and implementation of the EU waste hierarchy as defined in article 3.1 of the waste framework directive 75/442 modified by the directive 91/156.

This Technical Specification describes the compliance rules which a SRF has to meet to be classified according to the classification system. It also describes how the supplier can establish a declaration of conformity to the different Technical Specifications for SRFs (see Clause 2).

Figure 1 illustrates a simplified flow chain for SRFs, from input of waste to end use of SRFs. This Technical Specification has an interface to all the stages in the chain, but SRF classification and specification are applicable at the point of delivery as shown in the figure. Requirements for how the input waste is collected and how to use the fuel are not part of this Technical Specification.

1) Hazardous waste is defined in the Directive on hazardous waste (91/689/EEC) and its amendments, and are elucidated and exemplified in the waste list ((Commission decision 2000/532) and its amendments, in particular 2001/118/EC).

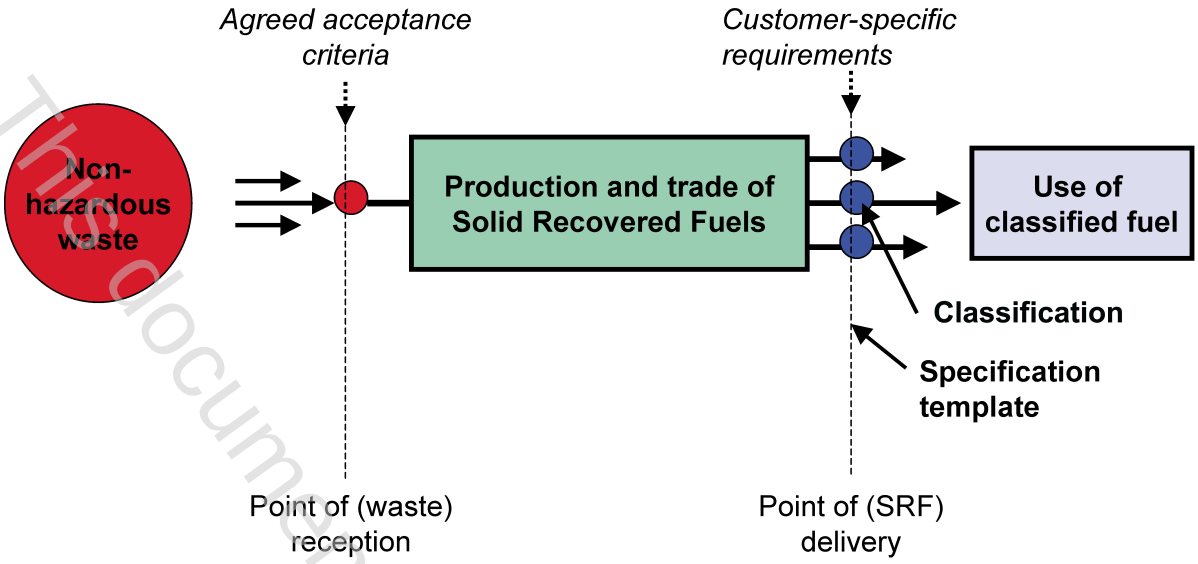

Figure 1 — Solid recovered fuels chain — The Technical Specification on specification and classes is applicable at the point of delivery

1 Scope

This Technical Specification specifies a classification system for SRFs and a template for the specification of their properties.

SRFs are produced from non-hazardous waste.

NOTE 1 Solid bio-fuels excluded from the Waste Incineration Directive (2000/76/EC) are not included in the scope of this Technical Specification. These are dealt with in CEN/TC 335 “Solid biofuels”. Waste wood from demolition of buildings and civil engineering installations is, however, included in the scope.

NOTE 2 Untreated municipal solid waste is not included in the scope of this Technical Specification.

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*

prCEN/TS 15400, *Solid recovered fuels — Methods for the determination of calorific values*

prCEN/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*

prCEN/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*

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

prCEN/TS 15403, *Solid recovered fuels — Methods for the determination of ash content*

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

prCEN/TS 15408, *Solid recovered fuels — Methods for the determination of sulphur (S), chlorine (Cl), fluorine (F) and bromine (Br) content*

prCEN/TS 15411, *Solid recovered fuels — Methods for the determination of the content of trace elements (As, Ba, Be, Cd, Co, Cr, Cu, Hg, Mo, Mn, Ni, Pb, Sb, Se, Tl, V and Zn)*

3 Terms and definitions

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

NOTE The terms and definitions 3.1 to 3.9 are identical with the ones given in CEN/TS 15357:2006.

3.1
classification of solid recovered fuel
grouping of solid recovered fuels into classes

NOTE The classes are defined by boundary values for chosen fuel characteristics to be used for trading as well as for information of permitting authorities and other interested parties.

3.2
composition of solid recovered fuel
break down of solid recovered fuels by types of contained materials, e.g. wood, paper, board, textiles, plastics, rubber

3.3
delivery agreement
contract for solid recovered fuels trade, which specifies e.g. origin, quality and quantity of the fuel, as well as delivery terms

3.4
lot
defined quantity of solid recovered fuel for which the quality is to be determined

NOTE Adapted from CEN/TS 14588:2003 [8].

3.5
net calorific value
calculated value of the energy of combustion for unit mass of a solid recovered fuel burned in oxygen in calorimetric bomb under such conditions that all the water remains as water vapour at 0,1 MPa

NOTE Old term is lower heating value.

3.6
point of delivery
location specified in the delivery agreement, at which the proprietary rights of and responsibility for a solid recovered fuel are transferred from one organisation to an other