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Standards

Irish Standard  
I.S. EN 15415-2:2012

# Solid recovered fuels - Determination of particle size distribution - Part 2: Maximum projected length method (manual) for large dimension particles

## I.S. EN 15415-2:2012

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English Version

**Solid recovered fuels - Determination of particle size distribution  
- Part 2: Maximum projected length method (manual) for large  
dimension particles**

Combustibles solides de récupération - Détermination de la  
distribution granulométrique - Partie 2: Méthode (manuelle)  
de projection de la longueur maximale des particules de  
grande dimension

Feste Sekundärbrennstoffe - Bestimmung der  
Partikelgrößenverteilung - Teil 2: Manuelles Verfahren zur  
Bestimmung der größten projizierten Länge für große  
Partikel

This European Standard was approved by CEN on 9 March 2012.

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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.

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## Foreword

This document (EN 15415-2:2012) 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of an identical text or by endorsement, at the latest by October 2012, and conflicting national standards shall be withdrawn at the latest by October 2012.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.

EN 15415, *Solid recovered fuels — Determination of particle size distribution*, consists of the following parts:

- *Part 1: Screen method for small dimension particles*
- *Part 2: Maximum projected length method (manual) for large dimension particles*
- *Part 3: Method by image analysis for large dimension particles*

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, Turkey and the United Kingdom.

## **Introduction**

This document is dedicated to outlining a manual method for characterizing the size of pieces of solid recovered fuel (SRF) that exhibit an irregular shape and are generally large in size. Typical examples are shredded, end-of-life tyres and demolition woods.

When such products reach the end-of-life stage, they continue to exhibit the very strong mechanical properties for which they were designed and fabricated. For instance, tyres are designed and fabricated to withstand cutting. Therefore, it is wise to minimise shredding when producing SRF from these end-of-life products..This results in a general production of SRF pieces exhibiting an irregular shape and large size.

These SRF pieces cannot be characterised using the sieving method specified in EN 15415-1 which utilises well-known distribution curves and a series of test sieves. Consequently, the method specified in this document is a manual method based on the determination of the maximum projected length and accompanied by an appropriate statistical evaluation. This maximum projected length approach is needed for the sake of testing; but it is mainly needed to facilitate the use of these solid recovered fuels. Safe transportation (e.g. with a conveyer) and introduction into the combustion zone are dependent on the design and operations adapted to such maximum length.

In this document, the maximum projected length is determined without considering the filaments protruding from the SRF pieces (see 3.1). In EN 15415-3, an image analysis method is specified which allows the characterisation of these filaments protruding from shredded tyre pieces.

This document is based on CEN/TS 14243, AFNOR XP T47-751 and AFNOR XP T47-756.

## 1 Scope

This European Standard specifies the determination of particle size distribution of solid recovered fuels. It establishes a manual method for the determination of the maximum projected length for large dimension particles. It applies to both agglomerated and non-agglomerated solid recovered fuel pieces exhibiting an irregular shape, such as shredded end-of-life tyres and demolition woods.

This document does not apply to filaments protruding from the SRF pieces.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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*

ISO 565, *Test sieves — Metal wire cloth, perforated metal plate and electroformed sheet — Nominal sizes of openings*

ISO 3310-1 *Test sieves — Technical requirements and testing — Part 1: Test sieves of metal wire cloth*

## 3 Terms and definitions

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

### 3.1

#### **filaments**

filiform parts protruding from pieces of a solid recovered fuel (SRF), generally of a metallic and/or textile nature

### 3.2

#### **format of a large piece of SRF**

format based on the distribution of the maximum projected length

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