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Solid biofuels — Determination of content of heavy extraneous materials larger than 3,15 mm

Biocombustibles solides — Dosage de la teneur en matériaux lourds exogènes de dimension supérieure à 3,15 mm

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 238, *Solid biofuels*.

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Introduction

Determination of content of heavy extraneous materials larger than 3,15 mm top size is important when evaluating the suitability of using biomass as biofuel. Stones and other impurities contained in biomass from stumps, roots, mill residue and harvest and landscape management residues may cause problems during size reduction, as well as during combustion.

Impurities smaller than 3,15 mm are not considered as part of this testing method but may still contribute to the ash content.

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1 Scope

This document specifies a method for the determination of content of heavy extraneous materials larger than 3,15 mm by the use of sink-and-float separation combined with elutriation. This document is applicable to woody biomass in accordance with ISO 17225-1:2014, Table 1.

NOTE 1 This method is designed to determine the level of impurities larger than 3,15 mm top size with a specific density >1 g/cm^3 such as stones, glass, rubber, metal and certain types of plastics.

NOTE 2 During the processing of the sample, hand sorting of light impurities with a specific density ≤1 g/cm^3 (e.g. plastic foil) can also be done.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 3310-2, *Test sieves — Technical requirements and testing — Part 2: Test sieves of perforated metal plate*

ISO 14780, *Solid biofuels — Sample preparation*

ISO 16559, *Solid biofuels — Terminology, definitions and descriptions*

ISO 18134-1, *Solid biofuels — Determination of moisture content — Oven dry method — Part 1: Total moisture — Reference method*

ISO 18134-2, *Solid biofuels — Determination of moisture content — Oven dry method — Part 2: Total moisture — Simplified method*

ISO 18135, *Solid biofuels — Sampling*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 16559 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

3.1
heavy extraneous material on dry basis
EM_d
mass of inorganic residue ≥3,15 mm with a specific density >1 g/cm^3 expressed as percentage of the mass of the dry matter in the fuel

3.2
sedimentation
tendency for particles in suspension to settle out of the fluid in which they are entrained due to gravity and come to rest against a barrier

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