

English Version

Solid recovered fuels - Methods for the determination of metallic aluminium

Combustibles solides de récupération - Méthode de détermination de l'aluminium total

Feste Sekundärbrennstoffe - Verfahren zur Bestimmung des Gehaltes an metallischem Aluminium

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Foreword

This document (CEN/TS 15412:2010) has been prepared by Technical Committee CEN/TC 343 "Solid Recovered Fuels", the secretariat of which is held by SFS.

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Introduction

The metallic aluminium in solid recovered fuels is very problematic in combustion processes. Aluminium can form deposit on heat transfer surfaces and superheaters. For these reasons a method for the determination of total metallic aluminium is necessary. Other metals with low melting point such as tin, lead and zinc may cause similar problems but their content in solid recovered fuels is usually very low and then their effect is not significant.

1 Scope

This Technical Specification specifies two different methods for the determination of metallic aluminium in solid recovered fuels:

- method a: dissolution of metallic aluminium and analysis by Inductively Coupled Plasma Optic Emission Spectrometry (ICP-OES) or by Flame Atomic Absorption Spectrometry (FAAS);
- method b: Differential Thermal Analysis (DTA) on the solid SRF.

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.

prEN 15357:2009, *Solid recovered fuels — Terminology, definitions and descriptions*

prEN 15403, *Solid recovered fuels — Determination of the ash content*

prEN 15413, *Solid recovered fuels — Methods for the preparation of the test sample from the laboratory sample*

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

EN ISO 3696:1995, *Water for analytical laboratory use — Specification and test methods (ISO 3696:1987)*

EN ISO 11885:2009, *Water quality — Determination of selected elements by inductively coupled plasma optical emission spectrometry (ICP-OES) (ISO 11885:2007)*

EN ISO 12020:2000, *Water quality — Determination of aluminium — Atomic absorption spectrometric methods (ISO 12020:1997)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in prEN 15357:2009 and the following apply.

3.1

metallic aluminium

aluminium that could be extract from SRF by using a 0,75 mol/l NaOH solution, after leaching with 0,14 mol/l HNO₃ solution