Irish Standard
I.S. EN 15289:2011

Solid biofuels - Determination of total content of sulfur and chlorine

I.S. EN 15289:2011

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English Version

Solid biofuels - Determination of total content of sulfur and chlorine

Biocombustibles solides - Détermination de la teneur totale en soufre et en chlore

Feste Biobrennstoffe - Bestimmung des Gesamtgehaltes an Schwefel und Chlor

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 15289:2011) has been prepared by Technical Committee CEN/TC 335 “Solid biofuels”, the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by August 2011, and conflicting national standards shall be withdrawn at the latest by August 2011.

This document supersedes CEN/TS 15289:2006.

In the pre-normative project BIONORM I&II a robustness test has been performed to find out if all critical parameters in the standard were addressed. Based on the results of that test it has been concluded that all critical parameters were covered. Only minor technical changes were necessary which have been implemented in the revised text. The revision also includes a change of deliverable from Technical Specification to European Standard and updated normative references.

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Introduction

Sulfur and chlorine are present in solid biofuels in varying concentrations. During the combustion process they are usually converted to sulfur-oxides and chlorides. The presence of these elements and their reaction products may contribute significantly to corrosion and to environmentally harmful emissions.

Chlorine may be present in different organic and inorganic compounds and should exceed or equal the water soluble amount that can be determined by EN 15105 [2].

Oxygen combustion in a closed oxygen bomb is the preferred method to digest biomass samples for a determination of the total content of sulfur and chlorine. An advantage of the method is that the digestion may be carried out in connection with determination of the calorific value according to EN 14918. Decomposition in closed vessels is an appropriate alternative method. Other analytical techniques (e.g. high temperature combustion in a tube furnace and Eschka method) may also be used. The determination of the resultant chlorine and sulfur compounds can be done by different techniques, e.g. ion chromatography, ICP, titrimetry.

Automatic equipment and alternative methods may be used when these methods are validated with biomass reference samples of an adequate type and also meet the requirements of Clause 10.

A list with typical sulfur and chlorine contents of biofuels can be found in EN 14961-1.