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Solid biofuels - Determination of ash melting behaviour (ISO 21404:2020)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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English Version

Solid biofuels - Determination of ash melting behaviour (ISO 21404:2020)

Biocombustibles solides - Methode de détermination de la fusibilité des cendres (ISO 21404:2020)

Biogene Festbrennstoffe - Bestimmung des Asche-Schmelzverhaltens (ISO 21404:2020)

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 21404:2020) has been prepared by Technical Committee ISO/TC 238 "Solid biofuels" in collaboration with 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of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by August 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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The text of ISO 21404:2020 has been approved by CEN as EN ISO 21404:2020 without any modification.

INTERNATIONAL STANDARD

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Solid biofuels — Determination of ash melting behaviour

Biocombustibles solides — Méthode de détermination de la fusibilité des cendres

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

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Foreword

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The test method described in this document provides information about fusion and melting behaviour of the composite inorganic constituents of the solid biofuel ash at high temperatures.

Ash melting is a complex process where also sintering, shrinkage and expansion or swelling can occur.

The test method is empirical. The ash used for the test is a homogeneous material, prepared from the fuel by ashing at 550 °C (alternatively, ashing temperatures of 710 °C or 815 °C may be used). The determination is performed at a controlled rate of heating in a controlled atmosphere. In contrast, under full-scale conditions, the complex processes of combustion and fusion involve heterogeneous mixtures of particles, variable heating rates and gas compositions.

The determined characteristic temperatures in the test can be used for comparison of the tendency of the ashes from different types and qualities of solid biofuels to form fused deposits or to cause bed agglomeration on heating.

The method is based on the methods described in DIN 51730:1998[1], ISO 540:2008[2] and CEN/TS 15370-1[3]. The terms ash fusibility and ash softening are synonyms to ash melting.

INTERNATIONAL STANDARD **ISO 21404:2020(E)**

Solid biofuels — Determination of ash melting behaviour

1 Scope

This document specifies a method for the determination of the characteristic temperatures for the ash melting behaviour of solid biofuels.

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.

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