International Standard

ISO 18708

Solid recovered fuels — Determination of bulk density

Combustibles solides de récupération — Détermination de la masse volumique apparente

First edition
2025-10

Reference number
ISO 18708:2025(en)

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Published in Switzerland

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 300, *Solid recovered materials, including solid recovered fuels*. in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 343, *Solid recovered materials, including solid recovered fuels,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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

Bulk density is one of the main quality parameters of solid recovered fuels (SRF). It is needed e.g. in a sampling process (volume of sampling tools, volume primary sample), in assessing transport capacity or storage space required or energy density (MWh/m^3) of SRF. Bulk density is not an absolute value, therefore conditions for its determination are standardised in order to gain comparative measuring results.

This document describes the testing method for determining the bulk density of SRFs to produce solidified fuels from the combustibles in waste by processing, such as compressing, drying, crushing, moulding and solidifying, and utilize them as an energy source.

Solid recovered fuels — Determination of bulk density

1 Scope

This document specifies a method for determining the bulk density of solid recovered fuels (SRF) by the use of a standard measuring container. This method is applicable to all SRFs with a nominal top size of particle less than 1/3 of the container diameter specified in this document.

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 21637, *Solid recovered fuels — Vocabulary*

ISO 21645, *Solid recovered fuels — Methods for sampling*

ISO 21646, *Solid recovered fuels — Sample preparation*

ISO 21660-3, *Solid recovered fuels — Determination of moisture content using the oven dry method — Part 3: Moisture in general analysis sample*

EN 15415-1, *Solid recovered fuels — Determination of particle size distribution - Screen method for small dimension particles*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 21637 and the following apply.

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

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

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

3.1
bulk density
ρ
mass of a portion (i.e. a large quantity of particulate material) of a solid fuel divided by the volume of the container which is filled by that portion under specific conditions

[SOURCE: ISO 16559:2022, 3.40, modified — ρ added as the symbol for bulk density and definition revised adding reference to "solid fuel".]

4 Principle

A standard container is filled with the test portion of a given size and shape, densified by specified shock exposure and weighed afterwards. The bulk density is calculated from the net weight per standard volume and reported with the determined moisture content.