
**Thermal insulating products
for building applications —
Determination of the apparent density**

*Produits isolants thermiques destinés aux applications du bâtiment —
Détermination de la masse volumique apparente*



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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 documents 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 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 1, *Test and measurement methods*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 88, *Thermal insulating materials and products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 29470:2008), which has been technically revised. The main changes compared to the previous edition are as follows:

- information was added to [6.1](#).

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.

Thermal insulating products for building applications — Determination of the apparent density

1 Scope

This document specifies the equipment and procedures for determining the apparent overall density and the apparent core density under reference conditions. This document is applicable to full size thermal insulating products and test specimens. This document can also be applied to the individual layers of multi-layered products.

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 29465, *Thermal insulating products for building applications — Determination of length and width*

ISO 29466, *Thermal insulating products for building applications — Determination of thickness*

ISO 29768, *Thermal insulating products for building applications — Determination of linear dimensions of test specimens*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

apparent overall density

ρ_a

mass per unit volume of a product, including all surface skins formed during production, but excluding any facings and/or coatings

3.2

apparent core density

ρ_c

mass per unit volume of the core of a product after all surface skins formed during production and all facings and/or coatings have been removed

4 Principle

The density is determined as the ratio of the mass and the volume of the test specimen.

5 Apparatus

5.1 Balance, capable of determining the mass of a test specimen to an accuracy of 0,5 %.