

Thermal insulating products for building applications -  
Determination of the apparent density (ISO  
29470:2020)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

|                                                                                                                     |                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| See Eesti standard EVS-EN ISO 29470:2020 sisaldab Euroopa standardi EN ISO 29470:2020 ingliskeelset teksti.         | This Estonian standard EVS-EN ISO 29470:2020 consists of the English text of the European standard EN ISO 29470:2020.              |
| Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.                                                  | This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation. |
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ICS 91.100.60

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English Version

**Thermal insulating products for building applications -  
Determination of the apparent density (ISO 29470:2020)**

Produits isolants thermiques destinés aux applications  
du bâtiment - Détermination de la masse volumique  
apparente (ISO 29470:2020)

Wärmedämmstoffe für das Bauwesen - Bestimmung  
der Rohdichte (ISO 29470:2020)

This European Standard was approved by CEN on 21 June 2020.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

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

## European foreword

This document (EN ISO 29470:2020) has been prepared by Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment" in collaboration with Technical Committee CEN/TC 88 "Thermal insulating materials and products" the secretariat of which is held by DIN.

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 January 2021, and conflicting national standards shall be withdrawn at the latest by January 2021.

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.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 29470:2020 has been approved by CEN as EN ISO 29470:2020 without any modification.

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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](http://www.iso.org/directives)).

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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

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](http://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

$\rho_a$   
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

$\rho_c$   
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 %.