

**Thermal insulating products for  
building equipment and industrial  
installations - Determination of the  
apparent density of preformed pipe  
insulation**

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and industrial installations - Determination of the  
apparent density of preformed pipe insulation

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13470:2002 sisaldab Euroopa standardi EN 13470:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 14.03.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13470:2002 consists of the English text of the European standard EN 13470:2001.</p> <p>This document is endorsed on 14.03.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> This European Standard specifies the equipment and procedures for determining the apparent overall density and the apparent core density under reference conditions. It is applicable to full size thermal insulating products and test specimens of preformed pipe insulation.</p>	<p><b>Scope:</b> This European Standard specifies the equipment and procedures for determining the apparent overall density and the apparent core density under reference conditions. It is applicable to full size thermal insulating products and test specimens of preformed pipe insulation.</p>
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**ICS** 91.100.60

**Võtmesõnad:** building equipment, density, pipe insulation, products, thermal insulation

ICS 91.100.60

English version

## Thermal insulating products for building equipment and industrial installations - Determination of the apparent density of preformed pipe insulation

Produits isolants thermiques pour l'équipement du bâtiment et les installations industrielles - Détermination de la masse volumique apparente des coquilles isolantes préformées

Wärmedämmstoffe für die Haustechnik und für betriebstechnische Anlagen - Bestimmung der Rohdichte von vorgeformten Rohrdämmstoffen

This European Standard was approved by CEN on 18 August 2001.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
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## Foreword

This European Standard has been prepared by 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 March 2002, and conflicting national standards shall be withdrawn at the latest by March 2002.

This European Standard is one of a series of standards which specify test methods for determining dimensions and properties of thermal insulating materials and products. It supports a series of product standards for thermal insulating materials and products which derive from the Council Directive of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (Directive 89/106/EEC) through the consideration of the essential requirements.

This European Standard has been prepared for products used to insulate building equipment and industrial installations, but it may also be applied to products used in other areas.

No existing European Standard is superseded.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## 1 Scope

This European Standard specifies the equipment and procedures for determining the apparent overall density and the apparent core density under reference conditions. It is applicable to full size thermal insulating products and test specimens of preformed pipe insulation.

## 2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 13467, *Thermal insulating products for building equipment and industrial installations – Determination of dimensions, squareness and linearity of preformed pipe insulation.*

## 3 Terms and definitions

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

### 3.1

#### **apparent overall density, $\rho_a$**

the 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, $\rho_c$**

the 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 quotient 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 %.

**5.2 Equipment** for the determination of the dimensions of preformed pipe insulation (see 7.2).

## 6 Test specimens

### 6.1 Dimensions of test specimens

The test specimens shall be full size products or parts of them, or test specimens used for other tests.

When the apparent overall density is being determined using test specimens cut from a product with surface skins formed during production, the ratio of the area of the surface skin to the total volume shall be the same for the test specimen as for the product.

NOTE The size of a test specimen should preferably be as large as possible, commensurate with the apparatus