

**Värmeisoleringsprodukter för isolering av
installationer – Bestämning av termisk
expansionskoefficient**

**Thermal insulating products for building
equipment and industrial installations –
Determination of the coefficient of thermal
expansion**

Europastandarden EN 13471:2001 gäller som svensk standard. Detta dokument innehåller den engelska språkversionen av EN 13471:2001.

EN 13471 har tagits fram inom CEN/TC 88, Thermal insulating materials and products.

Standarden gäller bestämning av längdändringar hos en produkt som utsätts för olika temperaturer och beräkning av den termiska expansionskoefficienten

The European Standard EN 13471:2001 has the status of a Swedish Standard. This document contains the official English version of EN 13471:2001.

Dokumentet består av 12 sidor.

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English version

Thermal insulating products for building equipment and industrial installations - Determination of the coefficient of thermal expansion

Produits isolants thermiques pour l'équipement du bâtiment et les installations industrielles - Détermination du coefficient de dilatation thermique

Wärmedämmstoffe für die Haustechnik und für betriebstechnische Anlagen - Bestimmung des Wärmeausdehnungskoeffizienten

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.

EN 13471:2001 (E)

1 Scope

This European Standard specifies the equipment and procedures for determining the coefficient of linear thermal expansion. The standard is applicable to thermal insulating products within the temperature range - 196 °C to 850 °C, subject to the possible temperature limitation of the test specimens. It shall not be used for products which during the test experience dimensional changes due to the loss of hydration water or which undergo other phase changes.

NOTE Because of its small dimensions the test specimen should be carefully selected to be representative of the product being tested.

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 12085, *Thermal insulating products for building applications – Determination of linear dimensions of test specimens.*

3 Terms and definitions

For the purpose of this European Standard, the following terms and definitions apply:

3.1

linear thermal expansion

reversible changes in the length of a product resulting from a change in temperature

3.2

mean coefficient of linear thermal expansion α_m between different temperatures

reversible change in length divided by the length at the reference temperature and the temperature difference between the test temperatures

3.3

coefficient of thermal expansion α_t at the temperature T

limit value of α_m as the higher temperature approaches the lower temperature (see Figure 1)

NOTE The definition of α_m and α_t assumes that the function giving the length variation in relation to the temperature variation is continuous. This excludes the use of the mean coefficient of linear thermal expansion α_m when the test specimen experiences physical change due to change of phase, eg. recrystallisation or loss of water of hydration. The curve giving the length variation as a function of the temperature variation can be reported but the mean coefficient of thermal expansion should not be calculated for parts of the curve which are not continuous.