
**Thermal insulation products for building
equipment and industrial installations —
Determination of declared thermal
conductivity**

*Produits isolants thermiques pour l'équipement du bâtiment et les
installations industrielles — Détermination de la conductivité thermique
déclarée*

Sample Document

get full document from standards.iteh.ai



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

Sample Document

get full document from standards.iteh.ai

© ISO 2003

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 13787 was prepared by the European Committee for Standardization (CEN) in collaboration with Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 2, *Calculation methods*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

Throughout the text of this document, read “...this European Standard...” to mean “...this International Standard...”.

get full document from standards.iteh.ai

Contents

	Page
Foreword.....	v
Introduction	vi
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions	2
4 Principles for the determination of declared thermal conductivity.....	2
5 Determination and verification of declared thermal conductivity.....	3
5.1 Measurement of thermal conductivity	3
5.2 Procedure for verification	3
Annex A (informative) Verification based on curve comparison.....	6
A.1 General.....	6
A.2 Principle	6
A.3 Test.....	6
A.3.1 Measurement of thermal conductivity	6
A.3.2 Procedure for comparison and decision	6
Annex B (informative) Statistical method to establish the declared thermal conductivity curve.....	8
B.1 General.....	8
B.2 Symbols and units	8
B.3 Establishment of declared values	9
B.3.1 A large number of thermal conductivity results are available ($n > 50$ at each temperature)	9
B.3.2 A small number of data are available ($n \leq 50$)	9
B.4 Verification of the declared curve	9
B.5 Examples.....	10
B.5.1 Establishment of the declared curve.....	10
B.5.2 Verification of the declared curve.....	12
Annex C (informative) Illustration of the procedure to verify thermal conductivity.....	16
Bibliography	19

Foreword

This document (EN ISO 13787:2003) has been prepared by Technical Committee CEN/TC 89 "Thermal performance of buildings and building components", the secretariat of which is held by SIS, in collaboration with Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment".

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 September 2003, and conflicting national standards shall be withdrawn at the latest by September 2003.

Annexes A, B and C are informative.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovak Republic, Spain, Sweden, Switzerland and the United Kingdom.

Sample Document

get full document from standards.iteh.ai

Introduction

This standard gives the procedure for the determination of the declared thermal conductivity of thermal insulation materials and products, which are used for the insulation of building equipment and industrial installations.

For this area of application the thermal conductivity values are usually expressed over a wide range of temperatures.

This standard describes the procedure necessary for the determination of the thermal conductivity values, which the manufacturer shall declare.

The values are expressed in the form of a curve or in tabular form which shows thermal conductivity as a function of temperature.

Sample Document

get full document from standards.iteh.ai

1 Scope

This standard establishes the procedure for the determination and verification of the declared thermal conductivity as a function of temperature of thermal insulating materials and products used for the insulation of building equipment and industrial installations.

The informative annex B also gives an optional method for establishing the thermal conductivity curve or table from measured values.

The standard is not applicable to thermal insulating products used in building envelopes. For the procedures which are used for these products, see ISO 10456, "*Building materials and products – Procedures for determining declared and design thermal values*".

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 12667	<i>Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance.</i>
EN ISO 7345:1995	<i>Thermal insulation - Physical quantities and definitions (ISO 7345:1987).</i>
EN ISO 8497	<i>Thermal insulation - Determination of steady-state thermal transmission properties of thermal insulation for circular pipes (ISO 8497:1994).</i>
prEN ISO 9229:1997	<i>Thermal insulation - Definitions of terms (ISO/DIS 9229:1997).</i>
ISO 8301	<i>Thermal insulation - Determination of steady-state thermal resistance and related properties - Heat flow meter apparatus.</i>
ISO 8302	<i>Thermal insulation - Determination of steady-state thermal resistance and related properties - Guarded hot plate apparatus.</i>