SLOVENSKI STANDARD
SIST EN ISO 13786:2008

01-april-2008

Nadomešča:
SIST EN ISO 13786:2000

Toplotne značilnosti delov stavb - Dinamične toplotne značilnosti - Računske metode (ISO 13786:2007)

Thermal performance of building components -- Dynamic thermal characteristics -- Calculation methods (ISO 13786:2007)

Wärmetechnisches Verhalten von Bauteilen - Dynamisch-thermische Kenngrößen - Berechnungsverfahren (ISO 13786:2007)

Performance thermique des composants de bâtiment - Caractéristiques thermiques dynamiques - Méthodes de calcul (ISO 13786:2007)

Ta slovenski standard je istoveten z: **EN ISO 13786:2007**

ICS:

91.120.10	Toplotna izolacija stavb	Thermal insulation

SIST EN ISO 13786:2008 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 13786

December 2007

ICS 91.060.01; 91.120.10

Supersedes EN ISO 13786:1999

English Version

Thermal performance of building components - Dynamic thermal characteristics - Calculation methods (ISO 13786:2007)

Performance thermique des composants de bâtiment - Caractéristiques thermiques dynamiques - Méthodes de calcul (ISO 13786:2007)

Wärmetechnisches Verhalten von Bauteilen - Dynamisch-thermische Kenngrößen - Berechnungsverfahren (ISO 13786:2007)

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

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Foreword

This document (EN ISO 13786:2007) 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 89 "Thermal performance of buildings and building components", the secretariat of which is held by SIS.

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of an identical text or by endorsement, at the latest by June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

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Endorsement notice

The text of ISO 13786:2007 has been approved by CEN as a EN ISO 13786:2007 without any modification.

INTERNATIONAL STANDARD

ISO 13786

Second edition
2007-12-15

Thermal performance of building components — Dynamic thermal characteristics — Calculation methods

Performance thermique des composants de bâtiment — Caractéristiques thermiques dynamiques — Méthodes de calcul

Reference number
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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.

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.

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ISO 13786 was prepared by Technical Committee ISO/TC 163, *Thermal performance and energy use in the built environment*, Subcommittee SC 2, *Calculation methods*.

This second edition cancels and replaces the first edition (ISO 13786:1999), which has been technically revised.

The following principal changes have been made to the first edition:

— all equations in Clause 3 have been reviewed and corrected as appropriate; the definition of heat capacity (3.1.1.5) has been modified;

— all equations in 7.2.1 and 7.2.2 have been reviewed and corrected as appropriate;

— 7.2.4 contains a new equation for periodic thermal transmittance, and a new note;

— Equation (A.4) has been corrected;

— B.2 has undergone minor revisions;

— Table C.1 has been added;

— Annex D contains amended examples to align with changes to the formulae in the main body of the text.

Introduction

This International Standard provides the means (in part) to assess the contribution that building products and services make to energy conservation and to the overall energy performance of buildings.

The dynamic thermal characteristics of a building component describe the thermal behaviour of the component when it is subject to variable boundary conditions, i.e. variable heat flow rate or variable temperature on one or both of its boundaries. In this International Standard, only sinusoidal boundary conditions are considered: boundaries are submitted to sinusoidal variations of temperature or heat flow rate.

The properties considered are thermal admittances and thermal dynamic transfer properties, relating cyclic heat flow rate to cyclic temperature variations. Thermal admittance relates heat flow rate to temperature variations on the same side of the component. Thermal dynamic transfer properties relate physical quantities on one side of the component to those on the other side. From the aforementioned properties, it is possible to define the heat capacity of a given component which quantifies the heat storage property of that component.

The dynamic thermal characteristics defined in this International Standard can be used in product specifications of complete building components.

The dynamic thermal characteristics can also be used in the calculation of:

— the internal temperature in a room;

— the daily peak power and energy needs for heating or cooling;

— the effects of intermittent heating or cooling, etc.