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Building materials and products - Hygrothermal properties - Tabulated design values and procedures for determining declared and design thermal values

EESTI STANDARDI EESSÕNA

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<p>Käesolev Eesti standard EVS-EN ISO 10456:2008 sisaldab Euroopa standardi EN ISO 10456:2007+AC:2009 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 30.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 15.12.2007.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 10456:2008 consists of the English text of the European standard EN ISO 10456:2007+AC:2009.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 30.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 15.12.2007.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

Building materials and products - Hygrothermal properties -
Tabulated design values and procedures for determining
declared and design thermal values (ISO 10456:2007)

Matériaux et produits pour le bâtiment - Propriétés
hygrothermiques - Valeurs utiles tabulées et procédures
pour la détermination des valeurs thermiques déclarées et
utiles (ISO 10456:2007)

Baustoffe und Bauprodukte - Wärme- und
feuchtetechnische Eigenschaften - Tabellierte
Bemessungswerte und Verfahren zur Bestimmung der
wärmeschutztechnischen Nenn- und Bemessungswerte
(ISO 10456:2007)

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Foreword

This document (EN ISO 10456:2007) 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of an identical text or by endorsement, at the latest by June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

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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.

Heat and moisture transfer calculations require design values of thermal and moisture properties for materials used in building applications.

Design values can be derived from declared values that are based on measured data on the product concerned, which is usually the case for thermal insulation materials. Where the design conditions differ from those of the declared value, the data needs to be converted to the applicable conditions. This International Standard provides the methods and data for making this conversion.

For materials for which measured values are not available, design values can be obtained from tables. This International Standard provides such tabulated information based on the compilation of existing data (see reference documents listed in the Bibliography).

Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values

1 Scope

This International Standard specifies methods for the determination of declared and design thermal values for thermally homogeneous building materials and products, together with procedures to convert values obtained under one set of conditions to those valid for another set of conditions. These procedures are valid for design ambient temperatures between -30 °C and $+60\text{ °C}$.

This International Standard provides conversion coefficients for temperature and for moisture. These coefficients are valid for mean temperatures between 0 °C and 30 °C .

This International Standard also provides design data in tabular form for use in heat and moisture transfer calculations, for thermally homogeneous materials and products commonly used in building construction.

2 Normative references

The following referenced documents are indispensable for the application 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 7345, *Thermal insulation — Physical quantities and definitions*

ISO 8990, *Thermal insulation — Determination of steady-state thermal transmission properties — Calibrated and guarded hot box*

ISO 12572, *Hygrothermal performance of building materials and products — Determination of water vapour transmission properties*

3 Terms, definitions, symbols and units

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 7345 and the following apply.

3.1.1

declared thermal value

expected value of a thermal property of a building material or product assessed from measured data at reference conditions of temperature and humidity, given for a stated fraction and confidence level, and corresponding to a reasonable expected service lifetime under normal conditions

3.1.2

design thermal value

design thermal conductivity or design thermal resistance

NOTE A given product can have more than one design value, for different applications or environmental conditions.