

## **Thermal performance of windows, doors and shutters - Determination of thermal transmittance by hot box method - Part 4: Roller shutter boxes**

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shutters - Determination of thermal transmittance by  
hot box method - Part 4: Roller shutter boxes

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12412-4:2003 sisaldab Euroopa standardi EN 12412-4:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 14.08.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12412-4:2003 consists of the English text of the European standard EN 12412-4:2003.</p> <p>This document is endorsed on 14.08.2003 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 a method, based on EN ISO 8990 and EN ISO 12567-1, to measure the overall thermal transmittance of a roller shutter box in a hot box. This includes all effects of geometrical and material characteristics in a test specimen</p>	<p><b>Scope:</b> This European Standard specifies a method, based on EN ISO 8990 and EN ISO 12567-1, to measure the overall thermal transmittance of a roller shutter box in a hot box. This includes all effects of geometrical and material characteristics in a test specimen</p>
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English version

**Thermal performance of windows, doors and shutters -  
Determination of thermal transmittance by hot box method - Part  
4: Roller shutter boxes**

Performance thermique des fenêtres, portes et fermetures -  
Détermination du coefficient de transmission thermique par  
la méthode de la boîte chaude - Partie 4: Coffres de volets  
roulants

Wärmetechnisches Verhalten von Fenstern, Türen und  
Abschlüssen - Bestimmung des  
Wärmedurchgangskoeffizienten mittels des  
Heizkastenverfahrens - Teil 4: Rolladenkästen

This European Standard was approved by CEN on 2 May 2003.

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



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
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## Foreword

This document EN 12412-4:2003 has been prepared by Technical Committee CEN /TC 89, "Thermal performance of buildings and building components", the secretariat of which is held by SIS.

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 January 2004, and conflicting national standards shall be withdrawn at the latest by January 2004.

This standard is one of a series of standards on calculation and measurement methods for the design and evaluation of the thermal performance of buildings and building components.

Annexes A and B are normative.

Annex C is 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, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

The method described in this European Standard provides data that can be used for calculating the overall thermal performance of windows and doors equipped with roller shutters according to EN ISO 10077-1, *Thermal performance of windows, doors and shutters – Calculation of thermal transmittance – Part 1: Simplified method (ISO 10077-1:2000)*.

## 1 Scope

This European Standard specifies a method, based on EN ISO 8990 and EN ISO 12567-1, to measure the overall thermal transmittance of a roller shutter box in a hot box. This includes all effects of geometrical and material characteristics in a test specimen.

Edge effects occurring outside of the perimeter of the specimen are excluded. Furthermore, energy transfer due to solar radiation is not taken into account, and air leakage is excluded.

The method is designed to provide both standardised tests which enable a fair comparison of different products to be made, and specific tests on products for practical application purposes. The former includes window standardised specimen sizes and applied test criteria.

The determination of the overall thermal transmittance is performed for conditions which will correspond to a similar situation of the roller shutter box in practice.

Information on the design of the calibration transfer standard is given in EN ISO 12567-1.

## 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 1946-4, *Thermal performance of building products and components – Specific criteria for the assessment of laboratories measuring heat transfer properties – Part 4: Measurements by hot box methods*.

prEN 12519:1996, *Windows and doors – Terminology*.

EN 12664, *Thermal performance of building materials and products – Determination of thermal resistance by means of guarded hot plate and heat flow meter methods – Dry and moist products of medium and low thermal resistance*.

EN ISO 7345:1995, *Thermal insulation – Physical quantities and definitions (ISO 7345:1987)*.

EN ISO 8990:1996, *Thermal insulation – Determination of steady-state thermal transmission properties – Calibrated and guarded hot box (ISO 8990:1994)*.

EN ISO 9288:1996, *Thermal insulation – Heat transfer by radiation – Physical quantities and definitions (ISO 9288:1989)*.

EN ISO 12567-1:2000, *Thermal performance of windows and doors – Determination of thermal transmittance by hot box method – Part 1: Complete windows and doors (ISO 12567-1:2000)*.