



SLOVENSKI STANDARD
SIST EN ISO 6946:1997/A1:2003
01-december-2003

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dfY cXbcgh!FU i bg_Ua YrcXUfGC* - (*.% - *#a X"r%&\$ \$' £

Building components and building elements - Thermal resistance and thermal transmittance - Calculation method (ISO 6946:1996/Amd. 1:2003)

Bauteile - Wärmedurchlaßwiderstand und Wärmedurchgangkoeffizient - Berechnungsverfahren (ISO 6946:1996/Amd. 1:2003)

Composants et parois de bâtiments - Résistance thermique et coefficient de transmission thermique - Méthode de calcul (ISO 6946:1996/Amd. 1:2003)

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Ta slovenski standard je istoveten z: EN ISO 6946:1996/A1:2003

ICS:

91.060.01	Stavbni elementi na splošno	Elements of buildings in general
91.120.10	Toplotna izolacija stavb	Thermal insulation

SIST EN ISO 6946:1997/A1:2003 **en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 6946:1996/A1

May 2003

ICS 91.120.10

English version

**Building components and building elements - Thermal
resistance and thermal transmittance - Calculation method (ISO
6946:1996/Amd. 1:2003)**

Composants et parois de bâtiments - Résistance thermique
et coefficient de transmission thermique - Méthode de
calcul (ISO 6946:1996/Amd. 1:2003)

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Wärmedurchgangskoeffizient - Berechnungsverfahren (ISO
6946:1996/Amd. 1:2003)

This amendment A1 modifies the European Standard EN ISO 6946:1996; it was approved by CEN on 23 September 2002.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant 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 amendment 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.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN ISO 6946:1996/A1:2003 (E)**Foreword**

This document (EN ISO 6946:1996/A1:2003) 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 November 2003, and conflicting national standards shall be withdrawn at the latest by November 2003

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.

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D.4 Correction procedure for inverted roofs

D.4.1 General

A correction procedure is given for inverted roofs due to rain water flowing between the insulation and the waterproofing membrane.

The procedure given in D.4 is applicable only to insulation made from extruded polystyrene (XPS).

D.4.2 Symbols and units

Symbol	Quantity	Unit
p	average rate of precipitation during the heating season, based upon data relevant for the location e.g. weather station, or given through local, regional or national regulation	mm/day
f	drainage factor giving the fraction of p reaching the waterproofing membrane	-
x	factor for increased heat loss caused by rainwater flowing on the membrane	(W·day)/(m ² ·K·mm)
R_i	thermal resistance of the layer of XPS insulation above the waterproofing membrane	m ² ·K/W
R_T	total thermal resistance of the construction	m ² ·K/W
ΔU_r	correction to the calculated thermal transmittance of the roof element, to take into account the extra heat loss caused by rainwater flowing through joints in the insulation and reaching the waterproofing membrane	W/(m ² ·K)

D.4.3 Correction due to water flowing between the insulation and the waterproofing membrane

$$\Delta U_r = p f x \left(\frac{R_i}{R_T} \right)^2 \quad (\text{D.5})$$

ΔU_r is calculated to two decimals, ΔU_r less than 0,01 is considered as zero.

For a single layer of insulation above the membrane, with butt joints and open covering such as gravel $f x = 0,04$.

NOTE The single layer of insulation with butt joints and open covering is considered to be the layout giving the highest ΔU_r .

Lower values of $f x$ can apply for roof constructions that give less drainage through the insulation. Examples are different jointing arrangements (such as shiplap or tongue-and-groove joints), or different types of roof build-up. In these cases, where the effect of the measures are documented in independent reports, values smaller than 0,04 for $f x$ may be used.

D.4.4 Correction to thermal conductivity

The thermal conductivity of XPS insulation shall be corrected due to possible increased moisture content caused by diffusion. This shall be done according to ISO 10456.