Klaas ehitusmaterjalina. Soojuskandeteguri (U-väärtuse) määramine. Kuuma plaadi meetod

Glass in building - Determination of thermal transmittance (U-value) - Guarded hot plate method

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 674:1999 sisaldab Euroopa standardi EN 674:1997 ingliskeelset teksti. Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 674:1999 consists of the English text of the European standard EN 674:1997. This document is endorsed on 23.11.1999 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See Euroopa standard määrab kindlaks mõõtmismeetodi lamedate paralleelsete pindadega klaasingute soojuskandeteguri määramiseks. Struktuurse pinnaga, nt ornamentklaasi arvestatakse lamedana. See Euroopa standard on rakendatav mitmekordsele klaasile, kus väline klaas ei lase läbi kauginfrapunakiirgust, omadus, mis esineb lubiliivklaastoodete (edaspidi lubiliivklaas), boorsilikaatklaasi või klaaskeraamika korral. Sisemised klaasikihid võivad olla kauginfrapunakiirgust läbilaskvad.	**Scope:**

ICS 81.040.20

Võtmesõnad: aknaklaas, arvutamisjuhendid, infrapunakiirgus, klaasing, läbipaistvus, mõõtmed, soojuskandetegur, soojustus

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EN 674

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Descriptors: Building, glazing, thermal transmittance, testing, guarded hot plate apparatus.

English version

Glass in building

Determination of thermal transmittance (U value) – Guarded hot plate method

Verre dans la construction – Détermination du coefficient de transmission thermique, U – Méthode de l'anneau de garde

Glas im Bauwesen – Bestimmung des Wärmedurchgangskoeffizienten (U-Wert) – Verfahren mit dem Plattengerät

This European Standard was approved by CEN on 1997-10-08.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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 Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 129 "Glass in building", the secretariat of which is held by IBN.

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 May 1998, and conflicting national standards shall be withdrawn at the latest by May 1998.

CEN/TC 129/WG9 "Light and energy transmission , thermal insulation" prepared a working draft based on the document ISO/DIS 10291 "Glass in building - Measuring method for the determination of the thermal transmittance of multiple glazing (U value) - Guarded hot plate method", document that was prepared by ISO/TC 160, "Glass in building".

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

1 Scope

This European Standard specifies a measurement method to determine the thermal transmittance of glazing with flat and parallel surfaces. Structured surfaces, e.g. patterned glass, can be considered to be flat.

This European Standard applies to multiple glazing with outer panes which are not transparent to far infrared radiation, which is the case for soda lime silicate glass products (called hereafter soda lime glass), borosilicate glass and glass ceramics. Internal elements may be far infrared transparent.

The procedure specified in this European Standard determines the *U* value[1)] (thermal transmittance) in the central area of glazing. The edge effects, due to the thermal bridge through the spacer of a sealed glazing unit or through the window frame are not included. Furthermore energy transfer due to solar radiation is not taken into account.

The document for the calculation of the overall *U* value of windows, doors and shutters (see A.1) gives normative reference to the *U* value evaluated for the glazing components according to this standard.

A vertical position of the glazing is specified.

U values evaluated according to the present standard are used for product comparison as well as for other purposes , in particular for predicting:

- heat loss through glazing;
- conduction heat gains in summer;
- condensation on glazing surfaces;
- the effects of the absorbed solar radiation in determining the solar factor (see A.2).

Reference should be made to A.3, A.4 or other European Standards dealing with heat loss calculations for the application of glazing *U* values determined by this standard.

The determination of the thermal transmittance is performed for conditions which correspond to the average situation for glazing in practice.

2 Normative references

This European Standard as appropriate incorporates by dated or undated references, 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 revision 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.

ISO 8302:1991 Thermal insulation - Determination of steady-state thermal resistance and related properties - Guarded hot plate apparatus

EN 673 Glass in building - Determination of thermal transmittance (*U* value) - Calculation method

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1) In some countries the symbol *k* has been used hitherto