

**Klaas ehitusmaterjalina. Soojuskandeteguri
(U-väärtuse) määramine. Arvutusmeetod**

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

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 673:1999 sisaldab Euroopa standardi EN 673:1997 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 673:1999 consists of the English text of the European standard EN 673:1997.</p> <p>This document is endorsed on 23.11.1999 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>Käsitlusala: See Euroopa standard määrab kindlaks arvutusmeetodi lamedate paralleelsete pindadega klaasingute soojuskandeteguri määramiseks. See Euroopa standard on rakendatav pinnakatteta klaasile (k.a. struktuurse pinnaga, nt ornamentklaas), pinnakattega klaasile ja materjalidele, mis ei lase läbi kauginfrapunakiirgust, omadus, mis esineb lubiliivklaasitoodete (edaspidi lubiliivklaas), boorsilikaatklaasi ja klaaskeraamika korral.</p>	<p>Scope:</p>
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Võtmesõnad: aknaklaas, arvutamishendid, infrapunakiirgus, klaasing, läbipaistmatus, mõõtmed, soojuskandetegur, soojustus

EUROPEAN STANDARD

EN 673

NORME EUROPÉENNE

EUROPÄISCHE NORM

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Descriptors: glazing, window glass, thermal insulation, rules of calculation, heat transfer coefficient, measurements, opacity, infrared radiation

English version

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

Verre dans la construction - Détermination du coefficient de transmission thermique, U - Méthode de calcul

Glas im Bauwesen - Bestimmung des Wärmedurchgangskoeffizienten (U -Wert) - Berechnungsverfahren

This European Standard was approved by CEN on 8 October 1997.

CEN members are bound to comply with the CEN/GENELEC 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 Central Secretariat 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 Central Secretariat 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
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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 10292, "Thermal insulation of glazing: Calculation rules for determining the steady state U value of double or multiple glazing", 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 calculation method to determine the thermal transmittance of glazing with flat and parallel surfaces.

This European Standard applies to uncoated glass (including glass with structured surfaces, e.g. patterned glass), coated glass and materials not transparent in the far infrared which is the case for soda lime silicate glass products (called hereafter soda lime glass), borosilicate glass and glass ceramic. It applies also to multiple glazing comprising such glasses and/or materials. It does not apply to multiple glazing which include in the gas space sheets or foils that are far infrared transparent. The procedure specified in this European Standard determines the U value¹⁾ (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 C.1) gives normative reference to the U value calculated for the glazing components according to this standard.

For the purpose of product comparison, a vertical position of the glazing is specified.

In addition U values are calculated using the same procedure for other purposes, in particular for predicting:

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

Reference should be made to C.4 and C.5 or other European Standards dealing with heat loss calculations for the application of glazing U values determined by this standard.

A procedure for the determination of emissivity is also given.

The rules have been made as simple as possible consistent with accuracy.

2 Normative references

This European Standard 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 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.

EN 674	Glass in building - Determination of thermal transmittance (U value) - Guarded hot plate method
EN 675	Glass in building - Determination of thermal transmittance (U value) - Heat flow meter method
prEN 1098	Glass in building - Determination of thermal transmittance (U value) - Calibrated and guarded hot box method

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