



NSAI
Standards

Irish Standard
I.S. EN 674:2011

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

I.S. EN 674:2011

Incorporating amendments/corrigenda/National Annexes issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces:
EN 674:1997

This document is based on:
EN 674:2011

Published:
27 June, 2011

This document was published
under the authority of the NSAI
and comes into effect on:
27 June, 2011

ICS number:
81.040.20

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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 29 April 2011.

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Foreword

This document (EN 674:2011) has been prepared by Technical Committee CEN/TC 129 “Glass in building”, the secretariat of which is held by NBN.

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of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 674:1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, 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, borosilicate glass and glass ceramics. Internal elements may be 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 an insulating glass unit or through the window frame are not included. Furthermore energy transfer due to solar radiation is not taken into account.

The procedure specified in this European Standard should generally only be considered when the calculation method detailed in EN 673 is inappropriate or unsuitable.

The document for the calculation of the overall U value of windows, doors and shutters (see [3]) 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 [1]).

Reference should be made to [4], [5], 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

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.

EN 12898, *Glass in building — Determination of the emissivity*

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

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

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