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Glass in building - Spectrophotometric characteristics of glass products - Validation procedure for calculation tool.

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/24

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EUROPEAN STANDARD
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EN 17871

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English Version

**Glass in building - Spectrophotometric characteristics of
glass products - Validation procedure for calculation tool.**

Verre dans la construction - Caractéristiques
spectrophotométriques des produits verriers -
Procédure de validation des outils de calcul

Glas im Bauwesen - Spektralphotometrische
Eigenschaften von Glasprodukten -
Validierungsverfahren für das Berechnungstool

This European Standard was approved by CEN on 29 January 2024.

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EN 17871:2024(E)

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European foreword

This document (EN 17871:2024) 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of an identical text or by endorsement, at the latest by October 2024, and conflicting national standards shall be withdrawn at the latest by October 2024.

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

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EN 17871:2024(E)**Introduction**

EN 410 is in part a measurement standard and in part a calculation standard. EN 673 is a calculation method based on input of the emissivity according to EN 12898. The Annex ZAs of the harmonized standards for glass assign the initial determination of both radiation and thermal properties as tasks for a notified laboratory (AVCP system 3).

Under AVCP system 3, when some characteristics have to be calculated (e.g. U value, g value, ...) the manufacturer undertakes the calculation according to the relevant standards. In this case, the calculation tool is validated by a notified body who provides a report according to this document.

The purpose of this document is to cover only those energy conservation and heat retention characteristics that are stated on the Declaration of Performance under the EU Regulation 305/2011, namely:

- thermal properties
- radiation properties: light transmittance and reflectance
- radiation properties: solar energy characteristics

Characteristics other than the above are not covered as they are not required for the Declaration of Performance.

1 Scope

This document provides a procedure to validate a calculation tool of spectrophotometric and thermal characteristics of the glass products following EN 410 or EN 673. It provides also the methodology to correctly use measured data in the calculation tools.

The following characteristics are included in the scope of this document:

- light transmittance (t_v)
- light reflectance - both sides (r_v, r'_v)
- solar direct transmittance (t_e)
- solar direct reflectance - both sides (r_e, r'_e)
- total solar energy transmittance (solar factor or g value) (g)
- thermal transmittance (U value) in the vertical position

The following characteristics are excluded from the scope of this document:

- UV transmittance (t_{uv})
- shading coefficient (SC)
- general colour rendering index (R_a)
- thermal transmittance (U value) at angles other than vertical

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 410, *Glass in building - Determination of luminous and solar characteristics of glazing*

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

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

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