ICS 81.040.20 SLOVENSKÁ TECHNICKÁ NORMA Júl 2019

STN	**Sklo v stavebníctve** **Stanovenie emisivity**	**STN** **EN 12898** 70 1617

Glass in building - Determination of the emissivity

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. 06/19

Obsahuje: EN 12898:2019

Oznámením tejto normy sa ruší
STN EN 12898 (70 1617) z decembra 2001

128990

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 12898

March 2019

ICS 81.040.20 Supersedes EN 12898:2001

English Version

Glass in building - Determination of the emissivity

Verre dans la construction - Détermination de l'émissivité

Glas im Bauwesen - Bestimmung des Emissionsgrades

This European Standard was approved by CEN on 14 December 2018.

CEN members are bound to comply with the CEN/CENELEC 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN 12898:2019 E

Contents

Page

European foreword

This document (EN 12898:2019) 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of an identical text or by endorsement, at the latest by September 2019, and conflicting national standards shall be withdrawn at the latest by September 2019.

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.

This document supersedes EN 12898:2001.

The main changes compared to the previous edition are the following:

— introduction of a method to determine the emissivity using Fourier Transform Infrared (FTIR) spectrophotometers where the spectral range is limited;

— provision of a new method for the calculation of corrected emissivity; and

— clarification of rounding rules for normal emissivity.

In this version, the procedures covering transmittance and diffuse reflectance measurements and calculation of total normal transmittance have been moved to an informative annex (Annex C).

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document specifies a procedure for determining the emissivity at room temperature of the surfaces of glass and coated glass.

The emissivity is necessary for taking into account heat transfer by radiation from surfaces at the standard temperature of 283 K in the determination of the U value and of the total solar transmittance of glazing according to [1] to [4].

The procedure, being based on spectrophotometric regular reflectance measurements at near normal incidence on materials that are non-transparent in the infrared region, is not applicable to glazing components with at least one of the following characteristics:

a) with rough or structured surfaces where the incident radiation is diffusely reflected;

b) with curved surfaces where the incident radiation is regularly reflected at angles unsuitable to reach the detector while using regular reflectance accessories;

c) infrared transparent.

However, it can be applied with caution to any glazing component provided its surfaces are flat and non-diffusing (see 3.1.6) and it is non-transparent in the infrared region (see 3.1.7).

Although transmittance measurements are included in this document, they are only necessary to check if the sample is non-transparent in the infrared region in the context of this document (see 3.1.7). If the sample is transparent in the infrared region, this document is not applicable.

The previous version of this document was based on the use of reflectance measurements using double beam dispersive infrared spectrophotometers capable of measuring over almost the entire spectral range of a black body at the standard reference temperature and determining the emissivity by the 30 ordinate method [6]. This version takes account of Fourier Transform Infrared (FTIR) spectrophotometers where the spectral range is limited. It describes a method whereby spectrophotometers can be used to determine emissivity if they are able to measure up to the 24th ordinate point and if they satisfy a noise criterion for this spectral range. It allows the inclusion of data from the 25th ordinate point up to the 30th ordinate point. A new informative annex (Annex D) describing the principles of absolute reflection accessories has been added to this version. These accessories are intended to be used by qualified personnel.

As FTIR spectrophotometers are single beam instruments as opposed to dispersive spectrophotometers which are double beam instruments (and thus able to correct for instrument drift), a procedure was developed by the European funded project, THERMES, to correct for drift. This procedure is described in [10] and [16]. Other categories of ordinate errors using FTIR spectrophotometers are discussed in [14].

2 Normative references

There are no normative references in this document.