



BSI Standards Publication

Thermal performance of curtain walling - Calculation of thermal transmittance

National foreword

This British Standard is the UK implementation of EN ISO 12631:2017. It is identical to ISO 12631:2017. It supersedes BS EN ISO 12631:2012, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee B/540, Energy performance of materials components and buildings.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2017
Published by BSI Standards Limited 2017

ISBN 978 0 580 87621 9

ICS 91.060.10; 91.120.10

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2017.

Amendments/corrigenda issued since publication

Date	Text affected
------	---------------

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 12631

July 2017

ICS 91.060.10; 91.120.10

Supersedes EN ISO 12631:2012

English Version

Thermal performance of curtain walling - Calculation of thermal transmittance (ISO 12631:2017)

Performance thermique des façades-rideaux - Calcul du coefficient de transmission thermique (ISO 12631:2017)

Wärmetechnisches Verhalten von Vorhangfassaden - Berechnung des Wärmedurchgangskoeffizienten (ISO 12631:2017)

This European Standard was approved by CEN on 27 February 2017.

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: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN ISO 12631:2017) has been prepared by Technical Committee CEN/TC 89 "Thermal performance of buildings and building components", the secretariat of which is held by SIS, in collaboration with Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment".

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 January 2018 and conflicting national standards shall be withdrawn at the latest by January 2018.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document is part of the set of standards on the energy performance of buildings (the set of EPB standards) and has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association (Mandate M/480, see reference [EF1] below), and supports essential requirements of EU Directive 2010/31/EC on the energy performance of buildings (EPBD, [EF2]).

In case this standard is used in the context of national or regional legal requirements, mandatory choices may be given at national or regional level for such specific applications, in particular for the application within the context of EU Directives transposed into national legal requirements.

Further target groups are users of the voluntary common European Union certification scheme for the energy performance of non-residential buildings (EPBD art.11.9) and any other regional (e.g. Pan European) parties wanting to motivate their assumptions by classifying the building energy performance for a dedicated building stock.

This document supersedes EN ISO 12631:2012.

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, 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.

References:

[EF1] Mandate M480, Mandate to CEN, CENELEC and ETSI for the elaboration and adoption of standards for a methodology calculating the integrated energy performance of buildings and promoting the energy efficiency of buildings, in accordance with the terms set in the recast of the Directive on the energy performance of buildings (2010/31/EU) of 14th December 2010

[EF2] EPBD, Recast of the Directive on the energy performance of buildings (2010/31/EU) of 14th December 2010

Endorsement notice

The text of ISO 12631:2017 has been approved by CEN as EN ISO 12631:2017 without any modification.

Contents

Page

Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Symbols and subscripts	3
4.1 Symbols	3
4.2 Subscripts	3
4.3 Superscripts	3
5 Description of the methods	3
5.1 Output of the method	3
5.2 General description	4
5.3 Geometrical characteristics	4
5.3.1 Main principles	4
5.3.2 Internal depth	6
5.3.3 Boundaries of curtain wall structures	7
5.3.4 Cut-off planes and partitioning of thermal zones	10
6 Methodologies for the calculation of curtain wall transmittance	10
7 Single assessment method	12
7.1 Output data	12
7.2 Calculation time intervals	12
7.3 Input data	12
7.3.1 Geometrical characteristics	12
7.3.2 Thermal characteristics	16
7.4 Calculation procedure	18
7.4.1 Applicable time interval	18
7.4.2 Calculation of thermal transmittance	18
8 Component assessment method	19
8.1 Output data	19
8.2 Calculation time intervals	19
8.3 Input data	19
8.3.1 Geometrical characteristics	19
8.3.2 Thermal characteristics	23
8.4 Calculation procedure	26
8.4.1 Applicable time interval	26
8.4.2 Calculation of thermal transmittance	26
9 Report	27
9.1 Contents of report	27
9.2 Drawings	28
9.2.1 Section drawings	28
9.2.2 Overview drawing of the whole curtain wall element	28
9.3 Values used in the calculation	28
9.4 Presentation of results	28
Annex A (normative) Input and method selection data sheet — Template	29
Annex B (informative) Input and method selection data sheet — default choices	31
Annex C (normative) Regional references in line with ISO Global Relevance Policy	33
Annex D (normative) Linear thermal transmittance of junctions	34