## **DIN EN ISO 13789**



ICS 91.120.10

Supersedes DIN EN ISO 13789:2008-04

Thermal performance of buildings – Transmission and ventilation heat transfer coefficients – Calculation method (ISO 13789:2017); English version EN ISO 13789:2017, English translation of DIN EN ISO 13789:2018-04

Wärmetechnisches Verhalten von Gebäuden – Transmissions- und Lüftungswärmetransferkoeffizient – Berechnungsverfahren (ISO 13789:2017); Englische Fassung EN ISO 13789:2017, Englische Übersetzung von DIN EN ISO 13789:2018-04

Performance thermique des bâtiments – Coefficients de transfert de chaleur par transmission et par renouvellement d'air – Méthode de calcul (ISO 13789:2017); Version anglaise EN ISO 13789:2017, Traduction anglaise de DIN EN ISO 13789:2018-04

Document comprises 42 pages

Translation by DIN-Sprachendienst.

In case of doubt, the German-language original shall be considered authoritative.

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A comma is used as the decimal marker.

# National foreword

This document (EN ISO 13789:2017) has been prepared by Technical Committee ISO/TC 163 "Thermal performance and energy use in the built environment" in collaboration with Technical Committee CEN/TC 89 "Thermal performance of buildings and building components" (Secretariat: SIS, Sweden).

The responsible German body involved in its preparation was *DIN-Normenausschuss Bauwesen* (DIN Standards Committee Building and Civil Engineering), Working Committee NA 005-56-91 AA "Heat transmission (national mirror committee for CEN/TC 89 (partly), CEN/TC 89/WG 12 (partly), ISO/TC 163 (partly), ISO/TC 163/SC 2/WG 9 (without transparent components))".

The DIN Standards corresponding to the International Standards referred to in this document are as follows:

DIN EN ISO 6946
DIN EN ISO 7345
DIN EN ISO 10077-1
DIN EN ISO 10077-2
DIN EN ISO 10211
DIN EN ISO 10456
DIN EN ISO 12631
DIN EN ISO 13370
DIN EN ISO 14683
DIN EN ISO 52000-1

This standard is part of the standards series DIN EN ISO 52000 and has been prepared under the EPBD mandate M/480.

In Germany, the Directive on the energy performance of buildings (2010/31/EU) of the European Parliament and the European Council is primarily implemented by national energy conservation law. National energy conservation law refers to dated national and European Standards and national prestandards that have been specified for implementation in Germany.

In Germany, the application of this standard in connection with national energy conservation law is defined by provisions in this law.

Provisions of German energy conservation law cannot be systematically fully and identically implemented with the set of standards under the EPBD mandate M/480 and the therein referenced International and European Standards. When applying the standards of the mandate, accordance with German energy conservation law cannot be achieved, whether in terms of the procedure, the result, or assessment of the result. National Annex NA is intended to give assistance by showing relationships between regulation by German energy conservation law and corresponding, comparable or similar regulations of the set of standards including the International and European Standards referenced therein.

Currently, the set of standards of the EPBD mandate M/480 is not applicable for the purposes of German energy conservation law, even if references to national regulations in the respective national annexes are taken into consideration.

In contrast, the DIN EN ISO editions of ISO calculation standards ISO 6946, ISO 10211, ISO 13370, ISO 13786 and ISO 13789 have been referenced directly or indirectly in energy conservation law for many years. The most important specifications and choices for application in Germany have been summarized in the

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respective national annexes of these standards. In national energy conservation law, in German state building regulations and in further obligatory public-law documents, further or deviating specifications can be specified which – in case of a contradiction – prevail over the specifications of the respective standard or the respective national annex.

#### Amendments

This standard differs from DIN EN ISO 13789:2008-04 as follows:

a) the standard has been technically revised.

#### **Previous editions**

DIN EN ISO 13789: 1999-10, 2008-04

# National Annex NA (normative)

# Input and method selection data sheet — National choices

### NA.1 General

This standard is part of the standards series DIN EN ISO 52000 and has been prepared under the EPBD mandate M/480.

In Germany, the Directive on the energy performance of buildings (2010/31/EU) of the European Parliament and the European Council is primarily implemented by national energy conservation law. National energy conservation law refers to dated national and European Standards and national prestandards that have been specified for implementation in Germany.

In Germany, the application of this standard in connection with national energy conservation law is defined by provisions in this law.

Provisions of German energy conservation law cannot be systematically fully and identically implemented with the set of standards under the EPBD mandate M/480 and the therein referenced International and European Standards. When applying the standards of the mandate, accordance with German energy conservation law cannot be achieved, whether in terms of the procedure, the result, or assessment of the result. National Annex NA is intended to give assistance by showing relationships between regulation by German energy conservation law and corresponding, comparable or similar regulations of the set of standards including the International and European Standards referenced therein.

Currently, the set of standards of the EPBD mandate M/480 is not applicable for the purposes of German energy conservation law, even if references to national regulations in the respective national annexes are taken into consideration.

In contrast, the DIN EN ISO editions of ISO calculation standards ISO 6946, ISO 10211, ISO 13370, ISO 13786 and ISO 13789 have been referenced directly or indirectly in energy conservation law for many years. The most important specifications and choices for application in Germany have been summarized in the respective national annexes of these standards. In national energy conservation law, in German state building regulations and in further obligatory public-law documents, further or deviating specifications can be specified which – in case of a contradiction – prevail over the specifications of the respective standard or the respective national annexe.

#### **NA.2 References**

References identified by a module code number are given in Table NA.1.

Reference	Reference document	
	Number	Title
None	—	—
NOTE 1: In this document, there are no choices in the references to other EPB standards. The table has been retained to maintain uniformity between all EPB standards.		

#### Table NA.1 — References

## **NA.3 Selection of methods**

In this document, there is no need to specify choices in methods. NA.3 has been retained to maintain uniformity between all EPB standards.

## NA.4 Input data and choices

Table NA 2 —	System of	dimensions	(see subclause 6.4)	۱
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Item	Choice
System of dimensions	See DIN V 18599-1

#### Table NA.3 — Transmission heat transfer coefficient (see subclause 7.3)

Item	Restrictions to use of Formula (3)
Restrictions apply	Yes
If yes, list restrictions	<i>H</i> <sub>d</sub> is possible according to Formula (3) or alternatively according to DIN V 18599-2

Item	<b>Choice or value</b> <sup>a</sup>
Heat transfer through party walls included in Formula (3)	May be taken into account; alternatively according to DIN V 18599-2

#### Table NA.5 — Measured values of thermal transmittance (see subclause 7.3)

Item	Choice
	Yes
Measured values of thermal transmittance can be used	(Measured values of thermal transmittance DIN EN ISO 12567-1 and DIN EN ISO 12567-2 can be used)

Item	Data sources or values
Data sources	To be taken from tables or catalogues that have been calculated according to ISO 14683 or according to ISO 10211 and/or ISO 13370 and/or DIN 4108 Supplement 2, taking into consideration specifications for reference dimensions and boundary conditions in DIN 4108 Supplement 2, DIN V 18599-1 and DIN V 18599-2
Methods for calculation a default thermal bridging allowance	Flat-rate values for consideration of thermal bridging influences and their prerequisites, see DIN V 18599-2
Thermal bridges that may be neglected	see DIN V 18599-2 and DIN 4108 Supplement 2

### Table NA.6 — Thermal bridging (see subclause 7.3)

## Table NA.7 — Monthly coefficients for heat transfer via the ground (see subclause 7.4)

Item	Choice
Values according to Formula (4)	Yes,
	alternatively according to DIN V 18599-2

## Table NA.8 — Determination of air flow rates (see Clause 8)

Item	Choice
Method of determination of air flow rates	Reference to standard or other documents
	see DIN V 18599-2 and DIN V 18599-10

## Table NA.9 — Air change rates in unconditioned spaces (see subclause 9.4)

Item	Choice
Air change rates	E.g. according to Table 7 of the standard or treatment according to DIN V 18599-2