| **STN** | Energetická hospodárnosť budov Určovanie a uvádzanie faktorov primárnej energie (PEF) a súčiniteľa emisií CO2 Všeobecné princípy, Modul M1-7 | STN EN 17423 |
| | | 73 0710 |

Energy performance of buildings - Determination and reporting of Primary Energy Factors (PEF) and CO2 emission coefficient - General Principles, Module M1-7

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. 05/21

Obsahuje: EN 17423:2020

**132380**

# EUROPEAN STANDARD

# NORME EUROPÉENNE

# EUROPÄISCHE NORM

# EN 17423

November 2020

ICS 13.040.01; 91.120.10

English Version

## Energy performance of buildings - Determination and reporting of Primary Energy Factors (PEF) and CO2 emission coefficient - General Principles, Module M1-7

Performance énergétique des bâtiments - Détermination et déclaration des facteurs d'énergie primaire (PEF) et du coefficient d'émission de CO2 - Principes généraux, Module M1-7

Energieeffizienz von Gebäuden - Bestimmung und Berichterstattung von Primärenergiefaktoren (PEF) und CO2-Emissionsfaktoren

This European Standard was approved by CEN on 4 October 2020.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, 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**

# Contents

Page

## European foreword

This document (EN 17423:2020) has been prepared by Technical Committee CEN/TC 371 "Energy Performance of Buildings project group", the secretariat of which is held by NEN.

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 May 2021, and conflicting national standards shall be withdrawn at the latest by May 2021.

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.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

**EN 17423:2020 (E)**

# Introduction

This document belongs to a series of standards aiming at international harmonization of the methodology for the assessment of the energy performance of buildings.

For the correct use of this document, a normative template is given in Annex A to report the choices.

The target group of this document are all the users of the set of standards related to the assessment of the energy performance of buildings and especially national standardization experts or building authorities who are in charge of defining the PEFs and $CO_2$ emission coefficients.

In view of the complexity of the issue, the need for contextual knowledge and practicality of use, it is useful to mention necessary comments and explanations directly in the standard, and not to prepare a separate CEN/TR (Technical Report). For the same reasons, parts taken from other standards are appropriate to have in this document.

The document can be applied for different time intervals (annual, monthly, hourly).

This document is a new standard.

## 1 Scope

This document provides a transparent framework for reporting on the choices related to the procedure to determine primary energy factors (PEFs) and $CO_2$ emission coefficients for energy delivered to and exported from the buildings as described in EN ISO 52000-1.

This document specifies the choices to be made to calculate the PEF(s) and $CO_2$ emission coefficients related to different energy carriers. PEFs and $CO_2$ emission coefficients for exported energy can be different from those chosen for delivered energy.

This document is primarily intended for supporting and complementing EN ISO 52000-1, as the latter requires values for the PEFs and $CO_2$ emission coefficients to complete the EPB calculation. But it can also be used for other applications.

NOTE     The $CO_2$ emission coefficients allow calculating greenhouse gas emissions. According to the choices made, the $CO_2$ emission coefficients represent only $CO_2$ emissions or also other greenhouse gases.

Table 1 shows the position (marked by "X") of this document within the modular structure as set out in EN ISO 52000-1.

The modules represent EPB standards, although one EPB standard may cover more than one module and one module may be covered by more than one EPB standard, for instance a simplified and a detailed method respectively.

**Table 1 — Position of this document (M1–7), within the modular structure as set out in EN ISO 52000-1**

| Submodule | Overarching Descriptions | | Building (as such) Descriptions | | Technical Building Systems | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Descriptions | Heating | Cooling | Ventilation | Humidification | Dehumidification | Domestic Hot water | Lighting | Building automation and control | PV, wind,.. |
| sub1 | | M1 | | M2 | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 |
| 1 | General | | General | | General | | | | | | | | | |
| 2 | Common terms and definitions; symbols, units and subscripts | | Building Energy Needs | | Needs | | | | | | | | | |
| 3 | Applications | | (Free) Indoor Conditions without Systems | | Maximum Load and Power | | | | | | | | | |
| 4 | Ways to Express Energy Performance | | Ways to Express Energy Performance | | Ways to Express Energy Performance | | | | | | | | | |
| 5 | Building categories and Building Boundaries | | Heat Transfer by Transmission | | Emission and control | | | | | | | | | |
| 6 | Building Occupancy and Operating Conditions | | Heat Transfer by Infiltration and Ventilation | | Distribution and control | | | | | | | | | |

| Submodule | Overarching Descriptions | M1 | Building (as such) Descriptions | M2 | Technical Building Systems Descriptions | Heating | Cooling | Ventilation | Humidification | Dehumidification | Domestic Hot water | Lighting | Building automation and control | PV, wind,.. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sub1 | | M1 | | M2 | | M3 | M4 | M5 | M6 | M7 | M8 | M9 | M10 | M11 |
| 7 | Aggregation of Energy Services and Energy Carriers | X | Internal Heat Gains | | Storage and control | | | | | | | | | |
| 8 | Building zoning | | Solar Heat Gains | | Generation and control | | | | | | | | | |
| 9 | Calculated Energy Performance | | Building Dynamics (thermal mass) | | Load dispatching and operating conditions | | | | | | | | | |
| 10 | Measured Energy Performance | | Measured Energy Performance | | Measured Energy Performance | | | | | | | | | |
| 11 | Inspection | | Inspection | | Inspection | | | | | | | | | |
| 12 | Ways to Express Indoor Comfort | | | | BMS | | | | | | | | | |
| 13 | External Environment Conditions | | | | | | | | | | | | | |
| 14 | Economic Calculation | | | | | | | | | | | | | |
| The shaded modules are not applicable. | | | | | | | | | | | | | | |

**EN 17423:2020 (E)**

## 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 15316-4-5, *Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-5: District heating and cooling, Module M3-8-5, M4-8-5, M8-8-5, M11-8-5*

EN ISO 7345, *Thermal performance of buildings and building components - Physical quantities and definitions (ISO 7345)*

EN ISO 52000-1:2017, *Energy performance of buildings - Overarching EPB assessment - Part 1: General framework and procedures (ISO 52000-1:2017)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN