PD CEN/TS 16628:2024

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Energy performance of buildings — Basic principles for the set of EPB standards

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National foreword

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

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Energy performance of buildings - Basic principles for the set of EPB standards

Performance énergétique des bâtiments - Principes fondamentaux pour la série de normes sur la performance énergétique des bâtiments

Energieeffizienz von Gebäuden - Grundlagen für das EPB-Normenpaket

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The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

CEN members are required to announce the existence of this CEN/TS in the same way as for an EN and to make the CEN/TS available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the CEN/TS) until the final decision about the possible conversion of the CEN/TS into an EN is reached.

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European foreword

This document (CEN/TS 16628:2024) has been prepared by Technical Committee CEN/TC 371 "Energy performance of buildings", the secretariat of which is held by NEN.

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 CEN/TS 16628:2014.

CEN/TS 16628:2024 includes the following significant technical changes with respect to the previous editions of CEN/TS 16628:

— The changes in the organization, both in CEN and in ISO, that aims to safeguard the overall quality and consistency of the set of EPB standards.

— Removal of redundant content that, after the publication of CEN/TS 16628:2014 has been covered elsewhere.

— Improvements based on experience from the preparation of the EPB standards since 2014.

— Changes in the CEN and ISO rules.

— Discussions in the context of the preparation of a guidance document for the 2022 Systematic Review of the EPB standards that were published in 2017.

— The digital transformation process: further -proactive- steps into the direction of making the standards (closer to) machine readable and software ready (ISO SMART initiative [4], CEN initiative Standards of the Future [5])

— In Europe, the European Directive on the Energy Performance of Buildings (EPBD) was revised (2024) [3]. The role of the set of EPB standards is reinforced. There are also important changes in the requirements on EPB calculation procedures and EPB indicators, minimum requirements and certificates.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, Türkiye and the United Kingdom.

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Introduction

CEN/TS 16628:2014 was prepared under a mandate given to CEN by the European Commission and the European Free Trade Association (Mandate M/480 [1]) to support requirements of EU Directive 2010/31/EC on the energy performance of buildings (EPBD [2]). It formed part of a series of standards aimed at European harmonization of the methodology for the calculation of the energy performance of buildings.

This document replaces CEN/TS 16628:2014 and aims to support the EPBD 2024 [3]. At the same time this document aims to be of global relevance, because many EPB standards are also available at global level as EN ISO standards and their number is increasing. This development strengthens the quality and usability of the whole set of EPB standards. In case there are conflicting needs at a certain level of detail, parallel options can be provided, as explained in this document.

The EPBD [3] intends to promote the improvement of the energy performance of buildings and the reduction of greenhouse gas emissions from buildings within the European Union, with a view to achieving a zero-emission building stock by 2050 taking into account outdoor climatic and local conditions, as well as indoor climate requirements and cost-effectiveness. This Directive lays down requirements as regards the common general framework for a methodology for calculating the integrated energy performance of buildings and building units, the application of minimum requirements to the energy performance of new buildings and new building units, existing buildings and building units that are subject to major renovation, building envelope elements and technical building systems whenever they are installed, retrofitted, replaced or upgraded. The Directive also lays down requirements as regards to the application of minimum energy performance standards (read: requirements) to existing buildings and existing building units, renovation passports, national building renovation plans, sustainable mobility infrastructure in and adjacent to buildings, smart buildings, energy performance certification of buildings or building units and specific inspection and control processes.

The use of international standards increases the accessibility, transparency and objectivity of the energy performance assessment in the CEN and ISO member countries, facilitating the comparison of best practices and supporting the market for high performing construction products. The use of EPB standards for calculating energy performance, as well as for energy performance certification and the inspection of heating systems and boilers, ventilation and air-conditioning systems will reduce costs compared to developing different standards at national level.

The mandate to CEN (M/480 [1]) was issued to reformulate and add standards so that they become on the one hand unambiguous and compatible, and on the other hand a clear and explicit overview of the choices, boundary conditions and input data that need to be defined at national or regional level. Some national or regional choices may remain necessary, due to differences in climate, culture and building tradition, policy and legal frameworks. EPB standards should be flexible enough to allow for necessary national and regional differentiation and facilitate implementation in different countries and the setting of national or regional energy performance requirements.

The set of EPB standards aims to form a comprehensive package that is manageable and user-friendly for regulators, product technical specification drafters, drafters of European Assessment Documents (EAD), producers, notified bodies and users.

The basic principles and detailed technical rules were developed to ensure the necessary overall consistency in terminology, approach, input/output relations and formats in all EPB standards. In these rules and specifications, input from national legal authorities of EU and EFTA Member States were taken into account.

This document has been developed to guide all future work on EPB standards. In order to facilitate coordination, consistency and coherence of the set of EPB standards the following tools are available:

a) a Technical Specification on the basic principles to be followed in drafting EPB standards (this document);

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b) a Technical Specification on the detailed technical rules to be followed in drafting EPB standards (CEN/TS 16629);

c) in addition, the following documents are available at committee level:

   1) a template for the EPB standards;

   2) a template for the EPB TRs that will accompany each EPB standard;

Other available support tools and informative documents are listed in CEN/TS 16629.

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1 Scope

This document describes the basic principles to be followed in the development and maintenance of standards intended to support the assessment of the overall energy performance of a building (EPB) using a holistic approach.

This document supports the development and maintenance of a set of EPB standards that provides a systematic, clear, consistent and comprehensive methodology for the benefit of professionals and government entities. The main application is the assessment of the overall energy performance of a building in the context of building regulations, e.g. to specify EP requirements, EP rating and EP certificates.

The principles cover general and common aspects on the required quality, accuracy, usability, consistency and interoperability of the EPB standards as a set and individually. For that purpose, this document provides guidance on the process, structure and layout of these EPB standards and accompanying publications, complementary to the CEN and ISO internal regulations.

This document forms the basis for detailed technical rules given in CEN/TS 16629, in the overarching EPB standard, EN ISO 52000-1:2017, and in supporting documents.

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.

CEN/TS 16629, *Energy Performance of Buildings Detailed Technical Rules for the set of EPB-standards*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 52000-1:2017 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
EPB standard
standard that complies with the requirements given in EN ISO 52000-1:2017, CEN/TS 16628 (this document) and CEN/TS 16629 or superseding documents

[SOURCE: EN ISO 52000-1:2017, 3.5.14, modified — The definition has been editorially revised.]

4 Abbreviations

Abbreviation	Term
EC	European Commission
EP	energy performance
EPB	energy performance of buildings

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Abbreviation	Term
EPBD	European directive on the energy performance of buildings
IEQ	indoor environmental quality
JAG	joint advisory group
JWG	joint working group
NSB	National Standards Body of CEN and/or ISO
NWIP	New Work Item Proposal
TC	Technical Committee
TR	Technical Report (of CEN or ISO)

5 General description

The holistic approach to assess the overall energy performance of buildings (EPB) consists of a family of standards, each one covering a specific element or aspect: the set of EPB standards.

The holistic approach implies a close interaction between these EPB standards with respect to definitions, input-output relations, methods, boundary conditions, common features and overall quality as well as usability in the context of building regulations.

A standard that does not properly fit in the set of EPB standards can compromise the quality and usability of the whole set and therefore it is important that such case can be identified and tackled. Therefore, all work on (intended) EPB standards shall follow the basic principles and the detailed technical rules and be in line with the overarching EPB standard, EN ISO 52000-1:2017.

This concerns both new work item proposals and published EPB standards that are subject to revision. It also may concern review of (the set of) EPB standards in anticipation of or response to new technological or policy developments.

More in particular, for (EN) ISO standards the numbers ISO 52000 through ISO 52150 are reserved for the EPB standards. The ISO 52000 family is a strong brand mark provided that the high level of quality for each standard in the set is safeguarded, also for future developments.

Consequently, EPB standards shall be drafted according to the basic principles (the “Why”) given in this document and the actual detailed technical rules (the “How”) which are given in CEN/TS 16629 and EN ISO 52000-1:2017 or superseding documents.

The various aspects involved are worked out successively in the following clauses.

6 Overall coordination

6.1 General

The overall quality and consistency of the EPB standards shall be maintained. This comprises the preparation and maintenance of the EPB quality assurance documents, the preparation of work item proposals, preparation and maintenance of standards, external communication and marketing and strategic planning.

Consequently, in the domain of energy performance of buildings a special coordination shall be set up and maintained so that all the standards dealing with the different domains of the overall energy performance of buildings are written in the same way, they correctly cross-reference, they use the same terminology, and they correctly follow the numbering systems specified in CEN and ISO for the set of EPB standards.

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