



EPBD 2nd recast: OPPORTUNITIES & CRITICAL ASPECTS

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13 March 2018, Libra Room

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The role of standards in the new EPBD

what can we expect? Given the practices using the built-in flexibility of the set of EPB standards.

Jaap Hogeling

Chair CEN TC 371 Program Committee on EPBD

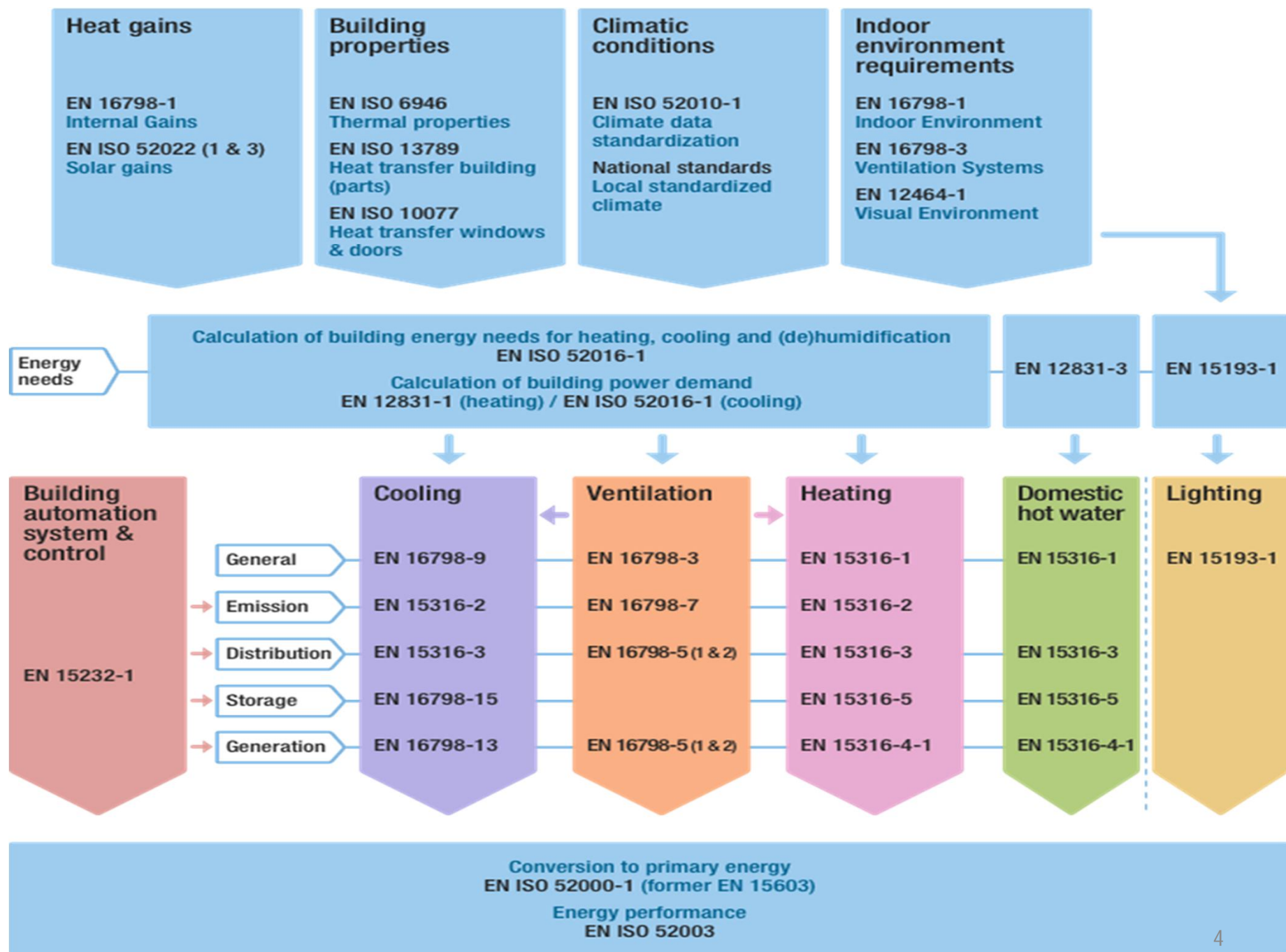
JWG of ISO TC 163&205 : Chair of advisory group on coordination of ISO and CEN Work on EPB

jaap.hogeling@epb.center

Fellow of ASHRAE and REHVA

2018: Current Status EPB-standards

- **All** EPB-standards and connected Technical Reports (EN and EN-ISO) passed **successfully** the Formal Final Vote (except EN16798-1) and have been published summer 2017.
- Implementation of these standards via the national EPB regulation is the next step
- Many EU countries will do this, step by step in the coming months/years, however there is a big variation in the legislation framework, building regulation is up to the EU MS's.



Revised EPBD (expected April 2018)

- More attention to renovation strategy
- More attention to Technical Building Systems and their control and automation (required above 290 kW rated output)
- Higher threshold value (changed from 20 to 70 kW) for required inspection of heating and AC systems

EPBD Annex 1: Common general framework for calculation of EP of buildings:

- The EP shall be expressed in kWh/(m².y) primary energy use.
- Methodology shall be transparent and open to innovation.
- MS's shall describe their national procedures following at least the EN-ISO 52000-1; 52003-1; 52010-1; 52016-1; 52018-1 EPB standards.

The overarching type EN-ISO EPB standards required by the EPBD

- 52000-1: Overarching EPB assessment —General framework and procedures
- 52003-1: Indicators, requirements, ratings and certificates —General aspects and application to the overall energy performance
- 52010-1: External climatic conditions —Conversion of climatic data for energy calculations
- 52016-1: Energy needs for heating and cooling, internal temperatures and sensible and latent heat loads —Calculation procedures
- 52018-1: Indicators for partial EPB requirements related to thermal energy balance and fabric features —Overview of options

The other EPB standards:

+ EPB standards: EN 12098-1, EN 12098-3, EN 12098-5, EN 12831-1, EN 12831-3, EN 15232-1, EN 15316-1 , EN 15316-2, EN 15316-3, EN 15316-4-1, EN 15316-4-2 , EN 15316-4-3 , EN 15316-4-4, EN 15316-4-5, EN 15316-5, EN 15378-1, EN 15378-3, EN 15459-1, EN 15500-1, EN 16798-3, EN 16798-5-1, EN 16798-5-2, EN 16798-7, EN 16798-9, EN 16798-13, EN 16798-15, EN 16798-17, EN 16946-1, EN 16947-1, EN ISO 10077-1, EN ISO 10077-2, EN ISO 10211, EN ISO 12631, EN ISO 13370, EN ISO 13786, EN ISO 13789, EN ISO 14683 and EN ISO 6946, ISO/EN 52017-1 and ISO/EN 52022-1.

Implementation of the EPB standards

- If properly implemented, the benefits are:
 - Harmonisation of the EPB assessment procedures in Europe and possible globally via the use of these standards.
 - This will have an impact on the harmonisation of the **product** and **system requirements** for energy relevant products used in buildings and their HVAC, DHW and lighting systems.
 - Which is expected to have a positive impact on innovation creating a level playing field for energy saving solutions

Leading towards convergence and transparency

- The set of EPB standards is intended to bring convergence and transparency in the EPB assessment methods
- in particular: to check compliance with the minimum energy performance requirements and as information for the energy performance certificate.

Flexibility via tailored choices

- Each EPB standard contains a series of choices ("Annex A") that enables tailoring of the method to the national context.
- Such national or regional choices remain necessary, due to differences in climate, culture & building tradition, policy and legal frameworks.

“Direct use of an EPB standard”:

- The authority **mandatory prescribes**, for the assessment of the EP in the context of their building regulations, the use of this EPB standard¹⁾ in combination with a specific set of choices and values published in the **national data sheet**²⁾ according to the template of **Annex A** of this EPB standard. It replaces (a part of) the current National/Regional Energy Performance of Buildings assessment procedures.
- ¹⁾*optionally with an (informative) national foreword.*

national data sheet²⁾

- *2): This data sheet can be a national annex to the standard or a separate datasheet added to the building regulations. Different national data sheets can be prepared, for different applications (e.g. new/existing, residential/Non-residential buildings)*

“Use ‘90%’ of an EPB standard”:

- If, “**Direct use**” is not (yet) possible, because the country needs a specific option which is not (yet) given in the EPB standard itself, nor provided as an option in its Annex A,
- then it makes sense to prepare a national assessment method that is as much as possible (let’s say: ‘**90%**’) based on the EPB standard, including an as much as possible completed national datasheet.

“Use ‘90%’ of an EPB standard”:

- If the difference(s) are recorded and communicated:
 - this will help CEN and ISO to consider future revisions of the EPB standards;
 - this will help to monitor the step- by-step implementation of the set of EPB standards, and
 - this will help to check to what extent a future revision in the EPB standard(s) leads to diminishing the difference with the national method.

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Some observations regarding the expected use in Europe

- Several countries indicated that they will use the set of EPB standards as they are making use of the in-build flexibility
- Other countries indicate to follow the EN-ISO 52000-1 and many of the EN-ISO and EN EPB standards with exceptions;
 - where they fill in the gaps with current national values/procedures.
 - or they use ~90% of the standard by deviating outside the Annex A boundaries

conclusions

- A substantial number of EU countries are taking over the set of EPB standards as they are using the flexibility of the annexes
- All EU countries are expected to declare, on basis of annex A, how their national procedures deviate from the EN ISO 52000-series and the EN EPB standards
- Many countries will choose a step by step introduction with the option not to use all EPB standards
- For several legislators it will not be a direct reference to the EPB standards.

Follow-up

- the EPB Center has been set up by REHVA and ISSO (see www.epb.center)



- EPB CENTER: your service center for information and technical support on the new set of EPB standards
- If successful to attract sufficient support the EPB center will contribute to the follow-up

The EPB.Center has been set-up with the mission:



- focus on the EPB standards implementation at national and regional levels.
- Provide stakeholders and interested parties with technical support for the implementation and dissemination of information on the set of EPB standards at national and regional level.
- While providing this support aiming to assist with formulating needs in order to further develop, maintain and improve the set of EPB standards.
- See www.EPB.center

Dissemination on the set of EPB standards:

- Background
- Flexibility > national annex > template to help
- Holistic approach
- CEN and ISO , the road ahead
- Relation to Product standards
- CEN Technical reports to the EPB standards



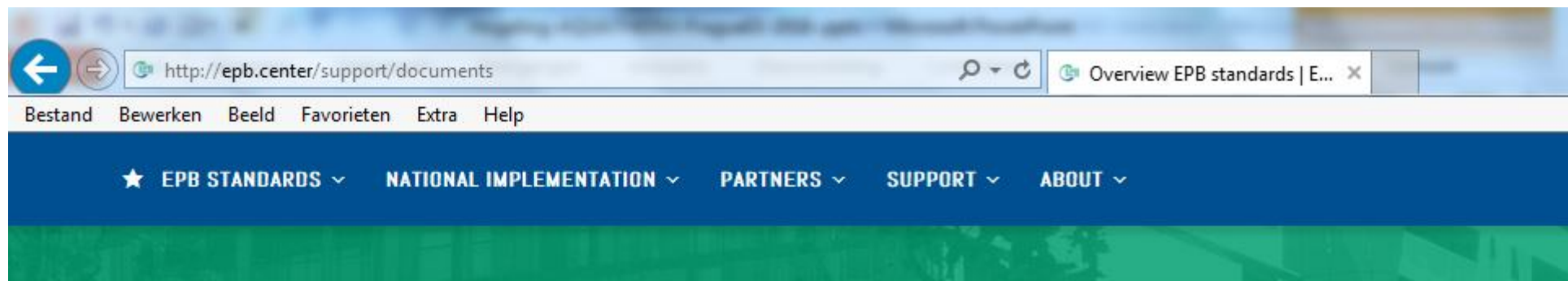
Dissemination and support for National Implementation

- Action plans (step by step approach)
- Feedback
- National Annexes
- Modular structure
- The expected users



Support information on :

- Activities
- Downloads (excels and EPB-templates)
- EPB Center services
- EPBD and need for coordination
- Overview of the set of EPB standards and TR's grouped by Module
- See <http://epb.center/support/documents>



The EPB Standards

DOCUMENTS-INTRODUCTION

M1 OVERARCHING EPB

M2 BUILDING AS SUCH

M3 HEATING SYSTEMS

M4 COOLING SYSTEMS

M5 VENTILATION SYSTEMS

M8 DOMESTIC HOT WATER SYSTEMS

M9 LIGHTING

M10 BUILDING AUTOMATION AND CONTROL

M11 PV WIND

Overview EPB Standards

Overview of all CEN and (EN) ISO EPB standards and accompanying technical reports ("TR").

Explanation:

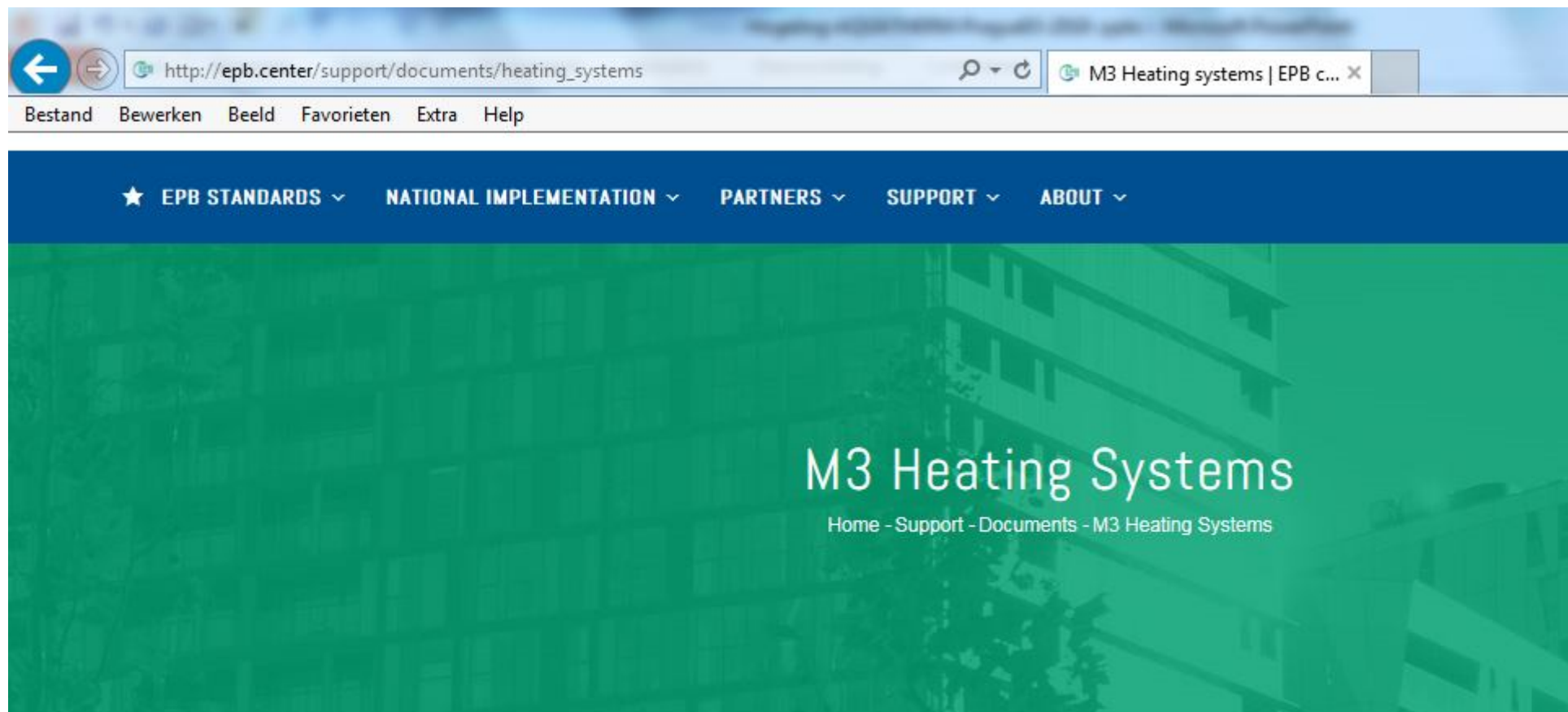
- The documents are grouped per module (M1, M2, ...). Sometimes a document covers more than one module.
- All listed documents have been published or made available in summer 2017 or earlier, except EN 16789-1 (in preparation)
- All listed ISO documents are combined CEN and ISO documents (EN ISO xxxx, CEN ISO/TR yyyy), except ISO 17772

At each document a link is provided to the page in the ISO catalogue or CEN database where a summary and other information on the document can be found.

How to obtain?

CEN and ISO standards and technical reports are copyright protected, so they cannot be downloaded freely.

- The ISO documents can be purchased by following the link 'ISO catalogue' below the document and clicking the button "Buy".



The EPB Standards

DOCUMENTS-INTRODUCTION

M1 OVERARCHING EPB

M2 BUILDING AS SUCH

M3 HEATING SYSTEMS

M4 COOLING SYSTEMS

M3 Heating Systems

EN 15316-1 | Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies

– Part 1: General and Energy performance expression, Module M3–1, M3–4, M3–9, M8–1, M8–4

[Read more](#)

EN 15316-2 | Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies

– Part 2: Space emission systems (heating and cooling), Module M3–5, M4–5

[Technical Bodies](#) > [CEN/TC 228](#) > **EN 15316-4-2:2017**

CEN/TC 228 - Heating systems and water based cooling systems in build

General Structure Work programme Published Standards

Project

Reference

EN 15316-4-2:2017

Title

Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-2: Space heating generation systems, heat pump systems, Module M3-8-2, M8-8-2

Work Item Number

00228055

This European Standard covers heat pumps for space heating, heat pump water heaters (HPWH) and heat pumps with combined space heating and domestic hot water production in alternate or simultaneous operation, where the same heat pump delivers the heat to cover the space heating and domestic hot water heat requirement. The standard provides a calculation method under steady conditions that corresponds to one calculation step. The results of this calculation are incorporated in larger building models and take in account the influence of the external conditions and building control that influence the energy requirements for heating supplied by the heat pump system. The scope of this part is to standardize the: - required inputs; - calculation methods; - required outputs. Generation for space heating

Implementation Dates

date of Ratification (DOR) (1)

date of Availability (DAV) (2)

date of Announcement (DOA) (3)

date of Publication (DOP) (4)

date of Withdrawal (DOW) (5)

Relations

Supersedes

[EN 15316-4-2:2017](#)

[EN 15316-4-2:2017](#)

[EN 15316-4-2:2017](#)

Store Standards catalogue Browse by ICS 91 91.120 91.120.10 ISO 52000-1:2017

ISO 52000-1:2017

Preview

Energy performance of buildings -- Overarching EPB assessment -- Part 1: General framework

ISO 52000-1:2017 establishes a systematic, comprehensive and modular structure for assessing the energy performance of new and existing buildings (EPB) in a holistic way.

It is applicable to the assessment of overall energy use of a building, by measurement or calculation, and the calculation of energy performance in terms of primary energy or other energy-related metrics. It takes into account the specific possibilities and limitations for the different applications, such as building design, new buildings 'as built', and existing buildings in the use phase as well as renovation.

NOTE Table 1 in the Introduction shows the relative position of ISO 52000-1:2017 within the set of EPB standards in the context of the modular structure as set out in ISO 52000-1:2017.

General information

Current status : Published

Publication date : 2017-06

Buy this standard

Format



PDF + e

Paper

Got a question?

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Customer care



Online Browsing Platform (OBP)



ISO 52000-1:2017(en) x



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

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Available in: en fr



Redlines ▼

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3.5 Energy performance

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5.2 General description of the procedure

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO is not held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

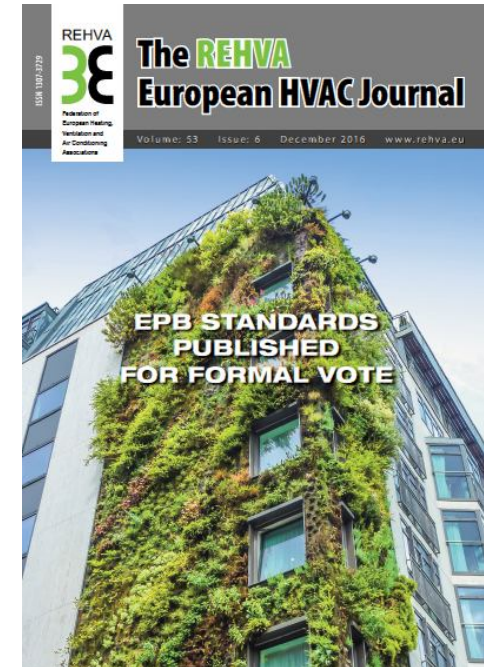
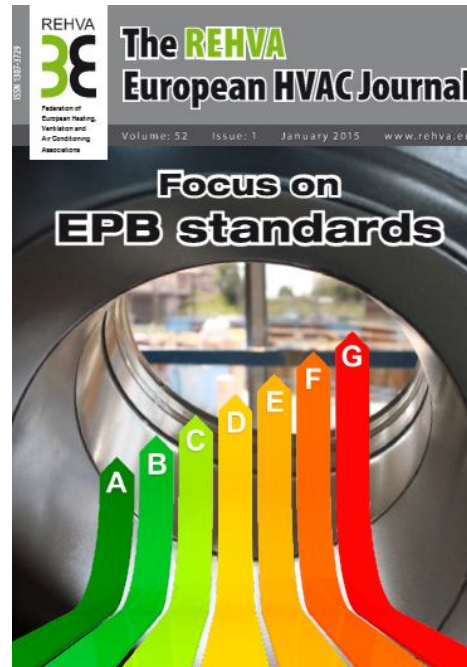
For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Trade Facilitation and Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

ISO 52000-1 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 371, Performance of Buildings project group, in collaboration with ISO Technical Committees TC 163, Thermal performance in the built environment, and TC 205, Building Environment Design, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 52000 series can be found on the ISO website.

This document cancels and replaces ISO/TR 16344:2012^[3] and ISO 16346:2012^[2].

Public Information on EPB standards see:
www.rehva.eu and the www.EPB.center



<http://www.rehva.eu/publications-and-resources/rehva-journal>

2018-01 Issue REHVA Journal

EPB standards: Why choose hourly calculation procedures?



The set of Energy Performance of Buildings (EPB) standards has been published in summer 2017. For the calculation of the energy performance the overarching EPB standard (EN ISO 52000-1) lists different options for the time interval (hourly, monthly, seasonal, yearly and bin). This article provides some background information why an hourly time interval is recommended.



DICK VAN DIJK

MSc Applied Physics

EPB-research –The Netherlands

EPB-research@dickvandijk.nl