



European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung



## EU Mandate (M480) for CEN to develop the second generation CEN-EPBD EPB-standards: COMPLIANCE and QUALITY

Jaap Hogeling  
Chair CEN TC 371 Program Committee  
on EPBD

[j.hogeling@isso.nl](mailto:j.hogeling@isso.nl)



## Current status of the draft prEN15603 and connected TR

### EN

1. Mid-May 2015 draft prEN15603 ready for CEN TC371 acceptance for enq.
2. Start Enquiry: mid-September 2015
3. Closure Enquiry mid December 2015
4. Ready for FV April 2016 (or if FV can be skipped this is the submission to CCMC date for publication)

### TR

- First revised version draft-TR
- June 2015 draft TR to CCMC
- September draft TR out for enquiry (TCA)
- December closure TCA
- February 2016 TC decides to publish TR

## Overall status of work in the TC89/169/228/247

TC89 on thermal performance of building and building components standards currently out for enquiry:

**prEN ISO/DIS 52010-1**

Overarching assessment procedures for external environment conditions — Part 1: Conversion of measured hourly weather data to input for energy calculations

**CEN & ISO ENQ closes by 22/04/2015**

**EN ISO/DIS 52016-1**

Calculation of the energy needs for heating and cooling, internal temperatures and heating and cooling load in a building or building zone — Part 1: Calculation procedures

**EN ISO/DIS 52017-1**

Calculation of the dynamic thermal balance in a building or building zone — Part 1: Generic calculation procedure

**CEN & ISO ENQ closes by 29/04/2015**

## CEN TC 89 related standards expected to go out for enquiry (3M's)

### **prEN ISO/CD 52003-1**

Indicators, requirements and certification – Part 1: **General** aspects and application to the overall energy performance

Expected: **CEN & ISO ENQ 15/08---15/11**

### **prEN ISO/DIS 52018-1**

Indicators for partial EPB requirements related to **thermal energy balance and fabric** features — Part 1: Overview of options

Expected: **CEN & ISO ENQ 30/04—31/07**

## CEN TC 89 related standards expected to go out for enquiry (3M's)

### **Out for enquiry by 15/04:**

EN ISO 13789, EN ISO 13370, EN ISO 6946,

EN ISO 10211, EN ISO 14683, EN ISO 13786

Hygrothermal performance of building components and building elements

### **Out for enquiry by 15/05**

EN ISO 10077-1, EN ISO 10077-2, EN ISO 12631

EN ISO 52022-1, EN ISO 52022-3

Thermal, solar and daylight properties of windows and facades

## 9 parts of TC 156 - prEN 16798-Family

Overarching		Technical Building Systems					
	Descriptions		Descriptions	Cooling	Ventilation	Humidification	Dehumidification
sub1	<b>M1</b>	sub1		<b>M4</b>	<b>M5</b>	<b>M6</b>	<b>M7</b>
1	General	1	General	prEN 16798-9	prEN 16798-3		
2	Common terms and definitions; symbols, units and subscripts	2	Needs				
3	Applications	3	Maximum Load and Power	prEN 16798-11			
4	Ways to Express Energy Performance	4	Ways to Express Energy Performance	prEN 16798-9	prEN 16798-3		
5	Building Functions and Building Boundaries	5	Emission & control		prEN 16798-7	prEN 16798-5	prEN 16798-5
6	Building Occupancy and Operating Conditions prEN 16798-1	6	Distribution & control		prEN 16798-5		
7	Aggregation of Energy Services and Energy Carriers	7	Storage & control	prEN 16798-15			
8	Building Partitioning	8	Generation & control	prEN 16798-13	prEN 16798-5	prEN 16798-5	prEN 16798-5
9	Calculated Energy Performance	9	Load dispatching and operating conditions				
10	Measured Energy Performance	10	Measured Energy Performance				
11	Inspection	11	Inspection	prEN 16798-17	prEN 16798-17	prEN 16798-17	prEN 16798-17

## TC 156 - prEN 16798-Family

- 5 prEN's out for enquiry (closing 27/04)
- 2 prEN's out for enquiry by March (4M)
- 1 prEN out for enquiry by April
- prEN 16798-1 (former EN15251) out for enquiry by 14<sup>th</sup> April

NEXT: Reaction on enquiry and update of the draft standards, connected TR and EXCEL files  
 Draft standards ready for FV and draft TR's for TCA expected by December 2015

## CEN/TC 169 – Light and Lighting

prEN 15193-1: Energy performance of buildings - Module M9 - **Energy requirements for lighting - Part 1: Specifications**

Time schedule

- Public Enquiry closed by January 2015
- NEXT: Preparation of observation to comments (appr. 500 comments) and
- Final Excel files

prCEN/TR 15193-2:

Energy performance of buildings - Module 9 - Accompanying **Technical Report on Energy requirements for lighting standard**

- TCA: Enquiry within CEN/TC 169 closed by January 2015 (appr 200 comments)
- NEXT: Preparation of observation to comments parallel to prEN 15193-1

**NEXT: Draft standards ready for FV and draft TR's for TCA expected before end of 2015**

## Status work CEN/TC228 on heating system and hydronic cooling systems

- Enquire of 10 prEN's finished
- Enquiry of all standards will close by 27 March 2015
- Next: Reaction on enquiry and update of the draft standards, connected TR and EXCEL files
- Draft standards ready for FV and draft TR's for TCA expected by September 2015

## Status Work of CEN/TC247

- The set of draft prEN's on — Contribution of Building Automation, Controls and Building Management — and their accompanying TR's
- Still in process to be published for enquiry
- Expected prEN's and draft TR's August 2015
- Expected Closure enquiry November 2015
- TR's and FV versions ready by end of 2015--01/2016

### ARTICLES

- 6** Subset of EPB standards on the energy use and the thermal performance of buildings and building elements  
Dick van Dijk, Marleen Spiekman, Dirk Van Orshoven & Wim Plokker
- 17** Indoor environmental input parameters for the design and assessment of energy performance of buildings  
Bjarne W. Olesen
- 24** Ventilation for non-residential buildings – Performance requirements for ventilation and room-conditioning system  
Claus Händel
- 31** Calculation of the energy performance of ventilation and cooling systems  
Gerhard Zweifel
- 36** Guidelines for inspection of ventilation and air conditioning systems – Revision of EN 15239 and EN 15240  
François Rémi Carrié & Anne-Marie Bernard
- 41** Inspection of boilers and heating systems – Revision of EN 15378-1



Set of EPB standards:  
unambiguous but flexible

(allowing national choices, boundary conditions and input data)

- The EPB standards need to be unambiguous to be fit for direct use in the context of building regulations, certification rules or inspection schemes. The EPB standards also need to allow flexibility, taking into account national or regional differences in climate, culture and building tradition, building typologies, policy and legal framework (mandate M/480).

Set of EPB standards:  
unambiguous but flexible

(allowing national choices, boundary conditions and input data)

- ➔ Each EPB standard contains:
  - **Annex A (normative): template for choices and input data needed for using the standard**
  - **Annex B (informative): informative default choices and input data**
- In general:
  - Each individual user of the EPB standard is free to create his/her own data sheet according to the template of Annex A  
(~ replace the default choices and values of Annex B)

## Explained in notes in each EPB standard Annex A and Annex B

*In particular for the application within the context of EU Directives transposed into national legal requirements. These choices (either the default choices from Annex B or choices adapted to national/regional needs), but in any case following the template of the Annex A can be made available as National Annex or as separate (e.g. legal) document.*

## Intro to template given in Annex A of each EPB standard

- For the correct use of this [CEN or ISO] Standard this template shall be used to specify the choices between methods, the required input data **and references to other standards**.
- NOTE 1 A complete set of informative default choices, input data and references are provided in Annex B.
- NOTE 2 Following this template in Annex A is necessary but not enough to guarantee consistency of data.



**NOTE 3: In particular for the application within the context of EU Directives transposed into national legal requirements:**

the values and choices can be imposed by national / regional regulations. If the values and default choice of Annex B are not adopted because of the regulations, policies or national traditions, it is expected that:

- -national or regional authorities prepare data sheets according to the template in Annex A. In this case the National Annex (e.g. annex NA, NB, ..) should provide a reference to these specifications;
- -or, by default, the NSB will consider to prepare a National Annex (e.g. annex NA, NB, ..) complying with the template of Annex A, that provides choices, national or regional input data and references specified in the legal documents.

**NOTE 4: any user can prepare a datasheet according annex A**

- For instance to a national assessment protocol comprising decision trees, tables and pre-calculations.
- NOTE 5 An application document according to the template Annex A is open for different situations e.g.
  - design or certification of new building
  - renovation or certification of existing building
  - for different types of buildings;
  - etc...

## Normative references as in clause 2 of all EPB standards:

- Apart from the EN15603 and needed product standards, EPB standards will not include in this clause 2 references to other EPB standards
- The template in Annex A will allow to exercise all required normative references needed
- Annex B will contain all needed normative references usually included in Clause 2 by default

## Example of normative ref. given in Annex B

Table B.1 — Normative references

Reference	Reference document
M5-5	EN 16798-7, Energy performance of buildings - Part 7: Ventilation for buildings - Modules M5-1, M5-5, M5-6, M5-8 – Calculation methods for the determination of air flow rates in buildings including infiltration
M3-8-1	EN 15316-4-1 - Heating systems and water based cooling systems in buildings — Method for calculation of system energy requirements and system efficiencies — Part 4-1: Space heating and DHW generation systems, combustion systems (boilers, biomass)
M3-8-1/1	EN 15316-4-1:2015 - Heating systems and water based cooling systems in buildings — Method for calculation of system energy requirements and system efficiencies — Part 4-1: Space heating and DHW generation systems, combustion systems (boilers, biomass) – Clause 5.4
M3-8-1/2	EN 15316-4-1:2015 - Heating systems and water based cooling systems in buildings — Method for calculation of system energy requirements and system efficiencies — Part 4-1: Space heating and DHW generation systems, combustion systems (boilers, biomass) – Clause 7.4

## COMPLIANCE and QUALITY assurance using EPB standards

- On national level using EPB standards to comply with the EPBD requires the development of national annexes is paramount
- Outside the legislator context e.g. the voluntary certification scheme for non-res buildings the use of Annex B of all the EPB standards will provide the transparency and compliance with the EPBD

To remind: regarding all EPB standards:  
NSB's publish these with nat. cover page

- National cover page may include nat. introduction text on the EPB standard: this text allows the NSB's (MS's) to include information regarding the place of the EPB standard in their national regulation, version indication etc...
- NSB's can publish a National Annex to each EPB standard where they can refer to the Annex A template. A National Annex (NA) is  $\neq$  Annex A and could include more additional information!

End

- Thank you!



*Questions????*