



**NSAI**  
Standards

Irish Standard Recommendation  
S.R. CEN/TR 15316-6-7:2017

Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 6-7:  
Explanation and justification of EN 15316-4-4, Module M8-3-4, M8-8-4, M8-11-4

**S.R. CEN/TR 15316-6-7:2017**

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*This document is based on:*

CEN/TR 15316-6-7:2017

*Published:*

2017-04-05

*This document was published under the authority of the NSAI and comes into effect on:*

2017-04-23

ICS number:

27.160

91.120.10

91.140.10

NOTE: If blank see CEN/CENELEC cover page

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## National Foreword

S.R. CEN/TR 15316-6-7:2017 is the adopted Irish version of the European Document CEN/TR 15316-6-7:2017, Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 6-7: Explanation and justification of EN 15316-4-4, Module M8-3-4, M8-8-4, M8-11-4

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TECHNICAL REPORT

CEN/TR 15316-6-7

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

April 2017

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ICS 27.160; 91.120.10; 91.140.10

English Version

**Energy performance of buildings - Method for calculation  
of system energy requirements and system efficiencies -  
Part 6-7: Explanation and justification of EN 15316-4-4,  
Module M8-3-4, M8-8-4, M8-11-4**

Performance énergétique des bâtiments - Méthode de  
calcul des besoins énergétiques et des rendements des  
systèmes - Partie 6-7 : Explication et justification de  
l'EN 15316-4-4, Module M8-3-4, M8-8-4, M8-11-4

Heizungsanlagen und Wasserbasierte Kühlanlagen in  
Gebäuden - Verfahren zur Berechnung der  
Energieanforderungen und Nutzungsgrade der  
Anlagen - Teil 6-7: Begleitende TR zur EN 15316-4-4  
(Wärmeerzeugungssysteme, gebäudeintegrierte KWK-  
Anlagen)

This Technical Report was approved by CEN on 27 February 2017. It has been drawn up by the Technical Committee CEN/TC 228.

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## **European foreword**

This document (CEN/TR 15316-6-7:2017) has been prepared by Technical Committee CEN/TC 228 “Project committee on energy performance in buildings”, the secretariat of which is held by DIN.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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## CEN/TR 15316-6-7:2017 (E)

### Introduction

In order to facilitate the necessary overall consistency and coherence, in terminology, approach, input/output relations and formats, for the whole set of EPB-standards, the following documents and tools are available:

- a) a document with basic principles to be followed in drafting EPB-standards: CEN/TS 16628:2014, Energy Performance of Buildings - Basic Principles for the set of EPB standards [1];
- b) a document with detailed technical rules to be followed in drafting EPB-standards: CEN/TS 16629:2014, Energy Performance of Buildings - Detailed Technical Rules for the set of EPB-standards [2];
- c) the detailed technical rules are the basis for the following tools:
  - 1) a common template for each EPB-standard, including specific drafting instructions for the relevant clauses;
  - 2) a common template for each technical report that accompanies an EPB standard or a cluster of EPB standards, including specific drafting instructions for the relevant clauses;
  - 3) a common template for the spreadsheet that accompanies each EPB standard, to demonstrate the correctness of the EPB calculation procedures.

Each EPB-standards follows the basic principles and the detailed technical rules and relates to the overarching EPB-standard, EN ISO 52000-1:2017.

One of the main purposes of the revision of the EPB-standards is to enable that laws and regulations directly refer to the EPB-standards and make compliance with them compulsory. This requires that the set of EPB-standards consists of a systematic, clear, comprehensive and unambiguous set of energy performance procedures. The number of options provided is kept as low as possible, taking into account national and regional differences in climate, culture and building tradition, policy and legal frameworks (subsidiarity principle). For each option, an informative default option is provided (Annex B).

### Rationale behind the EPB technical reports

There is a risk that the purpose and limitations of the EPB standards will be misunderstood, unless the background and context to their contents – and the thinking behind them – is explained in some detail to readers of the standards. Consequently, various types of informative contents are recorded and made available for users to properly understand, apply and nationally or regionally implement the EPB standards.

If this explanation would have been attempted in the standards themselves, the result is likely to be confusing and cumbersome, especially if the standards are implemented or referenced in national or regional building codes.

Therefore each EPB standard is accompanied by an informative technical report, like this one, where all informative content is collected, to ensure a clear separation between normative and informative contents (see CEN/TS 16629 [2]):

- to avoid flooding and confusing the actual normative part with informative content,
- to reduce the page count of the actual standard, and
- to facilitate understanding of the set of EPB standards.

This was also one of the main recommendations from the European CENSE project [5] that laid the foundation for the preparation of the set of EPB standards.



## 1 Scope

This Technical Report refers to EN 15316-4-4:2017, *Heating systems and water based cooling systems in buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-4: Heat generation systems, building-integrated cogeneration systems*.

Building-integrated cogeneration systems are commonly known as micro or small scale cogeneration, or micro or small scale CHP.

It contains information to support the correct understanding, use and national adaptation of EN 15316-4-4:2017.

This Technical Report does not contain any normative provision.

## 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 15316-4-4:2017, *Heating systems and water based cooling systems in buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-4: Heat generation systems, building-integrated cogeneration systems*

EN 50465, *Gas appliances - Fuel cell gas heating appliances - Fuel cell gas heating appliance of nominal heat input inferior or equal to 70 kW*

EN ISO 7345:1995, *Thermal insulation - Physical quantities and definitions (ISO 7345:1987)*

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

ISO 3046-1, *Reciprocating internal combustion engines — Performance — Part 1: Declarations of power, fuel and lubricating oil consumptions, and test methods — Additional requirements for engines for general use*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 7345:1995, EN ISO 52000-1:2017, EN 15316-4-4:2017 apply.

## 4 Symbols and subscripts

### 4.1 Symbols

For the purposes of this document, the symbols given in EN ISO 52000-1:2017 and in EN 15316-4-4:2017 apply.

### 4.2 Subscripts

For the purposes of this document, subscripts given in EN ISO 52000-1:2017 and in EN 15316-4-4:2017 apply.

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