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Sustainability of construction works - Guidance for the implementation of EN 15804

Nachhaltiges Bauen - Leitfaden für die Anwendung von EN 15804

Contribution des ouvrages de construction au développement durable - Lignes directrices pour la mise en application de l'EN 15804

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Sustainability of construction works - Guidance for the implementation of EN 15804

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (CEN/TR 16970:2016) has been prepared by Technical Committee CEN/TC 350 “Sustainability of construction works”, the secretariat of which is held by AFNOR.

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.

Introduction

This Technical Report is a complementary document to EN 15804 “Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products”. It is intended to assist the understanding and use of EN 15804 by giving guidance and further explanation.

This document does not replace any of the standard’s requirements or introduce any new rules and it is not intended to be used as a stand-alone document.

This document provides guidance to CEN Technical Committees for construction products and other bodies such as Environmental Product Declaration programme operators in the construction sector developing Product Category Rules complementary to EN 15804.

According to decision BT 3/2013, CEN Technical Committees for construction products are asked to inform CEN/TC 350 at the earliest stage when a complementary PCR document will be developed, allowing CEN/TC 350 to arrange a liaison and ensure they can review the document when necessary.

1 Scope

This Technical Report provides general guidance to the users of EN 15804 and those preparing complementary Product Category Rules (c-PCR's) by:

— stating general principles for the use of EN 15804 by CEN Technical Committees for construction products (Product TC's) in order to ensure consistency among the complementary PCR produced by Product TC's;

— addressing the questions raised by Product TC's, manufacturers or their sub-contractors who provide LCA studies underlying an Environmental Product Declaration (EPD) and by EPD programme operators who include c-PCR of specific subcategories in their PCR registry.

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 15804:2012+A1:2013, *Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products*

EN 15978, *Sustainability of construction works - Assessment of environmental performance of buildings - Calculation method*

EN ISO 14025:2010, *Environmental labels and declarations - Type III environmental declarations - Principles and procedures (ISO 14025:2006)*

ISO 15686 (all parts), *Buildings and constructed assets — Service life planning*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15804:2012+A1:2013 and the following apply.

3.1
complementary product category rules, c-PCR
product group specific or horizontal PCR, which provide additional, compliant and non-contradictory requirements to EN 15804

Note 1 to entry: c-PCR are meant to be used together with EN 15804.

3.2
default values
pre-defined results without further calculation

3.3
freshwater
water having a low concentration of dissolved solids

Note 1 to entry: Freshwater typically contains less than 1 000 mg per litre of dissolved solids and is generally accepted as suitable for withdrawal and conventional treatment to produce potable water.

Note 2 to entry: The concentration of total dissolved solids can vary considerably over space and/or time.

[SOURCE: ISO 14046:2014, 3.1.1]

3.4
water use
use of water by human activity

Note 1 to entry: Use includes, but is not limited to, any water withdrawal, water release or other human activities within the drainage basin impacting water flows and/or quality, including in-stream uses such as fishing, recreation, transportation.

Note 2 to entry: The term "water consumption" is often used to describe water removed from, but not returned to, the same drainage basin. Water consumption can be because of evaporation, transpiration, integration into a product, or release into a different drainage basin or the sea. Change in evaporation caused by land-use change is considered water consumption (e.g. reservoir). The temporal and geographical coverage of the water footprint assessment are defined in the goal and scope.

[SOURCE: ISO 14046:2014, 3.2.1, modified]

4 Abbreviations

ADP	Abiotic depletion potential
CF	Characterization factor
c-PCR	Complementary product category rules
EPD	Environmental product declaration
EoW	End-of-waste status
ETICS	External Thermal Insulation Composite Systems
GHG	Greenhouse gas
GWP	Global warming potential
LCA	Life cycle assessment
LCI	Life cycle inventory
LCIA	Life cycle impact assessment
PCR	Product category rules
Product TC	CEN Technical Committees for construction products (Product TC's), i.e. Technical Committee in CEN responsible for developing harmonized and other standards for product groups
RSL	Reference service life

5 General aspects

5.1 Objectives

5.1.1 Objectives of core PCR

The main objective of EN 15804 is to provide horizontal core PCR for all construction products and services. They are applicable for developing Type III EPD for any construction product or service but can be further detailed in c-PCR.

It is possible to develop and to verify a Type III EPD directly to the EN 15804 standard. If there is no c-PCR available, EPD for construction products are developed only according to EN 15804. The EPD always states according to which standard the EPD was made (EN ISO 14025:2010, 7.2.1, e).

5.1.2 Objectives of the guidance

If more detailed specifications and descriptions for a product group are needed it is advisable to develop a c-PCR in compliance with EN 15804. The grouping of products follows the grouping of the Product TC's.

Compliance with this Technical Report is not a requirement for compliance with EN 15804, but product TCs and Program Operators are encouraged to follow this guideline to enhance harmonization

The guidance document supports the following principles for developing c-PCR:

a) Any c-PCR using EN 15804 as a normative reference needs to be compliant with EN 15804.

NOTE 1 CEN/TC 350 homepage [1] lists c-PCR documents prepared by Product TC's, that were reviewed to be compliant with EN 15804, or are under review by CEN TC 350/WG 3.

b) A common structure of EN 15804 and c–PCR provided by Product TC's in order to assist the development of a consistent set of principles and rules for the construction sector.

1) C-PCR developed by Product TC's use the following common title structure:

"[title of Product TC] - Environmental product declarations – Product category rules complementary to EN 15804 [product group, depending on name]"

EXAMPLE [Round and sawn timber] - Environmental product declarations - Product category rules complementary to EN 15804 [for wood and wood-based products for use in construction].

2) The structure of the document maintains the structure of EN 15804.

When developing c-PCR Product TC's are recommended to use a format as described in Table 1.

Table 1 — Format for the development of complementary PCR in accordance with EN 15804

Clause	Text for new c-PCR	EN 15804	Comment
5 general aspects, 5.1 Objective of the PCR	**As in EN 15804, in addition:** **xxxxxxxx**	**An EPD according to this standard provides quantified environmental information for a construction product or service...**	**...**

c) C-PCR provided by Product TC's and considered compliant with EN 15804 by CEN/TC 350 provide a consistent set of principles and rules. In the development of c- PCR the following aspects are considered:

1) Complementary specifications to the core rules provided by EN 15804, particularly related to:

i) the scope of the c-PCR, related to the product group, product type, intended application and use of the product, type of EPD (cradle to gate, cradle to gate with options, cradle to grave);

ii) the scope with respect to any required information modules A1-C4 and D;

iii) specification of the declared or functional unit;

iv) allocation rules;

v) system boundary setting;

vi) application of the rules for the exclusion of inputs and outputs.

2) Guidance for the life cycle inventory specifically related to the product group and/or product type for the information modules covered by the type of EPD.

3) Selection of information modules for which more specific requirements and guidance are given.

4) Inclusion of default scenarios related to a specific application of the product including guidance on:

i) the specific content of all information modules of the life cycle and information module D, for default scenarios (e.g. use, typical waste processing, for energy recovery, recycling and reuse and disposal);

ii) the definition of the end-of-waste status;

iii) the technical scenario information for all information modules of the product system and information module D;

iv) the determination of the RSL and related in-use conditions for a specific application of the product.

The following aspects are not part of c-PCR:

5) classes, benchmarks or threshold values for the indicators;

6) new indicators as part of the EN 15804 implementation.

NOTE 2 New indicators as part of the pre-set basket of indicators are developed in a horizontal standardization process.

NOTE 3 Additional LCA based indicators required or permitted by a c-PCR are communicated as additional information.

5.2 Types of EPD with respect to life cycle stages covered

5.2.1 Information Modules

In order to structure the sustainability assessment of buildings and to organize the use of data from products for such an assessment, the life cycle of a product and the life cycle of a building are presented identically in 3 life cycle stages:

— the before use stage: A, i.e. product and construction stage;

— the use stage: B, i.e. use stage;

— the after use stage: C, i.e. end-of-life stage.

Within the life cycle stages information modules are described. The environmental assessment methodology, as described by EN 15804 and EN 15978 is further broken down in the information modules specified by EN 15804:2012+A1:2013, Figure 1.

5.2.2 Beyond the product life cycle: information module D

During the life cycle of the product or building it is possible that secondary material and energy flows leave the system boundary and have a new role to play in another product or building life cycle. In other words, a product can have a positive or negative environmental contribution beyond the product life cycle (or product system) under study. Reuse or recycling therefore can bridge two life cycles.

However, the output flows from the production stage and from the rest of the life cycle stages, i.e. construction, use and end-of life stage, are treated differently.

— The information given for output flows from the construction stage and other modules up to the end-of life stage of the life cycle under study and thus for potential input flows into a next life cycle beyond its system boundary, is provided as net potential benefits and loads. This information of net potential benefits and loads is provided in information module D. Contributions to module D can only come from modules A4-C4 (see EN 15804:2012+A1:2013, Figure 1).

— Output flows coming from the production stage (A1-A3), are principally considered as co-products (when they are not waste), which themselves carry benefits or loads from their production history in A1-A3. This information is not provided in information module D. Co-products leaving one product system are treated like any other commodity when they become input into another product system.

5.2.3 Scenarios

Information modules A1, A2 and A3 are based on the actual and specific data of the production process of the product. However, as soon as a construction product leaves the factory gate the assessment is based on scenarios and assumptions: the fate of the product in the building chain will depend on locations, types of transport, installation and constructing methodologies, building type, use of the building, maintenance, repair and waste handling. The manufacturer cannot control these processes completely. An assessment thus requires scenarios to be specified for each module, i.e. for modules A4, A5, all B-modules, all C-modules and for information module D.

In a c- PCR-document for a specific product group, scenarios for each information module are more easily developed and default scenarios defined than at the horizontal level.

5.2.4 Types of EPD with respect to applied modules

It is possible for a Product TC to define any of the optional modules as mandatory.

5.2.5 Default values for indicator results for the use in c-PCR

Default values for the indicators defined in EN 15804 are considered part of an EPD, developed according to the c-PCR of the Product TC, which is based on the normative reference of EN 15804 and such default values are reviewed according to EN ISO 14025.

NOTE Default values are not verified by CEN/TC 350.

When Product TC's are providing default values for the indicators defined in EN 15804 to be included in harmonized product standards these default values are then worst-case values.

It is not recommended that Product TC's provide default values, due to the difficulty of calculating worst-case values. They can be counterproductive to average EPD and are not as useful for building assessment as average values.

5.3 Comparability of EPD for construction products

No guidance provided.