SLOVENSKI STANDARD
oSIST prEN 16783:2023

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Toplotnoizolacijski proizvodi - Okoljske deklaracije za proizvode (EPD) - Pravila za kategorije proizvodov (PCR) za proizvode, izdelane v obratu in na mestu vgradnje, ki dopolnjujejo EN 15804

Thermal insulation products - Environmental Product Declarations (EPD) - Product Category Rules (PCR) complementary to EN 15804 for factory made and in-situ formed products

Wärmedämmstoffe - Umweltproduktdeklarationen (EPD) - Produktkategorieregeln (PCR) ergänzend zur EN 15804 für werksmäßig hergestellte und der Verwendungsstelle hergestellte Produkte

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EUROPEAN STANDARD

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Thermal insulation products - Environmental Product Declarations (EPD) - Product Category Rules (PCR) complementary to EN 15804 for factory made and in-situ formed products

Wärmedämmstoffe - Umweltproduktdeklarationen (EPD) - Produktkategorieregeln (PCR) ergänzend zur EN 15804 für werksmäßig hergestellte und der Verwendungsstelle hergestellte Produkte

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 16783:2022) has been prepared by Technical Committee CEN/TC 88 “Thermal insulating materials and products”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 16783:2017.

In comparison with the previous edition EN 16783:2017, the following technical modifications have been made:

a) modification of the title;

b) updated in relation to the latest revision of EN 15804:2012+A2:2019 [1].

Introduction

This document provides rules for the assessment and quantification of parameters describing the environmental impact of thermal insulation products to prepare environmental product declarations.

It defines complementary product category rules for thermal insulation products based on the core rules for all construction products established in EN 15804:2012+A2:2019 [1]. These rules are intended to be used in conjunction with EN 15804:2012+A2:2019 [1].

These PCR apply to all CEN/TC 88 thermal insulation product standards (EN 13162 to EN 13171, EN 14063-1, EN 14064-1, EN 14303 to EN 14309, EN 14313, EN 14314, EN 14315-1 to EN 14320, EN 14933, EN 14934, prEN 15100-1, EN 15101-1, EN 15501, EN 15599-1, EN 15600-1, EN 15732, EN 16025-1, EN 16069, prEN 16491, EN 16809-1, prEN 16863, EN 16977, EN 17140) in order to minimize intra-sectoral deviations. These PCR are also valid for thermal insulation products outside of CEN/TC 88 and for thermal insulation products involved in other CEN TCs.

As in EN 15804:2012+A2:2019 [1], the results from the assessment are expressed following the modularity principle in a form that allows aggregation (addition) to provide complete information for construction works. These PCR do not deal with aggregation at the construction works level nor does it describe the rules for applying the environmental parameters in a construction works assessment.

The reduction in energy used and the reduction of emissions produced during the installed life of insulation products exceed by far the energy used and in most cases the emissions occurring during the production, installation and disposal processes. 5.4 of this document provides the rules for declaration of any such benefits as additional information.

NOTE The titles of the clauses in this document follow EN 15804:2012+A2:2019 [1] to enhance readability.

1 Scope

This document provides the product category rules (PCR) for Type III environmental declarations (as in EN 15804:2012+A2:2019 [1]) for factory made and *in situ* thermal insulation products.

Complementary to EN 15804:2012+A2:2019 [1], the PCR described in this document:

— specify the declared unit to be used;

— define the system boundaries for thermal insulation products;

— specify/describe the default scenarios and rules for defining scenarios for certain life cycle information modules.

These PCR are intended to be used for cradle to gate, cradle to gate with options or cradle to grave assessment, provided the intention is properly stated in the system boundary description.

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.

EN 13172, *Thermal insulation products — Evaluation of conformity*

EN 15804:2012+A2:2019,[1] *Sustainability of construction works — Environmental product declarations — Core rules for the product category of construction products*

EN 15942, *Sustainability of construction works — Environmental product declarations — Communication format business-to-business*

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

EN ISO 9229, *Thermal insulation — Vocabulary (ISO 9229)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 9229, EN 15804:2012+A2:2019 [1] apply.

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

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

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

4 Abbreviations

For the purpose of this document, the abbreviations given in EN ISO 9229, EN 15804:2012+A2:2019 [1] and the abbreviations given in Annex A apply.

[1] As impacted by EN 15804:2012+A2:2019/AC:2021.

5 General aspects

5.1 Objective of the core PCR for insulation products

As in EN 15804:2012+A2:2019 [1] and the Scope of this document.

5.2 Types of EPD with respect to life cycle stages covered

These PCRs identify two main families of EPDs:

1) EPDs for factory made insulation products;

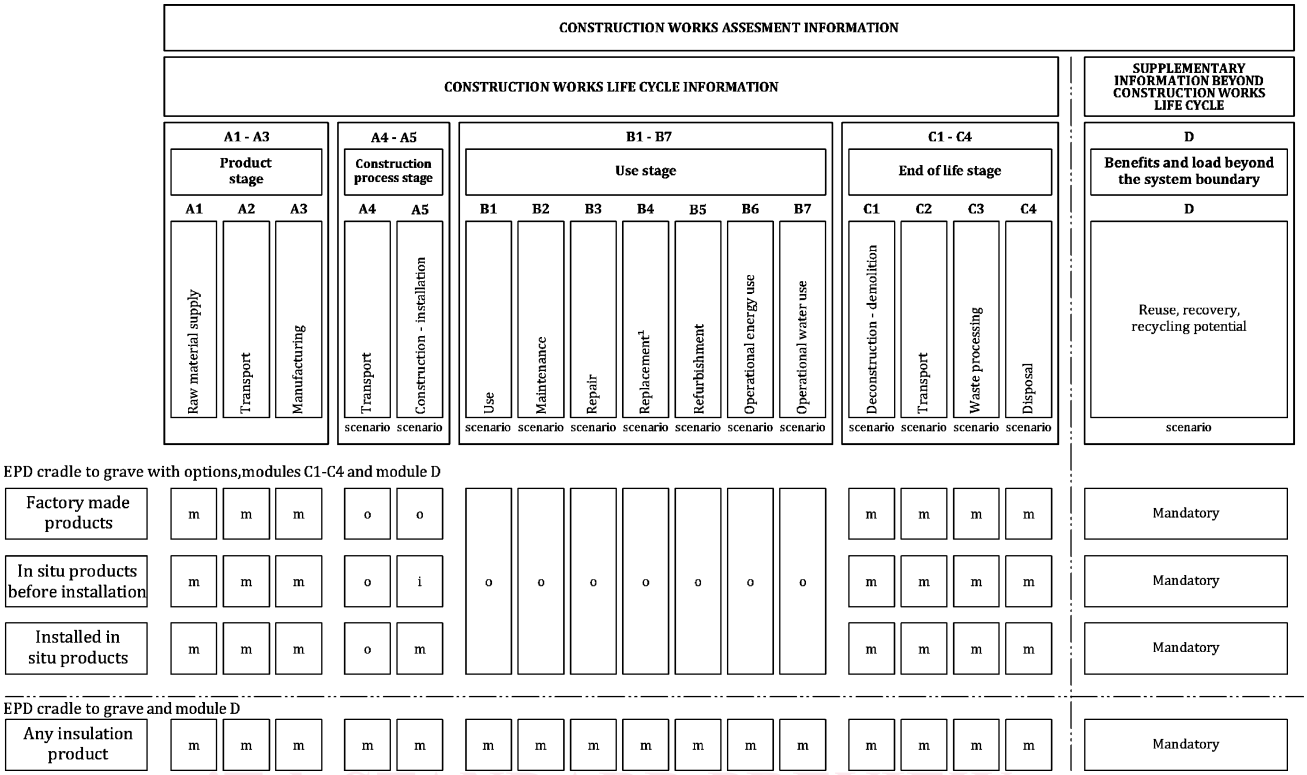
2) EPDs for products to be used as *in situ* insulation products including installation.

To be in compliance with this document, for both families the declaration of the product stages mandatory and voluntary stages are described in Figure 1. This table applies as well for factory made thermal insulation products, that have their applicable technical characteristics (e.g. thermal resistance) at the factory gate as well as for *in situ* formed thermal insulation products that establish their applicable technical characteristics after activities on site.

For an EPD type “Cradle to Gate with options” the declaration of modules A4, “Transport” and A5 “Installation” of the construction process stage are optional. Also, the modules B1 to B7 covering the use phase are optional. The declaration of the modules of the other life cycle stages is mandatory.

For an EPD type “Cradle to grave” all modules are mandatory.

For each of these EPD, mandatory and voluntary stages to be covered are described as in Figure 1.



Key

m	Mandatory
o	Optional
i	Mandatory provision of scenario description and technical information
1	Replacement of components, parts or systems

Figure 1 — Modules applicable for factory made and *in situ* products (including installation)

5.3 Comparability of EPD for construction products

In principle, the comparison of products on the basis of their EPD is defined by the contribution they make to the environmental performance of the construction works. Consequently, comparison of the environmental performance of construction products using the EPD information shall be based on the product's use in and its impacts on the construction works, and shall consider the complete life cycle (all information modules). End use applications are defined in Annex A. Cradle to grave analyses can describe all relevant requirements for the end-use application of the product.

NOTE This is especially true for insulation products of which their main purpose is to reduce the energy consumption in the use stage of buildings. Since the reduction of the environmental impacts due to energy savings during the use stage is in most cases much higher than the environmental impacts of the insulation products themselves, it makes more sense to focus on good performance on building level during use than on comparing insulation products.

5.4 Additional environmental information

As in EN 15804:2012+A2:2019 [1] and additional Annex A of this document.

If benefits of insulation products due to energy saving during the installed life are reported in relation to the environmental performance of a building, they shall be reported as additional information. The environmental impacts shall be calculated using EN 15978. The benefit is the difference between the

impacts of at least two insulation levels for the same building considered over the whole life cycle. The scenarios shall be fully described in the EPD and sufficient information given to the verifier to verify this.

5.5 Ownership, responsibility and liability for the EPD

A manufacturer or a group of manufacturers are the sole owners and have liability and responsibility for an EPD.

5.6 Communication formats

The communication format of the EPD shall be in accordance with EN 15942.

6 Product Category Rules for LCA

6.1 Product category

The product category referred to in this document includes all the thermal insulation products.

6.2 Life cycle stages and their information modules to be included

As in EN 15804:2012+A2:2019 [1] and in addition 5.2 of this document.

6.3 Calculation rules for the LCA

6.3.1 Functional or declared unit

As in EN 15804:2012+A2:2019 [1].

6.3.2 Functional unit

As in EN 15804:2012+A2:2019 [1] and in addition 5.2 of this document, a functional unit shall contain the R-value for the applications as listed in Annex A. If the R-value is not relevant for a specific building equipment or a specific civil engineering application, the relevant function for that application shall be defined instead.

6.3.3 Declared unit

The declared unit is defined as:

1. For batts, boards and similar:

1 m^2 thermal insulation product for a specific RD-value of the product as placed on the market intended to be used for any of the application(s) listed in Annex A or used as generic insulation. Calculation rules can be added for other R_D -values.

Conversion factors may be added to translate from m^2 and R-value to one or more of the other required unit types in EN 15804:2012+A2:2019 [1]: item, mass (kg), volume (m^3).

2. For pipe sections:

1 m^1 thermal insulation pipe section product with the declared lambda, diameter and thickness, as placed on the market or used to insulate a pipe. Calculation rules can be supplied to account for the various thicknesses, diameters and densities.

Conversion factors may be added to translate from m^1 to one or more of the other required unit types in EN 15804:2012+A2:2019 [1]: item, mass (kg), area (m^2), volume (m^3).

3. For civil engineering applications:

1 m^3 thermal insulation product with the declared lambda, as placed on the market intended to be used for the application(s) listed in Annex A or used as generic insulation.

Conversion factors may be added to translate from m^3 to one or more of the other required unit types in EN 15804:2012+A2:2019 [1]: item, mass (kg), area (m^2).

For all applications: Grouping of products shall follow the rules of EN 13172, but should ensure that any deviations due to intra- or extrapolation are less than 25 %, as described in 6.3.6 of this document.

6.3.4 Reference service life (RSL)

As in EN 15804:2012+A2:2019 [1].

An RSL linked to a specific application defined in Annex A can be declared. The parameters used to determine the RSL such as in use conditions etc., shall be declared in line with the applicable ISO standards (as in EN 15804:2012+A2:2019 [1]) for the purpose of writing EPDs the RSL will be taken at the building level or application level.

6.3.5 System boundaries

6.3.5.1 General

As in EN 15804:2012+A2:2019 [1].

6.3.5.2 Product stage

As in EN 15804:2012+A2:2019 [1].

6.3.5.3 Construction stage

For the A4 module: as in EN 15804:2012+A2:2019 [1], in addition.

If module A4 is addressed in the EPD for transport from the production gate to the construction site, the following information shall be provided to specify the transport scenarios used or to support development of the scenarios at the construction works level:

— values that are based on real and verifiable delivery data;

— the capacity of the truck used in the calculation, which by default is defined by the volume that can be loaded;

— the average distance and capacity utilization;

the return transport scenario, which by default is “empty return”.

For the A5 module (Installation):

As in EN 15804:2012+A2:2019 [1], in addition ancillary materials shall be taken into account with a scenario linked to one of the applications defined in Annex A.

Waste percentage can be determined or a default waste percentage of 2 % can be taken for the insulation products during installation.

If equipment is used to install the insulation product, the environmental impact of using this equipment (e.g. energy, additives, lubricants, cleaning, etc.) shall be taken into account.

6.3.5.4 Use stage

6.3.5.4.1 General

As in EN 15804:2012+A2:2019 [1].