



# SLOVENSKI STANDARD

## SIST EN 16783:2017

01-junij-2017

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**Toplotnoizolacijski proizvodi - Pravila za kategorije proizvodov za proizvode, izdelane v obratu in na mestu vgradnje, za pripravo okoljskih deklaracij za proizvode**

Thermal insulation products - Product category rules (PCR) for factory made and in-situ formed products for preparing environmental product declarations

Wärmedämmstoffe - Produktkategorieregeln (PCR) für werkmäßig hergestellte und an der Verwendungsstelle hergestellte Wärmedämmstoffe zur Erstellung von Umweltproduktdeklarationen (standards.iteh.ai)

Produits isolants thermiques - Règles régissant les catégories de produits (RCP) pour les produits manufacturés et formés en place destinées à la préparation des déclarations environnementales des produits

**Ta slovenski standard je istoveten z: EN 16783:2017**

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**ICS:**

91.120.10	Toplotna izolacija stavb	Thermal insulation of buildings
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EUROPEAN STANDARD

EN 16783

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2017

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English Version

## Thermal insulation products - Product category rules (PCR) for factory made and in-situ formed products for preparing environmental product declarations

Produits isolants thermiques - Règles régissant les catégories de produits (RCP) pour les produits manufacturés et formés en place, destinés à la préparation des déclarations environnementales des produits

Wärmedämmstoffe - Produktkategorieregeln (PCR) für werkmäßig hergestellte und an der Verwendungsstelle hergestellte Wärmedämmstoffe zur Erstellung von Umweltproduktdeklarationen

This European Standard was approved by CEN on 16 January 2017.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
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## European foreword

This document (EN 16783:2017) has been prepared by Technical Committee CEN/TC 88 “Thermal insulating materials and products”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2017, and conflicting national standards shall be withdrawn at the latest by October 2017.

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.

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## Introduction

This European Standard 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. These rules are intended to be used in conjunction with EN 15804.

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 16069) in order to minimize intra-sectoral deviations. These PCR are also valid for thermal insulation products outside of CEN/TC88 and for thermal insulation products involved in other CEN TCs.

As in EN 15804, 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. Clause 5.4 of this European Standard provides the rules for declaration of any such benefits as additional information.

NOTE The titles of the clauses in this European Standard follow the EN 15804 to enhance readability.

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## 1 Scope

This European Standard provides the product category rules (PCR) for Type III environmental declarations (as in EN 15804) for factory made and *in situ* thermal insulation products.

Complementary to EN 15804, the PCR described in this European Standard:

- 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, 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 13172, *Thermal insulation products - Evaluation of conformity*

EN 15804:2012+A1:2013, *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+A1:2013 and the following apply.

### 3.1

#### **biogenic carbon**

carbon derived from/contained in biomass

### 3.2

#### **biomass**

material of biological origin excluding material embedded in geological formations and material transformed to fossilised material

## 4 Symbols and abbreviations

For the purpose of this document, the abbreviations given in EN ISO 9229 and EN 15804 and the abbreviations given in Annex A apply.

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## 5 General aspects

### 5.1 Objective of the complementary PCR for insulation products

As in EN 15804 and the Scope of this European Standard.

### 5.2 Types of EPD with respect to life cycle stages covered

These PCR identify three main families of EPD:

- 1) EPD for factory made insulation products;
- 2) EPD for products intended to be used as *in situ* insulation products excluding installation;
- 3) EPD for products to be used as *in situ* insulation products including installation.

To be in compliance with this European Standard, the declaration of the product stage modules A1-A3 is required as a minimum for those thermal insulation products that have their applicable technical characteristics (e.g. thermal resistance) at the factory gate. In addition, for *in situ* formed thermal insulation products that establish their applicable technical characteristics after activities on site, the declaration of Module A5 “installation” of the construction process stage is also required. The declaration of the modules of the other life cycle stages is optional.

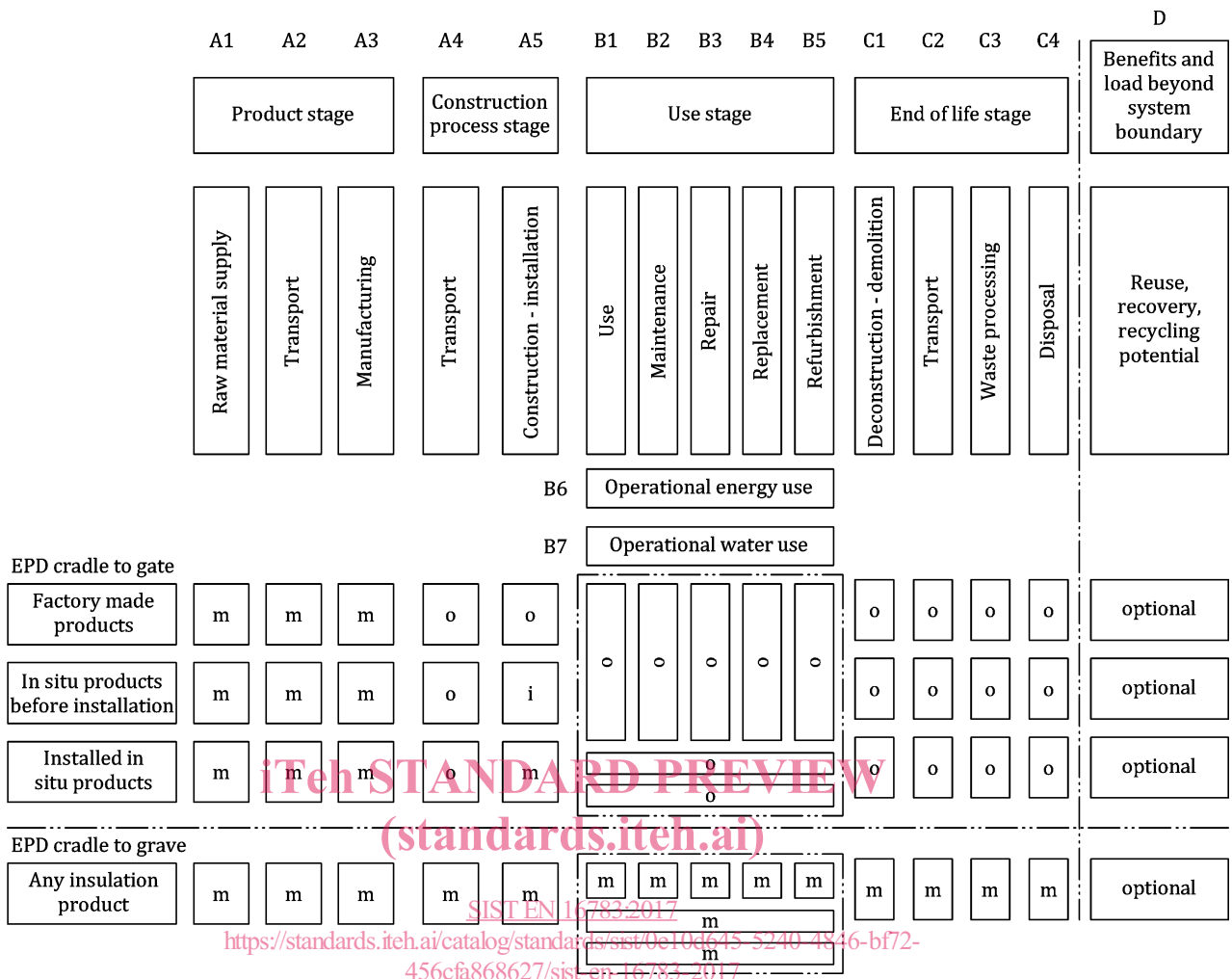
For each of these EPD, mandatory and voluntary stages to be covered are described as in Figure 1.

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**Key**

- m mandatory
- o optional
- i mandatory provision of scenario description and technical information

**Figure 1 — Modules**

**1) EPD for factory made thermal insulation products:**

- a cradle to gate EPD: modules A1, A2 and A3 mandatory;
- a cradle to gate EPD with options: modules A1, A2 and A3 mandatory, the other modules optional (i.e. cradle to gate and selected further life cycle stages) ;
- a cradle to grave EPD: modules A to C mandatory

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**2) EPD for products intended to be used as *in situ* thermal insulation excluding installation:**

- a cradle to gate EPD: modules A1, A2 and A3 mandatory and a mandatory description of a scenario for module A5 including the necessary activities to obtain the final insulation product out of the product;
- a cradle to gate EPD with options: modules A1, A2 and A3 mandatory, a mandatory description of a scenario for module A5 including the necessary activities to obtain the final insulation product out of the product. The other modules optional (i.e. cradle to gate and selected further life cycle stages);
- a cradle to grave EPD: modules A to C mandatory.

**3) EPDs for products to be used as *in situ* thermal insulation products including installation:**

- a cradle to gate EPD with options: modules A1, A2, A3 and A5 mandatory, the other modules optional (i.e. cradle to gate and selected further life cycle stages);
- a cradle to grave EPD: modules A to C mandatory.

**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).

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.

End use applications are defined in Annex A. Cradle to grave analyses shall describe all relevant requirements for the end-use application of the product.

**5.4 Additional information**

As in EN 15804 and additional Annex A of this European Standard.

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 and in addition Clause 5.2 of this European Standard.

### 6.3 Calculation rules for the LCA

#### 6.3.1 Functional unit

As in EN 15804 and in addition clause 5.2 of this European Standard, 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 civil engineering application, the relevant function for that application shall be defined instead.

#### 6.3.2 Declared unit

The declared unit is defined as:

For batts, boards and similar:

1 m<sup>2</sup> thermal insulation product for a specific  $R_D$ -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<sup>2</sup> and R-value to one or more of the other required unit types in EN 15804: item, mass (kg), length (m), volume (m<sup>3</sup>).

For pipe sections:

1 m<sup>1</sup> 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<sup>1</sup> to one or more of the other required unit types in EN 15804: item, mass (kg), area (m<sup>2</sup>), volume (m<sup>3</sup>).

For civil engineering applications:

1 m<sup>3</sup> 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<sup>3</sup> to one or more of the other required unit types in EN 15804: item, mass (kg), area (m<sup>2</sup>).

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 Clause 6.3.6 of this European Standard.

#### 6.3.3 Reference service life (RSL)

As in EN 15804.

A 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).

NOTE The thermal performance characteristics of thermal insulation products are usually based on a minimum of 50 years.