

SLOVENSKI STANDARD oSIST prEN 16578:2019

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Pravila za kategorije proizvodov za keramično sanitarno opremo

Product Category Rules for ceramic sanitary appliances

Produktkategorieregeln für keramische Sanitärausstattungsgegenstände

Appareils sanitaires en céramique - Évaluation du développement durable

Ta slovenski standard je istoveten z: prEN 16578

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Product Category Rules for ceramic sanitary appliances

Appareils sanitaires en céramique - Évaluation du développement durable

Keramische Sanitärausstattungsgegenstände -Beurteilung der Nachhaltigkeit

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If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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European foreword

This document (prEN 16578:2019) has been prepared by Technical Committee CEN/TC 163 "Sanitary appliances", the secretariat of which is held by UNI.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 16578:2016.

The previous version was revised completely to reach the goal of a product category rule.

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Introduction

This document supports the (harmonized) European Standards on ceramic sanitary appliances elaborated by CEN/TC 163 on assessing the sustainability for these products.

This document provides a Product Category Rule (PCR) for sustainability assessment of ceramic sanitary appliances according to EN 15804 using a life cycle approach and a sustainability ranking system for ceramic sanitary appliances.

This document cites the standard EN 15804:2012+A1:2013 in many sections. This document will be named below as EN 15804. Certain clauses of the standard texts have been omitted for reasons of readability, however, not with the intention to compromise the conformity of this document with EN 15804. Those clauses are marked as [...].

The ranking system includes sustainability classes to express the performance of ceramic sanitary appliances. The link between these classes and the assessment of the products form a framework of evaluation schemes.

Evaluation schemes enable the comparison of different ceramic sanitary appliances.

Clauses 4 to 8 specify the calculation rules in accordance with EN 15804 for the Life Cycle Assessment (LCA) of Environmental Products Declarations (EPD) according to prEN 16578 for Ceramic Sanitary Appliances as well as the requirements on the project report to the Life Cycle Assessment.

Clauses 9 to 18 specify the product specific calculation rules for a declared functional unit for a single product or a product group of Ceramic Sanitary Appliances.)

Clause 19 specifies a system with sustainability classes to express the performance of ceramic sanitary appliance(s).

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1 Scope

This document provides the Product Category Rule (PCR) for Ceramic Sanitary Appliances in accordance with EN 15804:2012+ A1:2013 (this document will be named below as EN 15804).

The document applies for Ceramic Sanitary Appliances made out of Vitreous China (VC) and Fine Fire Clay (FFC). Ceramic Sanitary Appliances are e.g. WC pans and WC suites in accordance with EN 997, urinals in accordance with EN 13407, wash basins in accordance with EN 14688, communal washing troughs in accordance with EN 14296 and bidets in accordance with EN 14528.

NOTE This document can be applicable to other ceramic sanitary appliances.

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 997:2018, WC pans and WC suites with integral trap

EN 13407, Wall-hung urinals — Functional requirements and test methods

EN 14528, Bidets — Functional requirements and test methods

EN 14688, Sanitary appliances — Wash basins — Functional requirements and test methods

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

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EN ISO 14025, Environmental labels and declarations \$\square\$ 2Type III environmental declarations — Principles and procedures 588bcadbeeee/osist-pren-16578-2019

EN ISO 14044, Environmental Management — Life cycle assessment — Requirements and guidelines (ISO 14044)

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

- ISO Online browsing platform: available at http://www.iso.org/obp
- IEC Electropedia: available at http://www.electropedia.org/

3.1

abiotic depletion potential for fossil resources

measures the gradual depletion of non-renewable fossil resources

Note 1 to entry: An example is raw oil.

3.2

abiotic depletion potential for non-fossil resources

measures the gradual depletion of non-renewable non-fossil resources

Note 1 to entry: An example is clay.

3.3

acidification potential of land and water

sums contributions of sulphuric acid and nitric acid to acid rain, acid snow and acid deposition

Note 1 to entry: It includes sulphur oxides (SO₂, SO₃) and nitrogen oxides (N₂O, NO and NO₂).

3.4

auxiliary

production tool, e.g. casting moulds, sponges and supports

3.5

ceramics

inorganic non-metallic material which is typically moulded from raw materials at room temperature and gains its characteristic physical properties during a firing process (after the moulding)

Note 1 to entry: The term "ceramic materials for sanitary appliances" covers both vitreous china and fine fire clay materials.

3.6

construction product

item manufactured or processed for incorporation in construction works

[SOURCE: EN 15804:2012+ A1:2013]

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3.7

consumption

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use of materials or energy within a defined time frame

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3.8 cost in use

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expenses incurred while using the product

3.9

declared unit

quantity of a construction product for use as a reference unit

Note 1 to entry: Usual units for mass is t, for quantity is piece.

3.10

depletion potential of the stratospheric ozone layer

measures depletion of stratospheric ozone needed for protection against UV radiation

Note 1 to entry: This includes chlorofluorocarbons (CFCs).

3.11

energy management

system to monitor, control and evaluate the type of power supply as well as the energy consumption of a product

3.12

eutrophication potential

measures dissolved oxygen depletion by undesirable forms of biomass, such as algae

Note 1 to entry: This includes various forms of nitrogen and phosphorus.

3.13

formation potential of tropospheric ozone photochemical oxidants

puts all smog-producing chemicals on the same equivalent

3.14

glazed ceramic

ceramic body with a surface layer of silicon oxide compound applied before the firing process and chemically bonded during firing

Note 1 to entry: The glaze deemed to be a part of the ceramics and not a separate coating.

3.15

global warming potential

puts all greenhouse gases on the same denominator

Note 1 to entry: Greenhouse gases include CO₂, CH₄, N₂O and CFCs.

3.16

gypsum

dehydrate natural gypsum as used for plaster moulds

3.17

hazardous substance

solid, liquid or gas that can harm people, other living organisms, property or the environment

3.18

(standards.iteh.ai)

life cycle

consecutive and interlinked stages of a construction products life, from raw material acquisition or generation from natural resources to final disposal/sist/5262eae5-4685-4668-938c-

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3.19

maintenance

all actions to maintain or repair in order a product to continue its declared function

3.20

production

industrial process consisting of different steps in the manufacture of goods

3.21

production system

collection of unit processes with elementary and product flows, performing one or more defined functions, and which determines the life cycle of a product

3.22

raw material

single material or a mixture of different materials (e.g. feedstock, ceramic body) as being the basic material of which a product is manufactured

3.23

recycling

use of material as secondary material outside the boundary of the production system

Note 1 to entry: Examples are recycled gypsum of plaster moulds.

3.24

renewable energy

energy from renewable non-fossil sources

Note 1 to entry: Non-fossil sources are, for example, wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas, electricity generation through exhaust gas heat etc.

3.25

safety in use

characteristic of the level of risks associated with the installation and use of the product

3.26

secondary fuel

fuel recovered from previous use or from waste which substitutes primary fuels

3.27

secondary material

material recovered from previous use or from waste which substitutes primary materials

Note 1 to entry: Secondary material is measured at the point where the secondary material enters the production system from another production system.

Note 2 to entry: Materials recovered from previous use or from waste from one production system and used as an input in another production system are secondary materials e.g. use of milled scrap technical ceramics as raw material for ceramics sanitary appliances. (standards.iteh.ai)

Note 3 to entry: Examples for secondary materials (to be measured at the boundary of the production system) are recycled sanitary appliances, tiles or technical ceramics. N 16578:2019

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3.28

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transport

movement of goods (e.g. products, raw materials) from one location to another

3.29

total production

means the production of saleable ceramic sanitary appliances

Note 1 to entry: Usual unit is t/a.

3.30

user friendly

characteristic of the level of product ease of use

3.31

waste management

collection, transport, processing, recycling or disposal of waste materials and their monitoring and recycling

3.32

water saving

reduction in water use accomplished by implementation of water conservation, water reduction or water efficiency measures

4 Calculation Rules for the LCA and Requirements on the Project report (PCR Part A)

4.1 Content, structure and accessibility of the project report

The project report represents the systematic and comprehensive summary of project documentation with the objective of supporting the verification of an EPD. The project report shall document that the information on which the Life Cycle Assessment is based as well as the additional information contained in an EPD meet the requirements of this document.

The project report shall contain all of the data and information of importance for the details published in the EPD and required in this set of rules. Particular care shall be given to comprehensible explanations as to how the data and information declared in the EPD arises from the Life Cycle Assessment and how — if declared — the reference service life (RSL) was established.

The structure of the project report shall follow the structure of this PCR document based on EN 15804.

The project report shall be accessible to the verifier under the conditions of confidentiality (see EN ISO 14025).

The project report is not part of the public communication.

4.2 General information in the project report

The project report shall contain the following general information:

- the client commissioning the Life Cycle Assessment, internal or external Life Cycle analysts;
- the report date; (standards.iteh.ai)
- Indications that the Life Cycle Assessment was performed in agreement with the requirements of these Product Category Rules with reference to EN 15804-4685-4668-938c-

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4.3 Goal of the study

The goal of the study shall be outlined in the project report as regards the following:

- reasons for performing the study;
- intended use:
- Target group, i.e. whether the information and data for an EPD is intended for business-to-business and/or business-to-consumer communication.

4.4 Scope of the study

4.4.1 Declared/Functional unit

The Life Cycle Assessment of the construction product shall be calculated for a declared or functional unit as specified in Clause 12 for the product group which includes the product to be declared.

If the entire life cycle of the construction product is to be declared, a functional unit shall be referred to in conformance with EN 15804.

If the entire life cycle is declared, it is imperative that a reference service life (RSL) is indicated; see PA.8.2.

Usually, the declared unit refers to the product "cradle to factory gate". If a manufacturer sells and declares a system, the declared unit may also refer to the product "as installed" i.e. to the construction lot (see also 4.4.5.2).

A declared/functional unit shall be declared in the exact unit(s) specified in the PCR, and not partially, e.g. $0.1 \, \text{m}^3$ insulating material. Standard units can, however, be declared (e.g. $1 \, \text{m}^2$ of a defined thickness and density of an insulating material), whereby conversion to the declared/functional unit designated in the PCR shall be possible. **Details are described by Clause 9 for a given Ceramic Sanitary Appliance**.

The selected declared or functional unit shall be documented in the project report. In addition, a mass conversion factor of the declared unit shall be indicated.

4.4.2 Declaration of construction product classes

The classification of construction products and their respective EPDs can significantly reduce the effort associated with drawing up an EPD. The following nomenclature applies:

- 1) Manufacturer declaration:
 - 1a) Declaration of a specific product from a manufacturer's plant;
 - 1b) Declaration of a specific product as an average from several of the manufacturer's plants;
 - 1c) Declaration of an average product from a manufacturer's plant;
 - 1d) Declaration of an average product as an average from several of the manufacturer's plants. (standards.iteh.ai)
- 2) Manufacturer group declaration:

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2a) Declaration of a specific product as an average from several manufacturers' plants;

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2b) Declaration of an average product as an average from several manufacturers' plants.

A standard or reference product can also be declared which describes a specific (usually typical) product.

Unless otherwise specified in Clause 12 applicable to a construction product, classification and, therefore, the declared unit for one or several products can take the following form:

- the values of the Life Cycle Assessment can be derived from the declared product for any product in the class via rules to be documented, e.g. for comparable products of varying density, or
- an "average" or "representative" product is declared, or
- the product with the most environmental impact is declared as representative for a class.

To be indicated in the project report:

- Calculation rules for forming averages in a declaration based on averaged data, e.g. when a declared/functional unit has been defined for:
 - a group of similar products from various manufacturers, or
 - the same product from various production locations,
- Representativeness of the average used in relation to the assessed products.

4.4.3 Product description

The declared product shall be described with regards to its technical and functional specifications.

4.4.4 Area of application of the construction product

The area of application for the declared product shall be described.

4.4.5 System boundaries

4.4.5.1 General

The system boundaries of the EPDs according to this document follow the modular structure in line with EN 15804.

[EN 15804:2012+A1:2013, 6.2]: "The environmental information of an EPD covering all life cycle stages ("cradle to grave") shall be subdivided into the information module groups A1–A3, A4–A5, B1–B5, B6–B7, C1–C4 and module D.

Information modules within any of the life cycle stages are communicated depending on the types of EPD as specified in [EN 15804:2012+A1:2013, 6.2]. They include impacts and aspects related to the modules in which they occur (i.e. production, transport, waste processing and end-of-life stage) Losses or wastage are also considered in the modules in which they occur)."

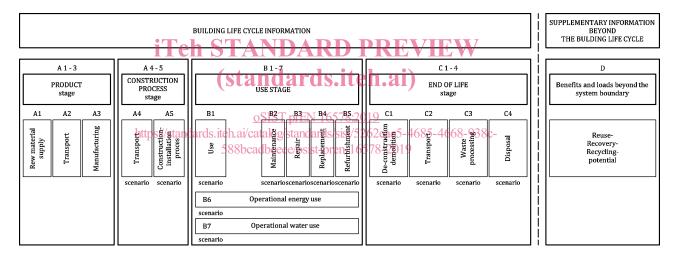


Figure 1 —Building life cycle stages

4.4.5.2 A1-A3, Product stage, Information modules

[EN 15804:2012+A1:2013, 6.2.2]: "The product stage includes:

- A1 raw material extraction and processing, processing of secondary material input (e.g. recycling processes),
- A2 transport to the manufacturer,
- A3 manufacturing,

including provision of all materials, products and energy, as well as waste processing up to the end-of-waste state ([EN 15804:2012+A1:2013],6.3.4.5 and Annex B) or disposal of final residues during the product stage."