SLOVENSKI STANDARD
oSIST prEN 16578:2019

01-december-2019

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**

ICS:

91.140.70	Sanitarne naprave	Sanitary installations

oSIST prEN 16578:2019 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN 16578

August 2019

ICS 91.140.70

Will supersede EN 16578:2016

English Version

Product Category Rules for ceramic sanitary appliances

Appareils sanitaires en céramique - Évaluation du développement durable

Keramische Sanitärausstattungsgegenstände - Beurteilung der Nachhaltigkeit

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 163.

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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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
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. prEN 16578:2019 E

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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.

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).

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*

EN ISO 14025, *Environmental labels and declarations — Type III environmental declarations — Principles and procedures*

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 (SO_2, SO_3) and nitrogen oxides (N_2O, NO and NO_2).

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]

3.7
consumption
use of materials or energy within a defined time frame

3.8
cost in use
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 CO_2, CH_4, N_2O 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
life cycle
consecutive and interlinked stages of a construction products life, from raw material acquisition or generation from natural resources to final disposal

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.

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.

3.28
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;

— Indications that the Life Cycle Assessment was performed in agreement with the requirements of these Product Category Rules with reference to EN 15804.

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 m^3 insulating material. Standard units can, however, be declared (e.g. 1 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.

2) Manufacturer group declaration:

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

   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)."

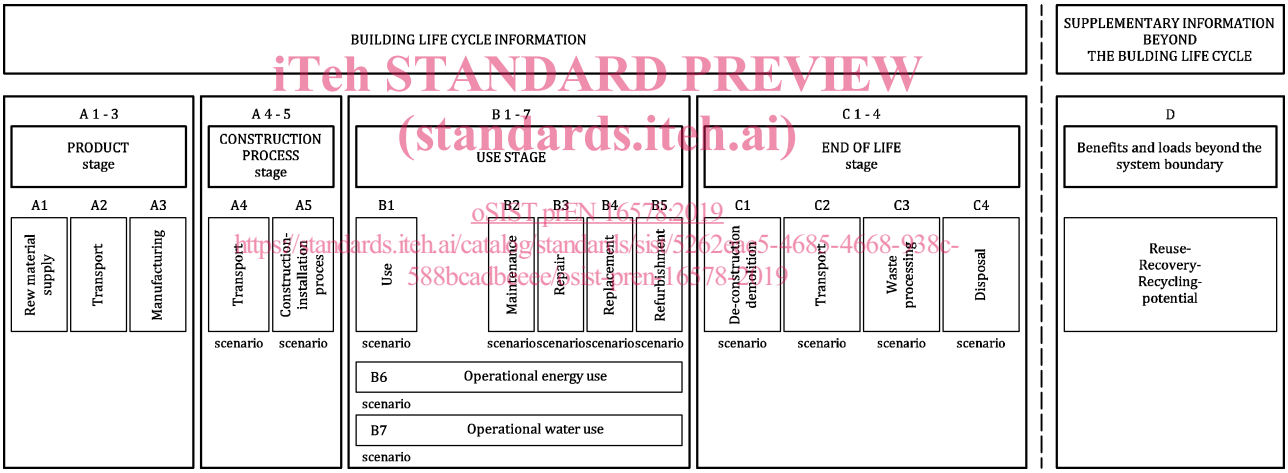

Figure 1 —Building life cycle stages

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."