

Product category rules Part B – for autoclaved building material with and without reinforcement

General product category rules for environmental product declarations according to EN ISO 14025 and EN 15804

according to the program operation for the preparation of
environmental product declarations (EPD) of the
ift Rosenheim

Key words: Environmental Product Declaration, Autoclaved aerated building material, Life Cycle Assessment, Product Category Rules



Note

The present document is only a rough translation. In case of doubt, the German version applies.

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1 Preliminary remark

The product category rules of the ift Rosenheim are divided into two parts and marked accordingly. Part A contains general product category rules, while this part B contains product group-specific rules. The valid versions can be obtained from ift Rosenheim.

2 Product category rules

2.1 Content

This PCR defines for specific product groups:

- Rules for the preparation of environmental product declarations (EPD) for
 - products made of autoclaved building material with and without reinforcement, e.g. aerated concrete products according to DIN 4223-101, DIN 12602, DIN EN 771-4 or DIN 4166:1997-10 calcium silicate units according to DIN 1996, DIN V 106 or DIN EN 771-2

2.2 Verification, validation and release of the PCR

The committee of experts “ift-EPD and PCR” performs the validation and thus vouches for its correctness.

Interested Parties involved in the PCR assessment:

- Ift Rosenheim
- TU Darmstadt

This PCR document with the document number PCR-DB-1.2 was validated and released by the committee of experts (CE) of the ift Rosenheim GmbH. The PCR document is valid according to ISO 14025, EN 15804 and the ift guideline NA-01, five years.

Tracking of the editing / revisions:

Serial No.	Date	Editing comment	CE	Declaration code
1	09/2020	Initial verification and release	released	PCR-DB-1.0 : 2020
2	10/2021	content changes	released	PCR-DB-1.2 : 2020

3 General product information

3.1 Product description / Product definition

The declared products must be described.

In doing so, the trade name of the products / product groups (including any product codes) to which the EPD applies must be stated in addition to a general product description. If it is not reasonably possible to name the products / product groups, e.g. in the context of association EPDs, the product description must clearly delimit the products / product groups to which the EPD applies.

Exemplary information:

- Reinforcement
- Building component (structure has to be specified)
- Format and dimensions
- Plaster layer (material and structure have to be specified)
- Type, Material
- Surface structure
- Impregnation

3.2 Scope

These product category rules (PCR-DB-1.2) can be applied to:

- Plan brick, perforated brick, full brick
- Plan blocks
- Block elements or plan elements
- Plan building panels
- Wall panels
- (Flat-) camber
- U-Bricks
- (Functional) Walls / masonry
- Facing bricks, Straps

Reinforced components are for example:

- Wall panels
- Wall panels, ceiling panels, roof panels
- System wall elements
- Fire partition walls, complex partition walls
- U-Shells
- Solid stairs

Examples for building components:

- Aerated concrete belongs to the group of autoclaved aerated lightweight concrete
- Calcium silicate units belong to the group of autoclaved building materials

3.3 Application

Brief description of the scope of the declared products.

Example:

- Masonry stones and finished building components for the use in residential and non-residential buildings as well as in commercial, industrial and agricultural buildings
- Bearing and non-bearing masonry and prefabricated components for interior and exterior walls
- Building components for facades or exposed masonry (decorative / exposed concrete)
- Usage in rough constructions for interior and exterior walls

3.4 Quality assurance and management systems (optional)

In order to guarantee the quality assurance of the product, certification systems can be used. Within the framework of the EPD, information can optionally be provided on quality assurance or QMS and EMS.

Exemplary information:

ift product certification

- QM 359 VOC emissions from construction products

Management systems

- Quality management DIN EN ISO 9001
- Environmental management DIN EN ISO 14001
- Energy management DIN EN ISO 50001
- Occupational health and safety management BS OHSAS 18001
- Integrated Management system (IMS)

Note

Existing data, e.g. from EMSs (environmental balances), can facilitate data collection in life cycle assessments.

3.5 Technical data / performance of the product

- Unreinforced brick as well as reinforced bricks in different formats made of autoclaved building material

Table 1 Characteristics and performance in the product category

	Characteristics and performance*	Unit
Obligation	Gross density	kg/m ³
Optional	Compression strength	N/mm ²
Optional	Thermal conductivity	W/(mK)
Optional	Building material class according to EN 13501-1	-
Optional	Tensile strength	N/mm ²
Optional	Modulus of Elasticity	N/mm ²
Optional	Equilibrium moisture at 23 °C, 80%	M.-%
Optional	Sound absorption coefficient	%
Optional	Longitudinal bending tensile strength	N/mm ²
Optional	shrinkage	Mm/m
Optional	Wide, height, length	Length (mm, m etc).
	If applicable, further	

* The reference product is described in the EPD with the mandatory information. The product characteristics can be given in a range to describe the reference product.

4 Raw materials

4.1 Information on SVHC according to PCR Part A

If products to which this PCR applies contain substances of very high concern (SVHC), these must be indicated in the EPD.

4.2 Additional information

The essential technical information on the product(s) or a reference to it shall be provided for the architect.

When considering the entire life cycle (cradle to grave), the product characteristics must be stated on the basis of the physical properties of the building or a reference to them.

Within the framework of the EPD, further information on building certification systems can be provided.

Example:

The physical properties of the window can be found in the CE label or in the accompanying documentation.

5 Life cycle assessment

For the preparation of an EPD, a life cycle assessment according to ISO 14040 and ISO 14044 is prepared as a basis. The data on which the life cycle assessment is based should be precise, complete and consistent. This life cycle assessment must be representative of the products presented in the declaration. The scope and limits of the life cycle assessment must be specified.

5.1 Functional unit

The functional unit indicates the quantified benefit of a product system used as a comparison unit (see EN 17074 and EN 15804).

5.2 Declared unit

Declared products must be described and optionally represented graphically (e.g. CAD drawing). A functional or declared unit to which the EPD data refer must be specified.

The following declared unit must be specified:

- One m³ of autoclaved aerated building material
- Or
- One ton (t) of autoclaved aerated building material

Example:

The functional unit for steam cured building material is given as a volume in m³, with a gross density in kg/m³.

5.3 Geographical and time-related system boundaries

General information according to PCR Part A.

Example:

Reference period Year 2009-2010

Reference area Europe

5.4 Scope / System boundaries

Example autoclaved aerated building material:

Cradle to Gate according to EN 15804+A1:

The system boundaries include the extraction of raw materials, the manufacture of the autoclaved aerated building material and the assembly of the individual components to the finished packaged autoclaved building material at the factory gate.

Cradle to Gate according to EN 15804+A2:

The system boundaries include the extraction of raw materials, the manufacture of the autoclaved building material and the assembly of the individual components to the finished packaged autoclaved building material at the factory gate as well the material and thermal recycling of the products.

Note:

In the case of construction products and materials that are permitted as exceptions according to EN 15804+A2, the information on disposal may be omitted.

Cradle to Grave according to EN 15804+A1:

The system boundaries also include the use, deconstruction, disposal and material and energy recovery of the autoclaved building material.

Cradle to Grave according to EN 15804+A2:

The system boundaries also include the stage-of-life-phases application and use.

5.5 Reference service life (RSL)

It applies EN 15804.

5.6 Information on the product life cycle

Regulations to be observed during the life cycle:

Exemplary information:

Product manufacture:

- Product standard
- Applicable certification programs

Construction stage:

- Assembly guideline / instruction

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Use stage:

- Information on the useful life
- Information on VOC emissions (certification programmes)
- Information on use

End-of-Life stage:

- Recycling initiatives or normal recovery and disposal systems
- Recycling rates in line with the industry standard
- Legal requirements for recovery

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